South African CitiesNetwork

STATE OF SOUTH AFRICAN CITIES REPORT

ACKNOWLEDGEMENTS

The State of South African Cities Report is the product of the accumulated wisdom of five years of knowledge generation and engagement by the South African Cities Network (SACN) and the broader fraternity of urban development practitioners, scholars and analysts. In addition to the stewardship of the SACN Board of Directors and contributions of the cities themselves, the direct efforts of the following are acknowledged and sincerely appreciated:

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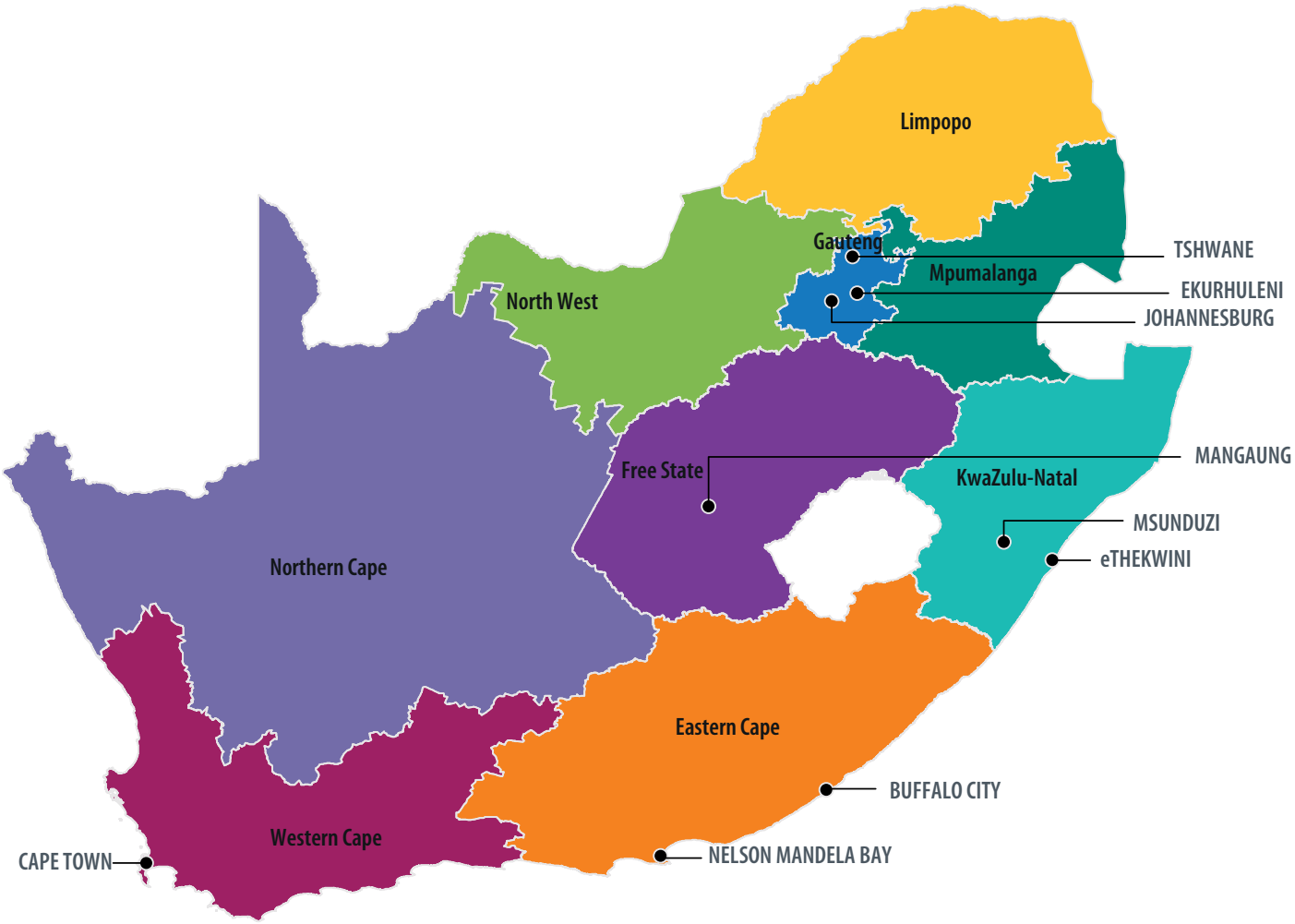
QUEEN
COURT
APARTMENTS

The cities covered in the SoCR



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FOREWORD

by the Chairperson of the State of South African Cities Report 2016 Committee

Cllr Kgosientso Ramokgopa
SoCR IV Committee
Chairperson

It has been my privilege to serve the collective of my peers on the Board of the South African Cities Network (SACN) in steering the process of forging this fourth edition of the State of South African Cities Report (SoCR). The report is the SACN's flagship product and an important information, measurement and advocacy tool.

Over the years, the "State of…" by-line has also been franchised into a series of thematic products, such as the State of Energy, Water, Waste, Expanded Public Works Programme, Urban Safety or Knowledge Management in cities. These initiatives have been driven by, and sometimes with, SACN. They are important ventures into digging deeper into issues and areas where cities require specific understanding, strategies, and responses. They also ultimately form part of the vast body of evidence that contributes to the SoCR.

Often the State of Cities reporting process forces difficult decisions and trade-offs between depth and breadth, focus and comprehensiveness. The bottom line is that such a report cannot be exhaustive and has to make strategic choices. For the SACN, these choices are based on a combination of focal issues emerging from the cumulative legacy of cities' reporting; evidence generated over five years of knowledge generation by the SACN and partners; and priority local, national and global developments. The Urban Conference 2015 was used to vet this intelligence. The advice of the Reference Group, which has supported me in the stewardship of the project, has also been invaluable in ensuring that we achieve the aim of this project, which was, simply, to tell it like it is.

Given that this is a fourth iteration, it is useful to briefly indicate what is new or different in this SoCR.

1. It leads in with a special chapter on *Spatial Transformation* that aims to unpack this important concept which is, in our view, the fundamental imperative for cities.
2. The concluding chapter, which follows all of the usual SoCR thematic chapters, broadens the cities' conversation beyond the role of "government" to the issue of "governance" as a collective pursuit by the various city actors. It develops some key ideas about how to create an enabling environment so cities can more effectively drive growth and development.
3. An city profile section, which presents a set of headline indicators per city and an introduction to each of their long-term flagship programmes.
4. The SocR Data Almanac – although not new – returns as a feature of the report, bolstered with a powerful online data catalogue and portal, which simultaneously launches the new collaborative *SA Cities Open Data Almanac (SCODA)*.
5. For the first time, the SoCR has an companion publication: the SoCR *People's Guide*, in an effort to extend and embed the content and messages of the SoCR more broadly.

We look forward to your engagement with this material and, of course, to your action!

FOREWORD

From the Chairperson of the South African Cities Network

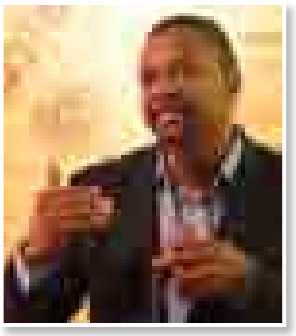
Cllr Parks Tau
Chairperson

Five years down the line from the previous State of South African Cities Report, city governance has seen several important developments. While South Africa is expressing a new vision for cities, reflected in the new Integrated Urban Development Framework (IUDF), the world is very much doing the same. The pursuit of sustainable models and solutions are everywhere, fuelled by the recognition of continued urbanisation and the related mammoth national and global development challenges and opportunities.

I have said before that African cities are at the forefront of rapidly accelerating change – demographically, economically, environmentally and developmentally in general. This was reaffirmed at the Africities Summit, which South Africa hosted in 2015. The SoCR 2016 contributes our unique national and local perspectives on the role of cities and mobilises all of us – the different stakeholders, institutions, spheres and sectors – to work towards a successful urban future. This requires us to reflect upon the SoCR's analyses and messages in relation to the goals and direction offered by the National Development Plan 2030, the IUDF, the Sustainable Development Goals, and Habitat III.

Local government is unequivocally the right level for driving development. The fourth edition of the SoCR reminds us that this role has to be enabled by the range of urban actors, resourced properly, and guided by strong, accountable leadership. This is the only way we will succeed, while preventing negative urban manifestations such as unequal growth, crime, xenophobic violence, and the energy crisis.

From the Chief Executive Officer of the South African Cities Network



Sithole Mbanga
Chief Executive Officer

The fourth SoCR shows that South Africa's cities have been resilient and are now maturing, 15 years down the line. This report is basically saying that cities are driving South Africa's growth and development. However, to play this role, cities need to be supported and funded properly. In addition, our institutions need to be reconfigured to ensure that cities have the functions and support necessary for them to succeed.

In taking a longitudinal perspective, the report represents an important synthesis of *hindsight*, as a retrospective assessment of the journey travelled by cities, and *foresight*, through identifying systematically future concerns and considerations for cities. Importantly, pursing these contributes to greater *insight* about our cities, thereby improving our understanding of the role of cities and what is required to ensure their success.

As we tackle the next 15 years leading up to our national vision horizon (2030), we will need to act decisively upon the opportunities and challenges raised in this report, to ensure that we are able, through good and collaborative governance, to steer a path towards inclusive and sustainable growth.

	BUFFALO CITY	EKURHULENI	ETHEKWINI	JOHANNESBURG
2016	Cllr Alfred Mtsi Mr Nceba Ncunyana	Cllr Mondli Gungubele Mr Khaya Ngema	Cllr James Nxumalo Mr Sbusiso Sithole	Cllr Parks Tau Mr Trevor Fowler
2015	Cllr Alfred Mtsi Mr Andile Fani	Cllr Mondli Gungubele Mr Khaya Ngema	Cllr James Nxumalo Mr Sbusiso Sithole	Cllr Parks Tau Mr Trevor Fowler
2014	Cllr Zukisa Ncitha Mr Andile Fani	Cllr Mondli Gungubele Mr Khaya Ngema	Cllr James Nxumalo Mr Sbusiso Sithole	Cllr Parks Tau Mr Trevor Fowler
2013	Cllr Zukisa Ncitha Mr Andile Fani	Cllr Mondli Gungubele Mr Khaya Ngema	Cllr James Nxumalo Mr Sbusiso Sithole	Cllr Parks Tau Mr Trevor Fowler
2012	Cllr Zukisa Faku Mr Andile Fani	Cllr Mondli Gungubele Mr Khaya Ngema	Cllr James Nxumalo Mr Sbusiso Sithole	Cllr Parks Tau Mr Trevor Fowler
2011	Cllr Zukisa Faku Mr Andile Fani	Cllr Mondli Gungubele Mr Khaya Ngema	Cllr James Nxumalo Mr Sbusiso Sithole	Cllr Parks Tau Mr Trevor Fowler
2010	Cllr Zukisa Faku Mr Andile Fani	Cllr Ntombi Mekgwe Mr Khaya Ngema	Cllr Obed Mlaba Dr Michael Sutcliffe	Cllr Amos Masondo Mr Trevor Fowler
	BUFFALO CITY	EKURHULENI	ETHEKWINI	JOHANNESBURG

MAYOR CITY MANAGER

MANGAUNG	MSUNDUZI	NELSON MANDELA BAY	TSHWANE
Cllr Thabo Manyoni Mr Tankiso Mea	Cllr Chris Ndlela Mr Mxolisi Nkosi and Mr Boniwe Zulu	Dr Danny Jordaan Mr Johann Mettler	Cllr Kgosientso Ramokgopa Mr Jason Ngobeni
Cllr Thabo Manyoni Sibongile Mazibuko and Mr Tankiso Mea	Cllr Chris Ndlela Mr Mxolisi Nkosi	Dr Danny Jordaan Mr Mpilo Mbambisa	Cllr Kgosientso Ramokgopa Mr Jason Ngobeni
Cllr Thabo Manyoni Sibongile Mazibuko	Cllr Chris Ndlela Mr Mxolisi Nkosi	Cllr Benson Fihla Mr Mpilo Mbambisa	Cllr Kgosientso Ramokgopa Mr Jason Ngobeni
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Cllr Playfair Morule Mr Sandile Msibi and Sibongile Mazibuko	Cllr Chris Ndlela Mr Thokozane Maseko	Cllr Zanoxolo Wayile Mr Themba Hani	Cllr Kgosientso Ramokgopa Mr Jason Ngobeni
Cllr Playfair Morule Mr Sandile Msibi	Cllr Mike Tarr Mr Rob Haswell and Mr Thokozane Maseko	Cllr Zanoxolo Wayile Mr Elias Ntoba	Cllr Gwen Ramokgopa Mr Kiba Kekana and Oupa Nkoane
MANGAUNG	MSUNDUZI	NELSON MANDELA BAY	TSHWANE

OVERVIEW: STATE OF SOUTH AFRICAN CITIES REPORT 2016

In brief, the SoCR 2016 tells a story that:

The economy is important for the development and growth of cities.

With mounting job losses and the economic downturn affecting both the rich and the poor, attention is increasingly focused on the role that cities play in stimulating and supporting economic development. The facts show that cities have been driving growth, generating almost two-thirds of the country's economic activity and just over half of national employment. The cities have also significantly improved their service delivery, and generally have good strategies in place to facilitate economic growth and social development. Cities are, therefore, well positioned to take a leading role in South Africa's economic recovery and development.

But there are issues of exclusion to be concerned about

Cities are associated with promise and opportunity, but also exclude many people from participating in the economy and accessing opportunities in various ways. Yet they continue to attract many from rural areas and less prosperous cities, towns and villages in South Africa and beyond – people who are in search of work and a better quality of life. Few arrive with the skills and resources to compete for jobs in the city, and these formal employment opportunities are becoming increasingly scarce. The result is increased poverty, unemployment, overcrowding and social tension.

And there are consequences to exclusion

The inability of large segments to society to actively participate in the urban promise has consequences. Phenomena, such as collective violence and the vulnerability of populations (e.g. the youth and foreign migrants), may be associated with this inability of cities to meet their inhabitants' rights and expectations to access urban resources, services and opportunities. However, many of the issues and solutions are not exclusively within the mandate of local government, and so intergovernmental coordination and the activation of communities become important, such as in the case of education, health and social development. Increasing economic and social inclusion will increase the sustainability and competitiveness of cities, and of the national economy.

Cities, like countries, have been growing unsustainably

The typical South African city has followed a resource-intensive growth path, and suffers from inefficiencies across sectors such as energy, water, waste, food, and transport. The energy mix is unsustainable, landfill sites are fast running out of airspace, freshwater resources are constrained, and greenhouse gas emissions are increasing (mainly from electricity generation and vehicles that run on fossil fuels). Cities have to develop sustainable city growth paths and priorities, and put in place systems to monitor their performance.

Space is also critical to the growth and development of South African cities

Spatial transformation is critical for cities to become more productive, inclusive and sustainable. South African cities are inefficient as a result of the combination of the apartheid legacy, which spatially displaced the black population and neglected public transport, and post-1994 developments that

continued to locate subsidised housing and poorer populations in peripheral areas. This affects productivity, results in long and expensive commutes for poor urban residents, and perpetuates neighbourhoods that are separated by race and class. Issues of settlement (land access and housing) and mobility (transport) require short and long-term strategies to address spatial inefficiency and exclusion.

The positive growth and good governance of cities relies not only on city governments

Cities have been performing and are relatively well-governed, but they have functioned under dynamic and difficult circumstances, and therefore have had a mixed performance. South Africa's institutions and systems need to be reconfigured in order to support positive urban growth – something that is echoed strongly in the Integrated Urban Development Framework (IUDF). This includes a shared recognition and appropriate support across government for the role of cities; better intergovernmental cooperation across the public spheres and sectors; conducive relations with the private sector; the strengthened role and constructive participation of an active civil society; and greater use of the knowledge industry.

The Chapter Messages

CH1 INTRODUCTION

Our cities: status quo and the long-range prospects

- SA cities are expected to be effective drivers of both local and national development.
- Cities are already engines of growth but operate under dynamic and difficult circumstances and with mixed performance.
- SoCR considers both current (legacy) and future circumstances, dynamics and goals of the cities.

CH2 THE SPATIAL TRANSFORMATION OF SOUTH AFRICA'S CITIES

From abstract concept to meaning and means

- Spatial transformation is critical for the growth and development of cities. It affects economic access and efficiency.
- Our current urban development trajectory has negative characteristics that result in cities not achieving their spatial visions.
- In order to transform space, the power relations, institutions and capabilities in the system also need to be transformed.
- Short- and long-term strategies are required for land, spatial planning, housing and human settlements, and transport and mobility.
- Regulations and public instruments can be used, but market interventions by various actors are also necessary.

CH3 PRODUCTIVE CITIES

Spatial transformation that enhances the economy of cities

- Cities have a critical role to play in driving South Africa's economy.
- However, the good story has not included everyone.
- Spatial transformation is a key lever for productive city economies and inclusive city growth.
- Cities should develop bold economic development strategies that include the informal sector and public employment programmes.
- Cities need to expand economic activities and participation through innovation, skills development and targeted investments.
- Cities should learn from one another's strengths in order to improve their business climate.

CH4 INCLUSIVE CITIES

The pursuit of urban social and spatial freedoms for all

- Cities still largely benefit those who can afford to "buy" their rights and freedom to the city.
- The majority of urban dwellers are still socially, spatially, culturally and economically excluded.
- Cities need to have programmes aimed at achieving social justice through inclusion and at empowering citizens to participate in planning, developing and managing their city.
- Cities should develop urban spatial frameworks that accommodate the needs of a growing population in terms of land, infrastructure, human settlements and transport.
- Cities should reserve public land inside the urban edge for high-density, mixed-use and integrated developments aimed at those who are currently excluded.
- Private sector actors also need to consider the social good.

CH5 SUSTAINABLE CITIES

Leveraging the transition to sustainability

- The typical South African city is growing in a resource-intensive way and suffers from inefficiencies across all sectors (energy, food, water, waste and transport).
- The current silo approach to planning and delivery is inefficient and increases risks of exclusion.
- Cities should pursue spatial transformation, which encourages compact cities and sustainable neighbourhoods that value natural and open spaces.
- Sustainability and growth are interdependent, and so sustainability must be fundamentally embedded in a city's development paradigm, and not just in its long-term visions and strategies.
- Cities need to tackle resource efficiency aggressively.

CH6 WELL-GOVERNED CITIES

Growing from form to substance

- Cities have put good governance structures and processes in place, but are not yet achieving the desired social and spatial outcomes.
- Cities do not adequately mobilise and involve all city stakeholders, including civil society and the private sector, in building a long-term vision of and commitment to spatial transformation.
- Cities should move from the form and process of governance to its substance: performance outcomes, coordination, and democratic governance.
- Cities need to improve collective leadership, operational capability, and stakeholder relations and participation.
- Cities should institutionalise accountability by allocating clear responsibilities and forging sound intergovernmental cooperation and alignment.

CH7 FINANCE AND INNOVATION

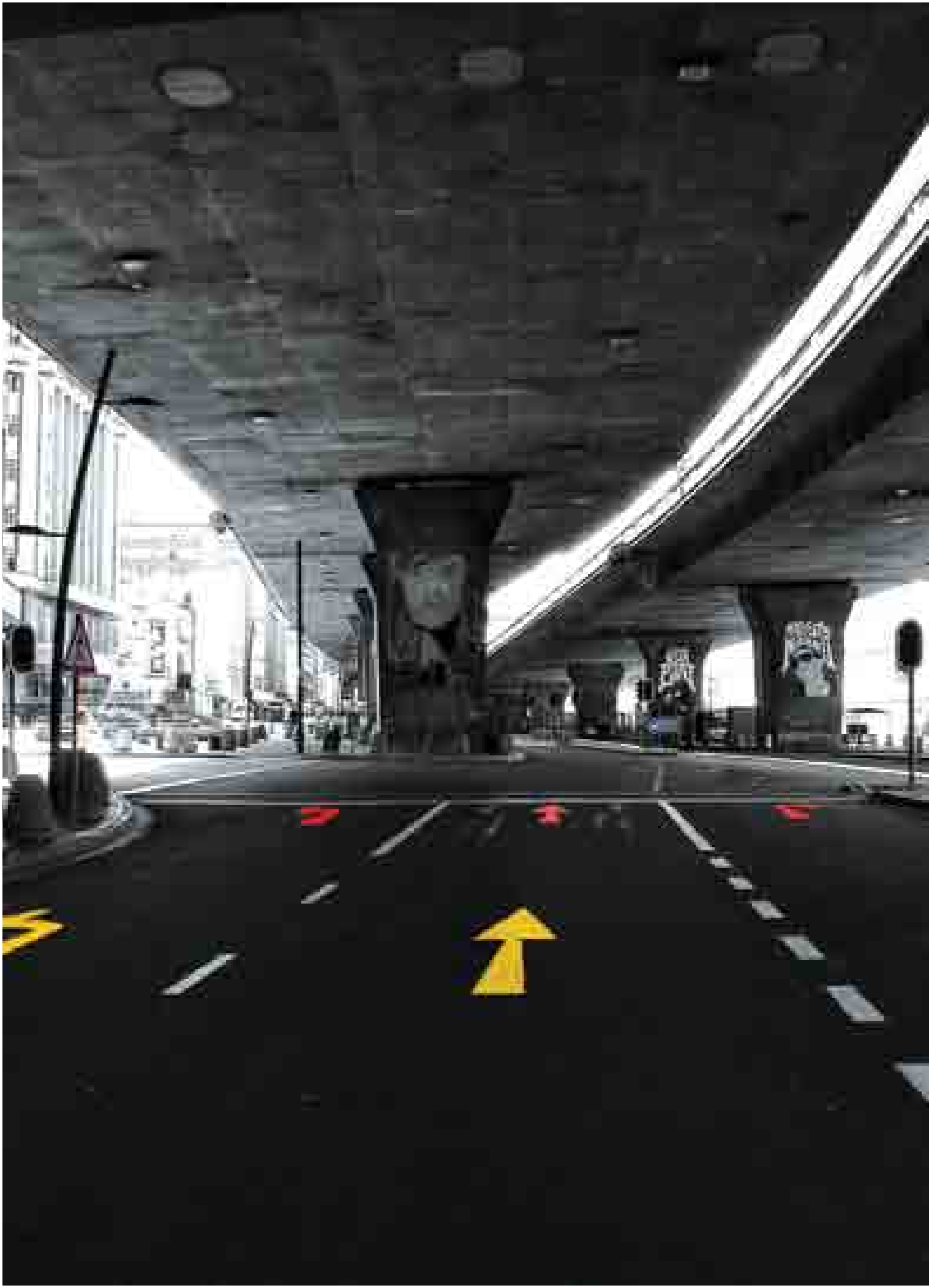
Sustainable financing for today's and tomorrow's cities

- Cities have improved their financial reporting and audit findings, and increased their revenue and expenditure significantly.
- Challenges to municipal financial health include inadequate finance for delivering required infrastructure and services, affordability of municipal services for consumers, corruption, and an increasing administrative burden.
- Cities should continue to seek operational efficiency gains and improve revenue collection.
- Cities need to make better use of existing revenue sources and explore innovative financing options, including reforming the current municipal financing model.
- Cities must balance immediate community development aspirations against longer-term transformation needs.

CH8 ENABLING ENVIRONMENT

Creating enabling environments for successful city development

- A Call to Action: For development strategies to be effective, all actors (state, private sector, knowledge institutions and civil society) have to cooperate and align their actions.
- Local government's role must be understood by all, and demonstrated through unequivocal performance, accountability and leadership.
- Cities need to be empowered and enabled to drive inclusive growth and development through spatial transformation.
- Deliberate interventions are needed not only in market-friendly locations but also in formerly marginalised locations (e.g. townships).
- Significant innovation across the board is required – creativity, experimentation, agility, and a culture of learning.



INTRODUCTION

Our cities: status quo and the long-range prospects

Key Messages

1. SA cities are expected to be effective drivers of both local and national development.

2. Cities are already engines of growth but operate under dynamic and difficult circumstances and with mixed performance.

3. SoCR considers both current (legacy) and future circumstances, dynamics and goals of the cities.

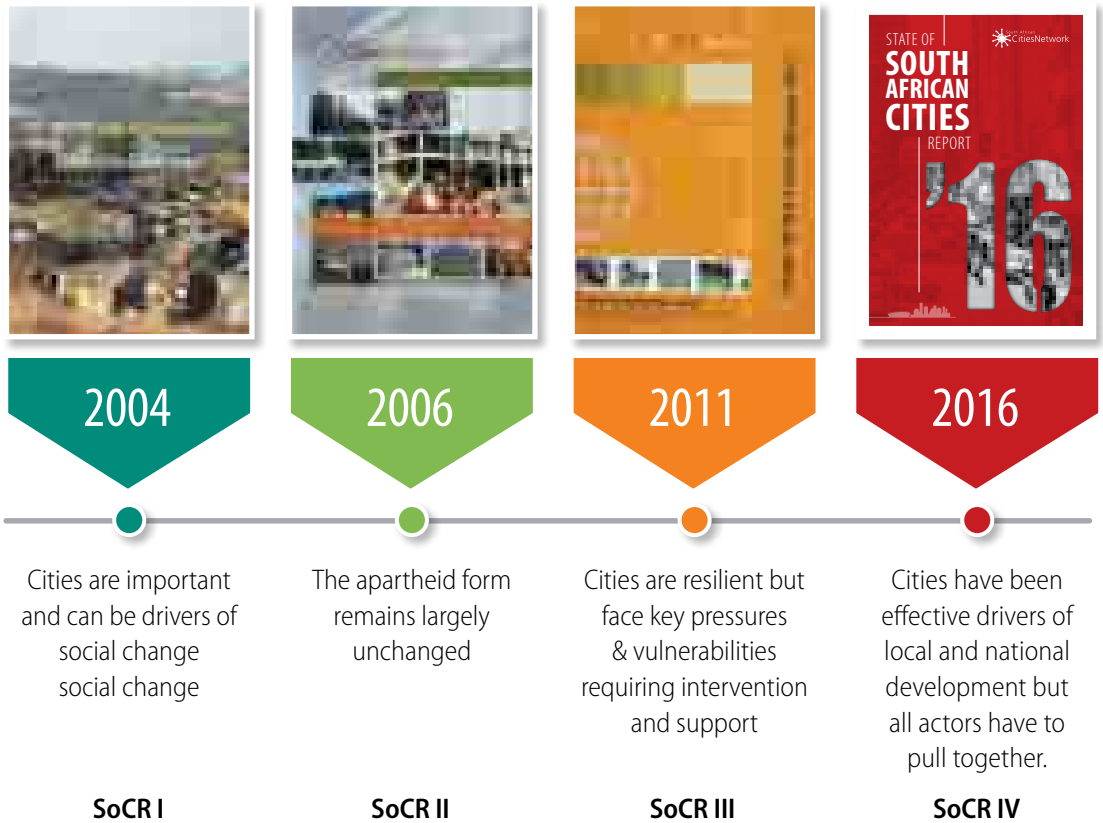
@tysonfree16

STATE OF CITIES REPORTING

Over the years, the State of Cities reports have presented a five-year perspective on the performance and conditions of South Africa's largest cities, with a focus on the member cities of the South African Cities Network (SACN). Specifically, the report has evolved into:

1. **A barometer**, compiling evidence about the progress made by South African cities over time in relation to key development roles, targets and outcomes.
2. **An analytical tool**, reviewing the strategic problems and opportunities facing cities.
3. **An agenda-setter**, communicating essential messages about the planning, development and management of cities to the next generation of civic leaders, councillors and officials who would be the incumbents following the municipal elections.

Figure 1.1: State of South African Cities reporting timeline



Since its first edition in 2004, the State of South African Cities report (SoCR) has evolved into a regular publication that deliberately coincides with the electoral cycle for local government. This allows the report to align its retrospective and prospective ambitions with the transitions from end-of-terms to the reflective agenda-setting that characterises new political terms of office. Simply put, the report is ideally placed to help South African cities, and their electorate, to take stock and to plan forward.

The 2011 SoCR, which was themed "Towards Resilient Cities", laid the foundation for the guiding theme for SACN's 2011–2016 five-year strategy: "South African cities as effective drivers of local and national development".

This aspirational statement was intended to frame the questions for knowledge generation and reflection in both micro (local) and macro (national) terms. In other words, how could cities be relevant and developmental for their local populace, while also play the macro-economic role required of them? Indeed, the theme proved to be either prescient or self-fulfilling because "cities as the engines of growth" emerged during this period as the mantra for national development in South Africa and, indeed, globally.

This theme is the subject of the fourth edition of the SoCR, which seeks to answer the core question: Are our cities being effective drivers of local and national development?

GLOBAL PERSPECTIVE: CITIES AND URBANISATION

"The 21st century will not be dominated by America or China, Brazil or India, but by The City. In a world that increasingly appears ungovernable, cities — not states — are the islands of governance on which the future world order will be built." (Parag Khanna[1])

Over the past decade, the centrality of cities in the political economy has become a palpable global phenomenon. Dramatic headlines, such as "rise of cities", "urban world" and "planet of cities", resound in academic, business and popular literature. Clearly, cities are important social, economic and political actors at all levels, as shown by population and demographic trends.

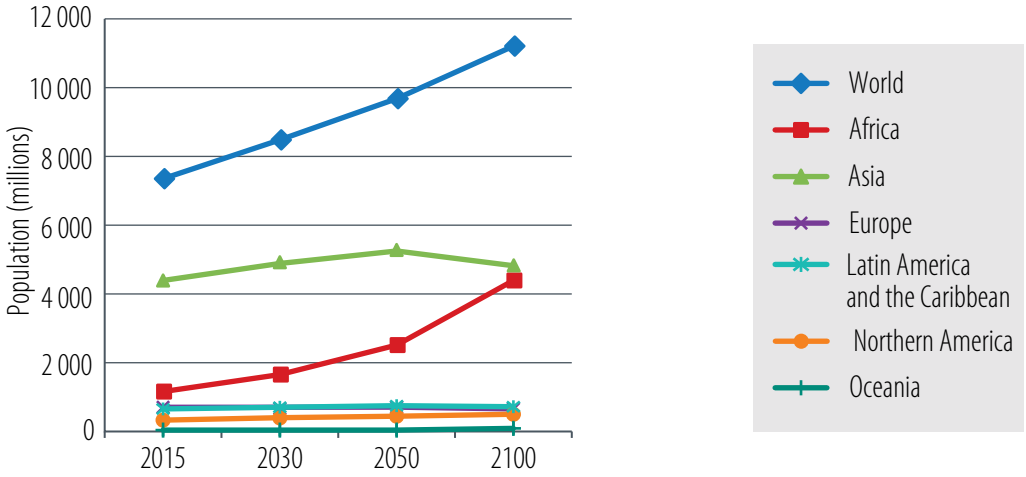
The world population is growing fast, although the rate is slowing. In 2015, the world population reached 7.3 billion, one billion people more than 12 years early (in 2003). However, it will take 15 years to add another one billion people to the population, which is projected to reach 8.5 billion by 2030. Between 2005 and 2015, the annual rate of population growth dropped, from 1.24% to 1.18% (UN DESA, 2015).

Africa is the fastest-growing continent. Africa accounts for just 16% of world population (1.2 billion in 2015) but has the highest rate of population growth, at 2.55% annually. This means that almost half (1.3 billion of the 2.4 billion) of the people projected to be added to the world population between 2015 and 2050, will be Africans. As a result, Africa's share of the world population will reach 25% in 2050, and 39% by 2100, whereas Asia's share will reduce to 44% over the same period (ibid).

1 *http://www.mckinsey.com/global-themes/urbanization/when-cities-rule-the-world*

Figure 1.2 shows the projected growth in world population by areas.

Figure 1.2: Population of the world and major areas (2015–2100)

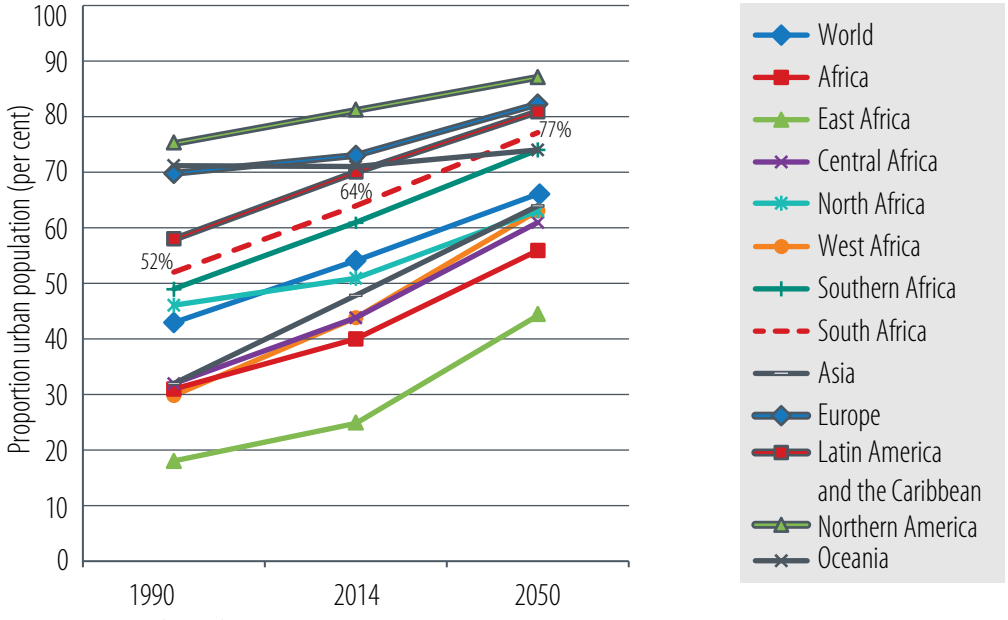


Source: UN DESA (2015)

Just as the world population growth is not evenly distributed, nor will it be so in Africa. The growth will mainly be in poorer countries. By 2100, the populations of ten African countries are projected to increase by at least five-fold (ibid). Over the next 30 years, half of the world's population growth is expected to come from just nine countries, of which five are African: India, **Nigeria**, Pakistan, **Democratic Republic of the Congo**, **Ethiopia**, **Tanzania**, United States of America, Indonesia and **Uganda**. The population of Nigeria will surpass that of the United States, making it the third largest country in the world (ibid).

This growth is mainly urban. In 2014, for the first time in history, more people lived in urban areas than in rural areas. This urbanisation trend is likely to continue, with the world urban population projected to grow from 54.5% in 2014 to 66% in 2050 (Figure 1.3).

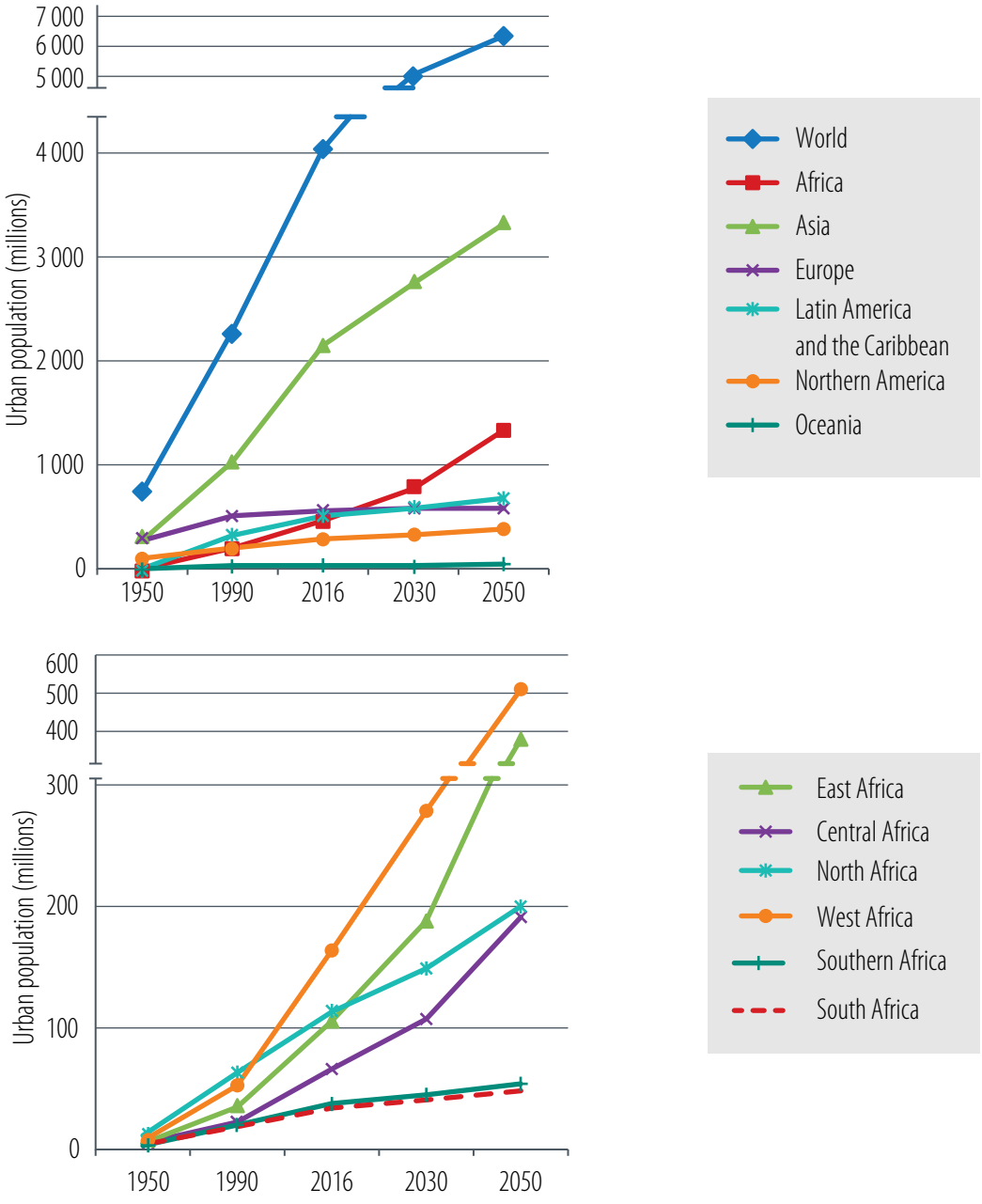
Figure 1.3: Proportion urban population (1990–2050)



Source: UN DESA (2014)

The urbanisation trend is particularly marked in the relatively less urbanised regions: the global South and poorer sub-regions. Therefore, the rate of urbanisation will be higher, for example, in West, East and Central Africa than in Southern Africa or South Africa, which is already relatively more urbanised (Figure 1.4). This does not mean that the urban population will not continue to grow in South Africa. The National Development Plan (NDP) estimates that South Africa's urban population will grow by about 10% every two decades, reaching 70% in 2030 and almost 80% in 2050 (NPC, 2011).

Figure 1.4: World urban population[2]



2 UN World Urbanization Prospects: Data Query. *http://esa.un.org/unpd/wup/dataquery/*

The consequence of this rapid urbanisation is that the numbers of urban residents grow fast in specific places. Approximately one quarter (23.9%) of the world population is already concentrated in large urban areas of a million population or more (Demographia, 2016). Four African city-regions are listed among the 50 largest urban areas in the world:

- #17: Cairo – population nearly 16 million (15 910 000) and density of 9000 people per km^2
- #24: Lagos – population nearly 13 million (12 830 000) and density of 9000 people per km^2
- #27: Kinshasa – population over 11 million (11 380 000) and density of 19 500 people per km^2
- #40: Johannesburg – population over 8.5 million (8 655 000) and density of 3300 people per km^2.

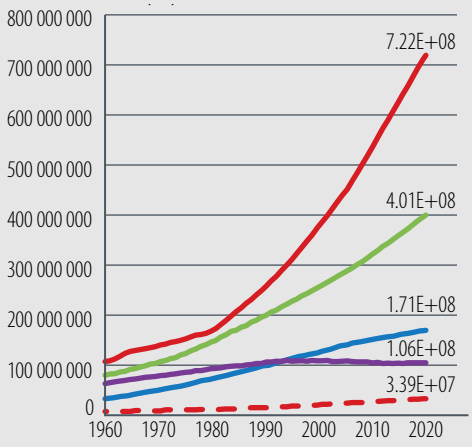
The size and growth of specific urban areas is a subject of increasing attention and study as it brings particular challenges, but also opportunities, for socioeconomic growth and development. Today's cities, particularly in the global south, are collectively grappling with these challenges of urban planning, development, management and governance.

LEARNING FROM BRICS CITIES

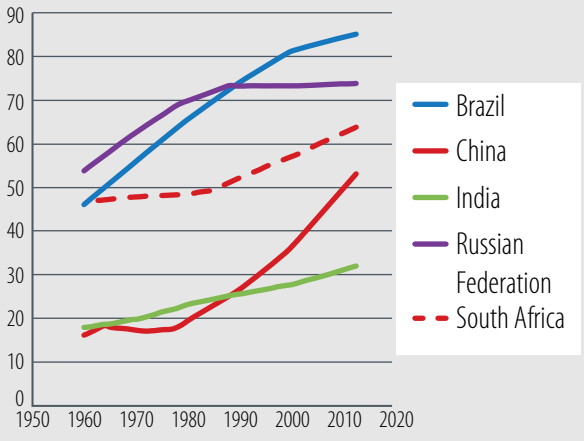
The BRICS yield up some inspiring examples of how to seize the opportunities that urbanization can provide, and how to pursue inclusive urban development. They also highlight the problems inappropriate policies bring. All these countries have gone through difficult periods during their urban transitions, and several still bear heavy burdens of past failures to process urban growth equitably and efficiently (McGranahan and Martine, 2012: 2).

BRICS countries face common challenges (although of very different scales), but the greatest insights may also come from their differences rather than their similarities.

Urban population: BRICS countries



Urban population (% of total)



Source: South African Research Chair in Spatial Analysis and City Planning, Wits. Data derived from UN Population Division

BRICS country	Lessons	Challenges
Brazil Little done to manage urban growth during the latter part of the twentieth century, resulting in growth of informal settlements (*favelas*) on hazardous and peripheral land, and huge urban inequalities.	• Innovative approaches to urban management, e.g. transit-oriented development (Curitiba); participatory local budgeting (Porto Alegre); value capture instruments used to fund new infrastructure (Sao Paulo). • Government support of local initiatives through the the *Estatuto da Cidade* (Statute of the City) and the Ministry of Cities. • Electricity production based on hydro power not coal-fired generation; green fuels rather than petroleum.	• Failure of public transport to keep pace with the growth of the large cities. • Mass street protests against inadequate transport systems in 2013, repeated again in January 2016. • Economy in recession, and political troubles mounting, leading to some of the shine of the Brazilian case wearing off.
Russia Highly urbanised (around 75%), but current urban growth very low, with many cities having a static or declining population. Growth continues in Moscow and in a few of the better located secondary cities.	• Ambitious dreams for new urban development, e.g. building a "New Moscow" beyond the edge of the existing city. • Like South Africa, Russia has an extremely resource-inefficient economy because of the historically low cost of carbon-based fuels.	• Struggling economy battling low commodity prices. • Many cities created under a command economy are locationally marginal under market conditions. • Like in South Africa, many Russian cities have an "inverted density gradient", with higher population densities on the edge than in the centre of cities.
India The one BRICS country still experiencing robust economic growth but still extremely poor. Very low levels of urbanisation (around 30%).	• Local-level innovations within a difficult urban context. • Impressive economic growth (Delhi) and success in transitioning to a high tech economy (Bangalore). • Recent introduction of a metro system (Mumbai).	• High levels of informality. • Infrastructure deficits and fragmentations. • Environmental degradation (Delhi is the most air-polluted large city in the world).
China The "giant", accounting for 46% of the population and 56% of the economy of the BRICS countries. Urbanisation rose from less than 20% in 1980 to more than 50% currently. Growth focused on the eastern seaboard until around 2000, when cities in the interior also grew, supported by the government's *Go West* policy.	• Highly successful infrastructure-led development • Recent policy development recognises clusters of cities (or city-regions) as a spatial unit for addressing environmental, economic, transport and other challenges. • Cities that have made the shift to a tertiary economy are benefitting from consumption-led growth.	• Collusion between municipal authorities and developers led to large-scale overbuild in places. • Rapid industry-led growth caused environmental problems, especially air pollution in cities. • Economic slowdown in China putting pressure on cities built on low-end manufacturing. • Controls on urbanisation through the *hukou* (household registration) system have been eroded, but still inequality between those with an urban *hukou* and the "floating population".
South Africa The minnow, accounting for only 1.7% of the population and 2.6% of the economy of the BRICS countries. Higher level of urbanisation and per capita income than India and China. Like China and Russia, South Africa had controls on urbanisation which were only removed in the mid to late 1980s. Since then, there has been an upsurge in urbanisation, which is now gradually slowing down. South Africa's cities have struggled to keep pace with this recent urban growth and (like in other BRICS countries) face considerable challenges of urban inequality and non-sustainable growth paths.		

LEARNING ACROSS BRICS: from city-regions to secondary cities

Urban studies tend to focus on single cities, but the perspective changes when clusters of cities are considered (or city-regions as they are called in South Africa). These clusters present particular challenges and opportunities for urban governance, and require special arrangements for the integration and coordination of development. In the BRICS, the "city-regions" include the mega-clusters of Yangtze River Delta and the Pearl River Delta in China, with populations of 140 million and 120 million respectively. The Gauteng City-Region is far smaller, with a population of around 15 million people.

However, just as we can go up in scale from cities to city-regions, we can also go down in scale for the large and mega cities to the secondary and smaller cities of the BRICS. The learning opportunities are across the scales, and critical opportunities for engagement exist beyond studying the leading cities in the BRICS.

It is also useful to consider the linkages between the cities and city-regions of the BRICS that are experiencing significant movements of people (migrants and tourists), trade, investment, ideas, policies and practices. In addition to internal migration, there are, for example, migrant flows from China and India to South Africa's cities; investments in South Africa's property sector from large firms headquartered in Shanghai, Chengdu in China, and Moscow in Russia; new links in the energy sector between Moscow and South African cities; and the transfer of urban governance practices from Brazilian to South African cities.

The linkages across and lessons from BRICS cities are numerous. South Africa can, for example, learn innovative economic and governance practices by drawing upon the experience of other cities and countries. For example:

- Recent economic innovations in China.
- Local-level governance experiments in Brazil.
- The ways in which urban residents in India creatively make do with what they have.
- Efficient delivery of urban infrastructure from cities in China.
- Participatory governance processes used in Brazilian cities.
- The rebuilding of local planning systems in Russia after their near annihilation immediately after the collapse of soviet rule, to address critical urban challenges.
- Brazil's low carbon footprint efforts.
- China's very recent success in moving towards renewable energy sources.

"The overriding lesson is that cities and nations must plan for inevitable urbanization, so as not to be left with an enduring legacy of inequalities and lost opportunities." (McGranahan and Martine 2012:2)

Learning can be maximised through platforms that allow for mutual learning. This is happening within the formal BRICS structures (e.g. the BRICS Urbanisation Forum) and through other initiatives, such as the Guangzhou Urban Innovation Awards, and the recent launch of a BRICS Cities Lab by academic collaborators across a number of BRICS cities.

Opportunities

"Urbanization has helped millions escape poverty through increased productivity, employment opportunities, improved quality of life and large-scale investment in infrastructure and services." (UN Habitat, 2016: 34)

Cities are core to global production, innovation and trade, making urbanisation a "transformative force" that, if well managed, offers significant opportunities for (UN Habitat, 2016: 27):

- improving economic prospects and quality of life for the majority
- alleviating poverty
- driving innovation and productivity
- working towards social inclusion
- contributing to national and regional development.

For all its challenges, urbanisation offers many benefits to many people: economic options, better education and health, and access to improved infrastructure and services. The top 600 cities in the world account for a fifth (20%) of global population and generate 60% of global gross domestic product (GDP), while the top 100 cities in the world are responsible for 38% of global GDP (MGI, 2011).

These benefits and strengths of cities are key drivers of urbanisation. The spatial concentration of people in cities creates opportunities for creativity and innovation, efficient service and infrastructure provision, and greater resource-use efficiencies. However, while urbanisation can be positive, this is not the full story. Urbanisation is in fact a highly complex mix of interrelated opportunities and challenges.

Challenges

"Africa's fast pace of urbanisation and urban growth contrasts with the slow pace of structural transformation. [...] Urbanisation and structural transformation have not been mutually supportive in many African economies." (AfDB et al., 2016: 149)

The urbanisation process in Africa has been very different from that of the global North, which was driven by industrialisation. Africa's urbanisation is characterised by "an urbanisation of poverty", as individuals and families migrate to cities to escape rural poverty, conflict or other hardships. In spite of clear projections, many African countries and cities are not prepared for the unprecedented population growth, and their economies are not always capable of absorbing this influx. As a consequence, 40% of the global urban expansion is taking place in slums (WEF, 2015).

Unplanned and unmanaged urbanisation can lead to increased inequality, the growth of slums and disastrous impacts on climate change, with particular challenges in four areas (ibid):

- infrastructure
- health risks
- climate change
- social instability.

Addressing these challenges requires increasing the anticipation and response capabilities of the rapidly urbanising regions, countries and cities. However, intergovernmental coordination (alignment between government departments), and collaboration between governments and communities, is often poor. Poor communication, collaboration and planning are partly responsible for the mismatch between spatial and infrastructure planning, which is often exacerbated by political interference and corrupt activities, or flawed means of distribution (Pegasys, 2015).

Key issues for African cities

Given these complex dynamics, African cities need to adopt a more proactive approach to urban planning, management and governance. In recent years, extensive academic and policy research into these issues has begun identifying areas for action in urban development (Pegasys, 2015).

High economic and population growth, and inequality

In many cities, investment, urbanisation and enhanced productivity have boosted economies, but this wealth tends not to "trickle down" to the increasing lower-income population. Instead, it is recycled within the political or class elite. Furthermore, urban populations across the African continent are growing at such a rate that infrastructure development, maintenance, and planning cannot meet the demand, resulting in unequal access to services in most cities. The inability of city government to manage the relationship between economic growth and population dynamics places the urban social and economic systems at risk.

Informality and vulnerability

Slums are proliferating, as a result of high population growth and movement (rural-urban and circular migration) combined with the lack of affordable access to housing and land in cities. As urban residential informality increases, so too does the vulnerability of the poor. In addition, the informal economy has become a hallmark of many cities and the major employer, as a result of the economic structure and growth of many African countries. These vulnerable livelihoods, coupled with poor living conditions, affect well-being in urban areas.

Climate change and resource flows

Extreme weather events and natural resource insecurity (because of climate change) add to the challenges of cities trying to provide services to increasing numbers of people. In the face of high environmental risks, cities have to try to build local resilience (i.e. energy and resource security and food security), while negotiating regional and international partnerships to mitigate and manage the potential future impacts of climate change. Platforms such as the C40[3] and Metropolis[4] have been supporting cities to achieve their greenhouse gas emission targets. This has been strengthened by the 2015 Paris climate agreement on cities at COP21[5] (see Chapter 5).

3 The C40 Cities Climate Leadership Group is a network of the world's megacities taking action to reduce greenhouse gas emissions.

4 Metropolis, or the World Association of the Major Metropolises, is the leading international organisation that represents cities and metropolitan regions with more than a million inhabitants.

5 COP stands for the Conference of Parties, which is held annually to review the implementation of the Rio Convention that includes the UN Framework on Climate Change (UNFCCC).

To leverage urbanisation in Africa, the following policy responses are required (AfDB et al., 2016).

- Invest in urban infrastructure in order to keep up with rapid urban growth.
- Provide more affordable housing.
- Improve urban connectivity, as city sprawl and current public mass transportation systems have offset the economies of agglomeration.
- Focus urban planning and governance on informal settlements.

Initiatives

For African cities, the challenge (or complex of challenges) is to manage economic and population growth, informality (the manifestation of exclusion from the mainstream) and urban resilience, while building an internationally competitive economy and encouraging investment. This is in addition to delivering on local developmental goals. The adage "think globally, and act locally" applies here, as cities will have to develop contextualised strategies and tactics for addressing their circumstances, as well as engage with global actors and issues, such as around mitigating the potential impacts of changes in the global macro-economy and climate change.

In 2015, the UN adopted 17 **Sustainable Development Goals (SDGs) – Transforming our world: the 2030 Agenda for Sustainable Development**, a follow-up to the 2015 Millennium Development Goals and aimed at ending poverty, fighting inequality and injustice, and tackling climate change by 2030. SDG 11 is specifically about sustainable cities and communities: by 2020, cities and human settlements will have adopted and implemented integrated policies and plans, aimed at inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and implemented in line with the Sendai Framework for Disaster Risk Reduction 2015–2030. Figure 1.5 presents the 17 SDG goals in relation to South Africa's NDP 2030 and illustrates a general correlation between the NDP objectives and actions and the SDG goals and targets (NBI, 2016).

The United Nations Conference on Housing and Sustainable Urban Development – **Habitat III** – will take place in October 2016 in Quito, Ecuador, and intends to frame a new global urban agenda. Within it, an aspirational African urban agenda aligned to African Union Africa Vision 2063 and discussed at the 7th Africities Summit 2015 has also emerged.

Figure 1.5: Aligning the SDG targets and NDP objectives

Source: NBI (2016)

Other multilateral partnerships and associations that support or enhance urban development and resilience include the BRICS Urbanisation Forum and Friendship Cities, as well as C40 and Metropolis already mentioned. Agreements such as the COP Paris climate agreement on cities and the Global Network for Safer Cities (with its regional sister, the African Forum for Urban Safety) also forge collective global agendas. Importantly, all of these present opportunities for South African benchmarking and learning.

LOCAL PERSPECTIVE: CITIES IN CONTEXT

South Africa's cities are neither incidents nor islands – nor are they only the consequence of globalised trends, though these are certainly a factor. They are also defined by the country's particular context and history, a summary of which follows.

South Africa's democratic government has been in place since 1994. The 1996 Constitution allocated legislative and executive authority and powers to three spheres of government, but only in 2000 did the local government system in its current form come into being – when racially based municipalities were transformed into "wall-to-wall", non-racial, democratic local governments.

The White Paper on Local Government (Ministry of Provincial Affairs and Constitutional Development, 1998) sets out the developmental mandate of the sphere as being: "local government committed to working with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives". However, government's 10-, 15- and 20-year performance reviews have failed to recognise adequately the important role and circumstances of local government, and indeed of cities. Yet signs are emerging of more definitive acknowledgement that transforming our cities, towns and villages is imperative to achieving growth and stability (NDP, 2009; COGTA, 2016).

The 1998 White Paper was firmly grounded in concerns about the apartheid and colonial legacies of spatial distortion, entrenched inequities, social divisions and the uneven distribution of capacity required to meet the needs and aspirations of local communities in a new, free and democratic South Africa. What this legacy has meant for the largest cities over the past 15 years is a double-edged mission: one of dealing with the past and its consequences for today's realities, while imaging and evolving towards a better future.

The challenge of the present is to redress the historical imbalances and backlogs, while trying to keep up with population dynamics (increased demands because of rapid and poor urbanisation) and dealing with the consequences of decaying infrastructure (because of supply-side trade-offs in the face of limited resources and capacity).

The challenge of the future is to move towards more desirable cities – cities that are viable and competitive places. This requires re-configuring cities within a context where legacy systems of operation and competencies may not be adequate for dealing with the fundamental shifts in, for example, demographic, technological and natural resource considerations.

These are not either-or options; both must be dealt with. The balancing of the two is the complex space that urban governance will have to navigate between the short and the long term. South Africa is roughly halfway between the establishment of the local government system (2000) and the vision horizon set by the country (NDP Vision 2030), and so this SoCR provides an important opportunity for assessing our progress and, perhaps, refining our approaches towards achieving the vision.

Key issues for South African cities

A number of external (macro) and internal (micro) trends and factors affect cities.

Demographic changes

Since the removal of the apartheid-era constraints on the free movement of black people, South African cities have grown rapidly through a combination of natural growth and in-migration from rural South Africa and neighbouring countries. Although urbanisation is predicted to take place in secondary cities and towns in most countries of the global South (UN Habitat, 2014), currently the most rapid growth is in the large metropolitan regions. Between 2001 and 2011, the population in metros grew by more than 25%, compared to 10% in the rest of the country (Turok and Borel-Saladin, 2014).

Much of this urban population growth has been in the former black townships and in particular informal settlements, which have grown the fastest because they are "the first recipients of rural (and foreign) migrants in search of work" (Mahajan, 2014: 8). In addition to the expansion of informal settlements, many households are renting in backyard shacks. Again this has mainly been in townships and new low-income housing (RDP) settlements.

While the absolute numbers of people in cities have increased, household sizes have decreased, from 4.5 to 3.6 people per household between 1996 and 2011 (Stats SA, 2012), implying that the number of households are also growing. The increase in absolute numbers of people and the reduced size of urban households have resulted in an escalating demand for housing within metropolitan areas, as well as an increased demand for employment opportunities, infrastructure and services.

Relative strength of metro economies

National economic development and growth have long been associated with the productivity of cities. This is not necessarily the case for the majority of South African cities but is true for the largest metropolitan municipalities, which have been growing faster than the rest of the country, and are estimated to generate over 70% of South Africa's GDP and exports (van Huyssteen et al., 2009; Turok and Borel-Saladin, 2013). The metros have the highest levels of skilled labour, research and development capability, and provide services and products to regions far wider than their municipal boundaries. These factors, along with the benefit of agglomeration economies, contribute to their regional competitiveness. While the cities are still confronted with pockets of deep deprivation (some 24% of the urban population is estimated to living in poverty), employment rates – including youth employment – and incomes are generally higher in urban than in rural areas (Van Huyssteen et al., 2009).

Basic service provision

Few will dispute that South African cities have made major gains in the provision of basic services in the past 20 years (Stats SA, 2012; Turok and Borel-Saladin, 2014). The metros have consistently performed better than the other municipalities in all areas of service provision, despite servicing much larger populations. Overall, they have made the most progress in providing water services and relatively the least progress in sanitation services. However, there are challenges. One is in the trade-offs being made between service extension versus infrastructure and service quality, operations and maintenance.

Another is the present conundrum that, despite improved urban infrastructure (Stats SA, 2012), the main development indicators (HDI – the human development index) and the proxies for improved sanitation and water access (deaths due to diarrhoea) have only modestly improved (South Africa's HDI ranking), or even worsened in the case of deaths due to diarrhoea (Turok and Borel-Saladin, 2014). These challenges affect the quality of life in cities.

Increasing inequality and exclusivity of cities

The poor and working class continue to be largely marginalised in South Africa's cities. For instance, most low-income housing is located on the periphery of cities, and residents of these areas suffer poor access to centres of employment and social amenities. Consequences include higher transport costs for the poor, difficulty in accessing good schooling, and long travel times between places of work and home – time that could otherwise spent on much more productive uses. These structural arrangements subvert South Africa's urban vision of having more compact, integrated and inclusive cities (COGTA, 2016).

Understanding of and support for local government

Some governance challenges faced by cities are internal to the local sphere, but others are related to the lack of understanding of local government by other spheres, which have had to recalibrate their systems in order to provide relevant support. One example is decentralisation and the corresponding functional devolutions – planning with the recent Spatial Planning and Land Use Management Act (SPLUMA), and eventually public transport and human settlements. However, these processes have faced delays and are not accompanied by fiscal decentralisation. Another example is the increasing recognition that differentiation in policy and sector support is needed, with programmes emerging that support metros, secondary cities and small towns in different, more targeted ways.

Spatial dynamics[6]

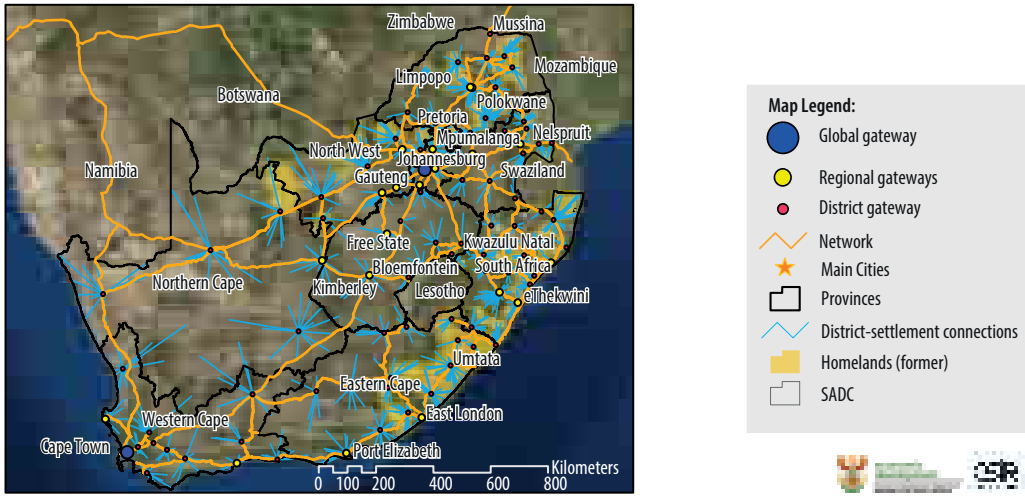
In the NDP (specifically, Chapter 8 on Transforming Human Settlements) and the Integrated Urban Development Plan (IUDF), space and spatial development are important priorities for eliminating poverty and reducing inequality in South Africa. South African apartheid legacies, socioeconomic development needs and employment challenges (especially youth unemployment) require intervention at a fundamental and large scale. Spatial targeting of initiatives, investments, plans and projects can help strengthen economies and boost employment creation. However, sustainable urban (and rural) development will require much more than mere basic service provision or the ad hoc roll-out of large infrastructure projects. It requires investment initiatives that leverage spatial multipliers, and strengthen and extend industry linkages and networks within functional regional economies. The need to identify, strengthen and extend the range of relevant networks and value chains has often been raised, but modest progress has been made at national and various regional levels (EDD, 2014). Since 1996, South Africa's urban landscape has changed and resulted in spatial and developmental implications, opportunities and challenges, as explained below.

6 The spatial framework applied here is based upon the 2014 version of the SA settlements typology which was developed to support the development of the IUDF (Van Huyssteen, et al., 2014), as well as the stepSA Geospatial Analysis Platform which was developed to improve the spatial resolution of meso level information in South Africa (http://stepsa.org/settlement_typology.html).

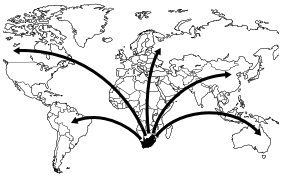
Cities and towns are the backbone of regional and rural economic networks

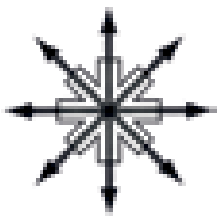
City-regions, cities and major towns are not only home to the majority of the population but are also the engine rooms of the South African economy – an estimated 57% of the formal economy is generated in the city-regions alone. South Africa's cities play key roles as gateways to and/or anchors of spatial networks – connecting people, places, freight, logistics, financial, service, learning and institutional networks (ESPON, 2014). A 2014 analysis conducted by EDD and the CSIR (2014), which was based on a range of municipal and functional city area indicators, highlighted the critical role of cities as international, regional, and more localised networks.

Figure 1.6: Cities and towns are anchors and gateways within regional and rural economic networks



- **International gateways:** Although international investment and trade in South Africa (and Africa) may be directed at more rural, resource-rich enclaves (e.g. mining areas), metropolitan and large urban areas and port cities are used as gateways and springboards.
- **Gateways and anchors for national and regional economic networks**: Metropolitan areas and large urban areas are the major global and regional gateways, and drivers of innovation and job growth in supra-national, national and sub-national regional economic networks and many of the job-driver specific value chains.
- **Gateways for regional and rural economies and service delivery**: Regional and district gateways offer the potential to grow, anchor and connect government and economic service networks, as well as support growth and innovation in local and regional value chains.



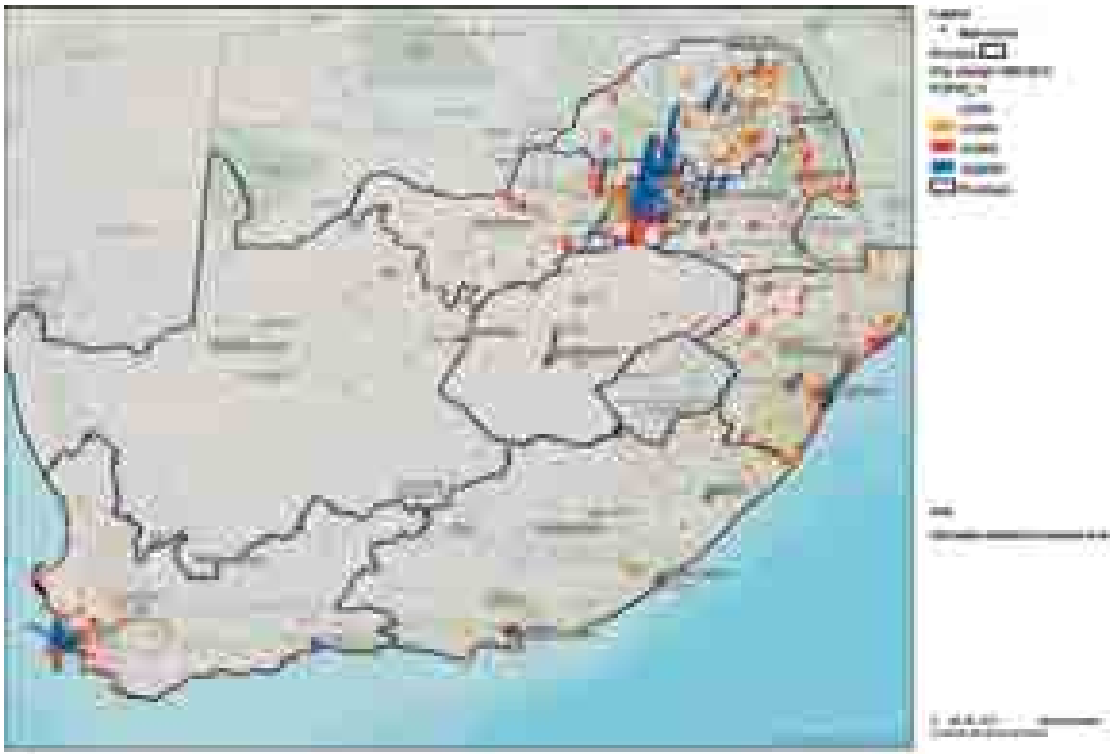


Source for this and later maps in chapter: CSIR and StepSA city viewers and indices. http://stepsa.org/

Cities and towns are playing a major role in housing South Africa's population

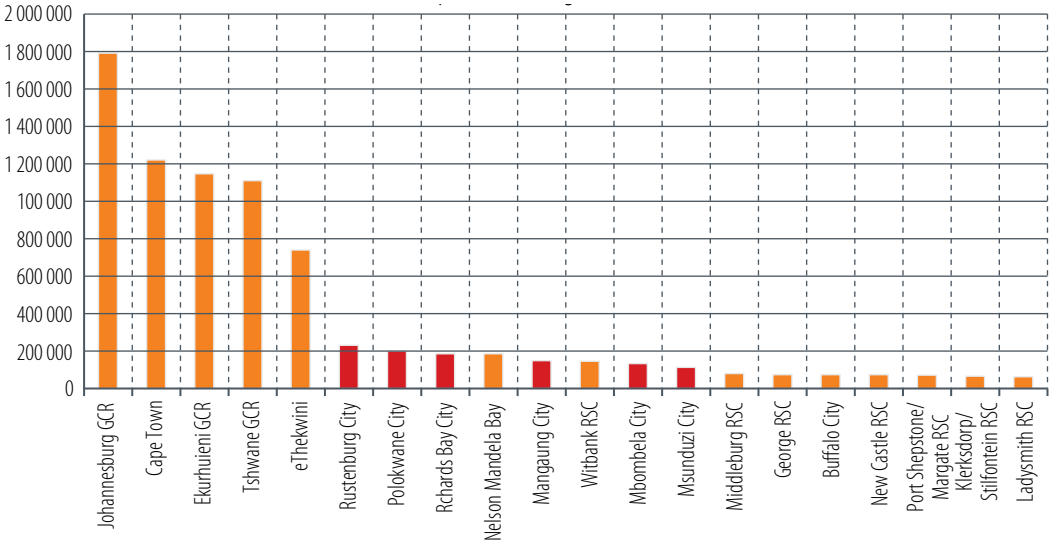
South African cities have grown rapidly because of the obvious economic opportunities and prospects, but also because people view cities as places where livelihoods can be improved and access to services is better. Over the past two years, cities and towns have experienced the biggest increase in population, a trend that is likely to continue. It is estimated that almost 78% of South Africa's population of 51.7 million people live in cities and towns in both urban and rural areas, with only 14% of the population living further than 20 kilometres away from a town or city. The map in Figure 1.7 shows the extent of population change that has occurred between 1996 and 2011 (the bar heights reflect the ranges of change).

Figure 1.7: Change in total population between 1996 and 2011 (showing larger values only)



As Figure 1.7 shows, the largest increase in population has occurred in the metropolitan areas of South Africa, as well as several other fast-growing cities, such as Polokwane, Emalahleni, Middelburg and Rustenburg. Some settlements in the vicinity of the metropolitan areas also have increased population numbers. This trend is confirmed in Figure 1.8, which shows that five of the eight metropolitan municipalities reflect the largest change in numbers (population), with the city-regions of Gauteng and Cape Town showing the largest growth between 1996 and 2011.

Figure 1.8: Population change total for the 20 top places (1996–2011)



Top 20 places (drawn from SACN/CSIR typology)

Secondary cities and small towns are also growing fast

The growth of population in metropolitan areas is to be expected because of the economic opportunities within such areas, but the high rate of population growth in smaller towns and cities is interesting to note.

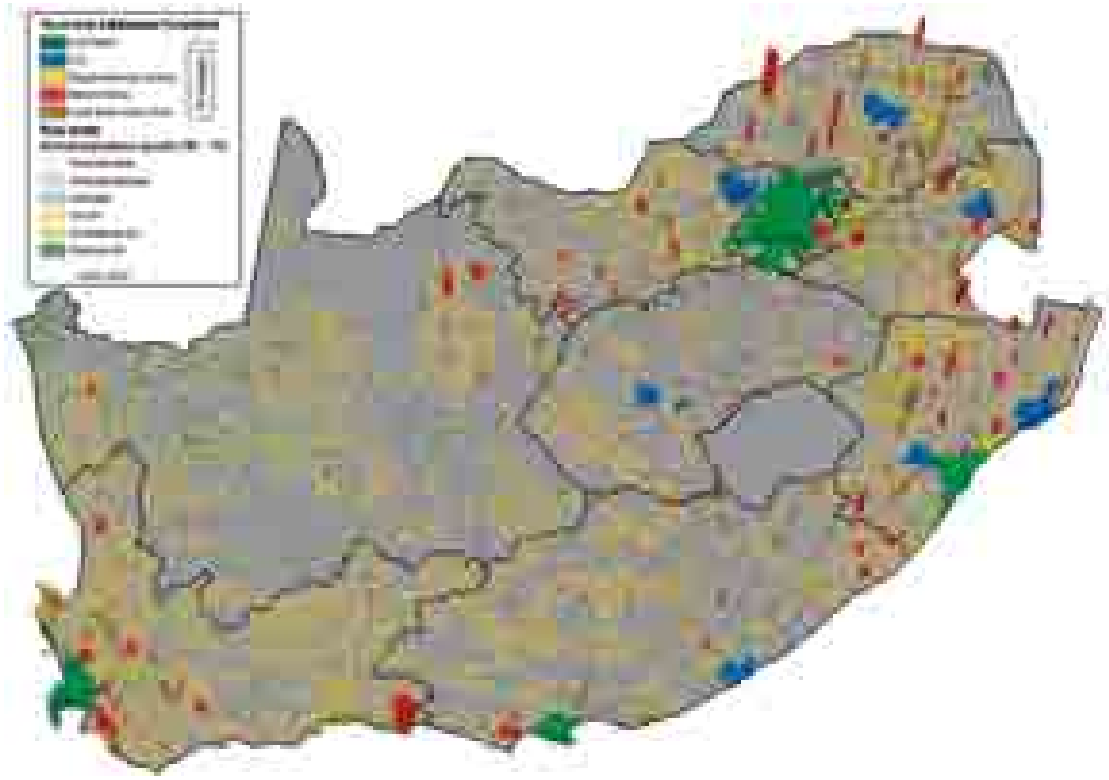
Figure 1.9 shows the rate of population change between 1996 and 2011 per mesozone[7] and presented according to settlement categories listed in the typology: city-region, city, regional service centres, service towns, and local or niche towns. It only reflects settlements with a population of more than 5000 people. The map shows that some smaller cities are in fact growing faster than the large metros.

- Cities such as Polokwane, Mbombela, and Richards Bay.
- Regional service centres such as Emalahleni, George / Knysna.
- Service towns such as Lephalale, Mookgopong, Modimolle, Kathu, Kuruman, New Castle.
- Local and niche towns such as Vaalwater, Thubatse, Kwahlushwa, Manguzi, Addo, Gansbaai.

Access to services could be one of the reasons why these places have such high rates of growth. With the advent of differentiated approaches to urban development, more attention is being afforded to the role and strategies of secondary (or intermediary) cities and small towns, e.g. within in the global Habitat III agenda. The trend in South Africa seems to warrant such consideration.

7 Mesozone are more or less equal-sized units (roughly 7km x 7km) that are similar in socio-economic character. The whole of South Africa is demarcated into just fewer than 25 000 mesozones (or standard local economic areas) nested within administrative and physiographic boundaries.

Figure 1.9: Rate of population change 1996-2011 (>5000 only)



Metros remain by far the largest

While the relative growth rates are important and interesting, almost half (46%) of South Africa's population is concentrated in the metros and their surrounds. In 2011, just four city-regions (Gauteng, Cape Town, eThekwini and Nelson Mandela Bay) contained 42% of South Africa's population.

Figure 1.10: Percentage of population and growth rate of SA cities and towns

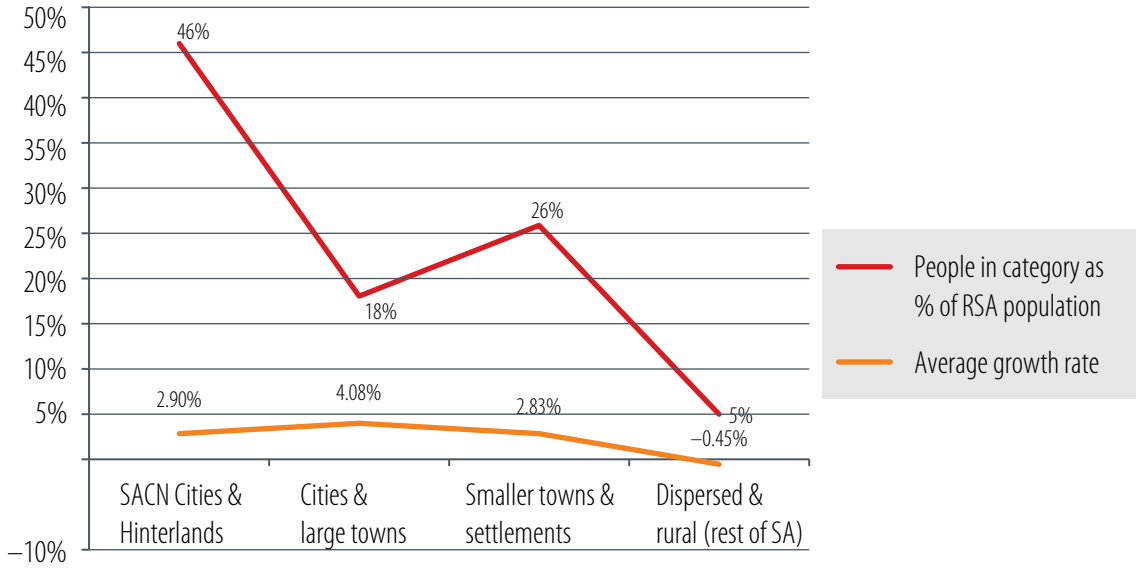
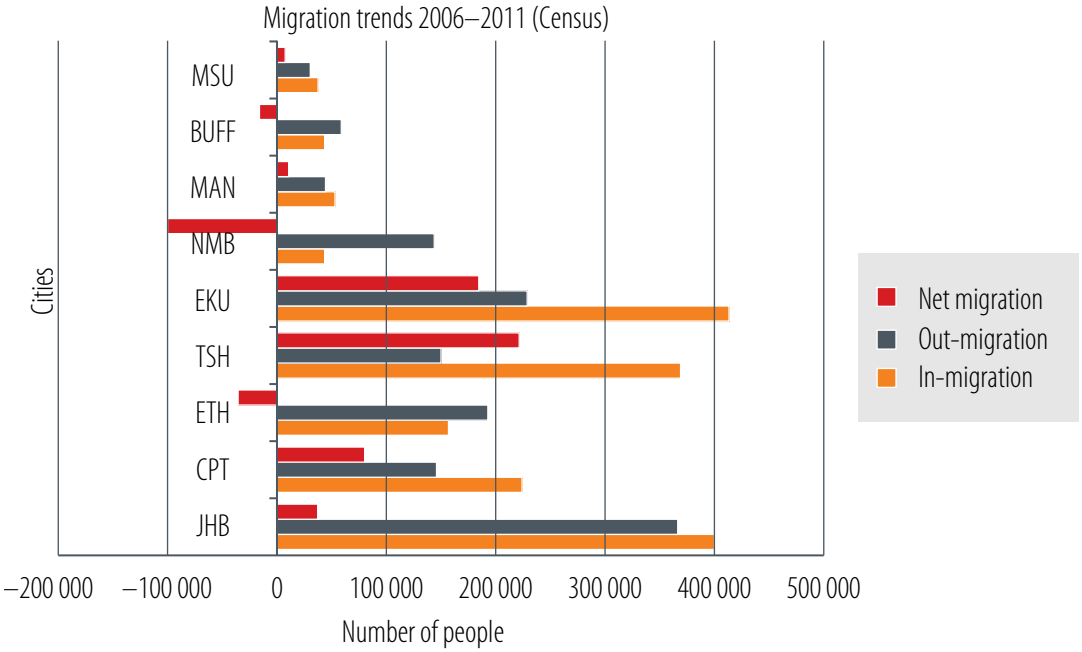


Figure 1.10 shows that, while population growth is higher in non-metro cities (secondary cities and large regional service towns), at 4.08% compared to 2.9%, their absolute population is less than half that of metros. In other words, non-metro cities are far from reaching the size of metros.

Populations are also moving (migration trends)

Populations are not static, even in the largest cities. A characteristic of modern life in South Africa is that people move, and then move again. This population mobility, with people moving to and between cities, means that urbanisation is not a linear trend. The complexity of these movements make forward projection and planning for both revenue and expenditure (on infrastructure and service delivery) less predictable. Figure 1.11 shows the total internal net, in- and out-migration for the nine cities. All the cities (except for Nelson Mandela Bay, eThekwini and Buffalo City) experienced a net population gain because of migration.

Figure 1.11: Net migration trends in cities (2006–2011)



The majority of the 142 000 out movements from Nelson Mandela Bay went to Cape Town and Buffalo City. Of the over 192 000 out movements from eThekwini, close to 30% went to Johannesburg, and a notable proportion of the movements also went to Msunduzi. Tshwane saw the greatest net population gain, with the majority originating from Ekurhuleni and Johannesburg (Pieterse et al., 2015).

Population concentrating in city cores and economic nodes

The apartheid past has had a significant impact on the composition and functioning of South Africa's cities and towns. Planned segregation created racially (physically) divided cities and towns that were still the reality in 1994, when South Africa became a fully democratic country. The apartheid spatial design produced cities that are incredibly inefficient, with many township areas placed on the periphery in locations that were both economically undesirable and deliberately underserviced. The question

today is whether cities are succeeding in reinventing and restructuring the past through spatial transformation.[8] The example of the three metropolitan municipalities in Gauteng (Tshwane, Johannesburg and Ekurhuleni) is used to answer this question, by reflecting on what/where changes and growth have occurred.

Figure 1.12: Population and economic growth trends for three Gauteng metros (1996–2011)

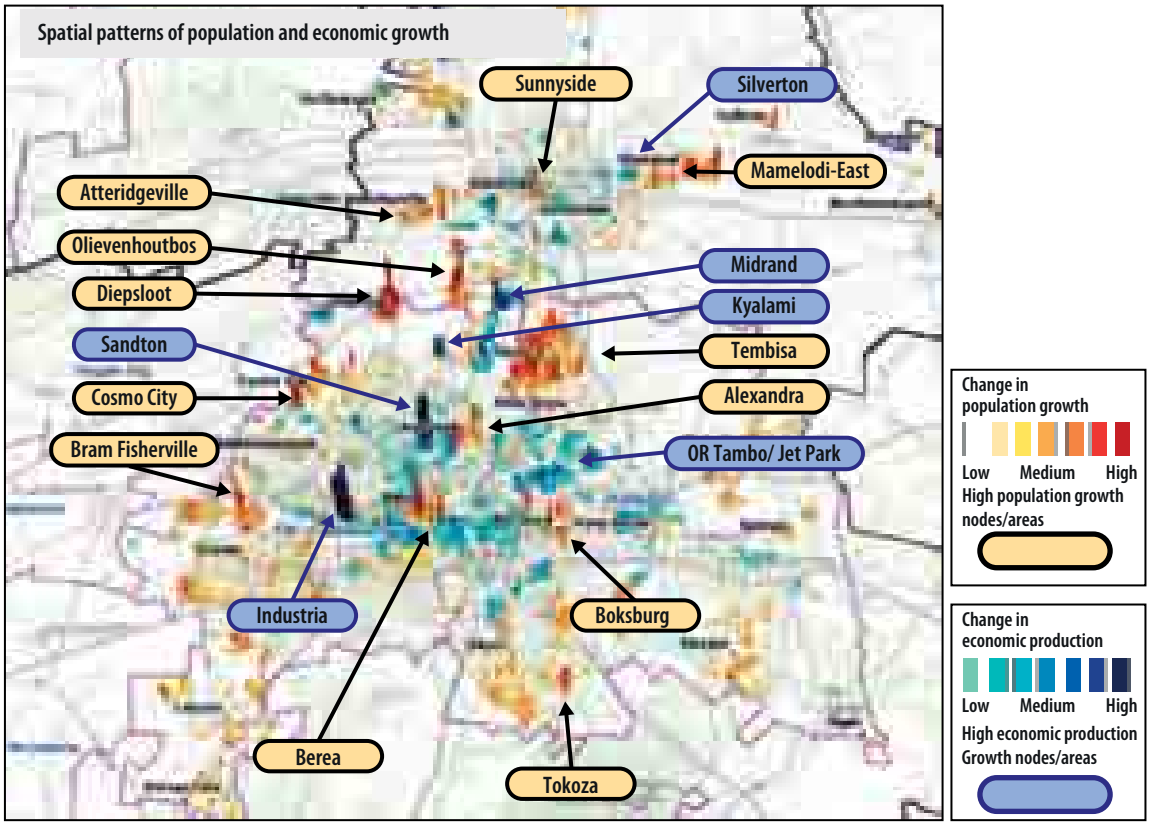


Figure 1.12 shows the following occurred between 1996 and 2011.

- Increased densities in the three metropolitan urban cores.
- Significant and unprecedented increased densities, as well as vast new developments, in townships (e.g. Diepsloot, Tembisa, Mamelodi, Alexandra, Atteridgeville). The densification and infill in these areas appear to outpace development happening elsewhere within these cities.
- Medium-density, new developments on the edge of well-established formal suburbs (e.g. developments in Midrand, Centurion, Highveld, Pretoria East, Equestria), and large-scale developments on the urban edge (e.g. Cosmo City, Bram Fischerville).
- Increased densities in the important business and administrative focal points of Germiston, Sandton, Midrand and Pretoria.

The analysis supports research that found the city core zone "still exerts a strong pull" in South Africa's large cities (Cross, 2014: 112).

8 See Chapter 2 for an in-depth discussion about spatial transformation.

Significant densification through back-yarding

A useful way to explore the form of densification that is taking place is to look for patterns in settlement formation and change over time. Figures 1.13 and 1.14 illustrate the changes along a transect line extending from Lenasia to the north-eastern tip of Tshwane (the red line in the Figure 1.13). Following the transect line, which is illustrated in Figure 1.14, the points of growth between 1996 and 2015 can be clearly seen: Hillbrow, Alexandria, Tembisa. The infill, densification and vast new developments are particularly observable in Tembisa.

Figure 1.13: Transect line from Lenasia to north-eastern Tshwane

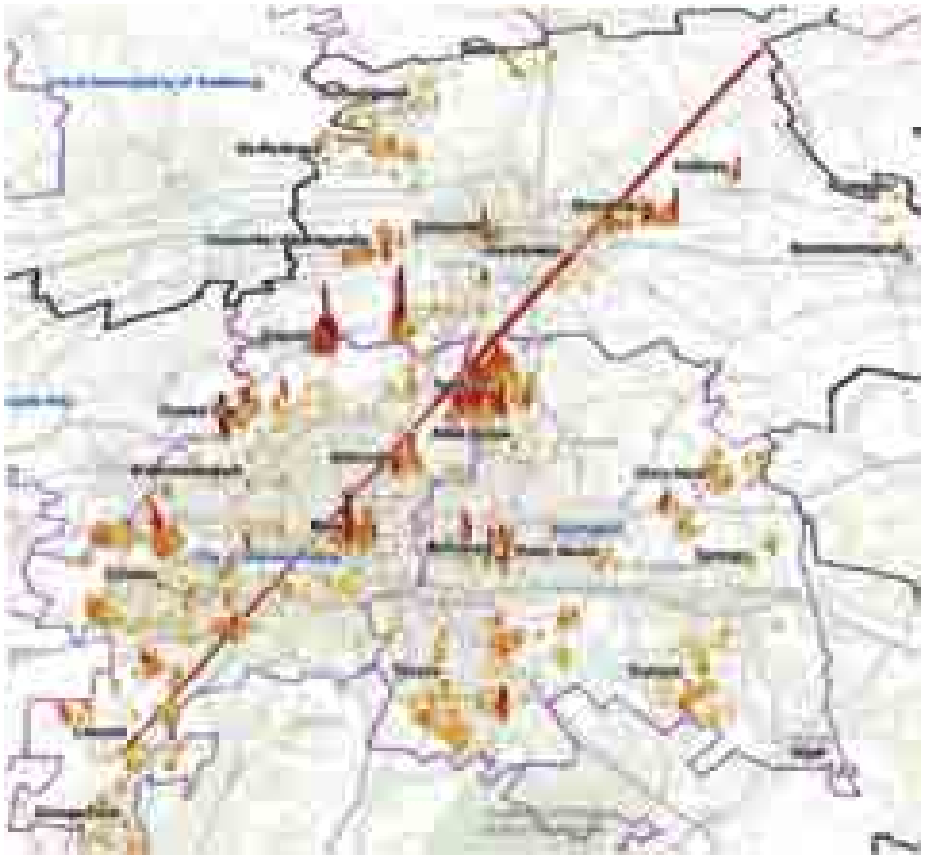
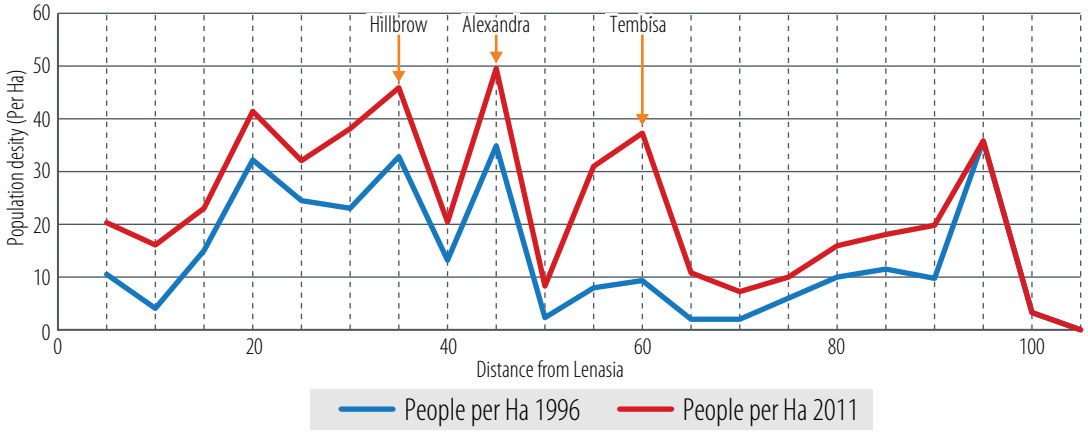


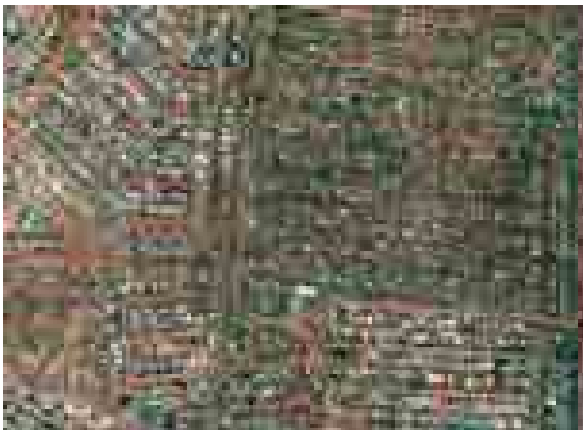
Figure 1.14: Comparison of transect population density values: Lenasia–north-eastern Tshwane



As the nature of this increase cannot be necessarily be deduced from these representations, aerial imagery is used here. Figure 1.15 shows that the densification in Tembisa has been through formalising previously informal settlements, which have then densified through backyard housing. Such backyard infill substantially adds to the number of residential (and other structures) and is an affordable-housing strategy for lower income populations (CSIR, 2012).

Figure 1.15: Aerial imagery comparison of Tembisa area (2002 and 2015)

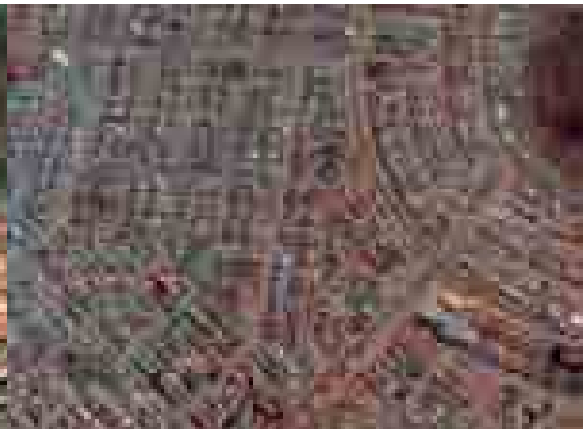
Tembisa example 1: 2002



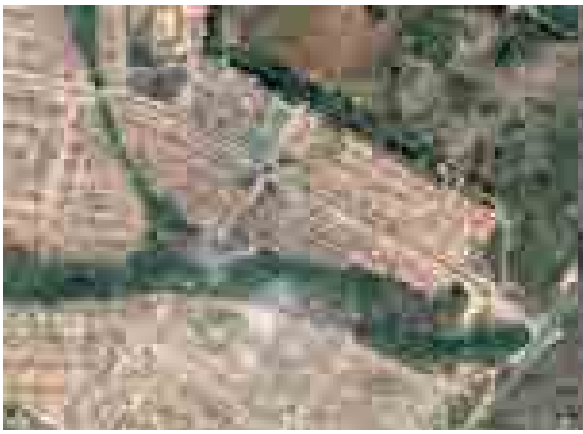
Tembisa example 1: 2015

Tembisa (east) example 2: 2002

Tembisa (east) example 2: 2015



Tembisa north-west example 3: 2002

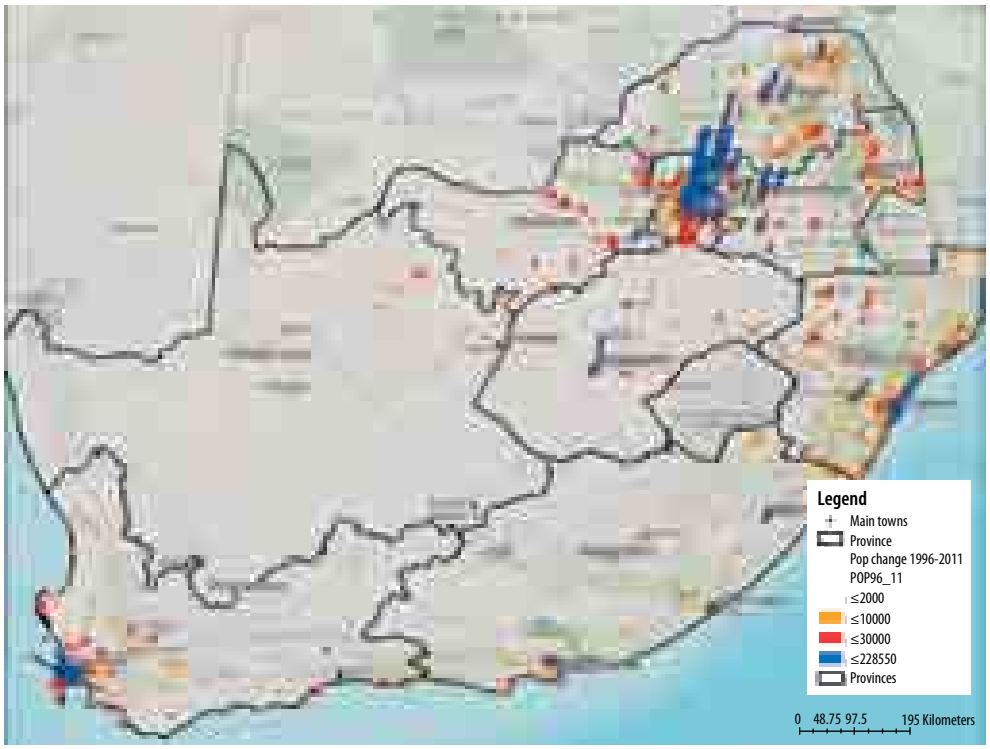


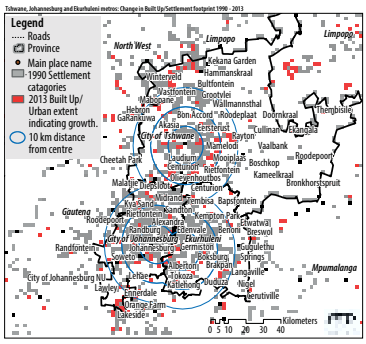
Tembisa north-west example 3: 2015

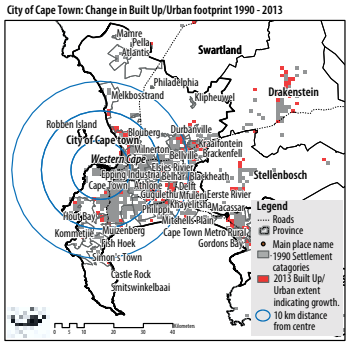
Increased densities and demand have localised effects and implications

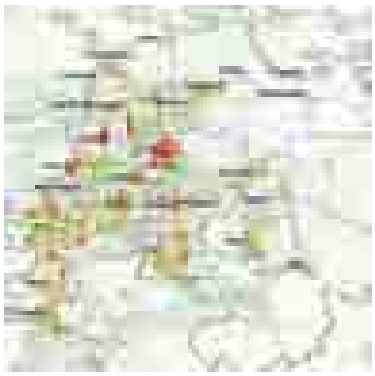
Population grows into particular places. This has meant very specific and diverse spatial implications within cities, with some areas experiencing high increases in population and service delivery needs. It has also meant the increase in the footprint of the built-up areas in cities, as illustrated in Figure 1.16.

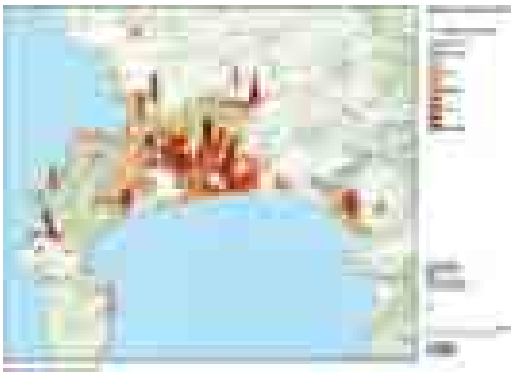
Figure 1.16: Increased footprints, densities and demand profiles











The red areas in the zoomed-in maps show new built-up areas in Gauteng and Cape Town that have both experienced significant increases in footprints. South African cities are already considered to be relatively less dense overall than comparator global cities (Bertaud and Malpezzi, 2014). The SoCR 2011 showed the spatial imbalances, with high densities found in black townships. The indication in this chapter is that much densification in cities appears to be happening through informal backyarding due to affordability reasons.

CITIES AS DRIVERS OF LOCAL AND NATIONAL DEVELOPMENT

The theme – South African cities as effective drivers of local and national development – acknowledges the possible duality between the macro and micro roles of cities. Cities need to be able to respond to global opportunities and build resilience against potential threats, while simultaneously meeting the local needs of their communities. Three core tensions illustrate the context within which South African urban municipalities have to govern (Pegasys, 2015).

Global systems versus developmental mandate

The macro issues include the effects of climate change, increasing global linkages and interdependencies between local and macro economies, which bring the potential of increased risk for local city economies. Long-term planning and policy development can support building resilience and responding to potential risks. In contrast, responding to local needs by planning and implementing the municipal developmental mandate will inevitably demand urgent, or short-term projects within a longer-term planning and policy context. As policy is strongly influenced by politics and political terms are relatively short, finding a balance between these considerations is a challenge for the majority of city governments. Yet the urban resilience and sustainability of cities hinges on the ability of city leadership and managers to find a balance between the long term-impacts of global systems and immediate domestic developmental demands.

Urban resilience versus economic competitiveness

Ensuring urban resilience to global environmental factors and changes in the macro-economic framework is essential to building a more sustainable urban future. An aspect of this resilience is a robust and dynamic local economy, which is directly related to the "competitiveness" of a city. Competitiveness in the modern world is associated with specialised business services and infrastructure, and a socioeconomic environment that encourages innovation and attracts a high level of skilled individuals and investment (OECD, 2016). As cities seek to be competitive against other urban regions, they may run the risk of being too focused on the macro-dynamics and enabling powerful economic actors. In addition, negative aspects of large cities, such as increased poverty and inequality, can pose a risk to overall urban resilience. Finding a balance between competitiveness and inclusive growth is essential to building the resilience of cities.

Global networks versus domestic responsiveness

Leveraging the potential of global networks (e.g. UN Habitat, Cities Alliance, ICLEI,[9] and UCLG[10]), which provide an international platform for urban issues, is partly about city marketing. Sharing urban best practices in these forums is also essential for encouraging investment and support. This can be described as macro-politics, and, while important, should not take precedent over managing local politics and domestic social challenges.

These urban tensions provide the "backdrop" or institutional context, and support for the work of the SACN. They emphasise the need for cities to find a balance between global and domestic concerns to ensure a more resilient and more sustainable urban future. The need to find a balance between "thinking globally, but acting locally" are most pronounced in large cities because of their high population concentrations and connectedness to global financial and economic systems.

Figure 1.17: "Tensions" describing the duality between the emerging global and domestic considerations

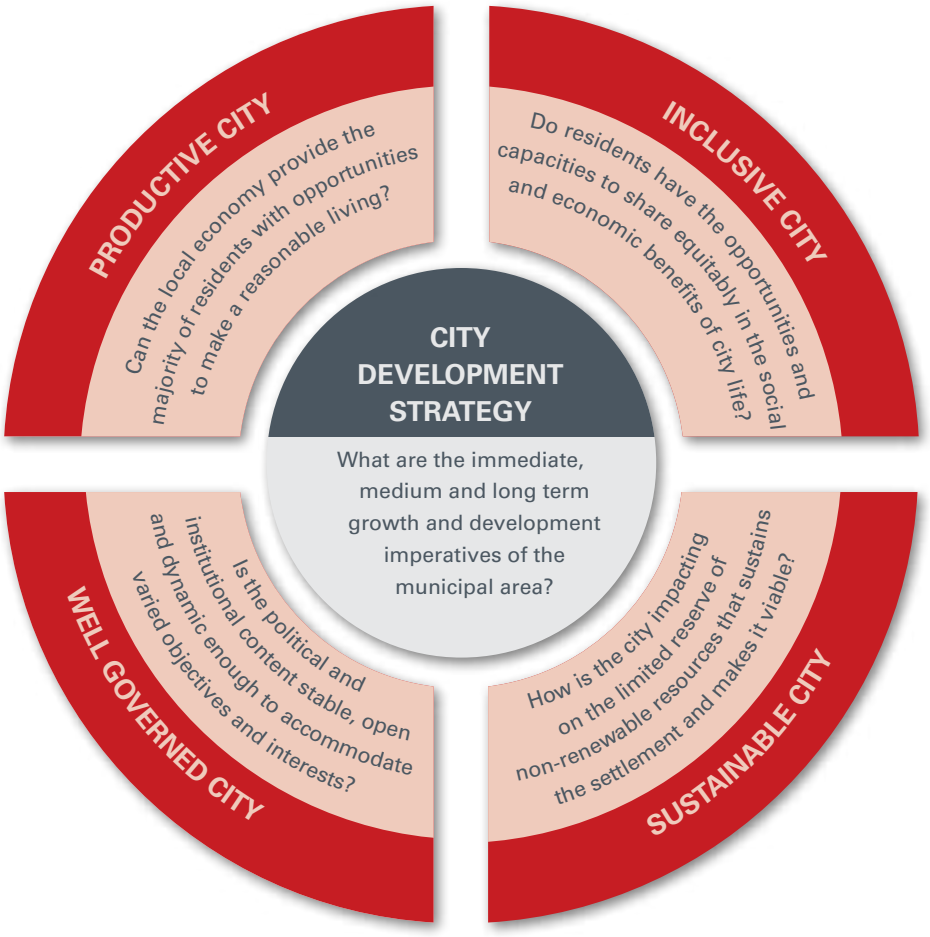
Source: Pegasys (2015)

This SoCR begins by acknowledging this balance of tensions, as well as the need to govern for the present and for the future. The assessment and discussion of whether the cities are becoming more inclusive, productive, sustainable and well-governed (SACN's themes) will begin to ascertain whether South African cities are succeeding in achieving a positive trajectory towards being dynamic and developmental.

9 Founded in 1990 as the International Council for Local Environmental Initiatives, now called Local Governments for Sustainability, the ICLEI is the leading global network of local governments dedicated to sustainability, resilience, and climate action.

10 UCLG stands for United Cities and Local Governments, an organisation that supports international cooperation between cities and their associations, and facilitates programmes, networks and partnerships to build the capacities of local governments (www.uclg.org).

Figure 1.18: SACN's thematic areas for good city governance



South African cities were built to serve a smaller, exclusive minority and to be ineffective for the majority. They were not designed with an inclusive or sustainable future in mind. Post-apartheid, these cities have not been static – they have gone through some fairly profound changes (which are still being understood) and have been driven by various forces, certainly not exclusively by government planning.

Cities are made of two key assets: space (their territories) and people (the agglomerating population). Therefore, for South Africa to achieve an inclusive, sustained growth trajectory depends on strengthening the ability of cities to support spatial transformation and dynamic entrepreneurship/livelihoods.

INTRODUCING THE STATE OF SOUTH AFRICAN CITIES 2016

The fourth SoCR comes at a time when cities are being acknowledged globally as the key to growth, development and stability. Rapid urbanisation and critical economic, social and environmental imperatives have necessitated this attention to urban issues. However, as this chapter has illustrated, city governments face complex and sometimes contradictory demands. Within these circumstances, South Africa's teenage (16-year old) municipalities have been somewhat successful, although the SoCR also acknowledges upfront their challenges.

Informed by five years of research and engagement within the local government sector, the chapters aim to summarise the key insights and messages about whether and how cities are driving local and national development.

Chapter 1 introduces the key trends, dynamics and concepts related to the theme, "South African cities as effective drivers of local and national development".

Chapter 2 defines better the imperative for ***Spatial Transformation***, by examining the practical role of space and the built environment in urban development.

Chapter 3, ***Productive Cities***, assesses and then discusses how cities can deliver effectively on both growth and economic inclusion (supporting livelihoods).

Chapter 4, ***Inclusive Cities***, looks at how cities can better enhance local resilience and reduce inequality.

Chapter 5, ***Sustainable Cities***, explores how cities can develop in a way that is in balance with natural resource realities and planetary limits.

Chapter 6, ***Well-Governed Cities***, assesses whether city governance systems are – or could be – capable, effective and accountable.

Chapter 7, ***Finance and Innovation***, asks how sustainable municipal financing can be achieved in a context where there is not enough money to go around.

Chapter Eight, ***Enabling Environment***, concludes with a call for action to all urban actors whose commitments will be necessary to ensure innovative, dynamic city economies and livelihoods.

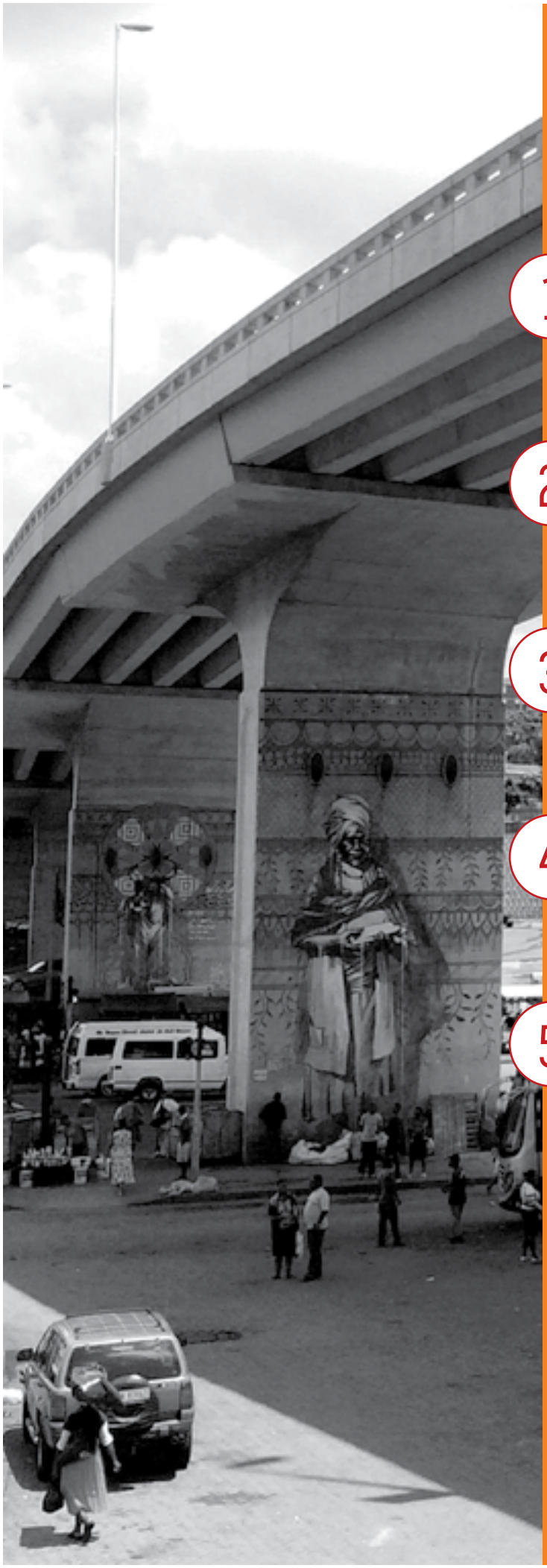
The annexed sections that follow thereafter present:

Brief ***individual city reports*** that highlight key city progress indicators and flagship programmes of the cities, and the ***data Almanac*** section, which explains where and how the report data can be found and used.

THE SPATIAL **TRANSFORMATION** OF SOUTH AFRICA'S CITIES

From abstract concept to meaning and means

@javasphotos



Key Messages

1. Spatial transformation is critical for the growth and development of cities. It affects economic access and efficiency.

2. Our current urban development trajectory has negative characteristics that result in cities not achieving their spatial visions.

3. In order to transform space, the power relations, institutions and capabilities in the system also need to be transformed.

4. Short- and long-term strategies are required for land, spatial planning, housing and human settlements, and transport and mobility.

5. Regulations and public instruments can be used, but market interventions by various actors are also necessary.

@tezzolds

INTRODUCTION

The 2011 State of South African Cities Report concluded with a strong directive for city governments to drive the reshaping and reconfiguration of urban space. In light of the continued peripheral housing development and poor economic growth in townships and subsidised housing areas, both national and local government need to take more seriously the densification of well-located areas. The effective devolution of human settlements and transport functions to the metros "presents a unique opportunity and offers exceptional prospects for formulating more integrated and coherent spatial development strategies for cities" (SACN, 2011: 178).

25-YEAR URBAN VISION: the Urban Development Framework

In the face of ongoing urbanisation, cities were to be:

- spatially and socioeconomically integrated, free of racial and gender discrimination and segregation, enabling people to make residential and employment choices to pursue their ideals;
- leaders of a robust national economy, as well as economically competitive internationally;
- centres of economic and social opportunity where people can live and work in safety and peace;
- centres of vibrant urban governance, managed by democratic, efficient, sustainable and accountable metropolitan and local governments in close cooperation with civil society, and geared towards innovative community-led development;
- environmentally sustainable, marked by a balance between quality built environment and open space, as well as a balance between consumption needs and renewable and non-renewable resources;
- planned for in a highly participative fashion that promotes the integration and sustainability of urban environments;
- marked by good housing, infrastructure and effective services for households and business as the bases for an equitable standard of living;
- integrated industrial, commercial, residential, information and educational centres which provide easy access to a range of urban resources; and
- financed by government subsidies and by mobilising additional resources through partnerships, more forceful tapping of capital markets, and via off-budget methods.

(DoH, 1997)

South Africa's policy aspirations for urban development – principally the Urban Development Framework (DoH, 1997), the National Development Plan (NDP) (NPC, 2011) and the draft Integrated Urban Development Framework (COGTA, 2016) – present a vision of South Africa's urban future that spatially manifests the nation's ideals of equity, prosperity and sustainability. However, despite progress made since 1994, these ideals have yet to be reached – at least for the majority.

In cities, economic and social inequities manifest in embedded spatial imbalances: labour living far from work, suffering long and expensive commutes; racially and class-distinct neighbourhoods; black peripheries and inner cities characterised by poor and informal housing and environments; economies that follow historical patterns and are concentrated far from the poor majority. In response to these imbalances, the mantra has been "spatial transformation".

The NDP acknowledges quite explicitly that:

> A fundamental reshaping of the colonial and apartheid geography may take decades [...] For this to happen, the country must:
>
> - Clarify and relentlessly pursue a national vision for spatial development.
> - Sharpen the instruments for achieving this vision.
> - Build the required capabilities in the state and among citizens. (NPC 2011: 260)

Bolstered by this national acknowledgement, the 2016 State of South African Cities report maintains that spatial transformation is core to local and national development.

UNDERSTANDING URBAN SPATIAL DYNAMICS

The systemic dynamics of cities are self-reinforcing, and how cities are configured, grow and change is inherently linked to other aspects of city performance. Their liveability, efficiency and attractiveness are also related to how economically productive they are, which typically influences how inclusive, sustainable and well governed they are.

The policy intent is clear: to build inclusive, productive, sustainable and well-governed cities. However, over the past 20 years, mixed progress has been made in addressing spatial injustice and socioeconomic inequality (The Presidency, 2014). In cities, where the majority of South Africans live, "it is harder in 2013 to reverse apartheid geographies than it was in 1994" (COGTA, 2016). Clearly, business as usual cannot continue, and different tactics are required in order to transform spatially the apartheid-designed city. However, before looking at what needs to happen, it is important to understand the apartheid legacy as well as the post-1994 changes to the urban built environment.

The apartheid legacy and post-1994 developments

Apartheid was based on racial segregation, control and deliberate dispossession and socioeconomic marginalisation of black[1] people. Black people were forcibly removed from urban land and had no legal claim to land or property ownership rights outside of the homelands. Housing for black families was created on the periphery of cities, and access of black labourers to the city was limited. Transport

1 This definition refers to black South African, coloured and Indian people.

services were designed to control access to urban areas, with commuter flows that brought people over the long distances in the morning and took them home in the evening. At the same time, the government invested heavily in road infrastructure for private vehicles and neglected public transport, which paved the way for the rapid growth of the minibus taxi industry (Barrett, 2003). Furthermore, little investment was made in infrastructure for pedestrians and other non-motorised transport (NMT) users, especially in poorer peripheral locations where (ironically) walking is the dominant mode of mobility.

In 1994, the reality for many South Africans was displacement, marginalisation, inadequate shelter, tenure and asset insecurity, and poor access to the socioeconomic opportunities. These challenges were well captured in the Reconstruction and Development Programme (RDP), a Policy Framework produced by the democratically elected government (ANC, 1994) that was followed by the RDP White Paper. A land reform process was developed, largely targeted at rural areas, while the housing programme was designed to address shelter and land reform needs primarily in urban areas. The 1996 White Paper on National Land Transport advocated a shift from private transport investment to prioritising public transport (Wilkinson, 2006), as well as compacting and densifying urban areas to increase the viability of public transport interventions.

Over the past two decades, the scale, nature and appearance of South African cities have visibly changed. For many, many people, life in the city has improved and modernised vastly: many who were previously denied full citizenship rights now have access to basic services, shelter and city resources. Transformation has been ongoing, and "far-reaching spatial transformations are happening across South Africa's towns and cities, although at very different rates, and often taking different forms" (Harrison and Todes, 2014). The most significant public sector investments have been in low-income housing, public transport infrastructure, and bulk infrastructure for basic services provision, as well as in improved access to health and education. Parallel to this, the private sector has invested in office parks, shopping malls and residential developments, predominantly in the form of townhouses and gated estates with an emphasis on security (Schensul and Heller, 2010). People have been brought closer to jobs, opportunities and other services. However, this change has often been slow, not inclusive enough and has (in some instances) extended undesirable urban trends.

The shared urban transformation envisaged in the 1997 Urban Development Framework has not yet been achieved. Cities continue to be characterised by spatial fragmentation, socioeconomic exclusion and inequality (NPC, 2011; Schensul and Heller, 2010). Despite different intended outcomes, current systems and processes often reinforce an unequal and unjust status quo. The daunting challenge remains, that of transforming the apartheid spatial design engrained in South African urban society. It requires transforming cities, which were designed to deny spatial and socioeconomic access and to prevent urban land and property ownership on the basis of race, into cities that allow equal access to urban resources, irrespective of race, gender or class.

Undesirable current spatial configurations in cities

South African cities are a perfect example of space reflecting and reinforcing inequality (Schensul and Heller, 2010). The post-1994 intent was to transform the social alienation, injustice and inequality inherited from the country's apartheid past. The aim was to change the quality of life of people who were the victims of apartheid dispossession and injustice, through interventions such as the housing programme and adequate public transport, as well as investments in health, education and social services.

Although the lives of many have changed, especially through the delivery of more than three million housing opportunities (The Presidency, 2014), the significant public sector investments have not resulted in more equitable, inclusive and integrated cities. The spatial location of state-funded housing projects continues to marginalise the urban poor, while public healthcare and education have not translated into improved educational and health outcomes for the majority of citizens. Despite racial integration in middle- to higher-income urban suburbs, the majority of poor black households continue to live in peripheral, poorly located areas with insufficient access to opportunities and resources, and long expensive commutes to areas of employment. Unemployment is unacceptably high, resulting in widespread poverty and growing inequality.

Locational disadvantage, insufficient investment in public transport, especially in existing modes such as the minibus taxi, which services the majority of commuters in urban areas (Schmidt, 2014), continued vested interests and insufficient focus on ensuring that all urban residents enjoy full rights and access to the city, has reinforced social exclusion, poor racial and cultural integration and unjust and inequitable urban environments. The housing subsidy programme appears to have locked people into undesirable locations and maintained their existence at the margins of urban life,[2] and many urban residents continue to feel alienated from the city, as if they are not full urban residents.

What is clear is that South African cities are not yet working for all, and certain trends and dynamics are preventing the post-apartheid spatial vision from being achieved. These are outlined in the following sections.

Unaligned and uncoordinated development

- Lack of integrated planning and poor alignment, both vertical (across government spheres) and horizontal (across sectors, i.e. housing, transport, energy, etc.), by all, including government departments, state-owned entities and private developers (SACN and DHS, 2013).
- Slow progress in decentralising key built environment functions to city level, despite the authority for local planning already devolved to all local governments.
- Municipal approval of developments that clash with local government's own spatial transformation agenda.

2 For more on this, see the work of the Finmark Trust on Housing Assets *http://www.finmark.org.za/* and the Centre for Affordable Housing Finance *http://www.housingfinanceafrica.org/*

SPATIAL ALIGNMENT: Increasing the impact of spatial investments and initiatives through a place-based perspective

COGTA and SACN commissioned a short case study to identify the challenges facing the alignment of spatial policies, plans and initiatives across government spheres. Three municipalities were included in the study:

- a metropolitan area: Ekurhuleni in Gauteng
- a fast growing city/regional centre: Rustenburg in North West
- a fast growing small-to-medium-sized town: Lephalale in Limpopo.

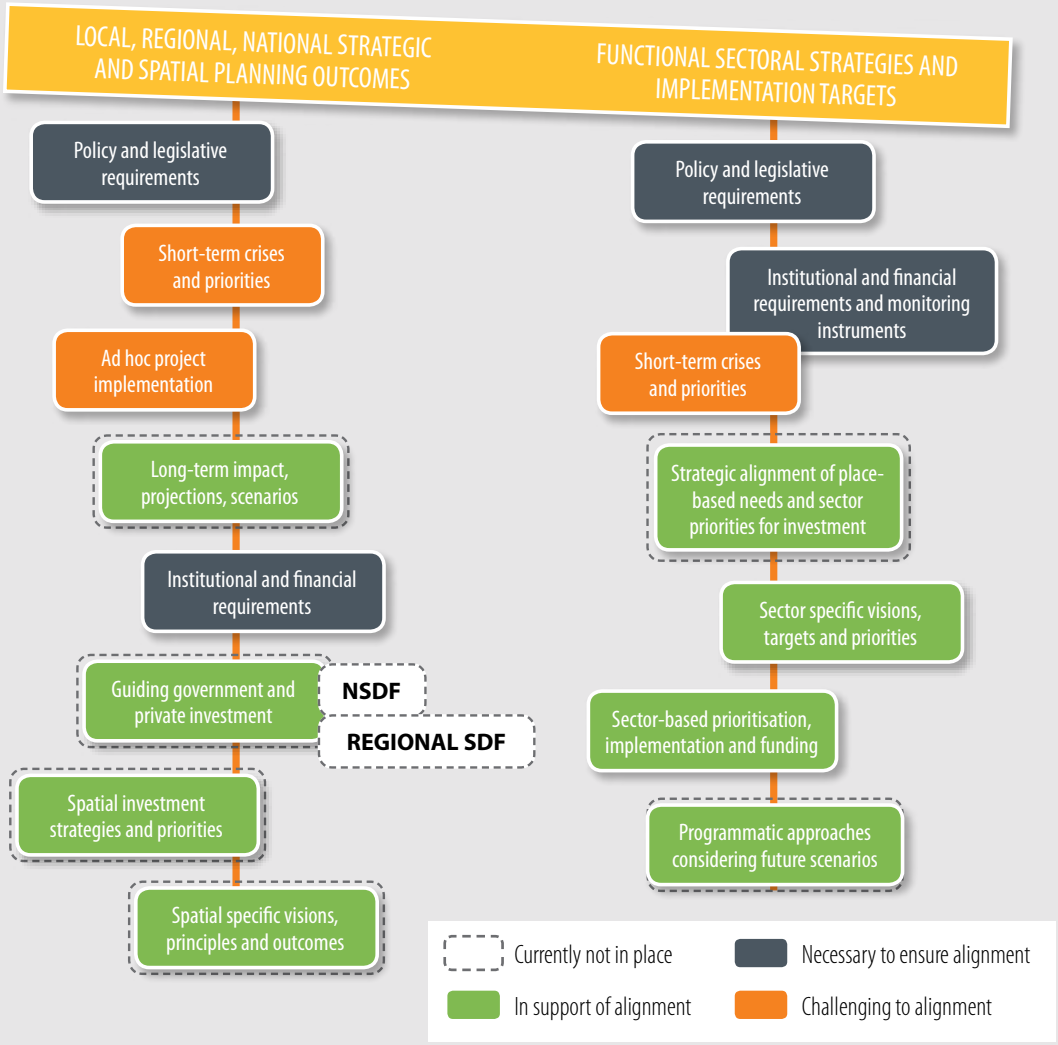
The study looked at the spatial and sector plans, visions, medium-term strategies and investment frameworks. Spatial alignment was considered as both project alignment or alignment to achieve service delivery targets, but also *alignment to lead towards spatial transformation over the longer term* (Pieterse et al., 2015).

Although all government spheres invest in broadly defined "areas of priority focus for government", the "spatial alignment" seems to take the form of many projects implemented in the same space by different spheres. Plans often refer to areas targeted for specific purposes, such as an "international port" in Ekurhuleni or the mining areas in crisis in Rustenburg or energy hubs in Lephalale, but there is little evidence of government spheres proactively coordinating their projects so as to harness the benefits of spatially targeted investments.

- **The spatial outcomes and principles contained in planning policy and legislation appear to be open for interpretation**. They are quite generic and provide little guidance for place-specific strategies, programmes, projects and investment. In addition, the spatial and sector plans lack spatial trend analyses, future projections or spatial implications of development scenarios.
- **Vertical alignment was mostly found within specific functional sectors, e.g. human settlements**, where development priorities and targets are supported by strong institutional and financial instruments. The vertical alignment of national, provincial and local sector/line department plans and strategies is quite effective. This is not surprising, as numerous sector initiatives have supporting investment frameworks, and funding and monitoring mechanisms. However, spatial priorities are driven by sector targets and catalytic projects, each with its own spatial investment logic, rather than by an integrated spatial strategy and programme.
- **The strategic spatial plans of different spheres of government are poorly aligned**. Joint regional and national discourses are needed regarding the resource and investment constraints and opportunities affecting development planning in cities and regions, especially in fast-growing areas, such as Rustenburg and Lephalale, with the increased demands on water and energy resources. The current lack of spatial guidance and strategy could potentially be addressed with the completion of the National Spatial Development Framework (NSDF) that builds on the 2006 and 2011 initiatives to develop national spatial vision.
- **The long-term visions and growth scenarios are not interpreted at a "place-based" regional level**. The potential impact of interventions by different functional sectors or

neighbouring municipalities are not evaluated, while no reference is made to intergovernmental or public-private sector service level agreements.

- **Spatial development frameworks (SDFs) seem to remain focused on managing expected land-use change driven by the private sector**, rather than on coordinating intergovernmental investment, spatial prioritisation and integrated spatial development strategies, or influencing the spatial investment logic of different sector strategies/line departments.
- **Most of the plans and instruments focus strongly on service delivery but do not include investment plans of the private sector, other government agencies or civil society**. The many economic instruments and incentives aimed at stimulating development seem to be implemented as standalone programmes.
- **Collaboration in developing integrated development strategies and aligning projects exists at municipal (or at least city and district) level**. However, municipal spatial priorities do not appear to guide those of national and provincial functional sectors or even municipal line departments.



While many national plans and policies address critical issues, such as potential energy and water shortages, vulnerability of places, etc., there is an absence of integrated national spatial development analyses, modelling of potential growth implications and strategic guidance for the future development of highly diverse regions.

Within an environment dominated by sector targets, collaboratively developing and implementing explicit spatial strategies is challenging and requires strong local, regional and national leadership. However, such strategies will not result in high-impact service delivery, transformation and long-term sustainability unless the reforms to improve spatial planning and development address existing challenges such as parallel planning processes, the plethora of planning instruments and mechanisms, and the formidable task of aligning a myriad of projects on paper and in budgets.

Continued inefficient spatial development

- Public developments (RDP housing on the periphery) reinforce city sprawl, resulting in inefficient and more costly infrastructure and services.
- Failure to invest in the townships means a lack of economic opportunities and growth close to where people live.
- Lack of affordable accommodation close to economic opportunities, and the view that informal dwellings/strategies are the only solution for the poor.

Private developments on the periphery

- Growth in higher-end peripheral developments, i.e. gated housing estates, cluster housing complexes and eco estates claim to be sustainable, but take up vast tracts of open space and encourage the use of private vehicles.
- Unconnected to the existing city fabric, these "new cities" entrench spatial and social exclusion, segregation and inequality based on class/income in place of race, and those excluded are predominantly poor and black (Landman and Schonteich, 2002; Lemanski, 2006; Landman and Badenhorst, 2015).[3]
- The heavy economic burden placed on city infrastructure and services far outweighs the financial benefit from property tax (SACN, 2015b).

3 *http://futurecapetown.com/2015/04/brief-gated-communities/#.VeQmVvmqqBY*

URBAN FOOTPRINT: Highlighting the changes in city footprints

Since 1994, South Africa's largest cities have experienced substantial growth, as more residents settle in cities in search of employment opportunities, services, etc. Cities are under pressure, especially to contain sprawl, and their urban edges do not remain constant. The significant physical (outward) expansion of city footprints is illustrated in Figures 2.1, 2.2 and 2.3, which compare the "built-up" and "settlement" categories in the 1990 and 2013/14 national land-covers.

Figure 2.1: Cape Town: Change in built-up/urban footprint (1990–2013)

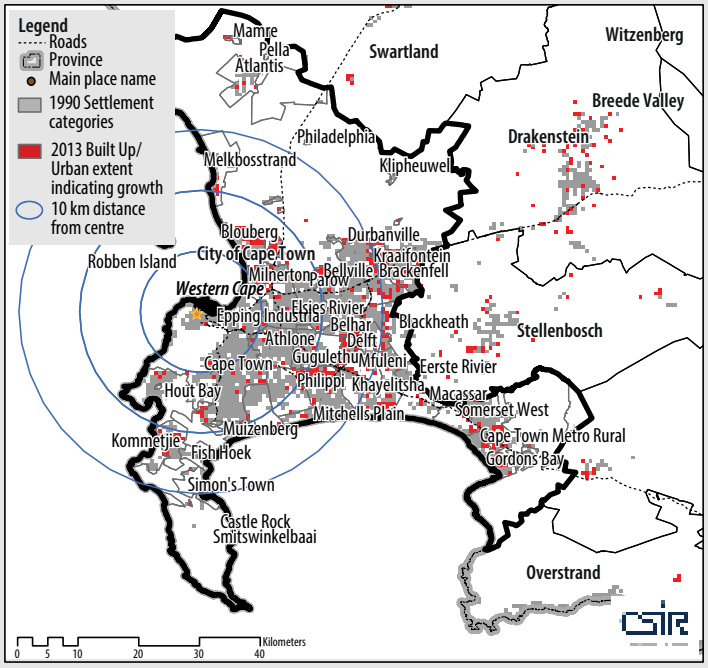


Figure 2.2: eThekwini: Change in built-up/urban footprint (1990–2013)

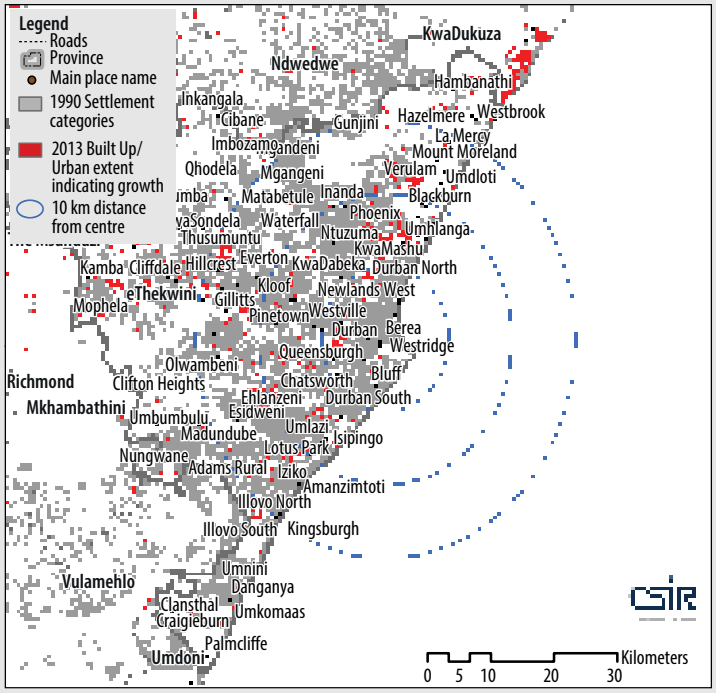
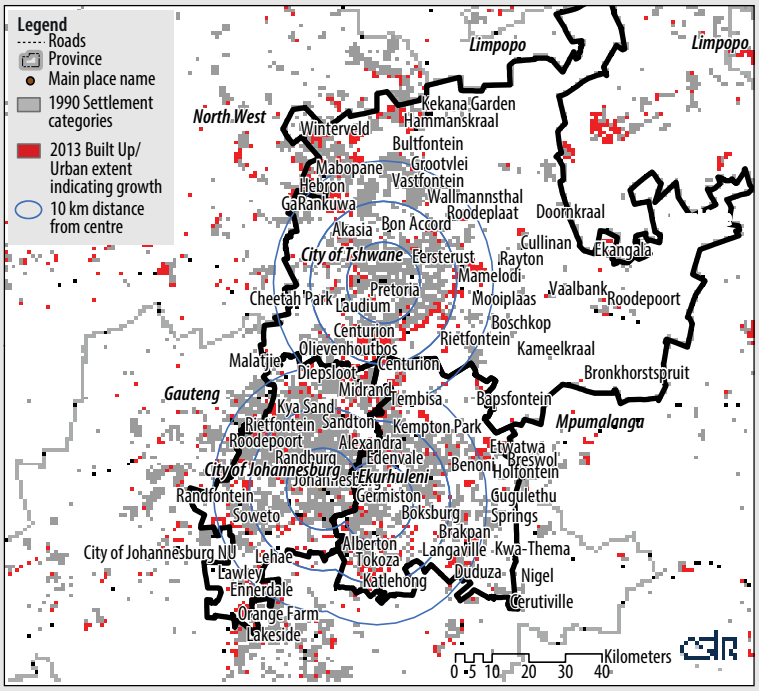


Figure 2.3: Tshwane, Ekurhuleni and Johannesburg: Change in built-up/urban footprint (1990–2013)



The red areas indicate how city footprints have changed between 1990 and 2013 (also showing 10 km distance bands from the city CBDs). Cities are under pressure to develop land on the fringes of cities, which, in turn, requires substantial infrastructure investments. In these ever-expanding cities, one of the most difficult services to provide is public transport, especially when (as in most South African cities) low-income residents live on the fringes of the cities, far removed from most employment opportunities.

Conflicting interests and lobby groups

- Powerful lobby groups (informed by the economics of cities, politics and vested interests) unduly influence decisions in cities, often outside existing governance frameworks.
- The increase of gated estates in affluent communities as a result of the economic muscle and influence of homeowner and property associations, instead of more mixed-income housing and public open spaces.
- Constant pressures and demands on government from poor communities who are most affected by unequal and unjust spatial configurations.

Good location has not translated into improved livelihoods

- A perfect example is that of Alexandra in Johannesburg where the well-located township has not translated into vastly improved livelihood prospects for its residents.
- Being located next to the Sandton economic hub has done little for Alexandra residents' power to change, influence or participate in the city.
- Un- and under-employment, as well as poor infrastructure, facilities and services, all contribute towards sustaining depressed conditions with relatively few opportunities and limited access to resources.

Built environment investments not supporting inclusive economic development

- Mixed-use, high street developments can accommodate different commercial property sizes and diverse products and services, giving owners more room to negotiate. They are more suited to SMME-type businesses and incorporate residential elements.
- Major shopping centres are built around a car-captive audience, requiring space for parking and vehicle traffic, and are less flexible and diverse than high street-style developments.
- A compact, mixed-use, high street experience provides a quality of urban lifestyle and can deter potential threats by providing urban surveillance (Jacobs, 1961; CSIR, 2000).[4]

The notion of aspirations is an important consideration in South African cities. Many urban residents in South Africa aspire to owning a car and living a suburban "house-and-a-pool" lifestyle in gated enclaves. While this lifestyle has been evident among higher-earning urbanites, many poorer residents tend to share this aspiration as their vision of success. However, besides being unlikely for the vast majority, these aspirational visions are undesirable because they do not foster or encourage social integration and cohesion, human connectivity or sustainability. They are in fact diametrically opposed to cities becoming more compact and denser. Both poor and higher-income residents need a major mind-set shift, towards new realistic, inclusive and sustainable visions and aspirations for urban living.

NEW TOWNS AND CITIES: Meeting settlement requirements in South Africa?

> Each province will launch an integrated human settlement Ministerial project that will deliver a minimum of 10 000 houses and 5 000 service stands over five years (in total 1.5 million housing opportunities in five years). MinMec have decided that we will now embark on mega projects, because in this way the economies of scale will be in our favour. In these mega projects there will be a collaboration of all three spheres of government.[5]

The announcement amounted to a call to construct new towns and cities. This intent is confirmed in a booklet published by the Gauteng Department of Human Settlements (2015) that identified new cities and mega-projects to be constructed within Gauteng.

The new city (or town) concept taps into an optimistic view that future places can be designed to be better from inception, removed from the messy reality in which people currently live. As such, it is a strong political proposition that promises a material return for rhetorical intervention. It is a means of directing available investment and driving a particular form of economic growth. For example, in the United Arab Emirates, oil revenues have been directed into high-rise property investment in an attempt to diversify the economy by promoting service industry growth. Resource-derived growth has also been used in the rest of Africa to foster initiatives such as the Kigali City Redevelopment in Rwanda, the Luanda Satellite City in Angola, and the satellite cities of Tatu City, Machakos City and Konza City outside Nairobi, Kenya (Watson, 2013).

4 *http://unhabitat.org/urban-themes/planning-and-design/* and *http://unhabitat.org/urban-themes/safety/*

5 DHS. 2014. National Department of Human Settlement Budget Speech by Minister Lindiwe Sisulu

New cities can be standalone projects that are insulated from certain administrative requirements of the state, allowing infrastructure and related services to be provided when required, while realising a coherent vision for the development. Such a model is flexible and interchangeable, making it popular for private, public and non-government organisations (Karuri-Sebina and Kihato, 2012). It can be used both for single to three-storey residential developments with associated employment and recreational facilities, destined for the lower and middle classes, and for modernist, skyscraper skylines with "smart city" accoutrements focused on commercial use, catering primarily for the wealthy.

The weakness of the new city concept lies in the attempt to escape reality. The Garden Cities concept of the early 20th century was unable to maintain the original intent of a self-contained urban experience (Kostof, 1991: 75–80), which morphed over time. A primary consideration is whether the town or city has a sustainable, viable economic base, or whether it is primarily a sleeper suburb for a neighbouring urban economy. While the new towns of Stilfontein, Sasolburg and Welkom were founded on the certainty of mining and associated industries (Brockett, 1996), with the subsequent decline of the mining industry in the Free State and Gauteng, and the inability to realise alternative economic development and employment drivers, the towns have required significant state support (The Presidency, 2015).

Furthermore, new towns and cities involve the redistribution and consumption of resources. Stilfontein, Sasolburg and Welkom were not just a response to an economic opportunity, but also a physical application of racial segregation (Brockett, 1996) and, by extension, regulated access to opportunity and resources. In much of South Asia, the development of new cities in peri-urban areas meant large-scale removal of the poor based on government-led expropriation (Watson, 2013). The redistribution of resources means that infrastructure delivery is skewed towards meeting the needs of the new city projects at the expense of meeting the needs of the poor, and of the existing urban infrastructure system(s) in which such projects are embedded (Karuri-Sebina and Kihato, 2012). Little is done to question the resource requirements of individual new cities and the impact on water and power supply, the need for public transportation solutions, the lost agricultural potential, or whether the projects merit the amount of resources used when compared with the needs of the broader population. New towns and cities are designed to circumvent government regulation and speed up delivery, but are also a development model open to corrupt practice.

Within government, there is mismatch between differing urban strategies: the Department of Human Settlements is introducing mega-projects, while National Treasury and local government are promoting "urban compaction, integration and densification by encouraging new housing on well-located land within cities and improving public transport connections between neighbourhoods and jobs" (Turok, 2015). This mismatch is yet to be addressed. Imprudently pursuing (or even consciously abusing) the new city agenda represents a substantial risk in the South African context. A careful balance is needed between meeting the shelter needs of the poor majority, ensuring that such developments have the necessary sustainable economic (business-generating and job-creating) capacity, and that sufficient rates and tariffs are paid to local governments to enable such settlements to be serviced and maintained.

Therefore, a new town or city approach should be considered very prudently within the South African context, and should be a coordinated effort by a range of departments and spheres of government responsible for realising sustainable human settlement: South Africa quite literally cannot afford ghost cities or towns.

The cost of fragmentation

In addition to its social and political implications, the current spatial form has serious cost implications for the state, urban residents and the environment.

- For the state, and especially local government, these implications relate to service delivery, the ability to deliver on spatial transformation goals and fiscal viability. The cost of providing services is higher in sprawling urban environments because services have to be provided over long distances to where most low-income housing has been built (FFC, 2011).
- For households, the fragmented and peripheral locations mean that they spend more time and money on transport. Despite the recent unprecedented levels of spending on public transport, the impact on overall costs as well as for South African commuters is negligible (Stats SA, 2013). Services have not necessarily become more affordable and, while service offerings have improved for the few fortunate enough to use newly introduced systems, impacts are minimal across the entire network (Vaz and Venter, 2012).
- For the environment, the city's natural resource base is affected by the increasing vehicle usage (and subsequent levels of air pollution and greenhouse gas emissions), which is driven by the un-coordinated service offerings of public transport, and continued investment in private transport.

TOWARDS ACHIEVING THE "SPATIALLY TRANSFORMED CITY"

Transformation can be seen as "a spatially defined, socially embedded process; [...] an interrelated series of materially driven practices, whereby the form, substance and overall dimensions of urban space are purposefully changed to reflect the principles of a more equitable social order" (Williams, 2000: 169). This is different from reformation, which tends to be incremental, and can be more superficial or selective ("tweaking"). Transformation, as described more than a decade ago by Williams, is a "programmatic, plan-oriented, project-directed effort to change the unequal access to and occupation/ownership of socio-politically differentiated space in South Africa... [It is] a multi-dimensional open-ended, fluid process of change, organically linked to the past, present and future" (ibid).

It is increasingly acknowledged that "spatial transformation" is required to address the injustices of the past. However, it is a concept with rather abstract and fluid meanings. The term has been used to refer to "major urban change or restructuring", with very loose application in public policy, academic research and popular writing (Turok, 2014: 74). "Spatial transformation" is sometimes used interchangeably with the concept of urban restructuring, which can also refer to actions that reform while retaining the underlying power structures in order to minimise disruption and turmoil instead of pursuing fundamental change (Oranje, 2014).

Over the past two years, the understanding of the government's role in shaping and transforming cities and towns in South Africa has changed. The transformation of space is fundamentally linked to other key structural transformations: of institutions, capacity building, and the reconfiguration of power and influence (Williams, 2000).

Fundamentally, the transformation of space can be equated to the living experience of urban dwellers. An inclusive, productive, sustainable and well-governed city is one in which residents experience a high quality of life, and both benefit from what the city offers and contribute towards making and shaping the city. It is important to understand that certain pathologies manifest in the urban environment when people are not able to determine, influence and ultimately access opportunities (Max-Neef, 1992). For example, the pathologies associated with fear and violence have led to the middle class retreating into gated communities and security estates, further adding to urban exclusion and fragmentation (Landman and Schonteich, 2002; Landman and Badenhorst, 2015).

From the many happiness index surveys conducted in cities and regions around the world,[6] what is starkly evident is that cities where citizens share the "in-between" space seem to be most happy.[7] This in-between space is the public space and facilities (parks, roads, museums, libraries, etc.) that allow for the expression of an urban identity and are easily accessible to all who live in the city. Parks are an excellent example of "in-between" spaces and are vital places for social interaction and engagement between people from all walks of life. Parks and the way they are used reflect the social cohesiveness of a citizenry. The vibrancy found in many of the most liveable cities is eroded when public open space is only reserved for residents who live in that community. Roads are also important shared public spaces. In cities where citizens are most satisfied, roads are designed to accommodate multiple modes of travel, including walking, cycling and public transport.

Furthermore, in cities where shared space is appreciated, residents are more likely to be open to denser and more compact living environments, and to forego privately owned open space and transport options. This provides greater sustainability, as space and resources are used more efficiently. Improving the perception of safety in these public spaces is another critical aspect, as otherwise people choose to insulate themselves from the broader society, which only intensifies inequality, deprives access to public space in cities and erodes the potential for social cohesion. Close-knit and socially engaged communities also tend to be more active in governance structures (GGLN, 2013). Achieving this type of urban space requires the state to manage the public realm in partnership with communities, individuals and the private sector.

At the same time, a city cannot be all things to everyone and the urban experience may vary from city to city. While a city should be equitable, the reality is that some level of inequality will be present because of the existing economics and the inherited realities of cities: those with higher incomes and standard of living are able to access additional benefits from the city. However, this should not be at the expense of equitable access for all. Cities will always contain higher-income neighbourhoods, and so public investments should prioritise the public good by (for example) investing in infrastructure for public and pedestrian transport instead of private vehicles, or ensuring that well-located land and

6 Gallup-Healthways Well-Being Index

7 *http://www.theguardian.com/society/2013/nov/01/secrets-worlds-happiest-cities-commute-property-prices; http://www.citylab.com/housing/2014/09/what-makes-us-the-happiest-about-the-places-we-live/380469/*; Montgomery (2013).

associated land uses benefit all, not just those who live within an accessible distance. Another example is transforming large parking lots in well-located areas, even sometimes temporarily, to other uses and demonstrating the wasted potential of such land in transforming cities (Ben-Joseph, 2012).[8,9]

Characteristics of quality urban environments

Urban residents are content when they feel as though they have a hand in shaping and building the city and where governance is driven by the state but shared with civil society. Cities that have content residents display certain characteristics, such as those outlined below.

- **Accessibility:** Residents can easily and affordably access different parts of the city and different services.
- **Mix of land uses and incomes:** This mix contributes to increased access, diversity and safety (because of the regular presence of activity at all hours), facilitates social mobility and changes the fabric of city life for the better.
- **Quality public spaces:** Public spaces are a necessity, not a luxury. They consist of all spaces used by the public (from large elaborate squares, to roads and pavements, public transport interchanges, parks, libraries and even government buildings) and should be safe, clean and accessible.
- **Innovative urban design:** Successful urban design can contribute to a safe, accessible and vibrant mixed environment (e.g. Monwabisi Park[10] in Khayelitsha, Cape Town) and improve communities where informal living and trade are a reality.
- **Safety:** More active spaces and involved urban residents lead to better security, as does designing cities in order to optimise the safety of all. This covers road safety, emergency management, safety standards and building regulations, and educating residents and government officials.
- **Integration:** Integrating the disparate parts of the city (particularly black townships) and land uses increases efficiency, quality and productivity, and recognises the interconnectedness of formal and informal trade.

Principles of spatial transformation

Cities in South Africa have different histories, configurations and challenges. Therefore, the vision of a spatially transformed city needs to allow for these variations. This means not being prescriptive about specific interventions in these areas, but rather emphasising a set of principles that inform how decisions are made that are in line with spatial transformation goals and objectives.

At a fundamental level, Williams (2000) proposed that meaningful transformation requires:

1. a change in power imbalances;
2. the restructuring of space to achieve increased efficiency, spatial justice and equity;

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8 http://betterblock.org/

9 http://parkingday.org/

10 http://www.capetowngreenmap.co.za/blog/design-transforms-lives-oasis-safety-urban-desert

3. institutional transformation;
4. developing organisational and managerial capacity; and
5. a focused vision and plan to achieve a transformative goal.

The way in which city futures are envisioned and planned needs rethinking, and the tools and capacities thereof need to be upgraded (SACN and EDD, 2013). This means:

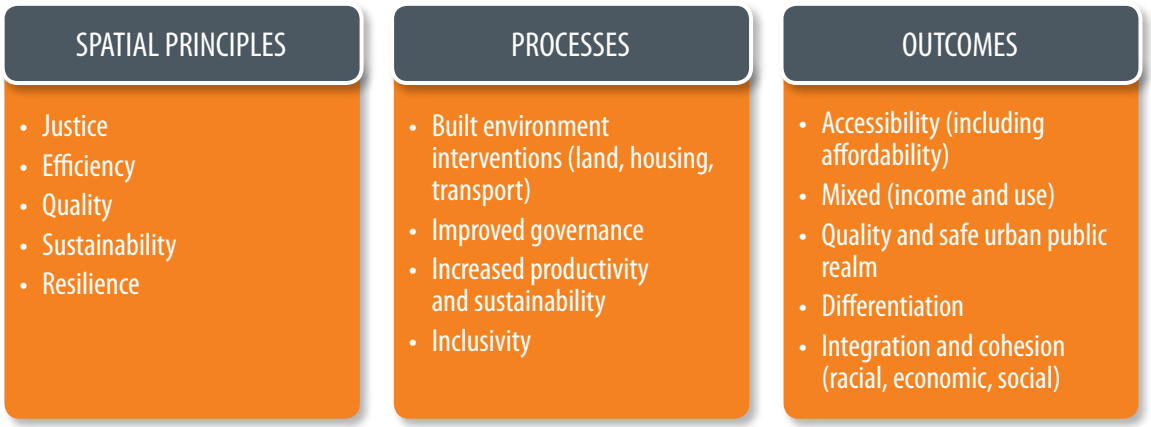
- improving the understanding of the needs of residents and spaces;
- planning *with* residents rather than *for* residents;
- building knowledge and evidence-based capacity; and
- developing a clear vision and framework for how to respond to urban challenges.

The NDP (NPC, 2011) refers to certain principles that are critical for achieving spatial transformation (see Figure 2.4). These principles are meant to inform and guide interventions in the built environment, the economy and the development of spaces in South Africa. More specifically, the NDP calls for a spatial vision to be developed which:

- tackles the inherited apartheid spatial legacy of exclusion, distorted growth patterns and inefficiencies;
- unlocks developmental potential through targeted investment in economic and social infrastructure;
- guides and informs investments in infrastructure that supports long-term inclusive growth;
- manages economic and demographic shifts to achieve productivity through agglomeration; and
- facilitates coordination between government and various actors which shapes and informs spatial development.

The Integrated Urban Development Framework (IUDF) sketches an urban vision and policy for South Africa and presents practical interventions (referred to as levers) for implementing the NDP principles (COGTA, 2016). These levers are: a focus on the built environment through public transport, human settlements and spatial planning and land-use management, improving the way that cities are governed, improving productivity and sustainability and ensuring that cities are inclusive and integrated.

Figure 2.4: From principles to outcomes



Local government is best placed to achieve spatial transformation

The developmental mandate of local government is enshrined in the Constitution and the White Paper on Local Government: "local government is committed to working with citizens and groups within the communities to find sustainable ways to meet their social, economic and material needs and to improve the quality of their lives" (Powell, 2012: 15). Local government is expected to be the redistributive, transformative sphere of government closest to the people (Powell, 2012).

Local government's challenge is to fulfil its development mandate, while being expected to do more with less financial and personnel resources, and, at the same time, to build and maintain the capacity and skills required for transformative delivery (Powell, 2012). The idea that local government is best placed to serve residents and drive transformation is not disputed. Yet local government's ability to implement national policy objectives is of concern because of certain challenges. They include the need for institutional reform, corruption, political interference, inefficient financial management and a lack of capacity development (Powell, 2012). Yet, according to the Community Law Centre, "fears around a lack of capacity, fragmentation of services and standards are largely overstated as the devolution of powers and functions to local government do not minimise the already existing, substantial oversight powers of national and provincial government" (CLC, 2007: 5). Local government needs to be given the opportunity to develop the necessary capacity and capability to deliver effectively on these functions (ibid).

Local government should be the navigator and facilitator of transformative development. It is within its mandate, scope and control to develop more integrated delivery driven by adequate planning. This means devising the vision, strategic plans and implementation frameworks that will result in the desirable city discussed earlier. Local government also needs to regulate and incentivise better cooperation between urban stakeholders and actors, and establish more meaningful partnerships with private sector agencies, communities and civil society organisations. Navigating and steering the local agenda is possible (particularly with a strengthened planning function) but requires that local government is given the responsibility for additional key functions that shape the urban environment (e.g. human settlements and public transport).

BUILT ENVIRONMENT PERFORMANCE OF SOUTH AFRICA'S CITIES

The built environment consists of three main elements: land, settlements (i.e. physical buildings, infrastructure and services) and mobility systems (transport). Understanding and transforming these three elements can contribute towards changing how cities function spatially, thereby encouraging greater economic efficiency, social inclusion and environmental sustainability.

Land

Land underpins all human activity and has very deep emotional, cultural and political significance, which is why addressing the land issue in South Africa has always been fraught with tension. The land restitution programme has recently been reopened to address the current frustration and disillusionment with the

process by land claimants who have yet to receive compensation or redress for their claims.[11] Frustration at the slow pace of transformation has resulted in land invasions and demands to access land.

Urban land reform is crucial, as cities cannot continue to locate poor people on the periphery or allow developments that are contrary to the state's transformation agenda. The control of valuable, viable urban land cannot (and should not) be left only to the market to determine. However, land is a commodity and asset, and the vested interests and rights of those who currently own land are already entrenched. Therefore, it is important to determine the kinds of interventions that would be appropriate for ultimately transforming space in South African cities.

Urban land constitutes the bulk of urban land claims (Atuahene, 2014), but urban land reform has not been fully resolved because of the difficulty in addressing the economic, political and social vested interests in urban land. Examples of such interests include, for instance, contestation over land claims where the land value has significantly increased, and tension between where people are located and where areas of opportunity are found. Another obstacle is the development model, which has often led to gentrification that excludes lower-income or vulnerable groupings. Private and public sector developments should both seek to achieve the desired inclusive spatial form. State-owned land needs to be used more effectively and efficiently, which will require better coordination of the different spheres of government and their agencies to ensure land is made available for inclusive development.

The prevailing perspective is that urban land is primarily an economic asset and a resource. However, given the socioeconomic disparities in the country, a broader definition of land is needed that encompasses the concept of land as a social good (Brown-Luthango, 2015), i.e. that land should benefit not just the individual but also the broader community. A case in point is a recent claim by the descendants of Chief Tshwane[12] (after whom the City of Tshwane was named) that covers portions of the central business district, the area where the Union Buildings is located and vast tracts of valuable land around the city – land estimated to be worth billions. Fair compensation for legitimate land claims will have to be balanced with the city's strategic growth path and with existing uses and stakeholders. For example, land claims may be resolved by agreeing to an arrangement between current landowners and land claimants to a share of the revenue from that land. Alternatively, the land could be developed in a way that contributes towards the broader social good, for example, using it for public and recreational space.

Critical issues to consider

The *politics of land* need to be understood and navigated, but "symbolically, land remains an unresolved political question because of property privilege heavily skewed in favour of continued accumulation by whites" (Mkhize, 2015: 1). Determining who owns what land should be an important priority. The black middle class may have grown, but the reality is that land ownership remains out of reach for the majority of black South Africans.

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11 *http://www.bdlive.co.za/business/agriculture/2014/07/01/government-to-reopen-land-claims-process*

12 *http://www.sabc.co.za/news/a/600dbe80478ea7798823ee42d945d4b0/Government-to-finalise-land-claims-policy-in-2015-20150307*

Competing land interests need to be managed because land is a finite resource required for different and competing uses, from economic activity and meeting justice and restitution goals, to ensuring environmental and economic sustainability. Various actors demand well-located land, including the private sector, individual urban residents and even city governments. Given the existing historical patterns of exclusion, a critical priority for government should be meeting the land needs of those who are currently excluded from accessing well-located land with economic potential (McGaffin and Kihato, 2013).

Spatial transformation and development must be driven by local government, through redirecting public and private sector investments that clash with long-term plans or the broader transformation logic. City administrations need to recognise that the urban space changes over time, driven by economic and development imperatives, the needs of urban residents and environmental considerations. Understanding the potential and future of cities will require addressing existing historical imbalances, but also planning for the future with different technologies, movement patterns and ways of living. Land use and access must respond to cities that change and adapt very quickly.

SPLUMA

The Spatial Planning and Land Use Management Act (SPLUMA) (No. 16 of 2013) provides for a single land development process for the country and has been in operation since July 2015. After a 10-year process, SPLUMA was finalised following a Constitutional Court ruling in *City of Johannesburg Metropolitan Municipality vs. Gauteng Development Tribunal and others*[13] (Berrisford, 2015).

SPLUMA overturns 100 years of South African town planning practice, as it recognises that local government is responsible for implementing and drafting planning by-laws, local SDFs and land-use management systems (LUMS). Before SPLUMA, planning and land development were fragmented, with multiple land development processes: the Development Facilitation Act (No. 67 of 1995), the Less Formal Township Establishment Act (No. 113 of 1991) and various provincial planning ordinances. Areas designated for black, coloured and Indian race groups had different planning legislation. In addition, land-use management fell under municipal jurisdictions established prior to the Municipal Structures Act (No. 117 of 1998). This meant that a single municipality would have multiple land-use management schemes with different definitions for land uses, which complicated the finalisation of land development applications. These schemes did not consider informal settlements or informal enterprises, and were defined within a strict modernist paradigm. In addition, the Municipal Systems Act (No. 32 of 2000) introduced the SDF as one component of the broader municipal integrated development plan (IDP). However, the relationship between the IDP, SDF, the land-use management schemes and the land development process was unclear and complex. Municipalities interpreted the various policy mechanisms differently, while provinces controlled certain aspects of the development planning process.

13 City of Johannesburg Metropolitan Municipality v Gauteng Development Tribunal and Others (CCT89/09) [2010] ZACC 11; 2010 (6) SA 182 (CC) ; 2010 (9) BCLR 859 (CC) (18 June 2010).

The promulgation of SPLUMA presents some important opportunities for cities to plan more effectively for transformative outcomes.

- **SPLUMA as a transformative tool:** SPLUMA provides certainty to new and existing property investors through clear and effective planning processes. Planning tools include informal uses within the town planning schemes and provide a clear vision with appropriate detail as to how the city intends to develop its built environment. The SDF will be the key tool for defining the intended form of the city (SACN, 2015a), as it can identify areas of priority for development and the type of land use, as well as propose residential densities. SPLUMA brings legislative legitimacy to SDFs, which will need to be drafted carefully because decisions made based on SDFs will have to withstand legal challenges.
- **Effective LUMS:** In addition to the SDFs, the LUMS and associated tools will be critical for achieving spatial transformation, and LUMS will need to be closely aligned to the SDFs. For the first time, cities have a single land-use management scheme that considers both informal and formal uses.
- **Implementation of SPLUMA:** Municipalities will have to employ more planning professionals, and there will be a period of adjustment while municipalities, provinces, developers, homeowners and residents get used to the implications of the new Act. The Act's success will depend on the extent to which residents comply and whether the development management mechanisms for addressing undesirable development will be sufficient. The implementation of SPLUMA could also be derailed by provincial and national sector departments that refuse to recognise the primacy of local government in making land development decisions.

Human settlements

The provision of housing in South Africa is considered one of the most significant and important projects in "redressing our inheritance, deconstructing the socio-spatial economic incoherence, and reframing for more socially just outcomes" (Vawda, 2014: xiii). The White Paper on Housing (DoH, 1994) sets out the framework for housing, and "the establishment of viable, socially and economically integrated communities, situated in areas allowing convenient access to economic opportunities as well as health, educational and social amenities" (DoH, 1994: 19).

Various Constitutional Court cases have tested the housing policy and affected in particular the role of local government. The most recent and far-reaching of these was the 2011 Blue Moonlight judgement,[14] where the Court ruled that the state (and local government, in particular) was responsible for finding alternative accommodation for people evicted from not only state property but also private property. This case will have critical implications for broader city and human settlement planning, as well as for financial planning at the local level (Joseph and Karuri-Sebina, 2014).

14 City of Johannesburg Metropolitan Municipality v Blue Moonlight Properties 39 (Pty) Ltd and Another (CC) [2011] ZACC 33; 2012 (2) BCLR 150 (CC); 2012 (2) SA 104 (CC) (1 December 2011)

PRE–1994
building
POLICY

1994–2003
building
HOUSES

STRATEGY

Framing response to the housing crisis and spatial fragmentation

Establish housing rights.

Determining policy vehicle.

Reconstruction and Development Plan (RDP)

Build low-income subsidised housing.

Encourage banks to lend to low-income markets, thereby creating unified housing markets.

POLICY

1992–1994 The National Housing Forum: aim was to develop consensus among stakeholders.

1994 National Housing Summit and Botshabelo Accord: stakeholders agreed to proceed with two approaches:
(1) state would facilitate housing delivery processes,
(2) private sector would identify land and construct housing by accessing subsidies on behalf of shelter seekers..

1994 RDP: Sets out policy to reconstruct the country and meet basic needs

1994 White Paper on Housing: shaped by the prevailing housing context, past housing practices and apartheid-planning settlement laws.

2000 National Housing Code, in accordance with Section 4 of Housing Act 107 of 1997: large metros rewrote their housing policies to align with BNG, which also gave municipalities greater responsibilities for housing and raised the bar for types of housing provided by the state

LEGISLATIVE CONTEXT

Racial segregation of towns and cities

Low standard and poor quality housing

High levels of informality

Poor services, infrastructure and amenities

Constitution of South Africa, Act 108 of 1996: everyone has the right to have access to adequate housing, and the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right.

Housing Act 107 of 1997: outlines housing development roles of national, provincial and local government.

PIE Act 19 of 1998: protects 'unlawful occupiers' from arbitrary eviction e.g. court shall not evict those 'unlawful occupiers' who shall be left homeless as a result of the evictions.

Rental Housing Act 50 of 1999: regulates the relationship between landlord and tenant and outlines obligations for government

Grootboom Case (2000)
In a groundbreaking judgement, the Constitutional Court ruled that the state was not only responsible for providing medium to long term responses to shelter but also for providing emergency shelter where the evictions resulted in no alternative shelter for evictees.

IMPLEMENTATION

Individual Housing Subsidy Programme: capital grant to households earning <R3500 per month.

The People's Housing Process: encourages housing beneficiaries to save for and construct their houses.

Enhanced Discount Benefit Scheme, in terms of Section 3(5)b of the Housing Act of 1997: subsidy mechanism to transfer free-standing houses to their qualifying occupants.

Institutional vehicles
National Urban Reconstruction and Housing Agency (NURCHA) (est. 1995)
National Housing Finance Corporation (NHFC) (est. 1996)
Rural Housing Loan Fund (RHLF) (est. 1996)
Social Housing Regulatory Authority (est. 2008)
Housing Development Agency (est. 2009)

CITIES PERSPECTIVES/ REALITIES

Dysfunctional and fragmented local government

Local government lacking the political legitimacy and financial capacity to fulfill the local mandate (incl. the housing programme which was to be delivered by national and provincial government)

Creating enabling environment.

Unintended consequences of subsidy: fragmented spatial environment and resulting impact on service delivery.

Connection between spatial and social integration not realised in cities.

Cities are seen as landlords, making sure people occupy (but don't sell) social/RDP housing.

National government delivers housing, but cities responsible for service delivery and infrastructure.

FROM HOUSING TO SUSTAINABLE HUMA

2004–2014
building
HUMAN SETTLEMENTS

Breaking New Ground (BNG)

Develop sustainable human settlements.

Improve spatial integration and housing assets.

Upgrade and eradicate informal settlements and begin the process of accreditation.

2004 Comprehensive Plan for Sustainable Human Settlements (BNG)

2005 Social Contract for Rapid Housing Delivery: compact between government, private sector and civil society to accelerated delivery of housing and shelter.

2007 Inclusionary Housing Policy: private sector gain development rights and in return contribute 20–30% to building low-income housing.

2010 Outcome 8: informal settlement upgrading, accreditation, the land and property market become key focus areas.

Rental Housing Amendment Act 43 of 2007: amends the Rental Housing Act, 1999, makes further provision for rulings by Rental Housing Tribunals and expands the provisions pertaining to leases.

Social Housing Act 16 of 2008: defines the functions of national, provincial and local governments in respect of social housing, and establishes the Social Housing Regulatory Authority.

Housing Development Agency Act 23 of 2008: establishes the Housing Development Agency.

Housing Act of 2009 (Amended).

Blue Moonlight (2011)
The Constitutional Court ruled that not only was the state (and local government in particular) responsible for finding alternative accommodation for people evicted from state property but that the same treatment should be afforded to people evicted from private property.

Integrated Residential Development Programme (IRDP)
Enhanced People's Housing Process (EPHP)
Social Housing Programme
Upgrading Informal Settlements Programme (UISP)
Finance Linked Individual Subsidy Programme (FLISP)
Institutional Housing Subsidy Programme (IHSP)
Community Residential Units Programme (CRU)

Neighbourhood Development Partnership Grant (NDPG)
Its purpose is to fund, support and facilitate the planning and development of neighbourhood development programmes and projects that provide catalytic infrastructure to leverage third-party public and private sector investment for future and more sustainable development.

Social housing: rental response and urban development.

Increasing emphasis on the role of cities in responding to emergency housing or alternative housing typologies

Citizen participation

Infrastructure service delivery is a critical component of the human settlements sector

2014 →
building
URBAN COMMUNITIES

National Development Plan (NDP)

Take a long-term perspective.

Focus on spatial integration, sustainability, efficiency and balance, and integrated urban settlements.

2012 NDP: long-term strategic framework. Seeks to transform human settlements and entrenched spatial patterns that exacerbate social inequality and economic inefficiency.

Current context

Integrated Urban Development Framework (IUDF): plan for transforming our cities in an integrated way.

Accreditation: municipalities gradually take over national/provincial housing functions

Current Gap: The need for a Sustainable Human Settlements Policy or Green Paper

Devolving other Built Environment functions to the local level

Transport devolution (the National Land Transport Act of 2009): local government well placed to drive more effective and efficient public transport networks through increased integration.

Spatial Planning and Land Use Management Act (SPLUMA): municipalities have to drive planning at the local level and ensure that it aligns with this legislation, aimed at addressing the historical imbalances and at integrating sustainable development principles.

Urban Settlements Development Grant (USDG) seeks to support the development of sustainable human settlements and improved quality of life for households through accelerating the provision of serviced land with secure tenure for low-income households in the large urban areas by supplementing municipal resources.

Integrated City Development Grant (ICDG) the grant provides metropolitan municipalities with incentives to improve spatial development considerations in their planning and job creation.

Spatial transformation and governance.

Spatial governance.

Active citizenry and co-production (inclusion of vulnerable groups) .

Responsibility for sustainable settlements (full mandate through accreditation).

Enable sustainable livelihoods and access.

N SETTLEMENTS

South African CitiesNetwork

SACN©2014

The 2011 State of South African Cities report highlighted some of the critiques and unintended consequences of South Africa's housing programme, which is largest of its kind in the world:

- Delivery has not kept pace with the growing demand for housing. In the context of growing urbanisation, household growth and (internal and cross-border) migration, cities are under increasing pressure to provide adequate services and opportunities to a growing population.
- The housing response formulated in 1994 was inadequate because the diverse and changing shelter needs of a growing urban population were poorly understood. The result has been a proliferation of alternative forms of shelter, such as informal settlements and backyard accommodation.
- The government cannot afford to provide subsidised housing because of rising production costs, building standards and environmental requirements, which make houses increasingly expensive.

Despite these critiques of the housing programme, neighbourhoods have benefitted from the "significant energy and investment [that] are taking place in state-subsidised housing developments" (Charlton et al., 2014: 90). The housing programme has made a massive investment in the landscape of South Africa and fundamentally changed the lower end of the property market, providing access where previously there had been none. The quality of the housing product has improved, while some areas (e.g. in Diepkloof, Soweto) have benefitted from additional transport and other investments, leading to increased property values.

Housing policy has shifted over the past two decades. The Integrated Residential Development Programme promotes the development of mixed-income areas with mixed housing typologies, similar to Cosmo City, Olienhoutbosch, N2 Gateway, Cornubia, etc. Increasingly, local government is placed at the centre of delivery, with a focus on devolving built environment functions (i.e. sustainable human settlements, public transport and spatial planning) to municipalities. This shift is reflected in the evolution of grant instruments, such as the Urban Settlements Development Grant, which seeks to support increasingly sustainable and integrated human settlement delivery by taking "a holistic approach to planning, but with an added emphasis (introduced in the built environment performance plan or BEPP) on spatial restructuring and the strategic location of infrastructure to maximise efficiencies, create economic growth, and enhance densification" (Tshangana, 2014: 19–20).

These changes have been remarkable, but more can be done. Exemplary contemporary projects, such as Cosmo City (Johannesburg) and Cornubia (eThekwini), may be recognised for their integrative principles, but are often integrated only within the actual settlement and not within the broader city fabric.

Critical issues to consider

How people navigate the city and their shelter needs are poorly understood. The mode of shelter delivery is outdated and does not respond to reality. Factors such as location, proximity to resources, safety and flexibility all influence the choices of households, especially younger and woman-headed households (SALGA, 2013). Beneficiaries should be included as co-producers of space in planning and design practices, from the very beginning of the process right through to the final product (Cross, 2014; Pieterse and van Donk, 2014). Moreover, high transaction costs and the inadequate supply of affordable housing affect people's ability to participate in the property market and to move around the city.

Access to suitably located land is problematic because of the cost of land, vested interests and the importance of land and land value for municipal revenue. Most low-income housing developments are poorly located, although additional upgrading and public transport investments result in certain areas becoming "better located" over a number of years. The problem is that housing provision has been driven by a socio-political logic and not an economic logic. Part of the solution could be a long-term planning approach, whereby lower-income and mixed neighbourhoods are strategically developed in areas with potential for future growth.

The devolution of the human settlement function is likely to improve horizontal and vertical alignment. Only at local level can the required alignment, among government departments, within the municipality and with private sector players, successfully happen. However, the ability to encourage and facilitate diverse built environment interventions does not currently exist at the municipal level. Such a directed approach would present an important opportunity for better coordinating or disciplining investment (from both public and private sector) towards the aims of spatial transformation (SACN, 2013).

Human and financial resources are needed for an effective, integrated urban response. These include improved skills and capacity, clear authority and political will at local level, and sufficient funding. Transforming South Africa cities will be a complex task, and so identifying and recruiting suitably qualified people is crucial. Metros also need to streamline their institutions and root out inefficiencies that have hampered delivery. In addition, "cities are built as they are funded" (Tshangana, 2014: 14), but the current funding framework does not support and enable the delivery of sustainable human settlements. Any discussion about current funding instruments for human settlements must include how the broader built environment is funded.

Public transport

The past two decades has seen an unprecedented level of investment in public transport, for example, the bus rapid transit (BRT) systems, Gautrain rapid rail, and the imminent rolling stock and systems upgrade by Passenger Rail Agency of South Africa (PRASA). Cities are beginning to realise the importance of investing in NMT, but results are limited. At the same time, despite South Africa's national strategy,[15] major investments have been made in expanding the road and freeway network. This investment, which largely prioritises the automobile, still far outweighs the investment taking place in public transport, across all spheres of government.[16] Given that the majority of South Africans use public transport, the persistence of a car-centric, road-based design presents a challenge. Roads are vital public spaces,[17] and their design should accommodate all modes but prioritise pedestrian movement.

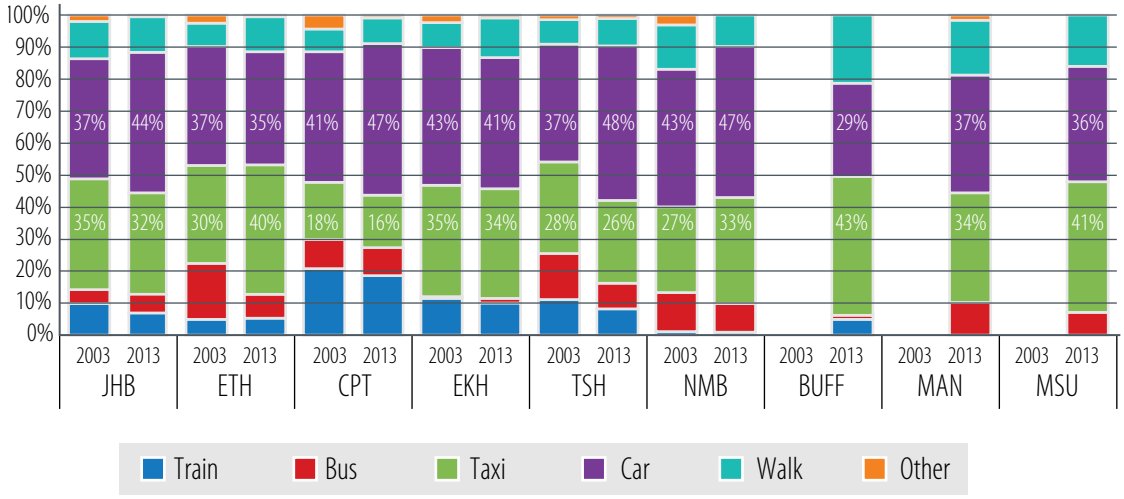
15 The Moving South Africa Strategy Document of 1999 clearly states that South Africa cannot build its way out of congestion, and that no road capacity expansion would occur moving forward.

16 This is inclusive of the contributions which property developers make to building transport infrastructure.

17 Project for Public Spaces http://www.pps.org/reference/streets-as-places-how-transportation-can-create-a-sense-of-community/

The most recent National Household Travel Survey results reveal the harsh reality, that the dominant modes in cities (private cars and minibus taxis) are increasing most significantly. On the other hand, the public transport modes which have received major levels of investment over the past five years (buses and rail) are declining. Figure 2.5 illustrates that cities need to be aware of the alarming increase in private car usage. However, this trend is not a reason to stunt investment in public transport, as most cities globally have struggled to stop the growth of private vehicle use (Bertaud, 2004).

Figure 2.5: Main mode of travel to work (2003–2013)



Source: Stats SA

Note: Figures are based on the respective 2003 and 2013 NHTS. Data for Buffalo City, Mangaung and Msunduzi was unavilable for 2003. Other includes likes of scooter, bicycle, animal-drawn transport.

Unlike other public transport modes, the privately owned minibus taxi industry receives no subsidies and yet is used most by poorer urban residents. This is because the minibus taxi represents the most responsive transport option in dispersed spatial landscapes. To date, municipalities have had little influence over the minibus taxi industry (which receives its operating licences directly provincial government) or rail services (which is managed by national government). There is some indication that regional bus regulating and contracting will reside increasingly at the city level with the City of Cape Town already the first to explore taking on this function.

Cities' major contribution to improving public transport has been through integrated rapid public transport networks or BRT investments. BRT systems are proving to be more expensive than expected and are not attracting enough passengers to cover even half of their operating costs (SACN, 2015b). However, cities continue to invest in the expansion of BRT systems, largely in an isolated manner, despite initial integrative intentions. This is symptomatic of the continued fragmentation of public transport functions across all three spheres of government, and the ineffective devolution of the transport function to the cities.

Although many political, institutional and financial issues plague the sector, without embarking on BRT investment, the likelihood of cities becoming the primary planning authorities in South Africa would have

been slim. Despite its challenges, implementing BRT has given cities access to important transport experience, albeit only for a single mode. The cities' performance to date needs to be contextualised and seen in light of transitioning towards municipally operated public transport networks. A single mode cannot be expected to be the saviour of South African transport problems or to outperform other modes. The experience of the past years offers a valuable opportunity for learning and reflection. Tough decisions will need to be taken in the face of continuously escalating costs, fragmentation, increased travelling times and ongoing poor access and mobility. Put simply, the economy cannot sustain the current approach to transport investment. The current investment logic needs to be re-evaluated and the system reformed towards a city-based public transport focus. To develop integrated and effective transport networks will require both increased capacity and political will.

Critical issues to consider

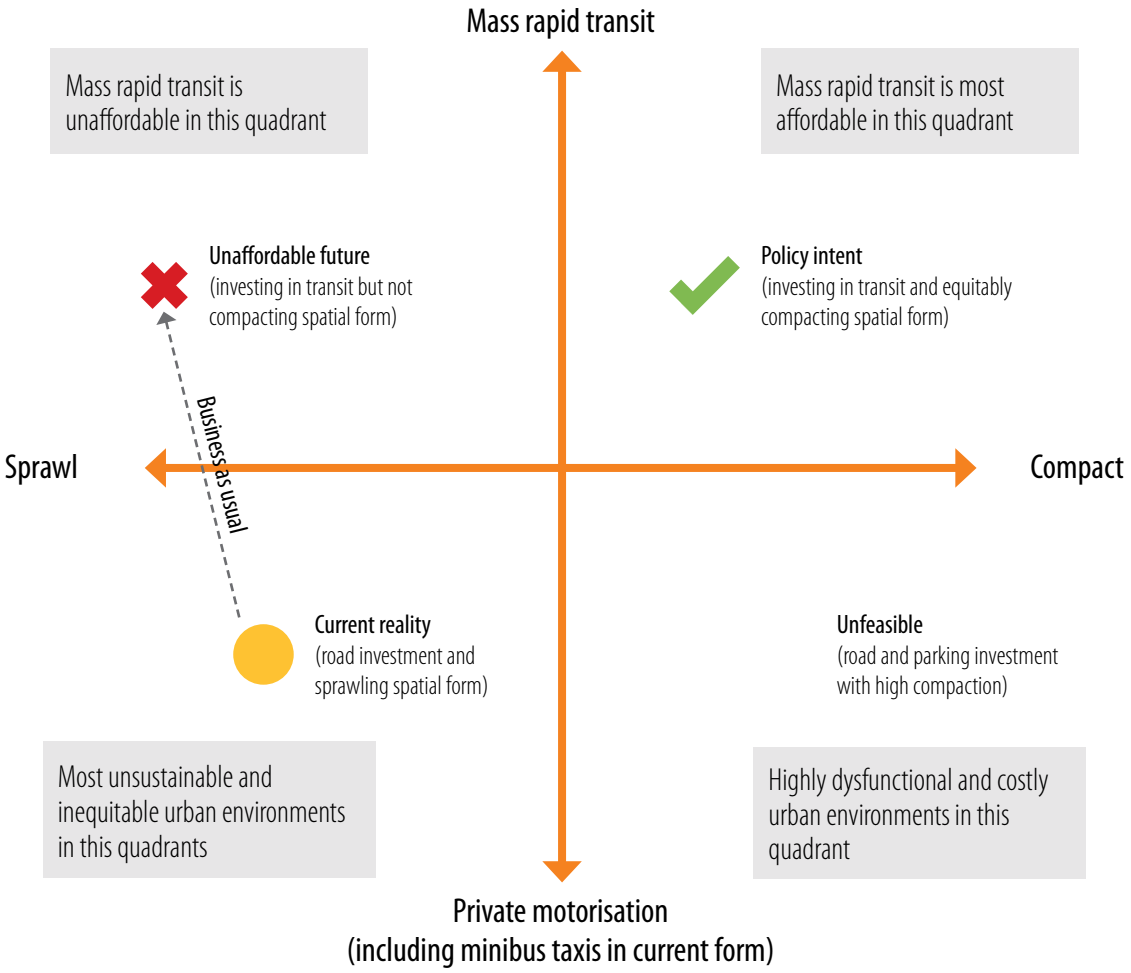
Spatial transformation will be critical for more effective mobility because the financial and implementation challenges will persist unless significant strides are made to restructure the spatial form of South African cities. In addition to mass public transport, densification and compaction are fundamental to creating more sustainable cities. Therefore, continuing business-as-usual, by investing in BRT systems and passenger rail upgrades while spatial patterns continue to sprawl, will place huge financial burdens on the state in the face of many other urban investment priorities.

Transformation requires both immediate and long-term transport interventions. Even if South African cities are to begin to transform the built environment successfully, the minibus taxi industry will remain a highly relevant mode of transport for the foreseeable future. Legitimising the industry, as a critical component of the broader public transport system, in a manner that improves safety and reliability should thus be part of transport policy and strategy moving forward. Furthermore, it is clear that provincial and national government transport departments and entities will have a major role to play in achieving integrated transport offerings across the metros over the medium to long term. People cannot be expected to wait for devolution to be completed before integrated services are provided.

National and provincial transport entities need to respect and support municipal efforts to plan and manage integrated systems in the immediate term, by working together to give weight to municipal ideas, plans and systems. If capacity constraints are deemed to be the issue in this regard, as is often reported (van Reyneveld, 2008; SACN, 2011), then finding a way to support the capacitation of municipalities is required, not to supersede the municipal authority.

A nuanced approach to public transport must be taken because a fine balancing act is needed to drive compaction, invest in mass transit and legitimise and improve the minibus taxi industry in order to move towards an integrated transport system. The reality is that no city in the world has managed to rid itself completely of cars (Bertaud, 2004). However, those cities that have been able to develop dense and compact urban fabrics at scale, while simultaneously investing in mass transit systems, are more often than not considered the most sustainable, efficient and liveable.

Figure 2.6: Alternate transport-urban form growth trajectories

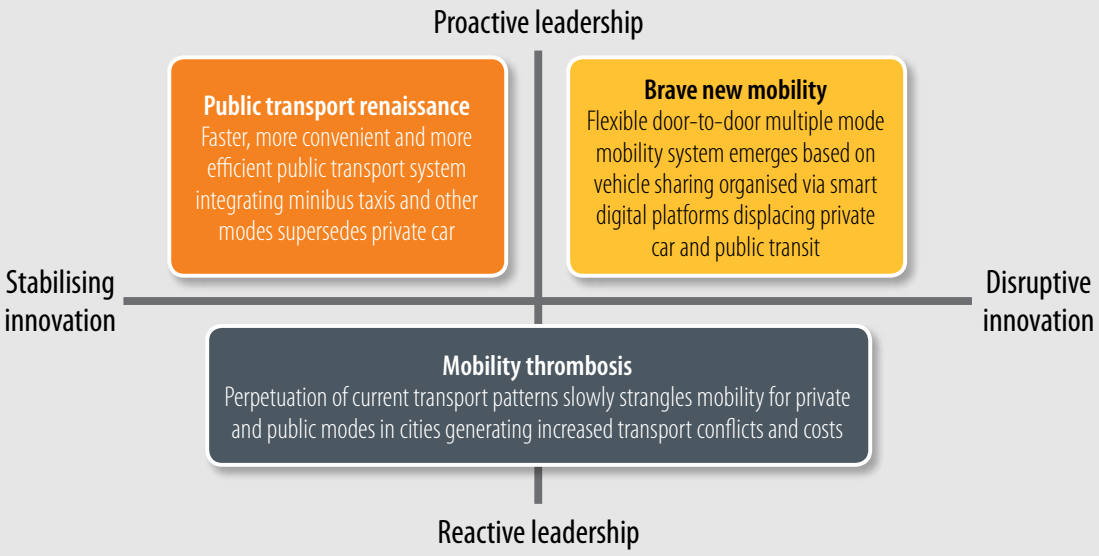


Source: SACN (2014)

MOVE THE CITY 2035 SCENARIOS: Envisioning future of the minibus taxi industry

Three scenarios describing possible mobility futures for urban South Africa and its relevance for the minibus taxi industry have been developed:

- **Mobility Thrombosis:** The business-as-usual scenario, where current trends of increasing private car usage slowly strangle urban mobility. Commuting using the road network gets slower, more frustrating, more conflictual and more expensive.
- **Public Transport Renaissance:** Bold steps by city governments result in a faster, more convenient and more complete public transport system that integrates minibus taxis, BRT, bus, rail and NMT. Public transport becomes the preferred commuting choice for the urban population and over time supersedes the private car.
- **Brave New Mobility Scenario:** The new application (apps)-based mobility technologies have an enduring disruptive impact on existing mobility patterns. Minibus taxis use mobile phone-based ride-sharing apps to fill their vehicles with ride-sharing passengers, and gradually become the dominant mode of public transport.



A phased incremental approach to reform would focus initially on creating stability and putting in place a solid platform for improvement, including the following:

- Establishing sound and inclusive national and metropolitan processes for engagement and consultation about public transport, including minibus taxi services.
- Sorting out regulations and ensuring a functioning licensing system and consistent enforcement based on clear rules and procedures.
- Improving existing minibus taxi services through partnerships and using mobile phone applications as an important enabler.
- Creating space for experimentation, including piloting transformative projects on key routes, such as giving minibus taxis access to dedicated lanes and introducing ICT tools to enhance tracking and accountability.
- Conducting research into optimal institutional and contracting models for public transport going forward.

Source: SACN (2015c)

TRANSFORMING THE BUILT ENVIRONMENT OF CITIES

The experience of urbanisation in South Africa since 1994 shows that truly transforming cities, in the sense of providing disadvantaged black families with full rights to the city and its opportunities, requires more than simply delivering shelter. Urban spatial policy should be "about opening and expanding access to the benefits of living in towns and cities", and access should be "the key objective of spatial transformation as it most directly links spatial policy to key national objectives of eliminating poverty and reducing inequality" (Harrison and Todes, 2014: 3). The state-subsidised housing programme has to be delinked from urban access to land because the housing programme alone cannot tackle the extent of the housing challenge (Charlton, 2008). Furthermore, the post-apartheid city is characterised by informality and complexity, which cannot be dealt with through a spatial planning and land-use management system based on notions of an orderly city (ibid). Therefore, the administrative and institutional arrangements governing urban areas need to be transformed in order to be able to deal with the challenges in cities.

SPATIAL TRANSFORMATION: Tracking transformation indicators

City officials go through continuous planning cycles with the aim of creating favourable conditions for growth, while also striving to transform cities into integrated, efficient and liveable spaces. To enable city managers and officials to see the effects of city management and planning, spatial indicators are needed to track the changes that take place in cities. It is important to look at spatial changes because geographical (spatial) patterns of social disadvantage (or advantage) are not random. They are the result of dynamic social processes, economic change, migration, the availability and cost of living space, community preferences and policies that may distribute particular groups to certain areas or exclude them from others (Smith, 2001; Kleinman, 1999; Smith et al., 2001).

To understand these patterns, and to measure changes, requires periodically repeated data collection, such as national censuses and spatial units of measurement that remain fairly constant and allow for the tracking of changing attributes. When the spatial units used (such as sub-places or wards) change, comparison between different periods is difficult because the spatial information represented is different. The current spatial units (wards, sub-places, main places, etc.) are not always suitable for tracking change spatially, and some of them change when the Demarcation Board makes changes to municipal or ward boundaries. Units may also have largely differing spatial extents, which make reading this information problematic. Generally, no spatially uniform (size) type of zone is used.

Tracking transformation is not just about the unit of information, but also about what is tracked and how it is used. To track any change, a good baseline is needed. Single indicators (e.g. population density) on their own do not convey all the reality. For example; cities are trying to densify their residential spaces in order to make the provision of public transport more cost effective and to bring people closer to employment. However, high density as experienced in low income and poor areas reflects negatively on an area, and could represent the urbanisation of poverty. High density could also result in an overburdened infrastructure or a lack of resources to support services. Whatever measurement is used, the outcome must be kept in mind.

The advantage of an index (or combined indicator) is that it considers a number of variables in order to reflect an issue. For example, the Multiple Deprivation Index consists of: material deprivation, employment deprivation, education deprivation, and living environment. Such indices are better than, for example, simply considering income level because access to some basic needs are also considered. As no single item can reflect transformation (or the lack thereof), multiple indicators are needed to truly measure transformation.

To support the State of Cities analysis process, during 2015 the CSIR compiled a number of spatial indicators and indices for SACN, each illustrating a specific component of change or transformation (see Almanac of this report).

Key issues for understanding spatial transformation

South African cities have to balance an unapologetic pro-poor stance with achieving the necessary (and inclusive) economic growth that enables cities to develop and thrive. Providing shelter, services and other interventions in the absence of a broader understanding of access, resources, voice and power, etc. will not achieve transformation. Spatial transformation is complex, and certain issues need to be understood. These issues are outlined below.

Cities are dynamic and different. There is no single image of what South African cities should look like. Cities have different building typologies, civic spaces and cultural displays, but need to ensure that development is productive, inclusive, sustainable and well governed, with an emphasis on these outcomes occurring together, rather than (for example) outcomes that are "sustainable" and exclusive, or "productive" and exploitative. Cities need to offer a range of typologies that respond to the different stages in the lifecycle of urban households (e.g. more gap housing, social housing and affordable bonded housing).

Local sphere must drive integrated transport. Investment in public transport in cities has taken place largely through the conditional grant mechanism and was not necessarily born out of local planning demand. The National Land Transport Transition Act (No. 22 of 2000) established integrated transport plans to ensure effective integration of all transport modes in the municipal area, but municipalities continue to lack the requisite skills, are doing little to incorporate private bus and minibus taxi operators into the network, and are not involved in PRASA's plans to upgrade rail systems and operations. Investments in the road network, such as the billions spent by the national roads agency (SANRAL) on expanding the highway capacity in Gauteng, as well as the plans for other provinces in the pipeline,[18] contradicts the policy emphasis on public transport.

The role of planning should be revived. SPLUMA presents an opportunity for metros to steer investment in line with their spatial transformation vision. The renewed emphasis on integrated planning has the potential to reinvigorate the IDP as a central planning tool at local level. However, planning should not be seen as a single process, but rather as one that covers distinct areas, such as strategic planning, i.e. the municipal planning that informs the development of the IDP and coordinates the important actors (across government spheres and sectors, and the private sector); physical planning; and spatial planning, which considers how things are ordered in space and used within the broader strategic spatial context as reflected in SDFs and precinct plans. Furthermore, recognising the limits of planning, the emphasis needs to be on implementation and the alignment of investments by various urban actors to the city's strategic plans.

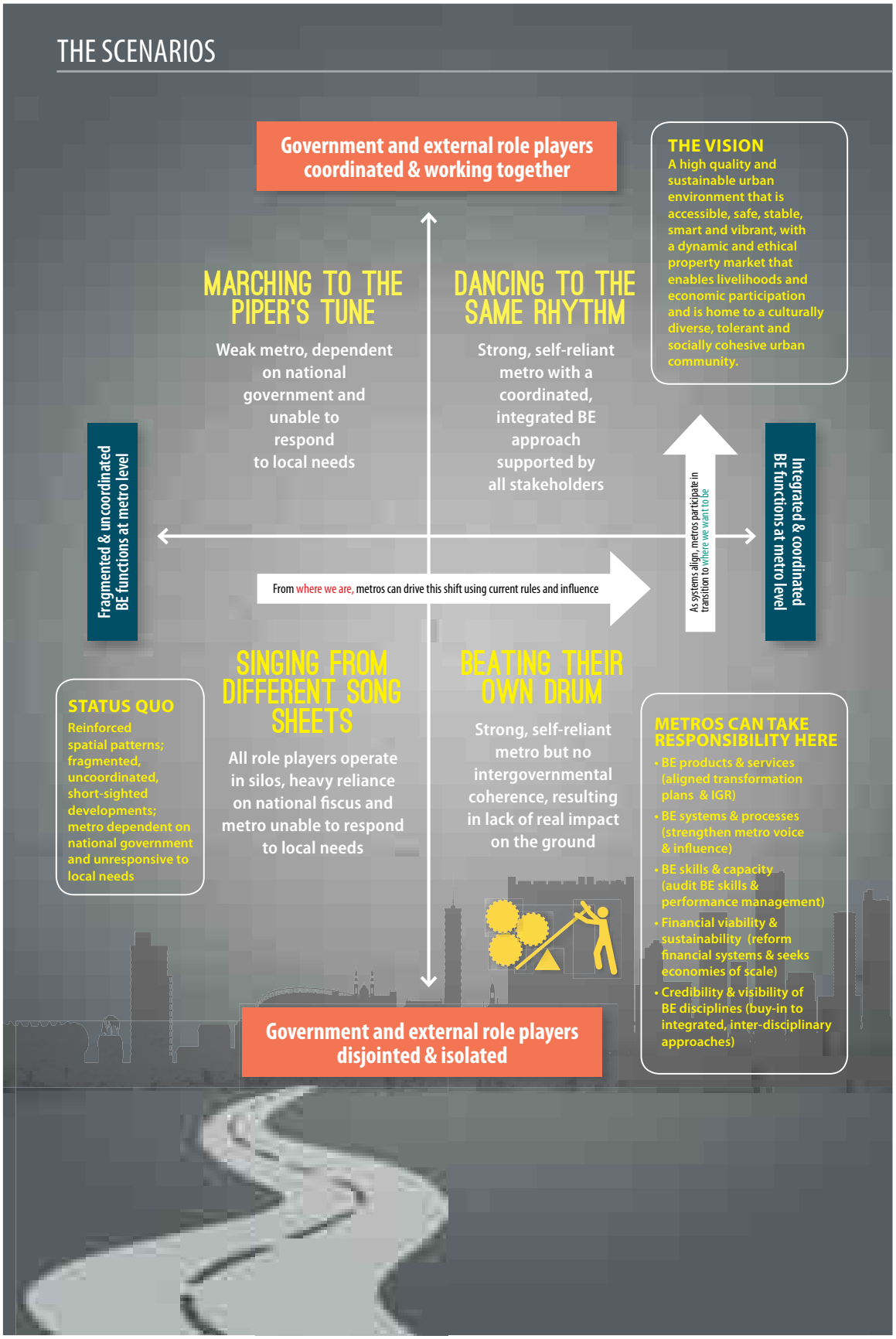
18 http://www.fin24.com/Economy/Gautengers-urged-to-change-mindset-on-e-tolls-20150618

Spatial transformation needs responsive governance. Cities must take up their development role with the necessary fervour and focus. Getting service delivery basics right, improving operating systems and ensuring effective skills and capacity (which are all within the control of cities) are important in the short to medium term. However, the long-term spatial transformation requires dynamic, responsive, innovative interventions that address the location of poor black people on the periphery, improve mobility and access, and ensure that cities are inclusive, productive and sustainable.

Roles need to be clear and aligned. Complete devolution has not been achieved across all the built environment functions, as only certain components of the transport and human settlements functions having been devolved. However, SPLUMA gives the local sphere full responsibility for municipal planning. Local government needs to coordinate, integrate and steer all interventions by all actors in the urban space, including provincial and national government, private developers and residents. At the very least, local governments can integrate their internal processes and ensure that new development applications are aligned to the city's long-term spatial vision.

Spatial transformation must be monitored differently from the way spatial interventions have been monitored to date. For example, instead of measuring outputs (e.g. the number of houses, title deeds, land parcels or buses delivered), indicators need to be developed to measure the spatial outcomes and changes to the urban experience. Some progress has been made in this regard, through the introduction of built environment performance plans (BEPPs) and spatial transformation indicators being developed by Treasury, as well as the ongoing spatial analyses of CSIR/StepSA in partnership with the SACN. This is not an easy process, but, without more effective measurement, it will be easy to revert to measuring outputs rather than long-term outcomes.

Built Environment Integration Roadmap



WHAT IS REQUIRED TO TRANSFORM SOUTH AFRICA CITIES

The 2011 SoCR highlighted the importance of developing a spatial transformation agenda and made a clear call for devolving key built environment functions, developing skills and capacitating metros. Returning to the transformation framework developed by Williams (2000), what is important is to understand (i) what is required to transform space, (ii) the dynamics of power and authority, (iii) the institutional arrangements that need to underpin an effective spatial agenda, and (iv) the skills and capacity required in the public and private sectors.

Transformation of space

The long-term agenda is to fundamentally change how space is structured, owned, used and developed (and for whose benefit). The immediate challenges are to address sprawl, exclusion, fragmentation and inefficiencies in cities. Cities need to have control over the functions that inform spatial change, and so a common thread is the devolution of key built environment functions.

A core element of transformation is land, which means confronting the land value/location conundrum, whereby poorer people need to live in better-located (but higher value) areas in cities in order to be close to opportunities. At one extreme would be the nationalisation of all land (or the mass redistribution of land at discounted rates), whereas at the other extreme would be a large state funding mechanism to purchase well-located land (which can be funded from various value-capture mechanisms or land-based revenues). A longer-term action would be to protect land in areas of future urban growth for low- and mixed-income/mixed-use development. Government actions can consciously create land value increases or try to stabilise land values so that they remain more affordable. In other words, cities can make deliberate market interventions, not only planning and regulatory interventions (Urban LandMark, 2012).

Transit-oriented development (TOD) has the ability to "stitch together" (to borrow a term from the City of Johannesburg) the peripheral, largely poor dormitory suburbs with mixed-use and industrial nodes where economic activity and employment opportunities exist. To promote economic growth, future city plans should promote and prioritise economic and residential activities and investments along existing public transport routes that link dormitory suburbs with other parts of the city. Lower-income households could then be accommodated in well-located areas within walking distance (3–5 km) of established mixed-use economic nodes. Land-use management approaches should, in turn, facilitate the inclusion of both formal and informal activities in a manner that also supports existing small-scale economic initiatives in lower-income areas.

Transforming the built environment of our cities will require people literally to get onto the street. This means prioritising pedestrian walkways rather than vehicular traffic, constructing public squares and public parks that relate intimately with surrounding buildings (improved surveillance) and reinforcing the public transport network. How people move around and experience the city must be at the forefront of the minds of built environment practitioners and private investors.

Transformation of politics and power

At the start of the 21st century, Williams (2000) argued the "radical" change needed to disrupt the power imbalances that exist within South Africa's urban spaces would not be an easy or smooth process. This was because of the numerous vested interests in preserving the status quo, i.e. not equalising the power relations between black and white. Economic conditions have further complicated the situation (ibid). "People-driven development" could assist the transformation of the "social relations of power which give rise to the patterns of uneven development in South African society" (Williams, 2000: 172).

Sixteen years later (in 2016), this argument remains valid, with corruption, inefficiency and political power-brokering all challenges to meaningful spatial transformation. The private sector (and in some instances private/public collusion) and even private individuals display a certain amount of power over decisions about the built environment, which can slow spatial and social integration. This manifests as NIMBYism (Not In My Back Yard) displayed in certain middle- and higher-income suburbs, or opposition to public transport interventions, such as the case of the Rosebank community in Johannesburg objecting to a BRT route through the area (RMD, 2011). However, if undertaken in a constructive manner and with the city-wide objectives in mind, cooperation between public, private and civic role-players can bring about a city that is more sustainable and integrated. At the root of this is greater transparency, shared values, for example, around inclusion, and ethics across all actors.

Transformation of institutions and intergovernmental relations

Spatial transformation and integration depend on effective intergovernmental relations that recognise the critical function played by local government. "The scope and pace of change in South Africa are also influenced/determined by the extent to which public institutions adjust to and comply with the current directives of transformative planning" (Williams, 2000: 170). Across government, a concerted effort is needed to move away from the traditional silo approach whereby the various sector departments have their own targets, directives and resources aimed at meeting their sector mandate. At the local level, the developmental mandate for spatial transformation cannot be met through a fragmented approach, but requires institutional arrangements that can respond to the nuance, integration and coordination required. Furthermore, as the IUDF recognises, intergovernmental relations need to be strengthened in order "to drive the agreed policy, fiscal and regulatory changes, and to steer the priorities of the urban agenda" (COGTA, 2016: 101).

Cities are built how they are financed. A fragmented fiscal framework for funding how cities are built will not produce a transformative outcome. City governments also find themselves in an extremely difficult position, between a rock and a hard place, having to manage the impossible tension between using resources (like land) for income versus for transformative projects or outcomes. While more funding should be given to cities to enable them to deal with the main manifestations of unequal development (SACN, 2015b), the fiscal instruments also need to be streamlined to respond to the integrated nature of development and spatial transformation. In addition, cities have to make better use of instruments, such as land value capture tools, and improve project management processes to derive maximum value out of interventions that have broader societal benefits.

Transformation of management and capacity

Over the past two decades, numerous changes have occurred across the three built environment functions, requiring a fundamental shift in the skills and capacity needed for transformation and dealing with complex land and land reform issues. In the human settlements sector, skills needed to deliver a housing product are different from those needed to deliver sustainable human settlements, which requires co-production and cross-sectoral cooperation. Similarly, in the transport sector, many of the existing skills are related to specific modes, operating in siloes and perpetuating historical commuter operating cultures, i.e. services that bring people into work in the morning and take them home in the evening. To achieve better public transport integration (including both multi-modal and land-use integration), particularly to integrate the minibus taxi industry, requires multi-disciplinary skillsets and innovative approaches that can engage with complexity. The ultimate goal must be to provide improved mobility and access for people. This requires building the capacity and skills of officials (as well as communities and other civil society actors), so that they have the knowledge and are empowered to influence and determine city form and function effectively (Williams, 2000). This is part of co-producing the city, which is essentially the outcome of the range of interactions and activities of all its residents, their experiences of living in the city and a vital part of the long-term transformation agenda.

CONCLUDING REMARKS

The built environment influences (but is also shaped by) the extent to which cities are inclusive, sustainable, productive and well governed. Bringing space to the epicentre of understanding the state of South African cities arguably requires looking at how spatial configurations have affected (or been changed by) other aspects, i.e. productivity, inclusivity, finances, sustainability, governance and the enabling environment. Relevant questions include:

- **The productive city**. How have the continuing inefficiencies and inequalities in South African cities affected the overall productivity of people, businesses and municipalities? Are there instances where specific spatial interventions have resulted in increased productivity?

- **The inclusive city**. What does inclusion mean in South African cities? Has this been achieved or not? If not, what are the key challenges that need to be addressed to ensure that cities are inclusive and foster social, racial and economic inclusion and access?

- **The sustainable city**. What are the implications of the current inefficient spatial configurations within cities for the spatial transformation agenda? Does the sustainability conversation in cities sufficiently cover issues, i.e. not limited to climate change, but also including efficient management of existing natural resources, food security and adequate planning to meet the future resource needs of cities?

- **The well-governed city**. Is the current governance of cities what is required to drive long-term spatial transformation? Should city governance (rather than government) be considered, as it includes the various actors in the urban space and their roles and responsibilities in driving the transformation agenda? If so, what is the governance model and approach that will achieve the desired urban spatial transformation outcomes in South African cities?

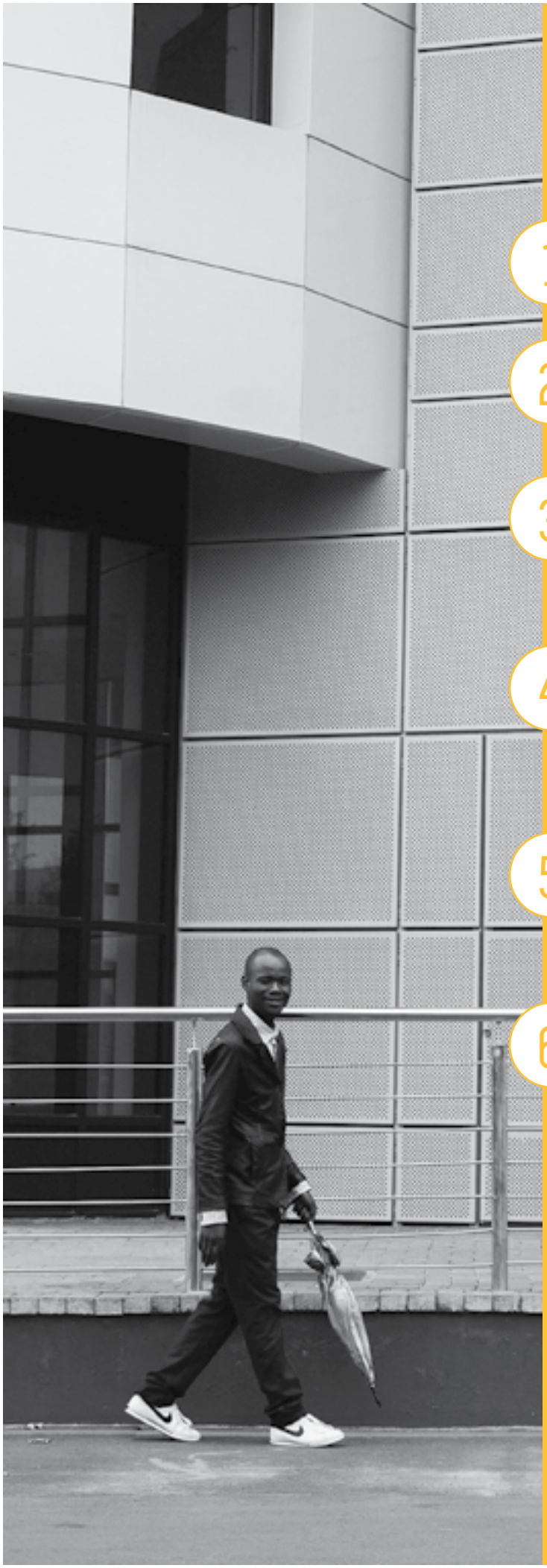
- **City finance and innovation.** What is the current state of municipal finances, and what impact has the spatial pressures faced by city government had on municipal finances? Are there instances where South African cities have developed innovative approaches to financing growth and development?

- **Enabling transformation**. What is necessary to drive the spatial transformation agenda? What are the disablers and enablers that will activate urban actors to achieve the desired outcomes? What are the enabling conditions that need to be created so that cities can become dynamic systems of innovation where all urban residents enjoy the benefits of agglomeration?

PRODUCTIVE **CITIES**

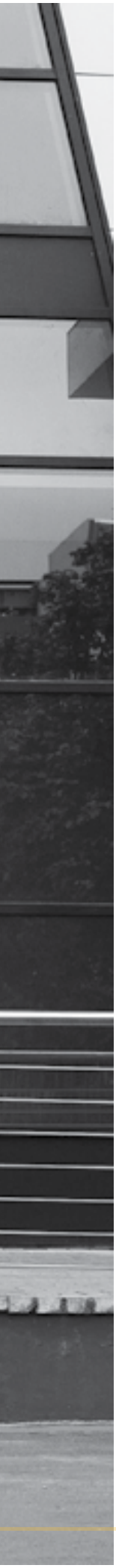
Spatial transformation that enhances the economy of cities

@gavman18 and @nezworx



Key Messages

1. Cities have a critical role to play in driving South Africa's economy.
2. However, the good story has not included everyone.
3. Spatial transformation is a key lever for productive city economies and inclusive city growth.
4. Cities should develop bold economic development strategies that include the informal sector and public employment programmes.
5. Cities need to expand economic activities and participation through innovation, skills development and targeted investments.
6. Cities should learn from one another's strengths in order to improve their business climate.



INTRODUCTION

South Africa is heading for an economic storm. The economy is performing far below its potential, as evidenced by slow economic growth (not even reaching 2% a year) and mounting job losses. The daily realities of economic turbulence affect everyone – rich and poor; employed and unemployed; big and small businesses; entrepreneurs and informal traders. Attention is increasingly focused on the role that cities play in stimulating, supporting and enhancing economic development, and on the ability of cities to lead South Africa towards economic recovery.

City economies are a study in contrast. As concentrations of economic activity, cities offer promise and opportunity to those who are economically agile and entrepreneurial. Well-functioning cities are foremost about people, and their economies are likely to have lively market spaces and production warehouses, souks and bazaars where traders, investors, industrialists, producers, workers and customers meet to trade and do business. In such cities, people experience a vibrancy of place from the diversity of economic opportunities and that distinctive city character, which blends different tenors, cultures, cuisines, heritages and languages into a shared and unique history that shapes present-day experience.

Yet for many people, cities are sites of unprecedented exclusion where they are barred from participating in economic activity or accessing economic opportunities, and, as a result, live marginal lives on the edge of society. Urban spaces and the flows between these spaces can be *exclusive*, where economic activities are preserved for the few and the poor are trapped at the periphery, or *inclusive*, where people are able to access economic opportunities across the city.

The main aim of this chapter is to understand how to transform apartheid's legacy of dispersed and distorted spatial settlement patterns, which characterise South Africa's cities today, in order to strengthen city competitiveness, enhance transformative resilience, and intensify economic inclusion. The overarching message is that spatial form matters for strong and productive city economies, and that spatial transformation is essential to cities becoming effective drivers of local and national development.

A strong and productive city economy is one that is able to "attract, retain and develop firms, other entities and entrepreneurs with a stable or rising market share, while increasing the rate of economic participation and the quality of life of its residents" (SACN, 2011: 19).

UNDERSTANDING CITY ECONOMIES

The human tendency is to agglomerate, as shown by the existence of cities and increasing urbanisation. The ***upside of urban agglomeration*** includes various benefits. These are outlined below.

Logistical efficiencies: Transport and information-sharing costs are reduced, while firms have better physical and electronic connectivity with their customers, suppliers and markets. People can get to and from work more easily, and so can participate in the economy and in city life. Equally, improved information and communications technology (ICT), i.e. high-speed broadband, reduces spatial barriers and enhances the sharing of information and knowledge.

Labour access: Cities have large and deep labour pools, which give employers increased flexibility (to adapt their workforce to changing technology and business needs) and provide a better match between employers and job-seekers, thereby reducing labour turnover and improving productivity. In addition, a city filled with different workplaces reduces commuting and job-search costs for workers and recruitment costs for firms.

Knowledge spillovers: The greater scale, density and diversity of economic activity in city life boosts the free flow of ideas and information-sharing that allow people and firms to learn from each other. Networking and knowledge spill-overs spur entrepreneurship and enhance productivity, particularly for newly emerging industries.

Innovation and diversity: The scale and diversity of city economies lead to greater innovation in response to changing technologies and market or customer demand. Economic diversity and close proximity increases the flow of goods, services and information among firms, strengthening firm competitiveness. The industrial mix also balances the demand for less-skilled workers with those that are more educated, bringing greater inclusivity to city life (SACN, 2011; Glaeser and Joshi-Ghani, 2013).

Liveability (i.e. the quality of life and how attractive a place is to live, work, and play): The "buzz" of diverse cultural and recreational activities in cities deepens social interaction and encourages the exchange of ideas and information. A city that offers quality urban and recreational amenities can attract and retain skilled workers and mobile "gold collar" professionals who are critical to city economies. Urban amenities also serve as drawcards for visitors who drive the broader tourism or visitor economy, which supports businesses, creates jobs and build the city's reputation.

However, the ***downside of urban agglomeration*** manifests in:

Higher costs: Greater demand for products and services contributes to higher costs of doing business, including property rents and labour costs.

Congestion and pressure on resources: Agglomeration can lead to higher levels of congestion, undue pressure on infrastructure, such as housing, transportation networks, water, sanitation and electricity, as well as excess demands on natural resources, such as water supply and air quality.

Increased poverty: In the developing world, successful cities attract many migrants (from rural areas and less prosperous, smaller cities and towns) seeking work and a better quality of life. The flow of people to large cities inevitably increases poverty, as few arrive with the skills and resources necessary to compete in urban labour markets. These migrants tend to swell the ranks of the poor and unemployed that congregate in overcrowded living spaces.

A city may, therefore, be both productive and inclusive, yet still have poverty, inequality and slums. "Cities aren't full of poor people because cities make people poor, but because cities attract poor people with the prospect of improving their lot in life" (Glaeser, 2011: 70).

What a successful and inclusive city does is to enable poor people to develop pathways out of poverty through providing quality basic services (e.g. water, sanitation, healthcare and education) and facilitating decent jobs and livelihood opportunities for the less skilled, so that poor families are able to access income and opportunity. Such a city builds common spaces and flows between these spaces that encourage people from different communities to meet and mingle in ways that build a common city identity and understanding. This strengthens social coherence and enhances city resilience in an increasingly uncertain world.

Resilient city economies

Resilient cities can adapt and transform in the face of increasing social, economic and environmental change that accompanies the relentless push to urbanise in a globalised world (Seeliger and Turok, 2013). The way in which these cities function can enable the people living and working there – particularly the poor and vulnerable – to survive and thrive, no matter what the stresses or shocks encountered (Rockefeller Foundation and Arup, 2014). Resilience thinking appreciates that cities are complex and dynamic urban systems that operate at different scales, from beyond city boundaries and the city level itself, to the community, neighbourhood and even household level. The relationships between these levels are complex and shifting (Chelleri, 2010). There are different perspectives on city resilience: disaster and risk management approaches advocate *bounce-back resilience*, whereby cities are able to maintain basic city structures and functioning after disruptive or catastrophic events; *bounce-forward* or *transformative resilience* considers disruptive events or disasters as opportunities to bring about change, adapting and transforming city systems so that they are better able to manage or reduce the impact of the chronic stresses and shocks. Cities have the opportunity to reshape themselves, to revitalise, regenerate and become more inclusive (Seeliger and Turok, 2013).

Spatial transformation underpins economic strength

"South Africa's spatial landscape has to be re-shaped, including investment in dynamic city development, integrated housing and transport programmes and support for business activity and job creation in both urban and rural areas."[1]

Successful cities know the extent (and limits) of their powers and competences, and actively collaborate to pursue economic development goals. They promote connectivity, mobility and flow in city space in a way that stimulates firms to invest and create jobs, and enhance economic participation. They nurture regional development coalitions and partnerships with the private sector and other interested stakeholders. And they lobby national and provincial government and broader public sector investors to catalyse spatial transformation in ways that strengthen city economic performance, inclusivity and resilience (World Bank, 2015a).

Cities are able to draw on three main levers for spatial transformation. (1) Spatial planning and land-use management, which are at the heart of transforming cities into more productive, inclusive and resilient city economies; (2) improved human settlements, as a city that is more compact is able to reduce transport costs, improve the integration of land uses and give poorer people better access to jobs, urban services and social amenities; (3) public transport because improving people's ease of mobility and access to economic opportunities determines how well a city functions and underpins its economic performance. Non-spatial levers, such as intervention in the urban land markets, are also very effective.

City spatial form, human settlement and public transport interventions are interdependent and will undermine each other if planned and implemented separately. The challenge for cities is to enhance their spatial form in a way that makes them increasingly economically efficient and resilient, as well as more inclusive, enabling people to access different economic opportunities across city space. Cities therefore need to use their spatial planning and land-use management (zoning) instruments, and human settlement and public transport investments more effectively to concentrate and densify where people live and where they work along core public transport corridors and economic centres. This requires cities developing a deeper and more nuanced understanding of the spatial and locational factors that encourage firms to invest in certain areas and not in others, as well as strengthened capacity to implement and coordinate an integrated approach across spatial planning, human settlement and public transport functions (Schmidt, 2014).

Spatial planning and land-use management

Urban spatial planning is about shaping and managing city (and regional) spaces and flows in a way that takes into account the different (and often contending) needs and interactions of people, the economy and the environment. Operating within an overall spatial planning framework, land-use management allocates different land uses to different spaces, which are connected through

1 Minister of Finance Nhlanhla Nene, 2014 Medium Term Budget Policy Statement Speech, 22 October 2014. http://www.sanews.gov.za/south-africa/full-speech-2014-medium-term-budget-policy-statement-speech

transportation networks. Land-use planning most often leads to land-use regulation, which usually includes zoning. Zoning regulations specify the areas in which different activities (residential, industrial, recreational, commercial or mixed-use) can take place. They may also regulate the amount of space allocated to these activities and the density of development, and provide spaces for education and healthcare facilities, parks and green spaces, and protection of heritage places.

The legacy of land dispossession continues to scar cities, which still exhibit racially segregated suburbs separated by buffer zones, single-use land management inefficiencies, low density sprawl, and racially divided urban growth patterns and opportunities (Donaldson, 2001). With the promulgation of the Spatial Planning and Land Use Management Act (SPLUMA) (No. 16 of 2013), South Africa now has legislation to govern developments in urban spatial planning and land-use management, which is a municipal competency. With SPLUMA, cities have the potential to integrate strategic city-wide spatial planning strategies and city economic development strategies, and to facilitate spatially targeted interventions and infrastructure investments aimed at transforming city spatial form, thereby creating more productive, resilient and inclusive cities.

Densified human settlements

Unlike cities elsewhere in the world, South African cities are characterised by low-density urban sprawl and higher densities on the outskirts of cities, not the inner cities. This is a result of apartheid spatial segregation, aggravated by the low-cost housing developments built post-1994. Under pressure to deliver as many low-cost houses as inexpensively as possible, developers built where the land was cheaper – on the periphery. Better located and integrated development is critical to reducing urban sprawl and spatial economic transformation of cities. As better located land is usually more expensive, greater density is encouraged to make the best use of the land, thereby contributing to enhanced efficiency in the city space economy (Bertoldi, 2015). Government has shifted its emphasis from delivering mass housing to delivering human settlements, acknowledging the need for housing in well-located urban neighbourhoods. However, political and private developer vested interests have so far trumped concerns for better located, more compact and integrated housing alternatives.

The current national Minister for Human Settlements (in 2016) has prioritised the fast-tracking of housing delivery, but the plan is largely driven by 77 catalytic megaprojects. The real worry is that the drive to achieve numerical targets will yet again lead to mass housing delivery on large, remote greenfield sites, as infill development on better located, smaller brownfield land parcels is more complex. These megaprojects depend critically on attracting private sector investment and jobs that make them economically self-sufficient. If such projects are not able to generate economic activity internally, their distance to existing economic centres will exacerbate urban sprawl, spatial fragmentation and dislocation (GCRO, 2015). The concern is that proposals for the megaprojects implicitly assume that housing development drives economic development, but do not take into account the locational factors that are critical to firm competitiveness and inform where investors decide to locate. As over the longer term city residents and taxpayers will bear the brunt of further spatial fragmentation, there is concern about the current approach to human settlements and the reversal of a decade of progress towards devolving this function to city level bears significant weight.

Improved mobility and access to public transport

South African commuters have to contend daily with overcrowding, security concerns, long commuting times and high costs of travel, particularly for low-income users (Van Ryneveld, 2010). Providing reliable and affordable public transport would be a game changer for South Africa's spatially dispersed cities, with their extensive road networks and orientation towards private car usage. Reducing public transport costs and travel time enhances city spatial connectivity and inclusivity, and strengthens city resilience. Consolidating public transport at city level presents the biggest opportunity to reshape South Africa's urban spatial patterns. However, public transport systems are big ticket items that require significant ongoing subsidies to ensure affordable commuting costs for the broader population. With just four years to go to achieve the target of 85% of all urban residents living within one kilometre of a rapid public transport network by 2020, it is increasingly evident that the 2007 Public Transport Strategy underestimated the cost of rolling out integrated rapid public transport networks across South Africa's cities (Cameron, 2009).

The BRT model requires significant financing and ongoing subsidisation because of South Africa's spatially dispersed cities. Unlike similar systems in rapidly growing cities around the world, BRT in South Africa is not able to draw on sufficient population densities for the strong ridership that improves cost effectiveness and financial sustainability over the longer term. Furthermore, as public transport is devolved to city level, city governments and taxpayers become responsible for the significant costs associated with the inefficient urban form. Given the funding constraints, cities should focus on rolling out BRT along high-density corridors that can potentially generate sufficient revenue (thereby limiting operating subsidies over time) and on accommodating minibus taxis to continue to service dispersed demand patterns that feed into main urban transport trunk services (Schmidt, 2014).

Non-spatial levers

City competitiveness is also about the ease of doing business in city space, and understanding that firms drive city economic activity and create (formal) jobs. Key factors or levers that make it easier for firms to do business include *institutions and regulations* (such as taxes, licences, duties and legal regulations); *urban infrastructure* (roads, public transport, electricity, water, sanitation and communications); *land-use management* (zoning); *skills* (schooling, vocational training and workforce development); *innovation networks*; and *enterprise support and finance* (access to capital, subsidies and incentives). Economic and social inclusion can also be supported by levers such as urban infrastructure, informal trading by-laws and the upscaling of public work programmes in poor communities.

Developing robust urban economic strategies

To improve the integration and sequencing of national, provincial and local economic development and spatial development strategies in cities, economic and spatial teams need to work closely together. This will enable the high-level city economic development strategies to inform and, in fact, drive spatial development interventions and investments, such as zoning regulations and public transport routes. Equally, spatial considerations and objectives should influence how cities formulate their economic development strategies. However, in reality, city teams often shape their individual development

strategies in separate silos, with limited interaction and coordination. In addition, economic development strategies are not always informed by robust spatial economic data and intelligence, or by regular monitoring and evaluation to assess the impact of public investments. The end result is that city and stakeholder efforts are fragmented, and spatially targeted investments do not yield economic efficiencies and value for money. Cities should know and understand their economic metrics – at the city-level and at the functional economic level within the city. By "knowing their numbers", cities will be able to more successfully target spatial economic development interventions and infrastructure investments, and enhance city economic performance.

Importance of spatial targeting and evidence

City economic performance is usually analysed using data based on city administrative boundaries. However, this approach does not take into account the functional level, i.e. how people, goods and services connect and move among the different spaces in a city, and how these flows enhance or constrain a city's overall economic performance. The aim of spatially targeted investments is to connect and reduce the distance[2] between more vibrant, dense economic centres and less economically active neighbourhoods in a way that reshapes the spatial patterns and configurations of city life. Spatially targeted interventions and investment programmes have a better chance of success if they are made on the basis of robust analytical evidence. Empirical spatial economic analysis is relatively new to South Africa and has to date focused largely on the provincial, city and the city region[3] level. There is a lack of robust economic information from official surveys, and administrative and private sector data, at the city and sub-city level.[4]

The spatial dimension is important because people live, work and play in defined spaces within cities. Geographic spaces shape social and economic activities, as well as the flows of people, goods and services that determine opportunities for inclusion and define barriers for exclusion. Businesses and entrepreneurs invest in particular localities. Government and public entities build critical economic and social infrastructure, such as roads, schools, hospitals, airports and harbours in specific areas. In a constrained fiscal environment, city-level economic intelligence enables cities to assess whether public spending (on area- or place-based economic development interventions and infrastructure) is having any meaningful economic impact in terms of increased firm-level activity and jobs. Figures 3.1 and 3.2 show how mapping VAT registrations in Johannesburg and Cape Town can provide a detailed understanding of where different economic sectors are concentrated.

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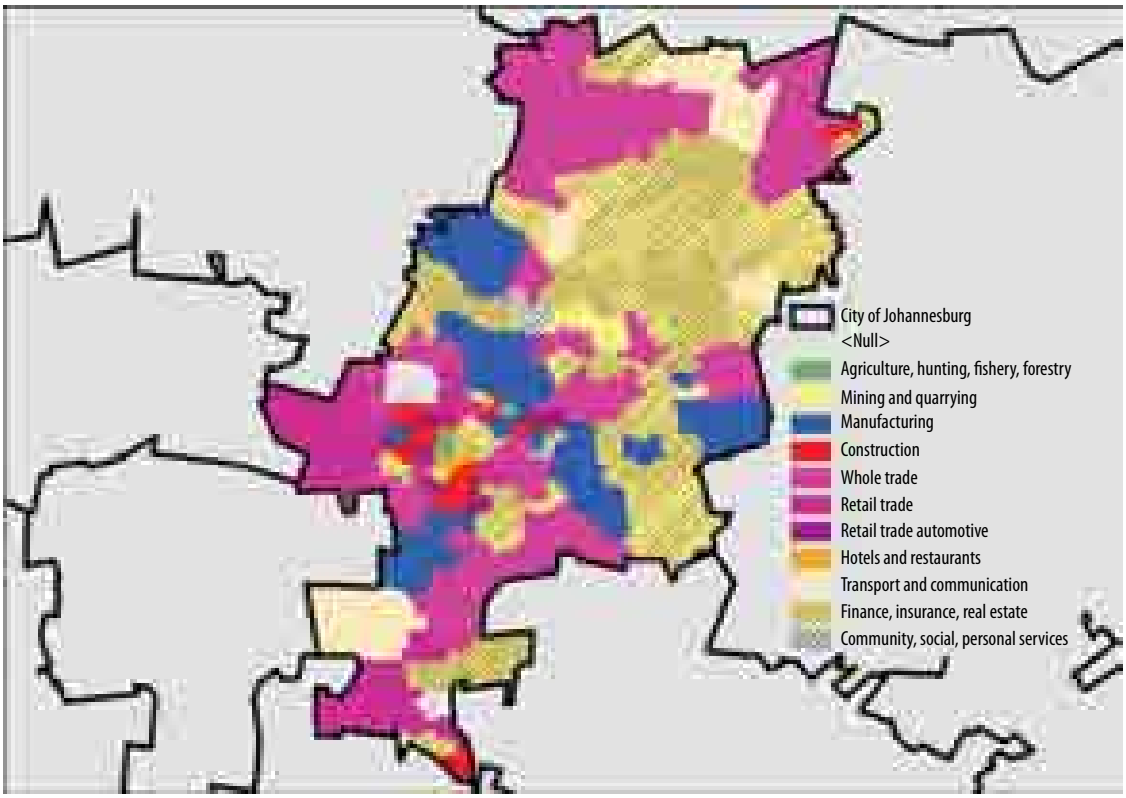
2 "Distance" is used here in an economic sense rather than in respect of physical distance. Economic distance measures how "easily capital flows, labour moves, goods are transported and services are delivered between two locations" (World Bank, 2009).

3 City region is defined as the grouping together of local government boundaries that have broadly aligned economic activities and settlement concentrations.

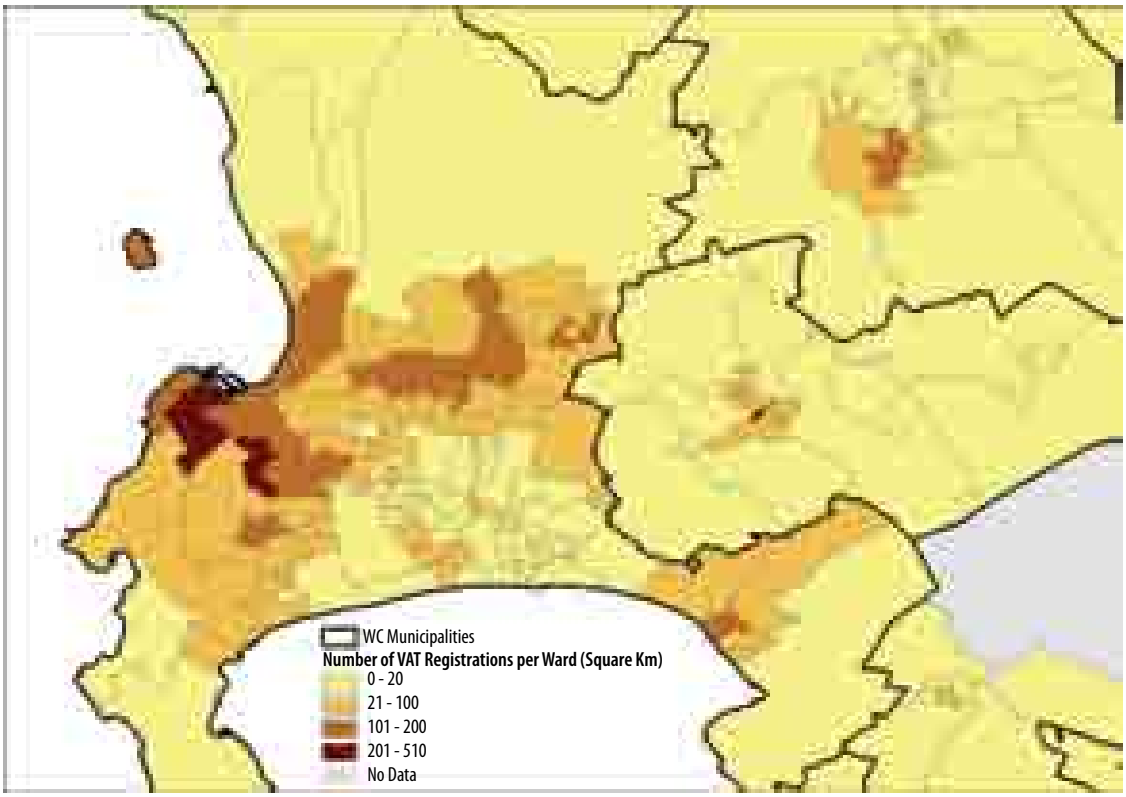
4 For instance, the Gauteng City Region Observatory (GCRO) has mapped the distribution of businesses across Gauteng and the number of business per km^2 within Johannesburg for 2010. This provides a detailed spatial mapping of formal business activity for that particular year. However, as the data was purchased from AfriGIS, a private sector technology innovation company that provides geographically coded firm-level data (see https://www.afrigis.co.za/), it is not freely publicly available. It also does not capture trends, as a new dataset is released each quarter, given that AfriGIS obtains the data from a credit bureau and releases a geocoded version on a quarterly basis (Harrison et al., 2014; AfriGIS, 2015).

Figure 3.1: Johannesburg's VAT registrations (March 2014–February 2015)



Source: Laldaparsad (2015) from Stats SA Business Register

Figure 3.2: Cape Town's VAT registrations (March 2014–February 2015)



Source: Laldaparsad (2015) from Stats SA Business Register

THE ECONOMIC ROLE AND PERFORMANCE OF SOUTH AFRICA'S CITIES

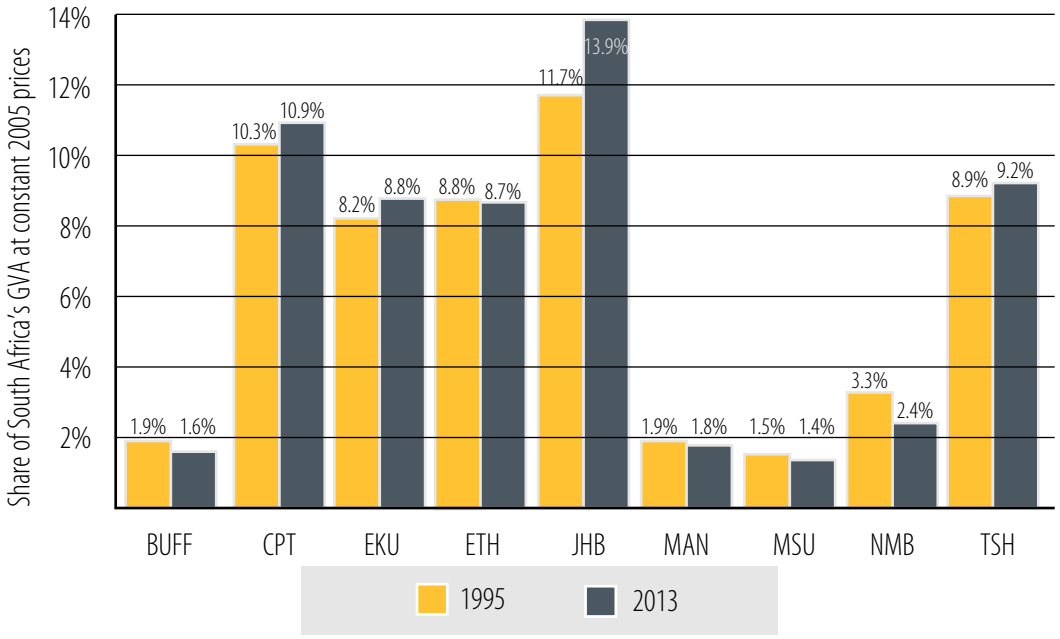
The economic role and performance of the nine cities were examined over an 18-year period (1995 to 2013[5]) using city economic indicator data.[6]

City economic activity

Over the past two decades, South Africa's economy has become increasingly geographically concentrated. The nine SACN member cities now account for 58.7% of South Africa's gross value added (GVA), which is a measure of economic activity at the city or regional level. As Figure 3.3 shows, the nine cities fall into two sub-groups:

- Five large cities (Johannesburg, Cape Town, Tshwane, Ekurhuleni and eThekwini) that dominate the national economy, are home to 35% of South Africa's people and generally have diversified economies.
- Four smaller cities (Nelson Mandela Bay, Mangaung, Buffalo City and Msunduzi) that serve as regional economic hubs and tend to have a smaller economic base, which is more at risk from volatile global and domestic economic forces.

Figure 3.3: City contributions to South Africa's total economic output (1995 and 2013)



Source: Quantec Research (2015)

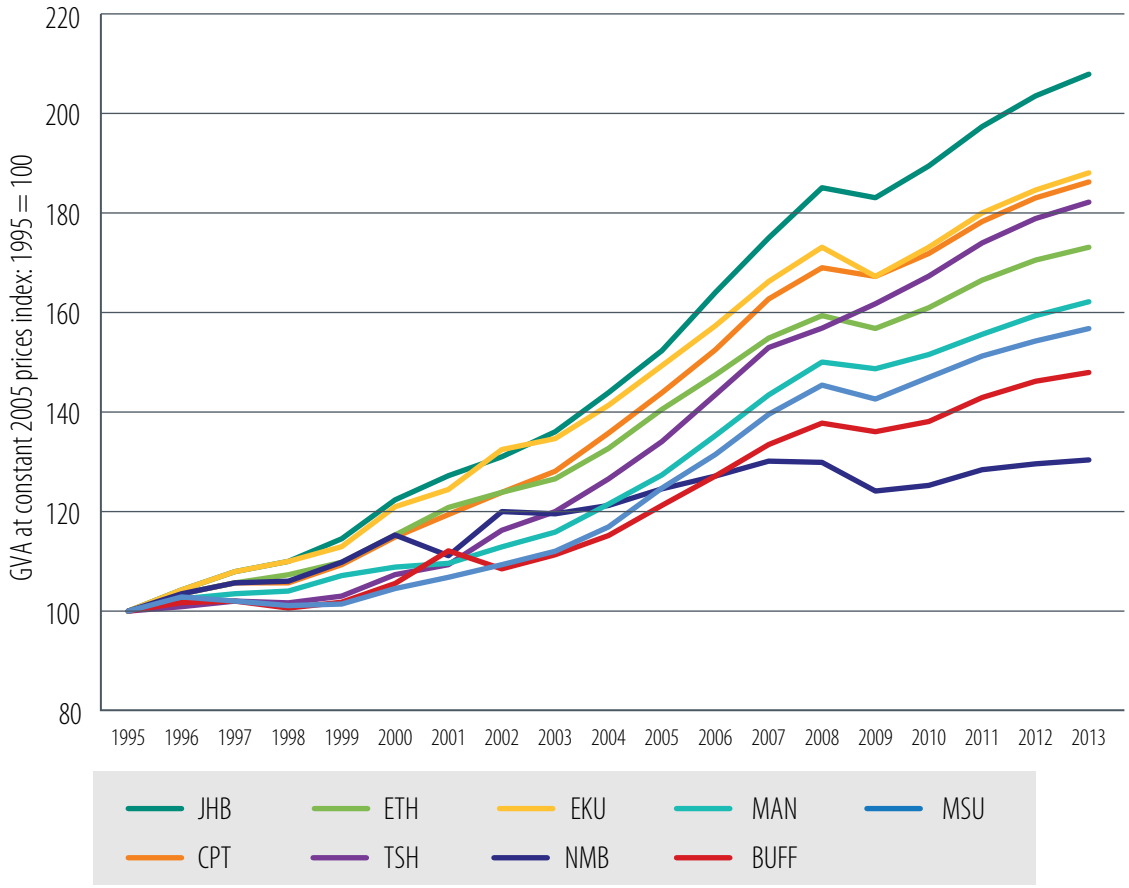
5 While the initial period of review is the 20-year period 1994 to 2014, Quantec Research data was only available from 1995 to 2013.

6 The main data source used is Quantec Research's standardised regional database. Quantec Research (Pty) Ltd is a South African-based consultancy providing economic and financial data and related country analysis. Its economic data covers a broad range of South Africa macroeconomic, industry, trade and regional indicator data. The Quantec Research regional database combines primary source regional data in a standardised form, a long-term demographic model of South Africa and other socioeconomic national and regional benchmark time series. As Stats SA only publishes economic data at the provincial level, the economic data in Quantec Research's standardised regional database is modelled as an economic time series rather than primary source data. Quantec Research does not publish the detailed methodologies used to estimate its regional economic time series. This has led to certain critiques of the credibility and use of the data. However, in the absence of official municipal level economic time series, economic analysis of city economic performance has to rely on private sector data service providers, such as Quantec Research and IHS Global Insight. Given the limited information available on the private sector data providers modelling techniques, economists differ as to the merits of using Quantec Research versus IHS Global Insight regional economic time series data.

- The Gauteng City Region is clearly the country's economic heartland, with Johannesburg, Tshwane and Ekurhuleni accounting for a third (31.9%) of national economic activity (GVA), while Cape Town (10.9%) and eThekwini (8.7%) are significant urban economic drivers.
- The four smaller cities are distant but still important regional hubs, contributing between 1.4% and 2.4% of South Africa's output.
- Since 1995, four cities have increased their share of South Africa's GVA: Johannesburg (11.7% to 13.9%), Cape Town (10.3% to 10.9%), Tshwane (8.9% to 9.2%) and Ekurhuleni (8.2% to 8.8%), but the shares of eThekwini and all the smaller metros declined.
- Particularly worrisome for the Eastern Cape region is the lacklustre performance and continued slippage of Nelson Mandela Bay, whose share of South Africa's total GVA declined from 3.3% in 1995 to 2.4% in 2013.

Figure 3.4 shows city growth in economic activity (GVA) since 1995. The impact of the global and domestic recession from 2008 is very apparent, while lagging business confidence underlies the sinking of growth performance between 2010 and 2013.

Figure 3.4: City growth in GVA (1995 to 2013)



Source: Quantec Research (2015)

Note: The city and South African GVA time series are indexed to 100 in 1995 (that is set to a base value of 100 in 1995), so that the y-values on the graph show percentage change in GVA or GVA growth since 1995.

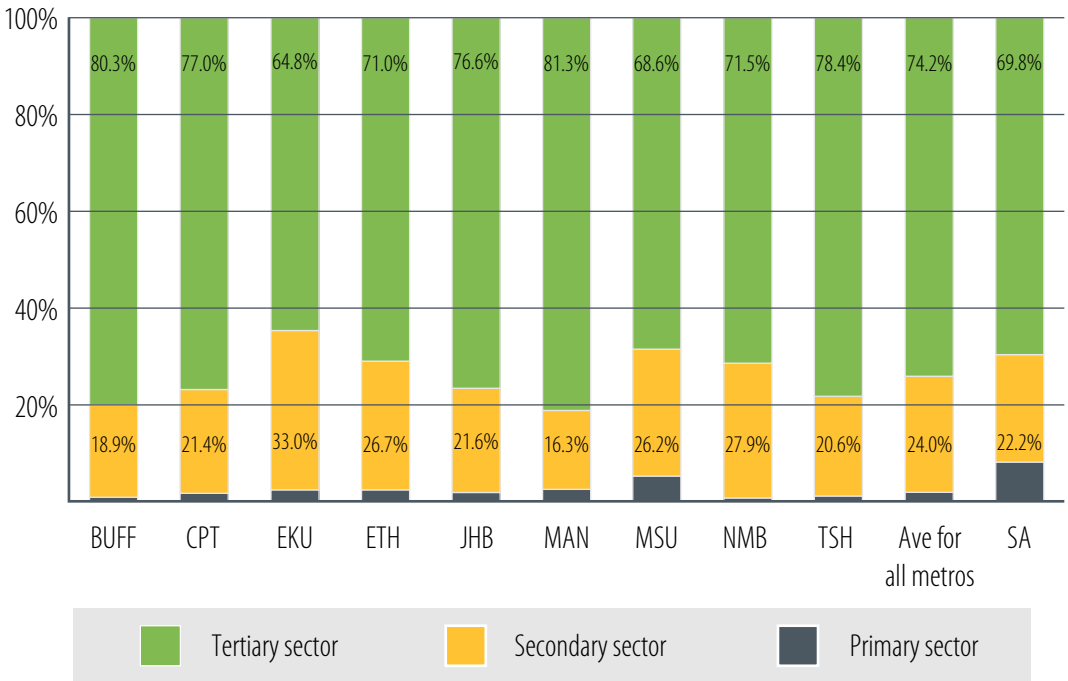
- Johannesburg is South Africa's largest and fastest-growing city economy, and from 2005 has outpaced the other larger cities.
- Between 2010 and 2013, the Gauteng cities led economic growth performance: Johannesburg's GVA grew by 3.2% a year on average, followed by Tshwane at 2.9% and Ekurhuleni at 2.8%.
- During the same period, Cape Town's GVA was 2.7% and eThekwini's 2.5% a year.
- Nelson Mandela Bay's GVA grew by a mere 1.3% a year on average, while Mangaung (2.3%), Buffalo City (2.3%), and Msunduzi (2.2%) performed slightly better.

These aggregate figures do not show the unequal ways that this growth manifests at a sub-city level as shown in Chapter 1 ("Population is concentrating in city cores and economic nodes").

City economic structure

Tertiary services drive city economies and in 2013 made up almost three-quarters (74.2%) of the cities' combined economic base, a higher proportion than the national average (69.8%), and accounted for almost four-fifths (79.3%) of total city employment (Figure 3.5). The secondary or production sector accounted for less than a quarter (22.2%) of total city economic activity, and only 18.3% of employment.

Figure 3.5: Economic sector share of city GVA (2013)



Source: Quantec Research (2015)

- Over a third of GVA in Johannesburg (33.6%) and Cape Town (35.8%) comes from financial and business services, confirming the cities' status as the country's financial and business service hubs.
- In Tshwane, the seat of national government, not surprisingly the largest contribution comes from general government (26.3%), followed by financial and business services (25.7%).
- Home to OR Tambo International Airport, Ekurhuleni's importance as a transportation and logistics hub in the Gauteng City Region is reflected in the predominance of transport and communication (26.3%) and manufacturing (27.2%).

The argument that manufacturing is important for achieving higher rates of economic growth and job creation assumes that manufacturing (and industry more generally) has much higher output and employment multipliers than tertiary services. It also assumes that a diversified manufacturing base can use a wide spectrum of skill levels and stimulate employment across the economy, by developing upstream and downstream industries (Zalk, 2014). However, the story is more complex, as critical linkages and interdependencies are found between manufacturing and services. Services also have fewer import leakages and potentially higher output and employment multipliers than manufacturing (Lockwood, 2013). Having said that, South Africa's domestic market and global reach are not large enough to enable services alone to drive economic growth and employment. Therefore, growth in manufacturing is still important and can absorb semi-skilled labour. In contrast, services contribute to the upgrading or "professionalisation" of those who are employed, with strong growth in high-income professional and managerial jobs and middle-income clerical and sales jobs, but weaker growth in middle-income skilled and semi-skilled manual jobs (Crankshaw, 2012).

Are South African cities "deindustrialising"?

An often-asked question is whether South African cities are "deindustrialising". Deindustrialisation occurs when employment in manufacturing falls as a share of total employment, which often appears to mirror a decline in manufacturing's contribution to economic output (Rowthorn and Ramaswamy, 1997). However, the decline (in employment and economic contribution) may be relative, not absolute.

The manufacturing sector's performance has been lacklustre across all nine cities, with particular evidence of deindustrialisation in Cape Town and eThekwini. Between 2003 and 2013, the secondary sector declined from 25.7% to 24%, while manufacturing declined from 20.9% to 14.6%. Of concern is the relative decline in South Africa's traditional manufacturing hubs. Yet, although manufacturing's *share* of the economic output fell in eThekwini (from 25% to 21.7%), in Ekurhuleni (from 30.4% to 27.2%) and in Nelson Mandela Bay (from 26.1% to 24.2%), manufacturing *output* has not declined in any of the nine cities.

The employment story is less positive. Both Cape Town and eThekwini experienced absolute losses in secondary and manufacturing sector employment. For the nine cities together, the sector's contribution to total employment declined from 21.8% in 2003 to 18.4% in 2013, while manufacturing declined from 15.5% to 11.2% of total employment. Over the same 10-year period, manufacturing's share of employment fell in eThekwini (from 18.4% to 11.6%), Ekurhuleni (from 19.3% to 15.3%) and Nelson Mandela Bay (from 16.9% to 13.1%).

Nevertheless, recent economic foresight reports suggest that manufacturing, in particular high value-added automotive, industrial machinery and equipment, and chemical industries, still holds considerable opportunity for growth and employment, given improvements in innovation and productivity. Further suggested priorities include stepping up exports in construction services (design, construction management and maintenance services) and in financial services (wholesale and retail banking and insurance), particularly to fast-growing sub-Saharan African cities.

PRELIMINARY REFLECTIONS: 2014/15 eThekwini medium and large manufacturing firm survey

Despite having a strong manufacturing base, eThekwini's manufacturing sector has lost a lot of ground over the past 15 years. Between 2000 and 2013, manufacturing's contribution to eThekwini's economic output declined by 5.4%, from 27.1% to 21.7%, and manufacturing's share of total city employment dropped by 7.1%, from 18.7% to 11.6%.

In 2014 eThekwini undertook a manufacturing survey of large- and medium-sized firms to understand the underlying trends and challenges facing the manufacturing sector. It was a repeat of the World Bank-supported manufacturing survey done in 2002 and carried out in partnership with the provincial Department of Economic Development, Tourism and Environment, the UK Department for International Development and the University of KwaZulu-Natal. The survey found that between 2002 and 2014, iron and steel producers had increased dramatically, but almost all other manufacturing subsectors had declined. Constraints facing manufacturing growth in eThekwini included locational and supply-side, issues such as electricity costs, skill constraints, and poor transport infrastructure (Robbins & Velia, 2015).

Top constraints in Greater Durban Manufacturing Area (2002 study)	Top constraints in eThekwini (2014 survey)
Crime and theft (83%)	Markets dominated by established firms (86.5%)
Currency volatility (77%)	Low rates of economic growth in SA (86.5%)
HIV/Aids (73%)	Cost of energy (86%)
Corruption in government (65%)	Availability of technical/vocational labour skills (80%)
Changes in government policy (62%)	Transport infrastructure and quality (80%)
	Energy provision and quality (76%)

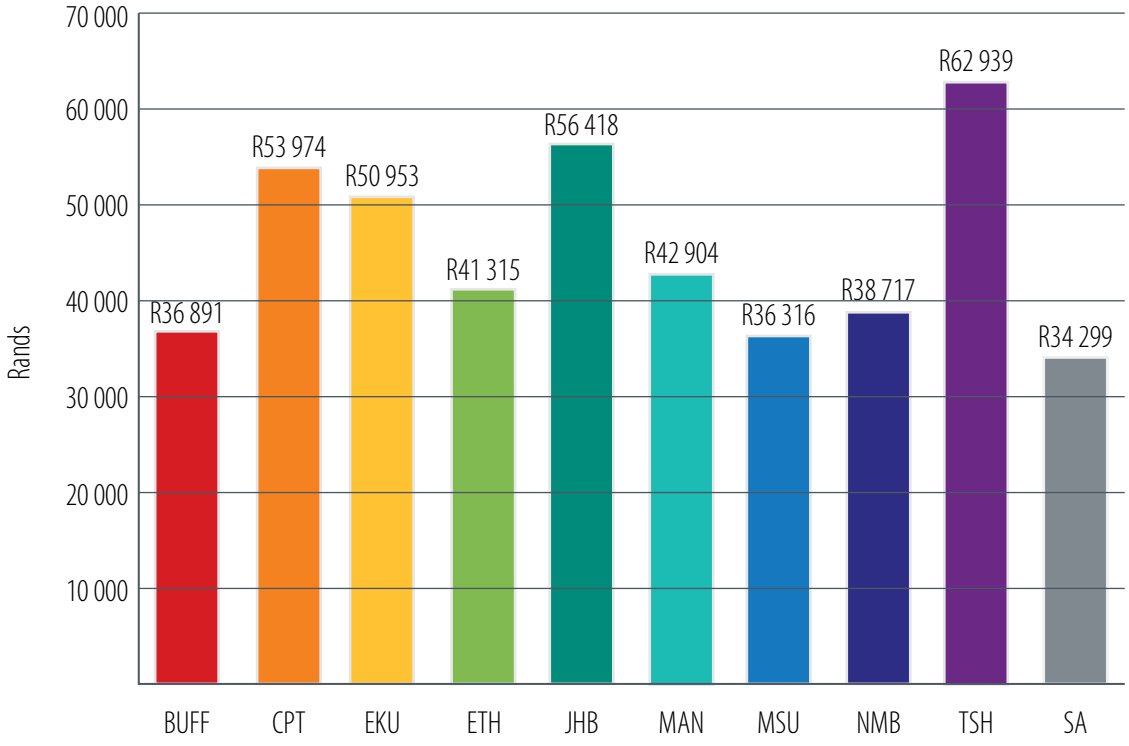
Source: Robbins and Velia (2015)

City population and average incomes[7]

Changes in the city's economic performance and population affect per capita income. Nearly two-thirds of South Africa's population of 53 million now live in cities. Although urbanisation is on the increase, not all cities are growing at the same pace. The majority of people move to the larger cities in the Gauteng City Region, to Cape Town and to eThekwini because of the perception that these cities offer the best chance of work and a better life.

Between 2003 and 2013, Tshwane experienced the largest growth in population (26.9%), followed by Johannesburg (26.3%), Cape Town (21.6%), Ekhuruleni (19.9%), and eThekwini (15.8%). In 2013, over 35% (18.3 million people) called one of the five largest cities their home: 21% (10.9 million people) in the Gauteng conurbation, 7% (3.9 million people) in Cape Town and 6.6% (3.5 million people) in eThekwini. Figure 3.6 shows the per capita income for 2013.

Figure 3.6: Per capita income or real GVA per capita (2013)



Source: Quantec Research (2015)

- The nine cities combined have a higher average per capita income than the rest of South Africa as a whole, with the average incomes of the three Gauteng cities and Cape Town higher than those of the other cities.

7 Real GVA per capita is used as a proxy for average incomes in an area before transfer payments (e.g. government's social security grants).

- In the last five years, Tshwane's average annual per capita income (1.3%) grew at almost double the average national rate (0.7%).
- The concentration of public sector employees in Tshwane explains why it was the only city that did not experience a decline in real GVA per capita following the global recession. In the other cities (apart from Nelson Mandela Bay), average per capita incomes only recovered to pre-crisis levels in 2011 and 2012.
- In Nelson Mandela Bay, per capita income declined by an average of 0.4% a year between 2008 and 2013, reflecting weak economic performance.

City employment and unemployment

The availability of employment in a city is a key measure of its economic success and inclusion. While all cities in South Africa face the challenge of creating jobs for the increasing numbers of work-seekers, the task is particularly acute in the larger cities that attract the majority of economic migrants. These cities have labour force participation rates[8] that are much higher than the national average of 59.3%. In 2013, the rate was highest in Johannesburg (75%), followed by Tshwane (73.6%), Cape Town (72.4%) and Ekurhuleni (71.4%). The smaller cities might have lower labour force participation rates – Mangaung (65.7%), Nelson Mandela Bay (62.7%), Buffalo City (61%) – but were above the national average with the exception of Msunduzi (56.3%). Of note is eThekwini, which has a much lower labour force participation rate (59.4%) than most of the other cities, as a result of its steady decline in the period after the 2008 recession.[9]

The 2008 economic downturn has had a long-lasting effect on the labour market. South Africa's formal employment participation rate[10] declined from 35.5% in 2007 to 34.6% in 2008 and continued to fall, reaching 31.3% by 2013. Despite the relative economic strength of the large cities, their average formal employment participation rate also declined, from 44.1% in 2003 to 42.9% in 2008 and 39% in 2013. These trends are evidence of the acceleration in retrenchments leading up to the recession and sluggish job creation following the recession (von Fintel and Burger, 2010). The impact is also seen in informal employment participation rates.[11] At the start of the recession, informal employment participation rates rose in all cities, with the average rate increasing from 12.4% to 15.2% in 2008. It then declined to 13.9% in 2011 but increased to 15.1% in 2013. Among the large cities, eThekwini has the highest informal employment participation rate (15.9%), followed closely by Johannesburg (15.8%) and Tshwane (15.2%); Cape Town trails at only 13.3%. Of interest is Buffalo City's higher rate of 16.7% and Nelson Mandela Bay's rate of 15.9%.

8 The labour force participation rate is the percentage of the population of working age (15 to 65 years) who are economically active; that is, they are willing and able to work (Mohr, 1998).

9 This is most likely the result of an increase in discouraged work-seekers, as well as the growth in the non-economically active population, but requires further research, given that such data is not yet available at the metropolitan level.

10 The *formal employment participation rate* is defined as the percentage of the working age population (15 years to 65 years) who are formally employed.

11 Similarly, the *informal participation rate* is defined as the percentage of the working age population (15 years to 65 years) who are informally employed.

Similarly, the average city unemployment[12] rate (using the narrow or official definition) fell from a high of 26.8% in 2003 to 20% in 2008, reaching 23.3% in 2013. In 2013, unemployment was highest in Ekurhuleni (27.8%), Nelson Mandela Bay (26.8%), Johannesburg (25.4%) and Cape Town (25%). eThekwini's lower rate of unemployment (16.1%) is mainly because of its low labour force participation.

The Quarterly Labour Force Survey publishes both the narrow or official rate of unemployment and the expanded rate of unemployment for metropolitan municipalities. Table 3.1 shows these rates for Quarter 2 in 2015.

Table 3.1: Narrow and expanded unemployment rate (Q2 2015)

Unemployment (Q2 2015)	Narrow	Expanded
	%	
Mangaung	29.0	36.7
Tshwane	27.4	35.9
Ekhuruleni	29.4	34.4
Johannesburg	26.2	28.7
Nelson Mandela Bay	33.2	33.2
Buffalo City	28.8	33.2
eThekwini	16.5	26.3
Cape Town	22.6	23.9
South Africa	**25.0**	**34.9**

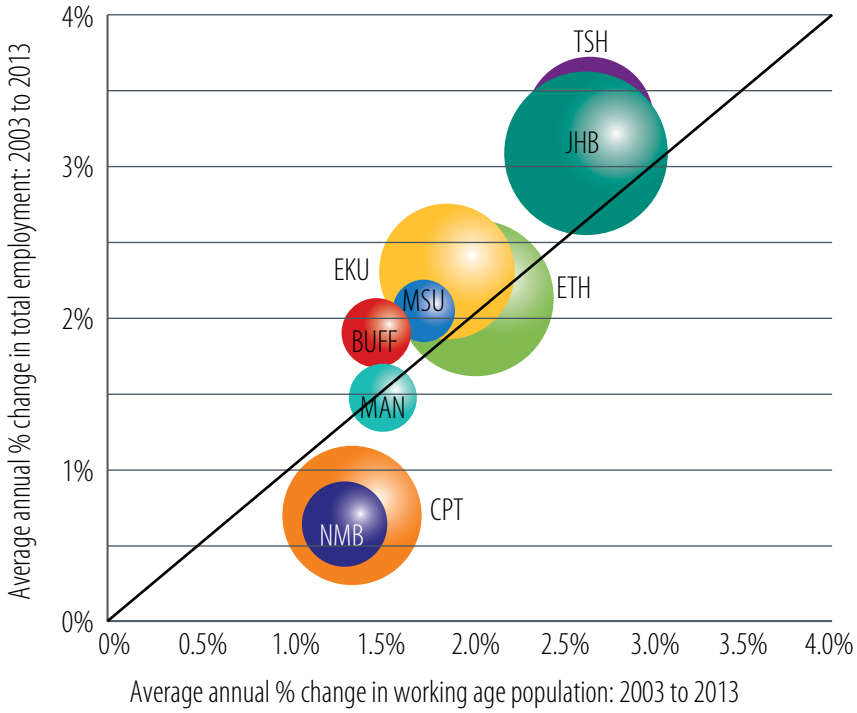
Source: Stats SA (2015)

Among the large cities, the Gauteng cities had the highest rates of expanded unemployment, with Tshwane (35.9%) and Ekurhuleni (34.4%) experiencing similar rates to the national average (34.9%). Of interest is eThekwini's expanded rate of unemployment (26.3%), which is much higher than its narrow rate of unemployment (16.5%). This most likely reflects the sizable numbers of discouraged work-seekers in the city.

12 Statistics South Africa draws on two definitions of unemployment. The *narrow* or *official definition of unemployment* refers to those within the economically active population (i.e. aged 15 to 65 years) who (i) did not work in the seven days before the interview, (ii) want to work and are available to start within two weeks of the interview, and (iii) have taken active steps to find work or to start a form of self-employment in the four weeks before the interview. This definition of employment was formulated by the International Labour Organisation and is generally used in international comparisons of unemployment in more developed economies. In contrast, the *expanded definition of unemployment* excludes the last requirement – i.e. those who have taken active steps to find work or to start a form of self-employment in the four weeks before the interview. This was because either no jobs were available in the area, or they were unable to find jobs requiring their skills, or they had lost hope of finding any kind of job (Mohr, 1998; Stats SA, 2015).

Figure 3.7 shows the average labour absorption rate for the cities over the period 2003–2013. If the average annual change in total employment (formal and informal) is greater than the average change in working age (15–65 years) population, the cities are absorbing labour and are positioned above the diagonal line, i.e., Tshwane, Johannesburg, Ekurhuleni, Buffalo City and Msunduzi. Cities that are not absorbing their growing working population into either formal or informal employment are positioned below the diagonal line, i.e. Cape Town, Nelson Mandela Bay and eThekwini.

Figure 3.7: Cities labour absorption rate (2003–2013)

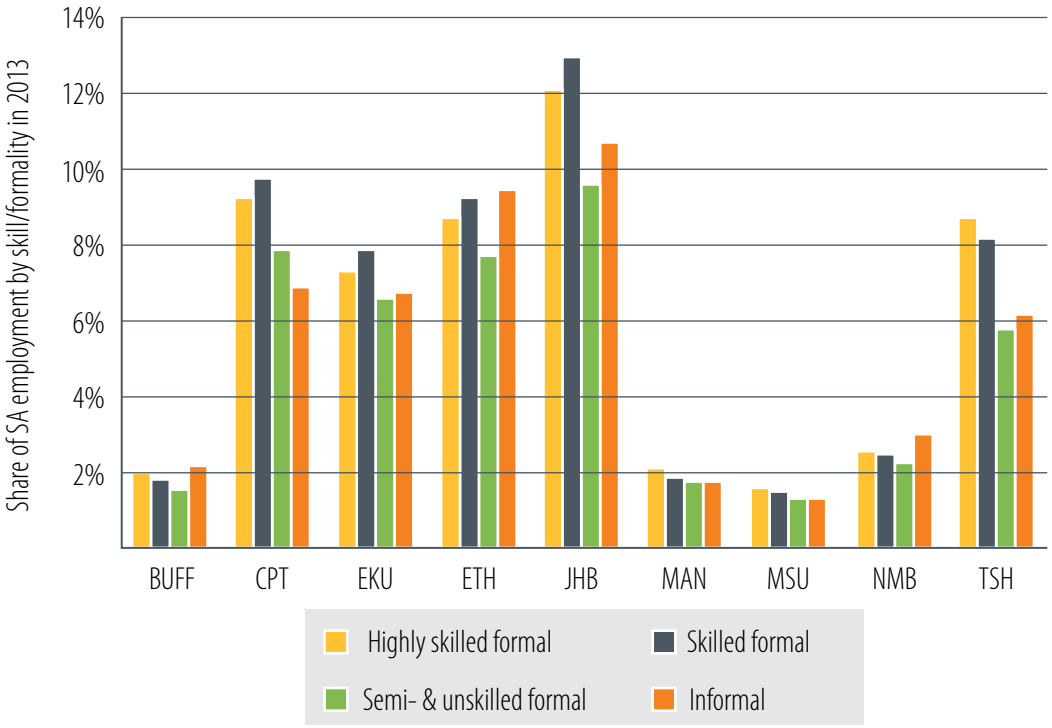


Source: Quantec Research (2015)

On the employment front, the five largest cities account for almost half (43%) of all employment in South Africa: Johannesburg with 11.3% of all employment, following by eThekwini (8.8%), Cape Town (8.4%), Ekurhuleni (7.1%) and Tshwane (7.9%).

However, not all jobs are the same, as they differ in level of skill and formality, and offer different opportunities and returns. Figure 3.8 illustrates employment across all levels of skill and formality for the five larger cities. Skill intensities are noticeably higher in Cape Town, Johannesburg and Tshwane, where the proportion of highly skilled and skilled formal employment is higher than that of semi-skilled and unskilled employment.

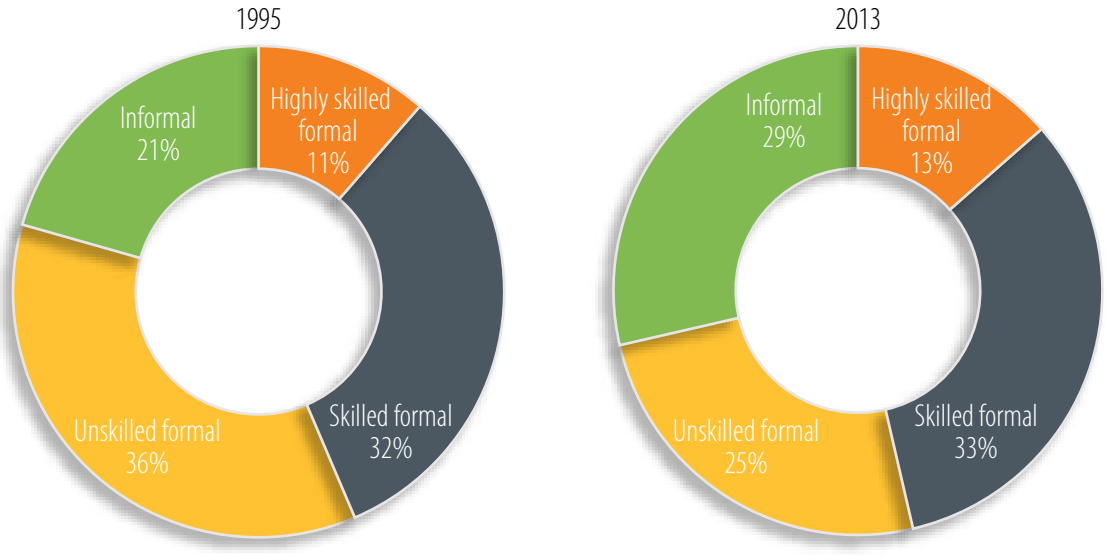
Figure 3.8: City share of South Africa's employment by skill and formality (2013)



Source: Quantec Research (2015)

Between 1995 and 2013, informal work increased from 21% to 29% of average city employment, while unskilled formal work declined from 36% to 25% (Figure 3.9). At the same time, the share of highly skilled and skilled formal jobs increased, which points to the main reason for the widening income inequality over the past two decades.

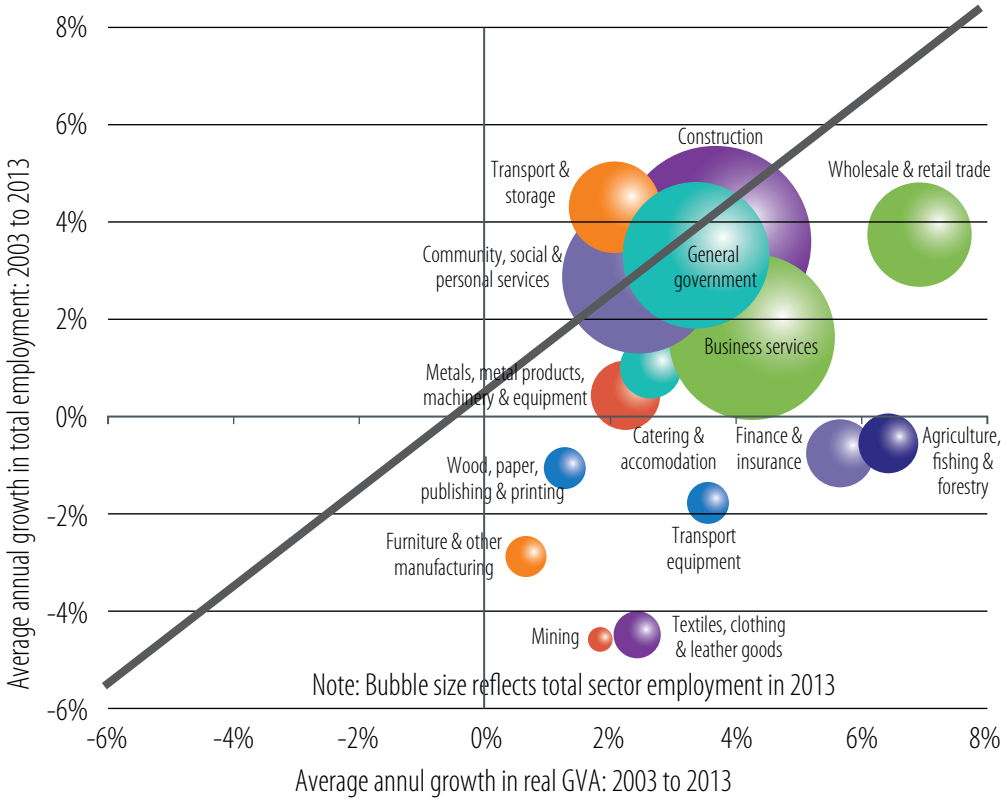
Figure 3.9: City average share of South Africa's employment by skill and formality (1995 and 2013)



Source: Quantec Research (2015)

Over the last 10 years, at a sectoral level, jobs have been created in transport and storage (4.4%), wholesale and retail trade (3.7%), construction (3.7%), general government (3.2%), electricity (3.2%), and community and personal services (2.8%). Only the transport and storage, and electricity sectors show evidence of increased labour intensity, i.e. employment in the sector is growing faster than output. Over the same period, jobs have been lost in mining (4.6%), clothing and textiles (4.5%), furniture and other manufacturing (2.9%), and transport equipment (1.8%). The declining labour intensity across the board is a worrying factor. Figure 3.10 shows these trends graphically: sectors with increasing labour intensity are shown above the line, and the size of the bubble reflects total sector employment in 2013.

Figure 3.10: City economic sectors experiencing increasing and decreasing labour intensity (2003–2013)

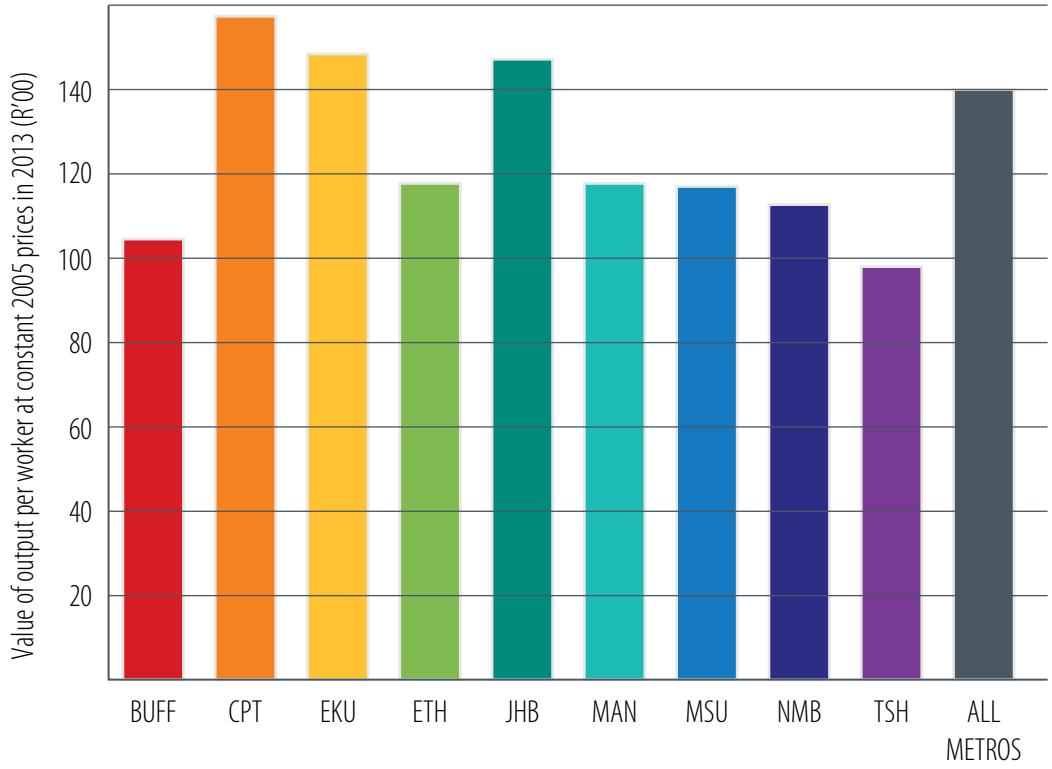


Source: Quantec Research (2015)

City productivity

Productivity, or the value of economic output produced per worker, is a key determinant of long-term economic performance and average incomes. Said simply, the more value each worker is able to produce, the higher the average incomes.

Figure 3.11: Labour productivity or value of output per worker at constant 2005 prices (2013)



Source: Quantec Research (2015)

As Figure 3.11 illustrates, Cape Town (R157,221), Ekurhuleni (R147,963) and Johannesburg (R147,140) have higher average productivity than South Africa as a whole. Productivity levels in eThekwini (R117,483) are at a similar level to Mangaung (R117,495) and the other smaller cities.

KEY DRIVERS OF CITY ECONOMIC SUCCESS, RESILIENCE AND INCLUSION

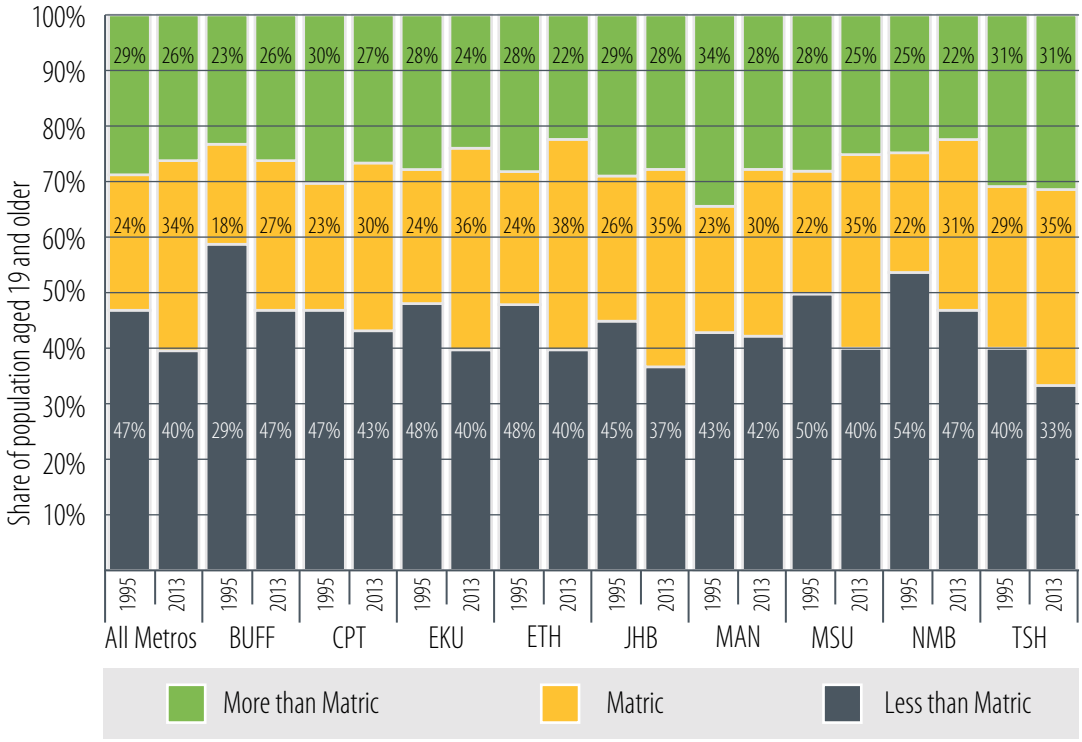
Education (human capital), innovation and investment (in infrastructure) are key drivers of city economic and competitive success. They can help to understand city economic dynamism and future prospects.

Education at city level

In an era of expertise where earnings are linked to knowledge and skills, the returns on education, especially secondary and higher education, are growing (Glaeser, 2011). Skills and knowledge capabilities are critical drivers of city economic success and a key aspect of locational advantage (Kruss et al., 2010).

There is a marked correlation between education and economic prosperity, as skilled workers become more productive when they work among other skilled people (Glaeser, 2011). Furthermore, the growing sectors of the economy are knowledge intensive and require skills, which means that in many cases, matric is the minimum educational threshold for access to formal sector employment. The returns on schooling also increase dramatically for people who go on to achieve further or higher education qualifications (CSIR and Economic Rise Consulting, 2008).

Figure 3.12: Changes in the education composition of city populations aged 19+ years (1995 and 2013)



Source: Quantec Research (2015)

As Figure 3.12 shows, between 1995 and 2013 the proportion of population aged 19+ years that achieved Grade 12 or a matriculation certificate increased from less than a quarter (24%) to just over a third (34%). However, despite 17 of South Africa's 23 higher education institutions being concentrated in the nine cities, the proportion of population with an educational qualification higher than matriculation declined slightly, from 29% in 1995 to 26% in 2013.

Estimating the improvement in secondary schooling is difficult because of changes to the curriculum and criteria for passing matric, but the persistently high drop-out rates in tertiary education and training suggests that this improvement may not provide an adequate foundation for developing workforce skills. While schools in South Africa's larger cities tend to perform well relative to national trends, the quality of schooling (i.e., the learning and skills provided, particularly numeracy and literacy) is lower compared with international peers in developing and developed countries (Kruss et al., 2010).

At the higher education level, more graduates are studying business, management, the humanities and education than science and technology, design and engineering, which are the fields with critical skills and capability gaps. The high student attrition and low graduation rates also raise concerns that higher education outputs are not able to support city and national economic development and inclusive growth targets. City governments have already been involved in addressing the quality and performance at tertiary education institutions, and further collaboration between firms and higher education institutions is needed to ensure the appropriate supply of graduates in disciplines that are in high demand from firms. Such collaboration would also enable scientific excellence in universities to match the technological needs of firms, enhance firm-level competitiveness and contribute to greater city economic success and inclusion (Kruss et al., 2010).

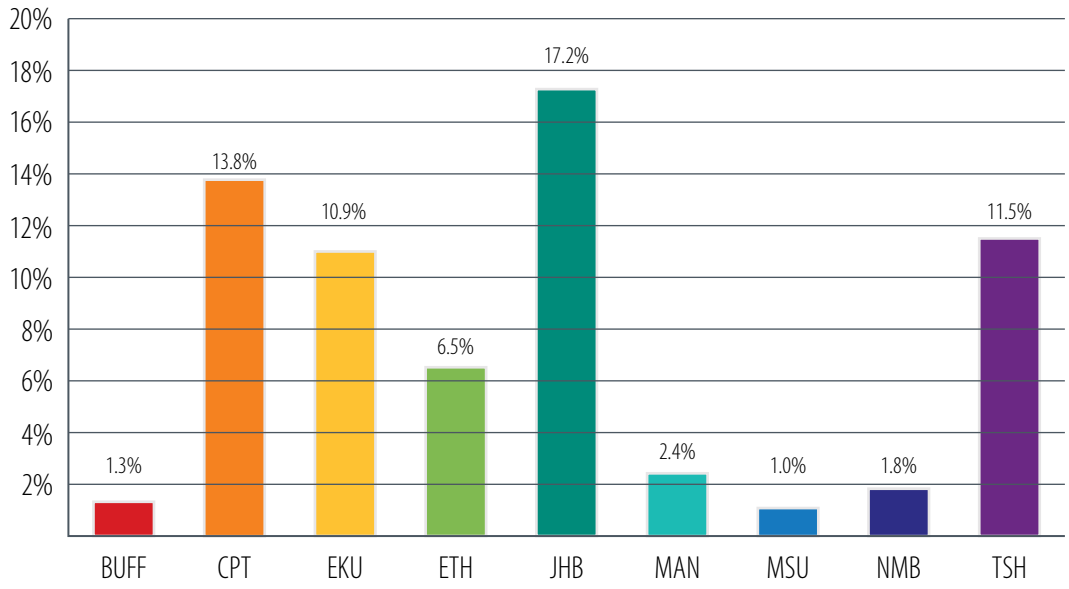
Innovation at city level

Throughout history, cities have been the gateway to ideas and innovation. Dense urban spaces encourage greater interactions and conversations that lead to innovation. Innovation is a key determinant of economic competitiveness and resilience, enabling cities to adapt to economic developments and changes in technology and global demand (Lorentzen, 2010). Innovative activities include knowledge inputs or research and development (R&D), which is commonly measured by investment in R&D and R&D spending per capita, knowledge outputs (publications and patents) and the use of new knowledge (patents absorbed through licencing).

In 2012/13, South Africa's R&D investment increased to R23.9-billion, a real increase of 2.6% since 2011/12. This maintains the country's R&D spending at 0.76% of gross domestic product (GDP), which is still below the global average of 1.8% and the OECD average of 2.4% (CESTII, 2014). In 2012 the main contributors to R&D investment at sectoral level were government (45.4%) and business (38.3%). Just under half of total government funding for R&D went to higher education, and 43% went to government institutions, including science councils. Two-thirds of business R&D is in the financial and business services (35%) and the manufacturing (31%) sectors (CESTII, 2014).

At the city level, the three Gauteng cities and Cape Town spent more on R&D, based on GVA weights (Figure 3.13) than the other cities. These cities also produced the majority of scientific excellence in the country (as measured by science and engineering articles per million of population) and registered the highest number of domestic and international patents (Lorentzen et al., 2009).

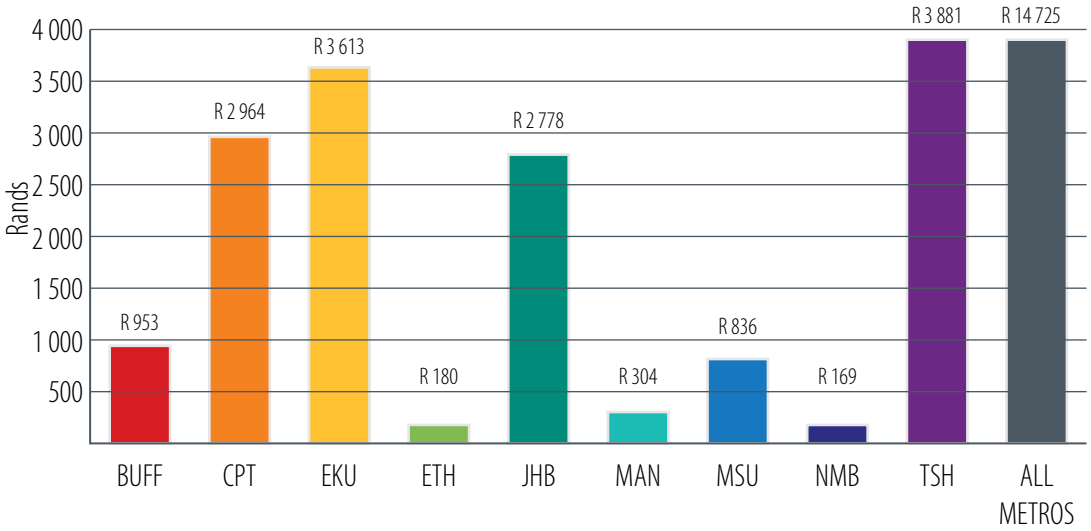
Figure 3.13: Estimated city share of gross expenditure on R&D based on GVA weights (2012)



Source: Quantec Research (2015)

However, when the city gross expenditure on R&D is weighted by the city's population, a different picture emerges (Figure 3.14).

Figure 3.14: Estimated city gross expenditure on R&D based on population weights (2012)



Source: Quantec Research (2015)

In 2012, Tshwane spent the most on R&D, followed by Ekurhuleni, Cape Town and Johannesburg. Nelson Mandela Bay spent the least of all the cities, equivalent to just 4% of what Tshwane spent per person. This is certainly an important contributing factor to the listless economic activity in South Africa's eastern metropole.

Infrastructure investment at city level

Investing in social and economic infrastructure helps drive economic development. Within the context of rapid urbanisation, investing in good quality roads, public transport, freight logistics, energy supply, water and sanitation services, and electronic connectivity (mobile telephony and broadband) reduces the costs of doing business for firms and makes it easier for people to access jobs and economic opportunities. Similarly, access to good quality health and education services, and urban amenities underpin the social fabric and institutions that enhance city inclusion and resilience.

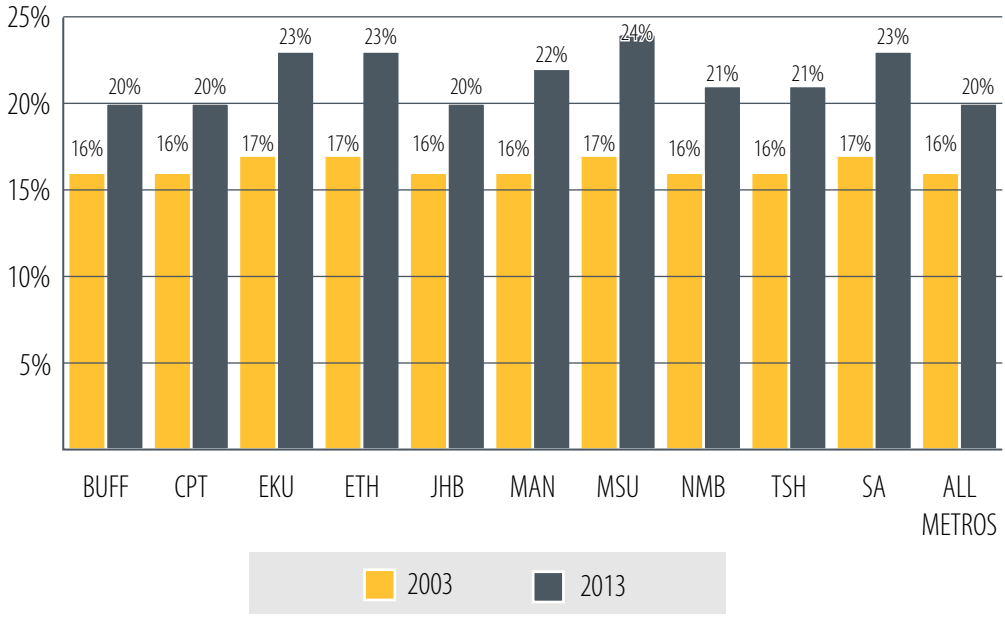
Gross fixed-capital formation (GFCF) is the broadest measure of investment used by economists. It spans private and public physical investment and includes land improvements (fence, ditches, drains, etc.); plant, machinery and equipment purchases; and the construction of roads, railways, schools, offices, hospital, private residential dwellings, and commercial and industrial buildings (World Bank, 2015a).

According to the National Development Plan (NDP), South Africa will need to ramp its investment rate to about 30% of GDP by 2030. The private sector spends the most on capital investment and so drives higher GCFC growth rates, but the public sector will also need to contribute fixed investment equivalent to around 10% of GDP on a sustained basis, primarily through the roll-out of its infrastructure programme (NPC, 2011; Investec, 2014).

In its latest Medium Term Expenditure Framework, government budgeted R813-billion for infrastructure, primarily transport, energy and water (National Treasury, 2015). At 7% of GDP, the budgeted public sector investment programme still falls short of the NDP target, while South Africa's overall fixed investment growth rate of 20% is well under the NDP target of 30% and international benchmark rates of 25% of GDP or above, needed to underpin sustained economic growth and development levels (Investec, 2014).

At city level, GFCF as a percentage of GVA may have increased since 2003 but remains considerably below the international benchmarks (Figure 3.15). In Ekurhuleni and eThekwini, GFCF was 23% of GVA, reflecting the greater manufacturing activity in these regions. The investment rates in the other large cities are well below the levels needed to accelerate economic activity: Johannesburg (20%), Tshwane (21%) and Cape Town (20%).

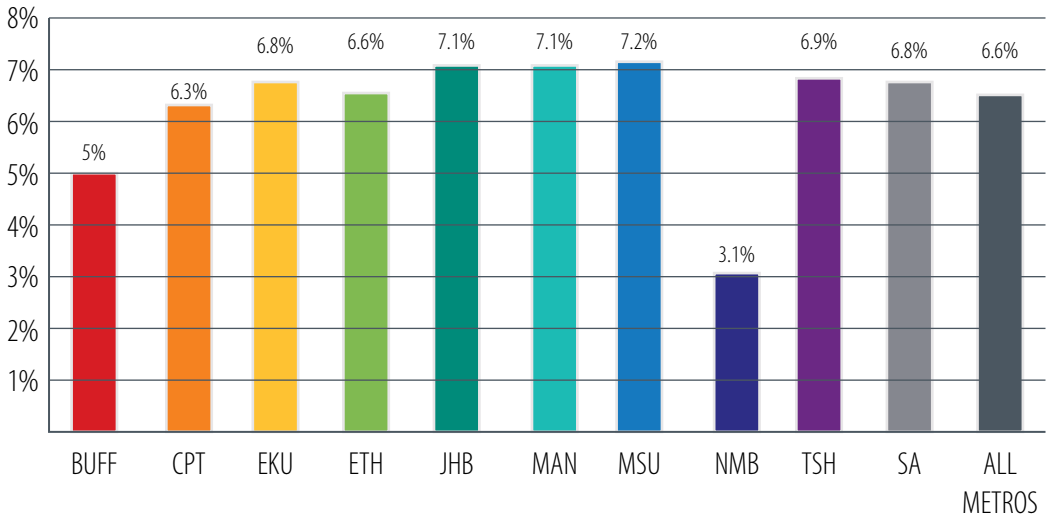
Figure 3.15: City gross fixed-capital formation (GFCF) as a percentage of GVA (2003 and 2013)



Source: Quantec Research (2015)

These investment rates may reflect declining business confidence, which has yet to recover to pre-2008 levels. The deteriorating business confidence across the economy, particularly in the construction and manufacturing sectors, has negative implications for investment, employment and economic growth. The rates also reflect the much lower public sector capital expenditure levels than the 10% of GDP required for the NDP targets, with capital expenditure in 2013 varying between 1.1% (Ekurhuleni) and 2.4% (eThekwini) of GVA. Nevertheless, as Figure 3.16 shows, real GFCF grew faster than the national average in Johannesburg (7.1%), Tshwane (6.9%), Msunduzi (7.2%) and Mangaung (7.1%). Unsurprisingly Buffalo City (5.0%) and Nelson Mandela Bay (3.1%) grew at well below the national average.

Figure 3.16: Annual growth in city real GFCF (2003–2013)



Source: Quantec Research (2015)

Implications for city economic success

Cities have higher levels of output, employment, income and productivity, and have the potential to lead South Africa's economic recovery through greater innovation, human capital and investment. The country's economy is mainly driven by the five larger cities, with the economies of the three Gauteng cities and Cape Town slightly stronger than eThekwini, although the economies of smaller four cities serve as important regional economic hubs. As such, the weak and deteriorating performance of Nelson Mandela Bay is of key concern to economic growth and employment prospects in the Eastern Cape region in particular.

The structure of South Africa's city economies is overwhelmingly dominated by tertiary services, with the secondary or productive sector contributing less than a quarter of total city economic activity and less than a fifth of employment. In the context of a weak employment environment, South Africa requires growth in both services and manufacturing to stimulate broad-based growth and job creation across the skills spectrum.

The large cities in particular have much higher labour force participation rates than the national average. However, although cities provide the most jobs, the 2008 economic downturn has had a severe effect on the urban labour market. Job losses during the recession and slow job creation in the recovery period that followed reduced formal employment rates, raised informal employment rates and contributed to higher levels of unemployment, particularly in the larger cities. These trends are particularly worrisome for exacerbating urban inequality and chronic social stresses, and reducing city inclusivity and resilience. The hardship of those who lose jobs and those who cannot find jobs will be felt by everyone in South Africa, including business and the wealthy.

Therefore, much more needs to be done to make city economies more competitive and productive, and capable of providing work and economic opportunities. The best way to enhance inclusion and resilience is to expand people's abilities to participate in the formal or informal economy. This means higher levels of investment and concerted efforts to improve the quality of education and training in order to stimulate productivity, innovation, entrepreneurship and self-employment. The business environment can be improved by increasing investment in city economic infrastructure (public transport, roads, freight logistics, energy supply and electronic connectivity) and ensuring greater accessibility to safe drinking water and sanitation services. These investments raise urban economic activity and enhance the long-term economic growth and development potential of cities.

SETTING CITIES UP TO LEAD ECONOMIC DEVELOPMENT

Cities are key stakeholders in South Africa's economy and critical to the country's future economic prospects (van Huyssteen et al., 2013). The Integrated Urban Development Framework (IUDF) recognises the significance of city economies and states that economic development should be at the core of city agendas (COGTA, 2014). This would be a practical expression of local government's economic

development role set out in the 1998 White Paper on Local Government and legislated in the Local Government Municipal Systems Act (No. 32 of 2000). What this means in practice is that city mayors will have to take personal responsibility for their city's high-level transversal (i.e. across sectors) economic growth and development strategy. Like the delivery agreements for the 12 Outcomes adopted at national level, city economic objectives, outputs, targets and indicators would then cascade downwards through the objectives and performance reporting of all city line departments.

Clear, bold city economic strategies will open up the debate on what role cities should play in the economy. Without an explicit constitutional mandate, local economic development has been viewed as an unfunded mandate and not a core responsibility of local government.[13] City economic strategies should consider all relevant levers across the entire economic system because economic development is more than just getting the spatial transformation elements right. City spatial form, human settlement and public transport interventions are important levers for productive cities, but need to work together with other economic development levers that cut across the broader public sector responsibilities, and private sector and other stakeholder contributions.

BUSINESS REGULATORY REFORM: *Doing Business in South Africa 2015*

In 2014, the National Treasury's City Support Programme (CSP) partnered with the Department of Trade and Industry (the dti), and the Swiss State Secretariat for Economic Affairs (SECO) to commission the World Bank's International Finance Corporation to undertake a sub-national Doing Business report covering nine of South Africa's largest cities (the eight metros and Msunduzi), using the approach and methodology of the World Bank's Doing Business Report. This flagship report assessed the business climate in the largest cities in 189 countries, based on surveys that generated 11 indicators relevant to the lifecycle of a small- to medium-sized formal domestic business. To date Johannesburg has been the sample city for South Africa.

Doing Business South Africa 2015 benchmarks the nine cities (Buffalo City, Cape Town, Ekurhuleni, eThekwini, Johannesburg, Mangaung, Msunduzi, Nelson Mandela Bay and Tshwane) and four maritime ports (Cape Town, Durban, Ngqura and Port Elizabeth) across six indicators: starting a business, dealing with construction permits, getting electricity, registering property, enforcing contracts and trading across borders.

The report finds that no city outperforms the others in all areas benchmarked: Ekurhuleni, Johannesburg and Tshwane lead in *starting a business*, Cape Town in *dealing with construction permits*, Mangaung in *getting electricity* and *enforcing contracts*, and Johannesburg in *registering property*. This implies that city governments could significantly improve their local and national business climate by replicating good practices already being used successfully in other cities in South Africa (World Bank, 2015b).

13 Nationally raised revenues are allocated to national, provincial and local government in terms of their constitutional mandates. While section 52(1)(c) of the Constitution confirms that social and economic development is a local government objective, schedules 4 and 5 do not explicitly include economic development as a core local government function that should benefit from nationally raised revenue.

Table 3.2: Doing Business in South Africa: Where is it easier?

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
eThekwini *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	83.86	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

Economic development levers

Table 3.3 attempts to categorise the economic development levers across national, provincial and city government competences, and extend them to the private sector and civil society. As mentioned above, cities can use various spatial and non-spatial levers to shape their economy. Examples include investing in infrastructure, strengthening land-use management instruments, and using zoning schemes or regulations related to the ease of doing business in a city (e.g. awarding business licences and informal trading permits, construction permits and registering property). Cities are also able to assist in developing business capabilities through private sector, cluster development and talent management programmes, as well as targeted support to small and even informal businesses (Turok et al., 2011; World Bank, 2015a).

Table 3.3: Key economic development levers across broad public sector and private sector competences

	Institutions & Regulations	Infrastructure	Skills & Innovation	Finance & Enterprise Development Support
National Government & State-Owned Enterprises	• Macroeconomic management (NT, SARB) • Industrial & trade policy (DTI) • Investment policy & incentives (NT, DTI, DST) • Industrial specific taxes & regulations (NT, DTI, DMR) • Industrial Development Zones & Special Economic Zones (DTI) • Company & intellectual property registration (CIPC) • Labour regulations (DoL, UIF, Compensation Fund) • Property rights & deeds management (DRDLR, Deeds Registry)	• Electricity generation & national grid (Eskom) • National highways (SANRAL) • Railways (Transnet & PRASA) • Maritime ports (Transnet) • Airports (ACSA) • Telecoms (Telkom) • Human settlement (housing) policy & grant funding • PPP Laws (NT) • Sector-specific infrastructure upgrades (DRDLR)	• Higher education & further education & training (FET) (DHET, SETAs) • Immigration policies (to attract talent) (DHA) • R&D tax incentives, funding & support schemes (NT, DST) • Worker training programmes (DHET, DTI) • Public work programme policy management & funding (EPWP, CWP) (DPW, COGTA)	• National tax revenues (NT, SARS) • Fiscal management (NT) • Access to finance support schemes (DTI, EDD, IDT, SEFA) • Export & trade assistance (DTI)
Provincial government	• Provincial & regional spatial development frameworks	• Provincial roads • Schools • Secondary hospitals & clinics • Human settlement (housing) grant coordination	• Regional economic branding • Regional economic partnerships • Regional investment & trade promotion • Talent attraction programmes • Cluster development support • Knowledge hubs • Linking firms with academia	• Gambling taxes • Motor vehicle licenses • Provincial development finance institutions (e.g. • Small business support services • Incubator hubs
City government	• City & local level spatial development frameworks • City land use management (zoning) schemes • City densification policies & by laws • Construction permits • Business licenses • Informal trading permits	• Public transport (bus rapid transit systems) (BRTs) • City roads • Water • Sanitation • Electricity distribution • Solid waste management • Street lighting	• Talent attraction programmes • Cluster development support • Knowledge hubs • Linking firms with academia • Public work programme implementation (EPWP, CWP)	• Municipal property rates • Utility (electricity, water, sanitation & solid waste) surcharges • City loans & bonds • Economic intelligence at city-level & area/nodal level
Private sector	• Lobbying for industry-specific policy changes • Lobbying for business climate improvements	• Lobbying government for infrastructure improvement • Bidding for implementing infrastructure projects • Raising capital	• Talent recruitment • Training programmes • R&D (leveraging national support)	• Leveraging national support schemes • Market intelligence & business information • Lobbying for access to capital & export assistance • Equity & debt
Civil society	• Regional development partnerships		• Public work programme implementation (CWP) • Skills Development & training programmes • Linking informal economy sector associations to city & other levels of government	• Mentoring small business & informal trader support

Source: Adapted from World Bank (2015a)

For cities to take the lead in economic development, they need to engage with other spheres of government and stakeholders that invest in the city space, create regional development coalitions and partner with the private sector. City spatial investments must be aligned with provincial or regional spatial development strategies, environmental impact assessments, provincial roads and transport management. Cities also need to work closely with national government and broader public sector partners, as the hard economic investment and real money lies at this level. State-owned companies, such as Eskom, Transnet, the South African National Roads Agency Limited (SANRAL), the Passenger Rail Agency of South Africa (PRASA) and the Airports Company South Africa (ACSA), invest significant amounts of money in critical economic infrastructure that has a dramatic impact on city economic performance. Equally, national housing and other urban development grants enable cities to undertake crucial built environment investments at scale. National government extends its influence further in granting sizeable economic incentives, such as special economic zones (SEZs), the Automotive Production Development Programme (APDP), and the Manufacturing Competitiveness Enhancement Programme (MCEP). Although targeted at private sector investors, these incentives contribute to shaping city economic opportunities and strengthening local economic performance.

City capacity and skills

Cities have to strengthen their capacity to take on this broader approach to economic development. They need to deepen their skillset to analyse economic development trends and develop effective strategies, to engage with stakeholders across public and private sectors, to identify key industries and work collaboratively to improve the business environment, and to address the needs of local firms in priority sectors and geographic areas across city space (World Bank, 2015a).

To date, four of the largest cities – Johannesburg, Tshwane, eThekwini and Cape Town – have taken considerable steps to strengthen economic capacity and to take a strengthened lead in city economic development.

- The **City of Johannesburg** has appointed a chief economist within its economic development department and released *The Economic Development Strategy for the City of Johannesburg 2015*, although the underlying economic data used is not yet widely published.
- The **City of Tshwane** has published its long-term *Vision 2055*[14] and finalised the city's inclusive growth strategy and accompanying implementation plan, led by the chief economist and her economic intelligence division in the Mayor's office. The City of Tshwane also released its *Annual Economic Landscape Report 2015*.

14 See *http://www.tshwane2055.gov.za/home/tshwane-2055-info/tshwane-vision-2055*

- **eThekwini** has an active economic development and investment promotion unit that produced the city's *2013 Economic Development & Job Creation Strategy: Durban @ Work* (EMM, 2013). The team also produces *EDGE* (economic development and growth in eThekwini) quarterly bulletin and research papers that inform the city's key policy and technical planning forums. While eThekwini does not have a chief economist, the city planning commission is an advisory body appointed by Council to steer the city's long-term vision and strategic plan, and is busy finalising eThekwini's economic strategy for publication in early 2016.
- The **City of Cape Town**, in contrast, has taken an interesting move to create a separate trade and investment department within the Mayor's office that is responsible for economic strategy and research, while the city's economic development department retains responsibility for business regulation and area-based development. Cape Town's *Economic Growth Strategy 2013* is a key element of the City's five-year integrated development plan, and is based on a robust economic evidence base, the Economic Performance Indicators for Cape Town (EPIC), published on a quarterly basis.

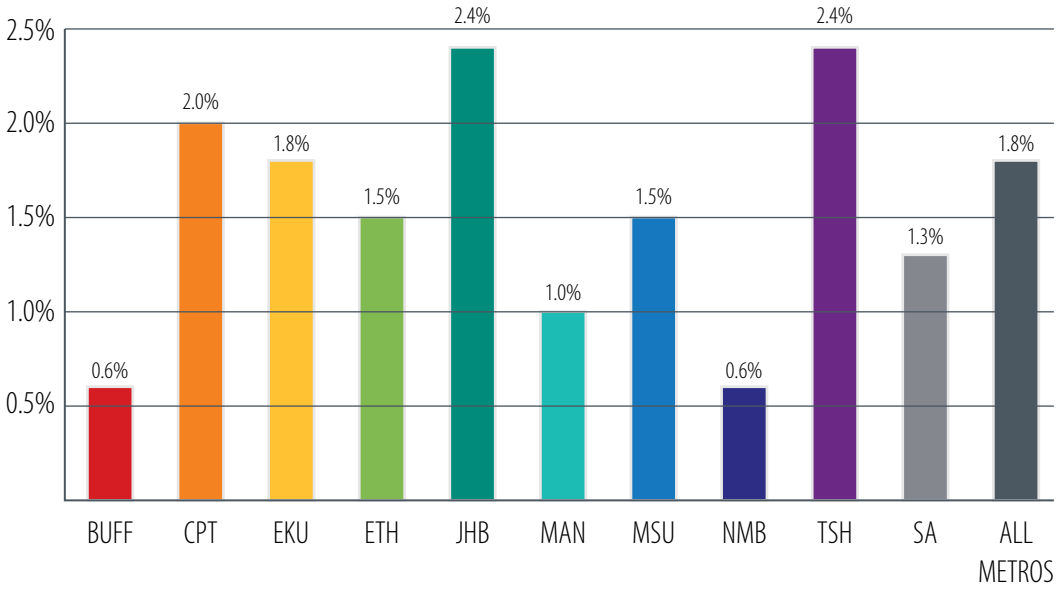
For the smaller cities, their IDPs suggest a more limited interpretation of local economic development, focused on facilitation activities in prioritised economic sectors, such as automotive or tourism, small business and informal trading, skills development and urban regeneration. Although the smaller cities do not need to develop the scale of economic intelligence capacity required by the larger cities, they do need to take their economies more seriously. Every city, whether large or small, has a story to tell about their economy – the large corporates, small firms, entrepreneurs and informal traders that do business there; and the people – rich and poor, old and young, skilled and unskilled, employed or unemployed who live there. The role of towns and cities in their regional contexts is also crucial for unlocking development and delivering services efficiently (SACN, 2014b).

Successful, inclusive and resilient cities know their stories, understand their challenges, and devise and implement credible strategies that improve economic development prospects going forward.

Cities spatial form and inclusive economic development

As South Africa continues to urbanise, the growing population (in particular in the large cities) places exceptional pressures on local government to deliver on increased demands for basic services, notably water, sanitation and electricity, as well as jobs and economic opportunities that would enable greater inclusion in city life (Turok, 2012; Turok and Borel-Saladin, 2014). Figure 3.17 shows that over the past 10 years, the population has increased by 2.4% in Johannesburg and Tshwane, followed by Cape Town (2.0%), Ekurhuleni (1.8%) and eThekwini (1.5%).

Figure 3.17: Annual growth in city population (2003–2013)



Source: Quantec (2015)

This strong population growth in large cities could surpass their capacity to deliver on critical basic services, particularly water, sanitation and electricity, without which poor people become trapped in a vicious poverty cycle. Previously underserved township areas and largely unserved burgeoning informal settlements are particularly vulnerable, given their high population densities and levels of poverty and deprivation (Turok and Borel-Saladin, 2014).

Therefore, it is encouraging that thus far city performance on delivering water, sanitation and electricity services has tended to outstrip population growth, rather than the other way round (see Chapter 4). The delivery of basic services to a greater proportion of the growing city population points to increasing inclusivity and sustainability (Turok and Borel-Saladin, 2014). That said, it is important to examine inclusivity in terms of economic development within townships and dynamics in the informal economy.

Township economic development

Home to about 18 million people, townships and informal settlements are the fastest growing settlement areas in South Africa's larger cities. During apartheid, townships were dormitory towns providing cheap, unskilled labour pools for mining and other industries, with limited social services and economic infrastructure. "Township" is also used to describe housing settlements developed through the government's Reconstruction and Development Programme (RDP). These settlements are often poorly located on the periphery of cities and far away from economic activity and other opportunities.

Both types of township are low-income neighbourhoods that have become poverty and unemployment traps for large numbers of poor people. While townships are not homogenous, they all lack a critical threshold of urban amenities and economic infrastructure necessary for developing cohesive communities and vibrant local economies. As a result, they continue to operate as dormitory towns, and those fortunate to secure work have to spend significant time and money on commuting daily from home to work and back home again. The only other option for people in these townships is to undertake small-scale and often marginal economic activities within their local neighbourhoods (Mahajan, 2014; McGaffin et al., 2015; GCRO, 2015).

Much effort has been spent on developing township economies, but most interventions have had limited success because these economies are not well understood. It is all about *locational value*. Firms and business invest and operate in areas that offer locational attributes and advantages that support competitiveness. Smaller scale markets and low incomes in townships limit the extent to which retailers are able to grow and attract investment (McGaffin et al., 2015; Urban LandMark, 2011). There are exceptions, such as Jabulani Mall in Soweto, which operate on a large enough scale to attract further investment within an emerging economic precinct. However, for the most part, townships do not possess the necessary locational attributes for the range of business activities that form the base of vibrant economic centres. They lack infrastructure, access to suppliers, and transportation and distribution networks, and are far from large, middle- to high-income consumer markets. Firms are also deterred from investing in township areas by the low skills levels, limited urban amenities and general crime and grime concerns.

As a result, local economic activity tends to be limited in scale and depth, without significant potential for growth and job creation. This means that townships must be better connected to and integrated with the main economic centres within the city, so that people living in townships can access jobs and economic opportunities beyond their local neighbourhoods (McGaffin et al., 2015). In addition, substantial public investment in community health and education facilities has the potential to create anchor tenants in medical and education precincts, attracting emerging businesses to service the requirements of these tenants. Public utility service depots and training facilities could also catalyse economic precinct development in townships.

DIEPSLOOT

Diepsloot is one of Johannesburg's newest settlements, close to the border of the City of Tshwane. A dense, low-income neighbourhood, Diepsloot was originally established in 1995 as a transit camp for people who had been removed from the nearby areas of Alexandra, Honeydew and Zevenfontein. Today, Diepsloot has grown into a vibrant neighbourhood that is home to about 200 000 people, with new arrivals swelling its ranks daily. Diepsloot is uniquely located close to the wealthy suburbs of Dainfern and Chartwell and the booming commercial centres of Sandton, Fourways and Midrand on the Johannesburg-Midrand-Tshwane corridor, yet it remains isolated and unconnected to the regional economy.

A magnet for job seekers, Diepsloot's population is young and poorly educated: the average age is 25 years, only 25% have completed secondary school, while a mere 6% hold any post-schooling qualification. Low education levels, limited skills and prior experience, and the lack of access to affordable public transport present formidable barriers to finding work. For most residents, Diepsloot's spatial dislocation and high minibus transport costs make the costs of job searches unaffordable, creating a poverty trap despite its proximity to economic hubs. Those lucky enough to find work spend up to 40% of their earnings on transport to work and back (Mahajan, 2014).

Retail spaza shops and personal services (such as hair salons and childcare) are the main form of local business activity and operate in the local neighbourhood where customers are family members and nearby residents. Businesses not embedded in the residential community operate at key strategic locations. These include the Diepsloot Mall, which is anchored by Shoprite supermarket and includes other retail tenants such as Pep, Ackermans, Edgars, Liquor City, Standard Bank, Capitec and KFC (Future Growth, 2015), and the area close to the taxi rank. The taxi rank is Diepsloot's main transport hub and attracts enterprises ranging from suppliers of construction materials and prefabricated shack-type structures, to car wash and repairs, used-furniture dealers, restaurants and street cafés, clothing and cell phone dealers. Residential retail activity is also increasing in response to the rising demand for accommodation and limited housing stock in the area.

A survey of over 2000 local businesses found that the main constraints to doing business in Diepsloot are crime and grime issues, lack of access to Eskom's power grid and to formal finance, the shortage of space and serviced business sites, and high transport costs. Despite these constraints, Diepsloot has a growing number of "active entrepreneurs" involved in processing or in construction, welding and furniture making. These businesses hold the seeds of a more dynamic local economy, which depends on nurturing supply-chain links between local businesses and larger formal businesses, increasing local demand (as local incomes rise), and improving urban management in order to reduce crime and grime and other commercial risks for external investors (Mahajan, 2014).

Informal economy and self-employment

South Africa is unique in having a relatively small informal economy despite its high unemployment. The informal economy contributes only about 7–10% to South Africa's GDP but forms an important part of city economies, particularly within townships and low-income neighbourhoods (Wills, 2009; Altman, 2008). The evidence points to increasing informalisation of employment across all cities (increasing from 21% in 1995 to 29% in 2013), but little is known of the interaction between the mainstream economy and informal entrepreneurs, whether they are taxi operators, spaza shop and shebeen owners, *shisa nyama* street-side braaiers or hawkers. A survey of employers and the self-employed (Stats SA, 2014) suggests that the majority of South Africa's informal businesses are survivalist rather than entrepreneurial in nature.

South Africa has an alarmingly low rate of entrepreneurial activity in both the informal and formal sectors, and, between 2013 and 2014, overall entrepreneurial activity decreased from a low 10.6% to a mere 7%. More businesses are closing than starting up, with the lack of finance and poor profitability cited as the main reasons for closure (Herrington et al., 2015). Reasons for the low level of self-employed include a lack of skills and entrepreneurship, access to finance, and ease of entry or regulatory barriers to doing business. However structural inequality also limits economic opportunities for poor people living in spatially marginalised areas. Small businesses in these areas find it difficult to compete on price, quality and brand recognition with mass-produced consumer goods valued by aspirant consumers. The answer seems to lie in finding good market opportunities in formal value chains, which are not easy to access for new entrepreneurs. And the barriers to entry are high, as these opportunities require skills, business acumen and access to finance – all the basics that poor and often first-time, would-be entrepreneurs do not have (Philip, 2010).

The informal economy is recognised worldwide as a growing and permanent feature of rapid urbanisation. Thus, cities should view it as a vibrant and dynamic part of their economic base rather than a temporary aberration. Cities need to accept informality as a way of doing business in order to strengthen inclusivity. They need to establish an evidence base, i.e. size, nature and spatial location of informal economic activity and linkages with the mainstream economy, to inform city interventions. Cities also need to understand how informal entrepreneurs and traders use city spaces and infrastructure to create economic opportunities and advantages. Cities can strengthen urban inclusivity and enhance economic participation through informal economy strategies and street trading policies. These include redrafting city by-laws to accommodate rather than criminalise informal activity, reviewing the informal trading permitting system, providing basic amenities and work infrastructure, and improving council and trader relations. (Mkhize et al., 2013).

INFORMAL SECTOR: enterprises and employment in Gauteng

Informal entrepreneurship includes wholesale and retail trading, provision of services, and manufacturing and making of goods. The 2013 Gauteng City Region Observatory (GCRO) Quality of Life III survey showed the importance of the informal sector to entrepreneurial activity in the Gauteng area. Of the 27 494 respondents, 11% owned their own business, and of these, 65% operated in the informal sector. Informal businesses are concentrated in township economies, such as Soweto, Sebokeng, Mamelodi and Soshanguve.

The majority (38%) of informal business owners sold food (fresh, cooked or groceries), followed by those providing other services (14%), such as plumbing, building, electrical and security services. A further 12% sold clothes, accessories and cosmetics, while only 4% made or manufactured goods. Selling food appears to be an "entry-level" business in the informal sector, as it represents over 36% of start-up businesses less than one-year old. More mature businesses in the informal sector were found in the services sector.

The survey confirmed strong linkages between the informal and formal sectors, with almost three-quarters of informal entrepreneurs sourcing supplies from wholesalers and retailers, as well as directly from nearby factories. However, only 6% of entrepreneurs had ever approached a government agency for support, suggesting a definite need to redesign business support for the informal sector.

Over 65% of the respondents worked full-time or part-time in the formal sector, while 22% worked full-time or part-time in the informal sector. Almost half (43%) of those who worked in the informal sector worked in private households, followed by personal services (10%), construction (9%) and retail (7%). Informal sector employees were found to be more vulnerable than those employed in the formal sector, as more than half did not have written contracts. The survey also showed that informal employees are more likely to lack leave provisions, receive lower salaries and work much longer hours than their formal counterparts. The data gained on informal sector employment is critical for developing policy and regulations to protect informal sector employees and improve their working conditions (Peberdy, 2015).

Redefining work: Public employment programmes

In developing countries, informal sector strategies tend to assume that the informal economy has the potential to create work at scale and to shift towards formalisation of work over time. However, South Africa faces significant structural constraints to creating employment through informal economic activity and self-employment. The high levels of unemployment and economic dependency are immensely disempowering and contribute to economic exclusion and social disengagement, resulting in heightened social tension and resource contestation. Strategies that focus on addressing structural inequality take time, and so complementary interventions that enable large numbers of working-age poor people to participate in the economy are critical. This is where public employment programmes can play a role, providing a safety net for the poor.

South Africa's Expanded Public Works Programme (EPWP) focuses on expanding labour-intensive ways of delivering government services in infrastructure, environmental and social programmes through work opportunities. These temporary work opportunities combine work experience with training and skills to assist participants' ability to work or engage in entrepreneurial activities once they leave the programme. The EPWP design assumes that participants will use the EPWP as a stepping stone to obtaining a job or becoming self-employed. However, the structural nature of unemployment in South Africa means that participants return to poverty at the end of a short-term work opportunity (Philip, 2010).

Phases 1 and 2 of the EPWP met their quantitative targets, but the majority of work opportunities were of a short duration (see SACN, 2014a; 2015; 2016a; 2016b for details). Phase 3 of the EPWP recognises that many people are unable to access economic opportunities, and so public employment will need to be an ongoing part of their livelihoods. It sets an extremely ambitious target of creating six million work opportunities by 2019. The approach underscores that supporting people's capacity to work and earn allows a sense of dignity, whereby they become self-reliant rather than economically dependent on others. The resulting social and economic multipliers include reduced crime, domestic violence and substance abuse; enhanced social cohesion; increased local consumption and thus investment in poor communities; and social and political stability (Philip, 2010; Wray, 2007). This represents a critical mind shift for cities, which have tended to define public employment programmes as a social issue that helps those on the margin rather than an essential component of the city's economic development strategy.

The Community Work Programme (CWP) is designed as a complementary approach to the existing EPWP and provides regular, ongoing part-time work and predictable incomes, rather than full-time but short-term work opportunities. It provides an employment safety net and sustained income to people with little employment alternative. A form of "employer of the last resort", the CWP brings together government, civil society and communities in a cross-sectoral development partnership.

CONCLUSION

Cities are South Africa's heartbeat, generating almost two-thirds of the country's economic activity and just over half of national employment. Cities can – and need to – take a leading role in South Africa's economic recovery. They have the potential to expand diverse economic activity and create jobs and other forms of economic participation through increased innovation, human capital and investment.

The five larger cities – the three Gauteng cities and Cape Town, followed by eThekwini – drive the South African economy, while the four smaller cities – Nelson Mandela, Buffalo City, Mangaung and Msunduzi – serve as distant but important regional hubs. The large city economies are dominated by tertiary services, in particular the financial and business services industry, but manufacturing (in high-value added automotive, industrial machinery and equipment) and chemical industries still hold considerable opportunity for growth and employment.

Much more needs to be done to make city economies competitive, productive and inclusive. This means expanding people's abilities to participate in the economy, through improved education and training, and access to basic services, as well as enhancing the environment in which firms do business, through increasing investment in city economic infrastructure. It also means transforming apartheid's legacy of dispersed spatial settlement patterns in order to make cities more economically efficient and inclusive, enabling people to access economic opportunities across the city.

RECOMMENDATIONS

City economic strategies must consider all relevant levers across the entire economic system, not just the spatial transformation elements. This will require having a deeper and more nuanced understanding of the spatial and locational factors that encourage firms to invest in certain areas and not in others.

Cities need to develop new skills and expand existing ones required to take the lead in economic development. These skills include being able to: understand economic metrics and analyse spatial economic data and intelligence; implement and coordinate an integrated approach across spatial planning, human settlement and public transport functions; engage with other spheres of government and the private sector; and create regional development coalitions and partnerships with the private sector.

Cities should do more about securing livelihoods for poor people. This involves having a massive focus on *job creation* (private sector, in particular) and scaling up *public employment programmes* for people who do not have the education, skills or capabilities to compete in the urban labour market, as well as accepting *informality* as a way of doing business. Connected to this is the need to understanding the informal sector and its links to the formal sector, and how informal entrepreneurs and traders use city spaces and infrastructure to create economic opportunities and advantages.

The way in which cities are financed needs to be revisited. This is critical to unlocking municipalities as key economic actors, and means relooking at how nationally raised revenue is divided among government spheres as well as exploring innovative city financing instruments, such as municipal bonds and city business taxes. In particular, financing city public transport is the public finance deal breaker in the economic development system. It is the biggest game changer in South Africa's efforts to change apartheid spatial legacy, but its budgetary implications have been left to cities to address.

The critical role of cities in the national economy must be recognised. Such recognition fundamentally alters intergovernmental dynamics in economic leadership. No longer is the economic agenda solely a national role. Instead, cities are key partners in raising South Africa's economic performance and enhancing inclusive and resilient economic development. Nevertheless, financing urbanisation and redressing apartheid's spatial legacy is a national, not local, responsibility. Making cities work, deepening their inclusivity and strengthening their resilience is critical for South Africa's economic story, and for improving the fortunes of all peoples living in the country.

3

INCLUSIVE **CITIES**

The pursuit of urban social and spatial freedoms for all

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Key Messages

1. Cities still largely benefit those who can afford to "buy" their rights and freedom to the city.

2. The majority of urban dwellers are still socially, spatially, culturally and economically excluded.

3. Cities need to have programmes aimed at achieving social justice through inclusion and at empowering citizens to participate in planning, developing and managing their city.

4. Cities should develop urban spatial frameworks that accommodate the needs of a growing population in terms of land, infrastructure, human settlements and transport.

5. Cities should reserve public land inside the urban edge for high-density, mixed-use and integrated developments aimed at those who are currently excluded.

6. Private sector actors also need to consider the social good.

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INTRODUCTION

"Inclusive" means open to everyone, not to certain people only, and so an inclusive city values all people and their needs equally. It is a city in which all residents – including the most vulnerable and marginalised poor – have a representative voice in governance, planning and budgeting processes, and have access to sustainable livelihoods, legal housing and affordable basic services, such as water and sanitation. It is a city where people feel comfortable being citizens and have equal participation in the city.[1]

Over 20 years into democracy, it is time to recognise and respect the contribution of all South Africans to the making of South African cities, in particular how black South Africans "can come to legitimise a sense of cultural and economic ownership of cities as producers and not merely consumers or workers" (Mkhize, 2015). All citizens must have a sense of belonging spatially, socio-culturally and economically to our cities. Cities can begin t.o express and enhance this sense of belonging through making and managing spaces and places that people can identify strongly with and frequent freely, without fear of intimidation or being unwelcomed – this is the way of the inclusive city.

The chapter's main aim is to examine the nature and extent of inclusivity in South African cities, and what this means to citizens in terms of access to opportunities and resources for the urban poor. It explores the meaning of citizenship – what are the rights to the city and who has these rights. It looks at who has access, such as vulnerable groups (youth, women, disabled persons, residents and informal settlements, etc.) to the urban economy, safety, affordability and urban integration. The chapter also uses migrants as an indicator of vulnerability and exclusion because migration patterns, flows and mobile citizens can have major implications for city policies.

1 Adapted from Douglas, R. Commentary: What we mean by "inclusive cities". http://nextcity.org/informalcity/entry/commentary-what-we-mean-by-inclusive-cities, 28 January 2013.

ANDILE'S STORY

This is based on a true story that is all too common in South African cities.

Andile is 17 years old and lives in Khayelitsha, Cape Town, but he and his family are socially, spatially, culturally and economically excluded. They are clearly unfree, as they cannot live the kind of lives they value and have reason to value. Their story is the story of many urban migrants.

Andile lives with his single mother, who is a domestic worker for three different employers, and his younger sister who is in Grade 7. They live in a shack in an informal settlement with his uncle and aunt and their two children. His father is unemployed and lives in Johannesburg. Andile also had another younger sister, but she suffered from asthma as a result of her poor home environment and died in hospital because of inadequate access to health care. The household has no electricity unless illegally sourced from their neighbour across the road. The total household income is about R4 500 per month and supports three adults and four children.

Andile attended a school formerly designated for coloured learners but only partially completed Grade 11 because he was dismissed along with other boys. The school principal claims the boys were absent too often, whereas Andile claims that he was dismissed on racial grounds because of an erroneous belief that he was linked to a gang. (Some other boys from Khayelitsha at the school are part of a gang.) Andile's mother believes him because (i) his grades for the last exam written in Grade 11 were satisfactory, (ii) the school did not inform her of her son's absences – the school's rule is that parents are contacted if learners are absent.

Andile presently sits at home every day instead of attending school. He does not play the violin anymore, although he is an advanced and talented violin player, because the music school is close to the high school he attended, but his mother will not pay for him to go only to the music school. His family have tried without success to get him back to school – they feel they have no voice, no rights. His future looks bleak.

Andile's story illustrates how citizenship and having citizens' rights does not automatically result in inclusion and freedom.

URBAN INCLUSION AND THE RIGHT TO THE CITY

Urban inclusion and access should be considered from a right-to-the-city perspective, which is "far more than the individual liberty to access urban resources" (Harvey, 2008: 1). Rights to the city include the right to influence how cities develop and unfold over time, or "a right to change ourselves by changing the city" (ibid). According to Mathivet (2010), most right-to-the-city approaches share three fundamental principles (Gorgens and Van Donk, 2011: 5):

1. The exercise of *full citizenship*, namely the realisation of all human rights to ensure the collective well-being of inhabitants and the social production and management of their habitat.
2. The *democratic management of the city* through the direct participation of society in planning and governance, thus strengthening local governments and social organisation.

3. The *social function of the city and of urban property*, with the collective good prevailing over individual property rights, involving a socially just and environmentally sustainable use of urban space.

In the context of African countries, especially South Africa, "citizenship is both *de jure* and *de facto* (Dirsuweit, 2006: 296) because, although citizenship is defined in a list of constitutional rights, "social and cultural relations often restrict the urban citizen's ability to actively engage with the state at the urban scale" (SACN, 2014a: 26). For example, the state's engagement with informality in the inner city is largely absent and often confrontational. A case in point is Johannesburg, where "migrant entrepreneurs are adapting space and carving whole micro economies without City permission or enablement" – one such example is the Ethiopian quarter in the inner city (SACN, 2014b: 9).

YEOVILLE: An example of the complexities of urban areas

Cities worldwide attract people looking for economic opportunities, and Johannesburg is no exception. Yeoville is close to universities, the CBD, Sandton and Rosebank, and is a convenient transitional space for new arrivals from elsewhere in the country and other countries. The area encapsulates the complexities of urban citizenship, urban governance and management, and the interaction of the formal with the informal.

Yeoville is a mixed-use and mixed-income area. The main thoroughfare is Rockey/Raleigh Street, which is a high street characterised by formal and informal economic activities. It is not uncommon to find a hair salon, internet café and small supermarket operating from one space, and home-based businesses (e.g. *spaza* shops) are emerging. Yeoville is home to a mix of families, young couples, students, office and service industry workers, and informal traders. In many ways, Yeoville typifies what is articulated in the Corridors of Freedom, with residences close to places of work and schools, easy access to other basic amenities, and public transport and non-motorised transport (i.e. walking/cycling) popular among most residents.

Challenges and complexities

- *The concept of urban citizenship:* Traditionally citizens pay taxes, own properties and (in South Africa) possess an identity document. But the new urban reality is more fluid, influenced by increased internal and cross-border migration. Consequently, city residents may not be citizens in the classical sense, but are embedded in the urban space. Therefore, creating an inclusive city requires reimagining the concept of urban citizenship.
- *Community out of diversity*: While Yeoville could be framed as an exceptional "Afropolitan" space, neither its residents nor its spatial form are homogeneous. For residents who moved into the area in the 1990s, Yeoville no longer has the same suburban feel, especially given the many new arrivals and the informal, unauthorised demolitions and rebuilding that have changed the spatial form. An inclusive city needs to find ways of mobilising collective interests and managing diversity in order to ensure inclusivity and commonality.
- *Participation platforms:* A large section of the Yeoville community is not eligible to vote, and the suburb is divided into four wards, which makes making decisions as a neighbourhood difficult. For example, the municipal library and swimming pool affect the broader Yeoville community but, because these facilities are in Ward 67, only residents

of that ward participate in making decisions about them. Yeoville is home to a range of active community-based organisations, which could be used as a basis to build participation platforms that are more inclusive.

- *The reality of informality:* in Yeoville informality permeates the residential and commercial sectors. Buildings are sub-let, partitioned and extended without municipal approval, resulting in a radical change to the look and feel of the suburb. Informal trading is common, providing a safety net for the unemployed and contributing to urban food security. Yet, with good planning and management, informality can be harnessed to contribute to an inclusive, productive and sustainable city.
- *Minimal urban management and vision:* Yeoville is perceived as a site of urban decay, characterised by crime and grime. For many residents, the main symbol of the state in the neighbourhood is policing, rather than visionary leadership, urban governance and management. Local government's preoccupation with eradicating and replacing what exists with something more conventional, centred on a middle and business class returning to area, means that opportunities are missed. Possible development directions, which build on core aspects of Yeoville, include social and economic integration, inclusive mobility, densification for easier access to services and economic opportunities, and a 24-hour city.

Lessons from Yeoville

Yeoville is an example of an integrated, mixed-income neighbourhood and highlights the challenge of making such communities work and become socially cohesive. Different needs and contexts result in different approaches to space, which can lead to conflict unless supportive urban management is in place. Yeoville represents myriad aspects of an inclusive city, but the persisting narrative of crime and grime mean that opportunities are missed. A shift in thinking is needed, in particular around who belongs and has rights in the city. As urban migration continues to grow, cities need to think about what an inclusive city looks and feels like – and whether "clean" cities are a necessity or a nice-to-have. What is more important: a food-secure city with safety nets for the poorest or a clean city? A long-standing preoccupation in the making of South African cities is the tendency to identify and erase "the undesirable" before what is "desirable" can come into effect. Although informality is often viewed as contrary to the world-class city, Yeoville is an example of how opportunities for innovations that form organically can, with local government support, become a city that is inclusive in the true sense.

Source: Ngobese (2016)

To understand urban inclusivity based on the "right to the city", a useful notion is that of "capabilities", or the freedoms of citizens to lead the kind of lives they value (Sen, 1999: 18). Public policy can enhance these capabilities, and effective public participation can influence the direction of public policy. This implies developing the full potential of citizens through access to the necessary resources. The question is whether all citizens – local and foreign – experience the same rights, freedoms and unrestricted movement, or whether they are excluded and marginalised from the rights to the city, unable to lead the kind of lives that they value. Citizenship and having citizens' rights do not automatically result in inclusion and freedom.

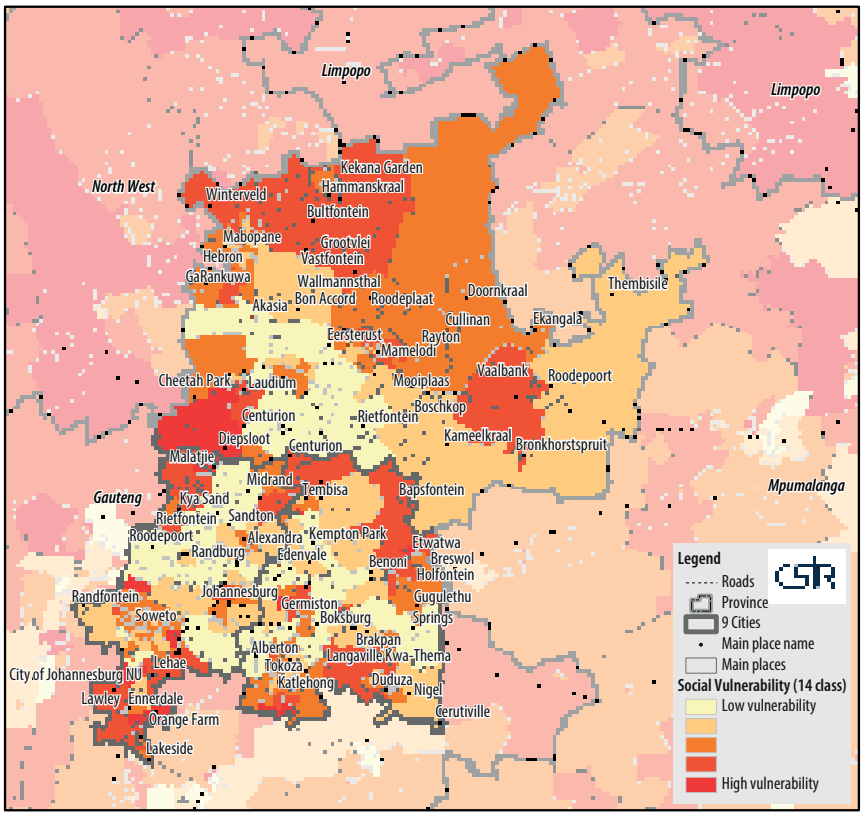
INCLUSION IN SOUTH AFRICA'S CITIES

The inclusivity of cities is measured using social and spatial indicators. Vulnerability and exclusion are examined through urban inequality, collective violence, public protests, public safety and migration, while access to basic services considers urban transport and access, as well as urban integration.

Vulnerable populations and spatial transformation

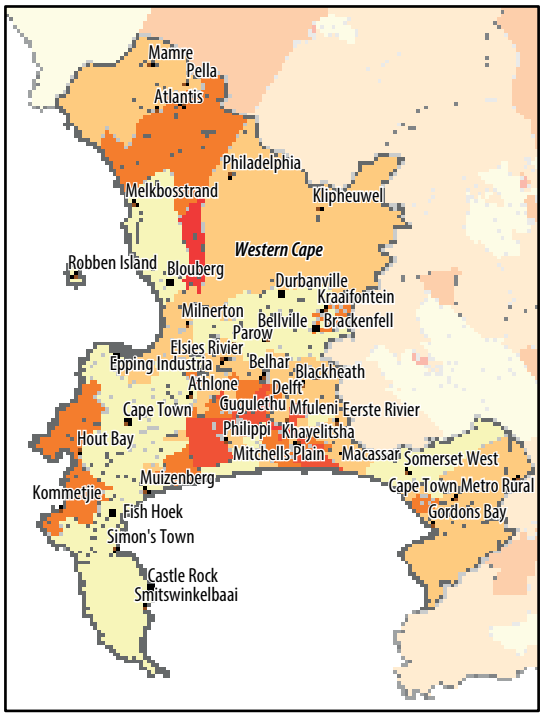
Social vulnerability refers to the inability of people, settlements and societies to cope with or adapt to the impact of multiple stressors. A social vulnerability index[2] is used to identify relatively vulnerable communities. Figure 4.1 shows the distinct spatial location of vulnerable urban populations in nine South African cities. The location is in most cases a continuation of the apartheid spatial patterns. Although South Africa's cities have undergone significant changes, the vulnerable populations are still either concentrated on the periphery (in new RDP and informal settlements) or in townships.

Figure 4.1: Social vulnerability – locating South Africa's vulnerable people

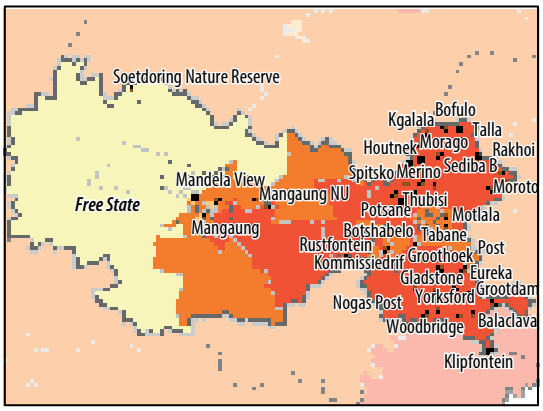


2 The index is derived from a Principal Component Analyses (PCA) on a ward level using 2011 national census data. The PCA was based on 14 variables (average household size, age dependency ratio, percentage unemployed, percentage people below poverty line, percentage rural population, percentage shacks, percentage education, percentage disabled people, percentage female head of households, percentage population without electricity, percentage households without telephone lines, percentage people without a car, percentage people without public water, percentage immigrants). (Le Roux and Naude, 2014)

Cape Town metro



Mangaung



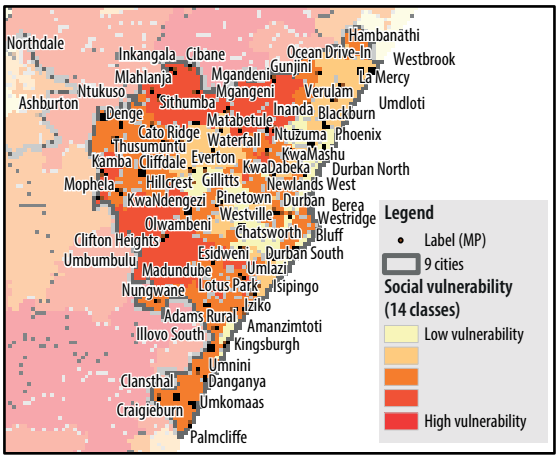
Legend
- Subplace
- Main Cities
- SACN cities

Social vulnerability (14 Classes)
- Low vulnerability
- High vulnerability
- Province

NOTE:
Social vulnerability is defined as the inability of people, settlements and societies to cope with, withstand or adapt to the impact of multiple stressors such as disruptive natural or manmade events. The social vulnerability index is based on 14 indicators highlighting South Africa's most vulnerable communities.

Citation: le Roux, A., Naude, A.2014. CSIR Regional Dynamics and Interactions Analyses Note: Social Vulnerability – Locating South Africa's vulnerable people.

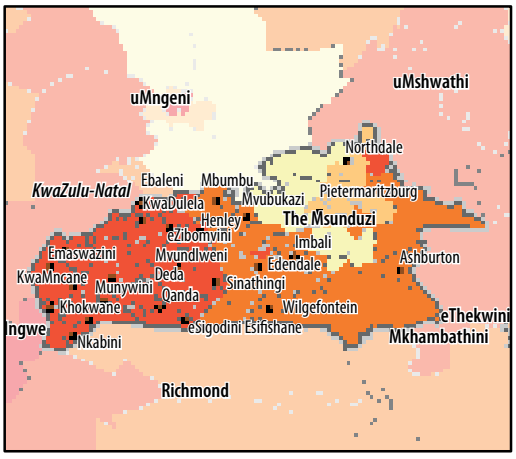
Ethekwini metro



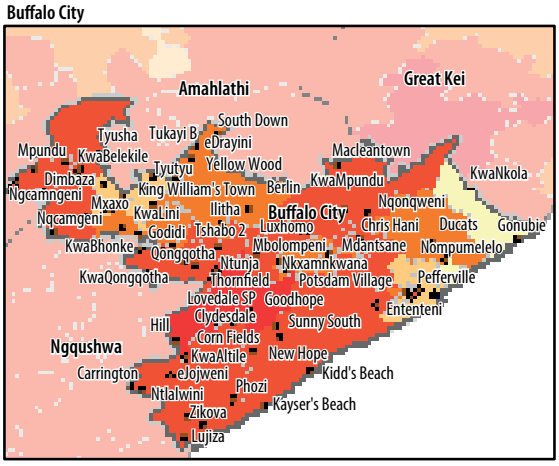
Legend
- Label (MP)
- 9 cities

Social vulnerability (14 classes)
- Low vulnerability
- High vulnerability

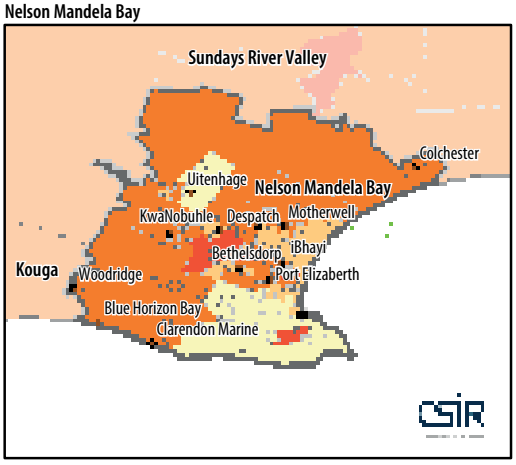
Msunduzi



Buffalo City



Nelson Mandela Bay



Source: Le Roux and Naude (2014)

Access to good basic services

The story of urbanisation in Africa is in part about people moving in order to have access to a better standard of living, which includes access to basic services such as electricity, water, sanitation and refuse removal. Since 2001, urban households' access to services has generally improved, particularly in the larger metros (Table 4.2), despite starting from different service delivery bases: for example, Cape Town had a higher basis of service delivery in 2001 than any of the other cities.

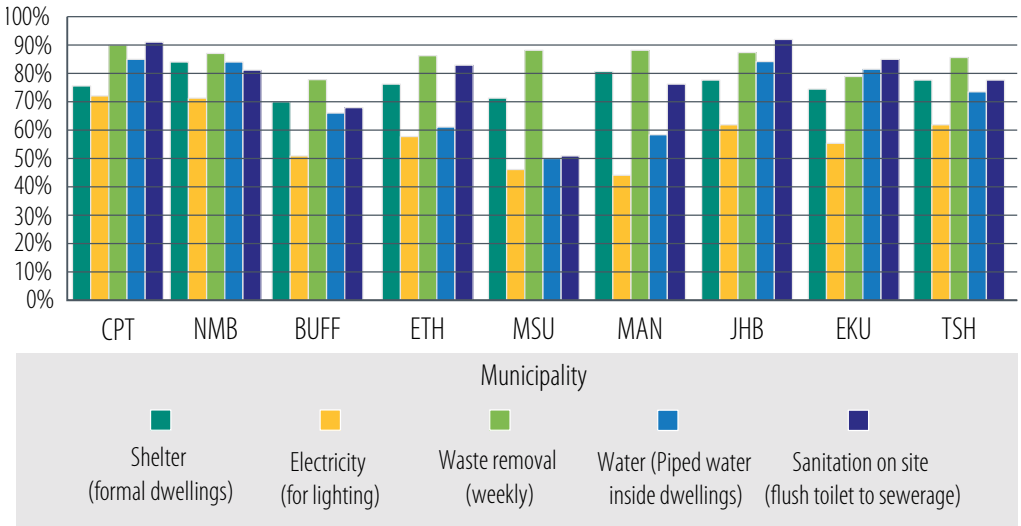
Table 4.1: Change in access to good basic services (2001–2011)

Municipality	% with good access (2001)	% with good access (2011)	Change (2001–2011)
Mangaung	70.9	85.4	14.5
Buffalo City	64.4	72.8	8.4
City of Tshwane	78.7	85.8	7.1
eThekwini	76.7	83.5	6.8
Nelson Mandela Bay	86.2	92.8	6.7
City of Johannesburg	88.1	93.3	5.2
Msunduzi	69.0	73.2	4.2
Ekurhuleni	82.9	86.6	3.8
City of Cape Town	94.0	94.3	0.3

Source: CSIR (2015)

Figure 4.2 shows the percentage of households within the nine cities with access to formal housing and services. Formal services are generally well provided for in the nine cities, with the exception of water supply in Mangaung and Msunduzi, where less than 50% of households.

Figure 4.2: Housing and services



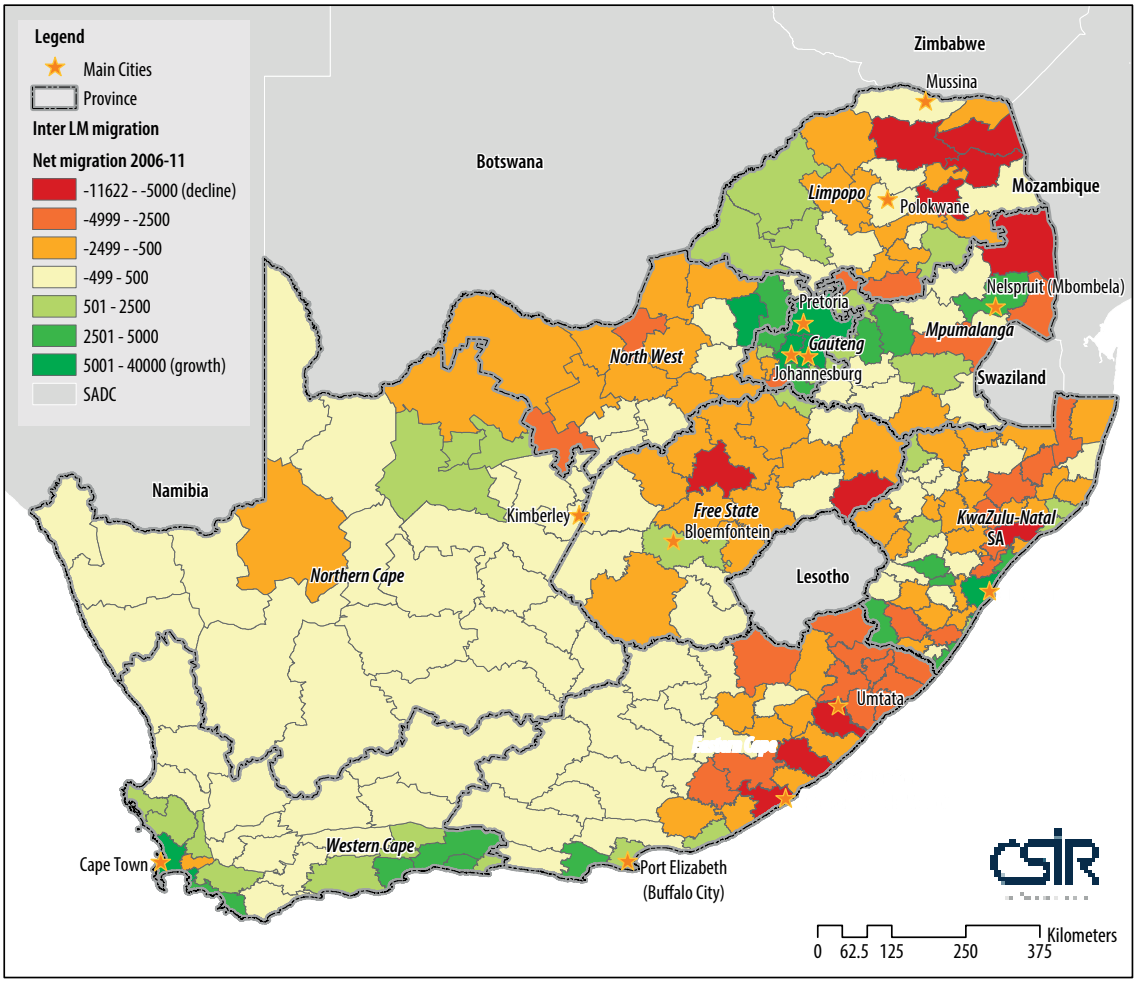
Source: NM & Associates Planners and Designers using Stats SA (2011)

These service delivery gains have certainly increased inclusion in cities. However, despite this progress, communities still feel dissatisfied with service delivery, as illustrated by the level of public protests (for more on this, see the "urban safety" section). This may be because service provision is a moving target for municipalities (particularly larger metros) as cities grow or decline through migration.

Migration

Migration is a critical issue for city governance, policy and planning. Along with natural urban population growth, migration has changed the demographic composition of towns, cities and regions, affecting service and infrastructure provision, among others. As Figure 4.3 shows, the Gauteng City Region and Cape Town have the highest migration flows.

Figure 4.3: Net migration flows based on IEC data (2006–2011)



Source: StepSA (2013)

Migration patterns in South Africa range from "permanence to impermanence" (SACN, 2014a: 14), and reasons for migrating include seeking education and/or work in the city and either remaining in or returning to their place of origin (e.g. rural home). Typically, individuals move "between provincial boundaries from rural to urban areas, between urban areas, and increasingly within urban areas"

(SACN, 2014a: 15). Post-1994, Johannesburg has become the destination of most cross-border and internal migrants, whereas Cape Town attracts people from cities in the Eastern Cape.

The inner city acts as an arrival area for migrants from foreign countries, as well as from the rest of South Africa (Harrison and Todes, 2013) with some 50% of residents in "urban core" areas in Gauteng having moved to the inner city in the last 15 years (Venter, 2012). The inner city enables access to employment and economic activity (Cross, 2010, 2011; Venter, 2012), particularly for low-income earning women working as traders and domestic workers (Todes, 2003).

A study on social value chains examined migration and rural-urban spatial linkages at the household scale and identified three categories (SACN, 2014c):

1. **Rural-committed** people: those who want to stay in the rural sector and identify strongly with their local settlement regardless of their migration history.
2. **Rural-mobile** people: those currently living in rural areas who consider themselves relatively footloose, are not strongly rooted in the present settlement, have urban aspirations and may be edging toward moving into or closer to larger towns or cities.
3. **Metro migrants**: rural-born people who are now living or working long-term in cities, where they expect to remain and eventually obtain high-quality urban housing.

Category 3 represents those who are "most often perceived as threats to the city's financial sustainability by the city administrations" (SACN, 2015c: 47). Local governments, however, need to prepare to receive and develop livelihood opportunities for these migrants, who are mostly young and vulnerable.

Although individuals and households in South Africa are moving into cities where jobs and other opportunities are being created and household incomes are higher, this does not mean that cities are embracing them and their contributions. Furthermore, since 1994, migration patterns in South African cities have changed. Urban migrants include not only job-seekers (as was the case pre-democracy) but also qualified professionals, students and women who engage the city differently (Balbo and Marconi, 2006). Female migration in particular challenges the territorial approach to urban planning, as women are not place-bound and so "community participation makes little sense for people constantly moving between spaces and places" (SACN, 2014a: 15).

The current response to cross-border migration is to focus on "controlling movements of cross border migrants, through an increasingly restrictive immigration policy of the Department of Home Affairs" (SACN, 2014a: 16). A major challenge is urban inclusion and cohesion for migrants. Johannesburg appears to be the only city to explicitly acknowledge and seek to address the complexity and diversity of urban migrants, perhaps because of its intensive in-migration challenges. It has established the Johannesburg Migrant Advisory Council, the Johannesburg Migrant Advisory Panel and the City of Johannesburg's Migration Unit (ibid). However, apart from one migration study (City of Cape Town, 2006), none of the other cities appear to be looking at dealing with cross-border or internal migration through formal planning policies or structures.

YOUTH STUDY: Youth potential and vulnerabilities

In 2014, the SACN and *Gesellschaft für Internationale Zusammenarbeit* (GIZ) undertook a study into youth potential and vulnerabilities in Johannesburg, Nelson Mandela Bay and Buffalo City. The following recommendations emerged:

1. **Review policies and strategy documents** (especially given the new draft National Youth Policy 2014–2019), strengthen youth mainstreaming in policies, design implementation plans for the policies, and make policy documents accessible to the youth and community stakeholders.
2. **Improve coordination** through the integrated development planning process, establish government and multi-sectorial stakeholder platforms (including NGOs and the private sector), create better communication lines and information, and update the youth NGO database.
3. **Enhance institutional capacities,** including setting up or enhancing youth development units, training municipal staff about youth mainstreaming, using mobile technology and social media to communicate with and mobilise the youth, and involving the youth in developing, researching and monitoring youth projects.
4. **Professionalise youth practitioners**, with a focus on strengthening their capacity within the municipalities and understanding their constituencies, and formalising networking and exchange opportunities between youth personnel in different metros, at both municipal and community levels.

Source: Adapted from Buntu and Lehmann (2015)

URBAN TRANSPORT AND ACCESS

Improving urban public transport networks and systems continues to be critically important, given the spatial marginalisation of the urban poor who live in state-subsidised housing and informal settlements on the periphery of large cities. Because of where they are located, poor people have to travel long distances and pay high transport costs: more than 50% of poor urban residents spend more than 20% of their declared household income on transport (Kane, 2006).

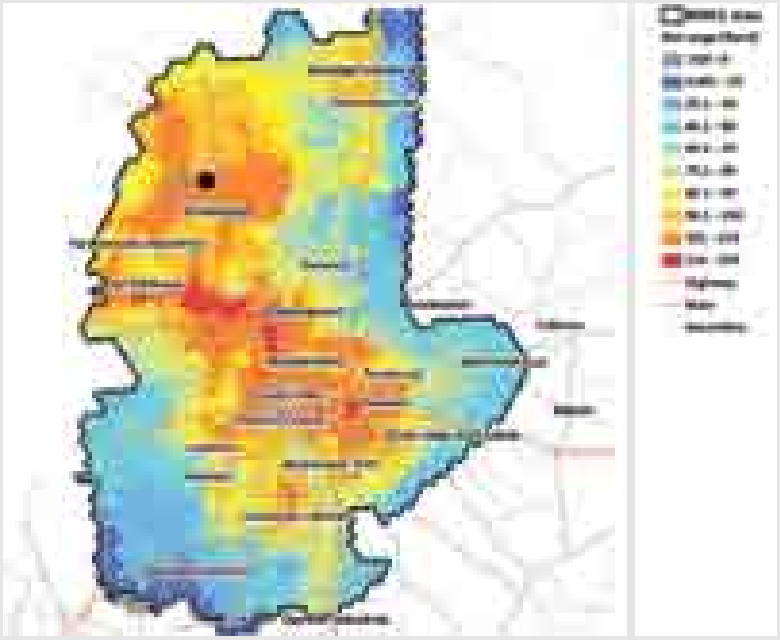
Some of the large cities, such as Johannesburg and Cape Town, are introducing bus rapid transit (BRT) systems, as part of their drive to improve and integrate public transport. However, research in Soweto and Cape Town suggests that BRT is not addressing the needs of the poor (Harrison and Todes, 2013: 43; SACN, 2013). It is likely that the very poor cannot afford to use the BRT system and that they engage in informal activities (e.g. trading in scrap metal), which requires navigating the city during off-peak hours and largely on foot with the aid of trolleys or horse-drawn carts.

JOB ACCESS FOR POOR HOUSEHOLDS:
The impact of transport and spatial development strategies

Access envelopes are used to measure the impact of transport costs on job access, at a community level focusing on poor households. A net wage after commute (NWAC) is calculated from a specific origin to destinations in the study area. It subtracts the cost of commuting from the potential wage earnable at a specific job location to arrive at the "actual potential take-home pay earnable at the location at the end of the day". NWAC values can be plotted for all destinations to produce a visual representation that is easily interpreted and related to other spatial data such as job distributions or census data. The resulting map represents the access pattern of residents from a specific origin area, as they search for work or work in the surrounding economy.

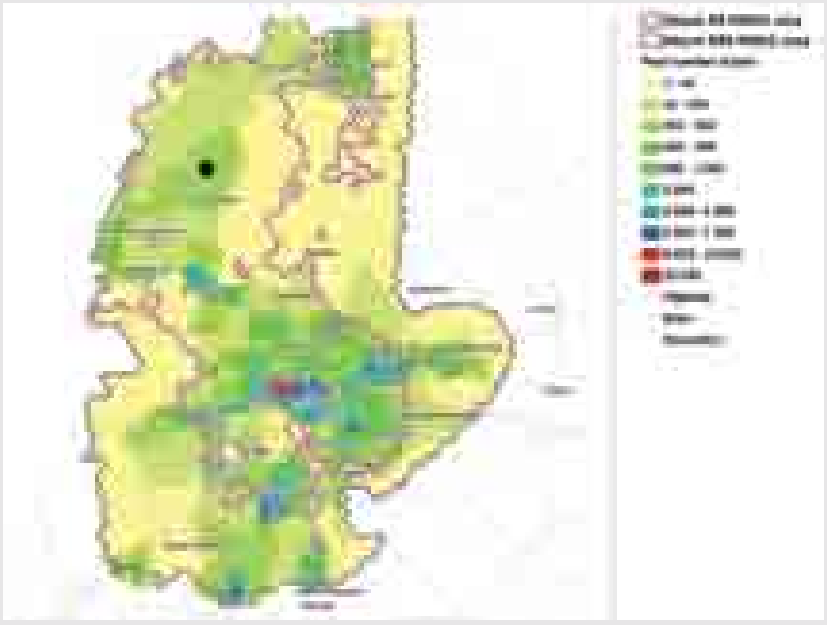
The access envelope was applied to two areas in the City of Tshwane: Soshanguve (Figures 4.4 and 4.5) and Mamelodi (Figure 4.6) to determine the affordability of job access for people living in these areas. Soshanguve is a poorly located former township area to the north of Pretoria. As Figure 4.4 shows, a worker in Soshanguve can take home a minimum of R100 per day after paying transport costs within key employment clusters in Tshwane (shown in orange through red). Work destinations are clustered around Rosslyn, Pretoria North and Pretoria Central, and stretching as far as the Silverton industrial areas. Even parts of Centurion are accessible from Soshanguve, within a relatively high NWAC value of R80 or more. This accessibility of Soshanguve is driven, to a large extent, by the fact that Soshanguve is connected by a passenger rail service to the major employment areas, providing low-cost and relatively speedy transport to the rest of the city.

Figure 4.4: Soshanguve net wage surface



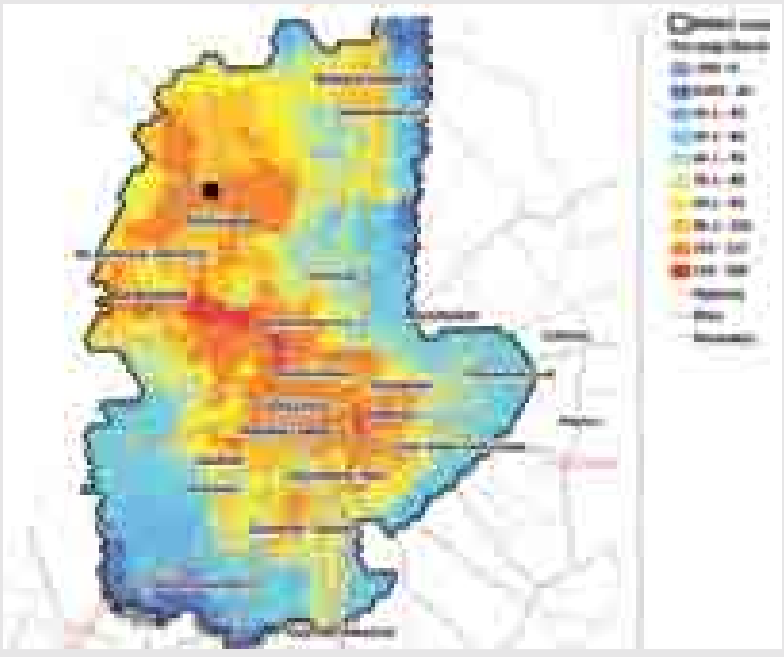
However, when the NWAC is superimposed on the actual distribution of jobs in Tshwane (Figure 4.5), it is clear that the majority of jobs may be within the R80 NWAC envelope but are relatively distant.

Figure 4.5: Soshanguve net wage contours superimposed on total jobs



In comparison, Figure 4.6 shows the net wage surface for part of Mamelodi that is located close to rail, bus and taxi facilities. Mamelodi is clearly a better location than Soshanguve for accessing jobs, as it is easy to get to large parts of the Pretoria economic core.

Figure 4.6: Mamelodi Central (walk feeder to public transport) net wage surface



These examples show the importance of location relative to employment opportunities, and how the cost of transport affects how far the poor can physically go to access employment. What is clear is that being located on the outskirts of cities has a negative impact on the poor seeking employment.

Source: Venter and Cross (2014)
(Maps generated by author)

South Africa's transport laws and policies mandate city administrations to challenge the traditional bias towards private vehicles and to prioritise public transport. The White Paper on National Transport Policy (DoT, 1996) encourages a ratio of 80:20 between public transport and private car use. The National Land Transport Act (NLTA) (Act No. 5 of 2009) prioritises modal integration,[3] identifies non-motorised transport (NMT) as an important component and emphasises that land development and transportation cannot be considered in isolation from one another.

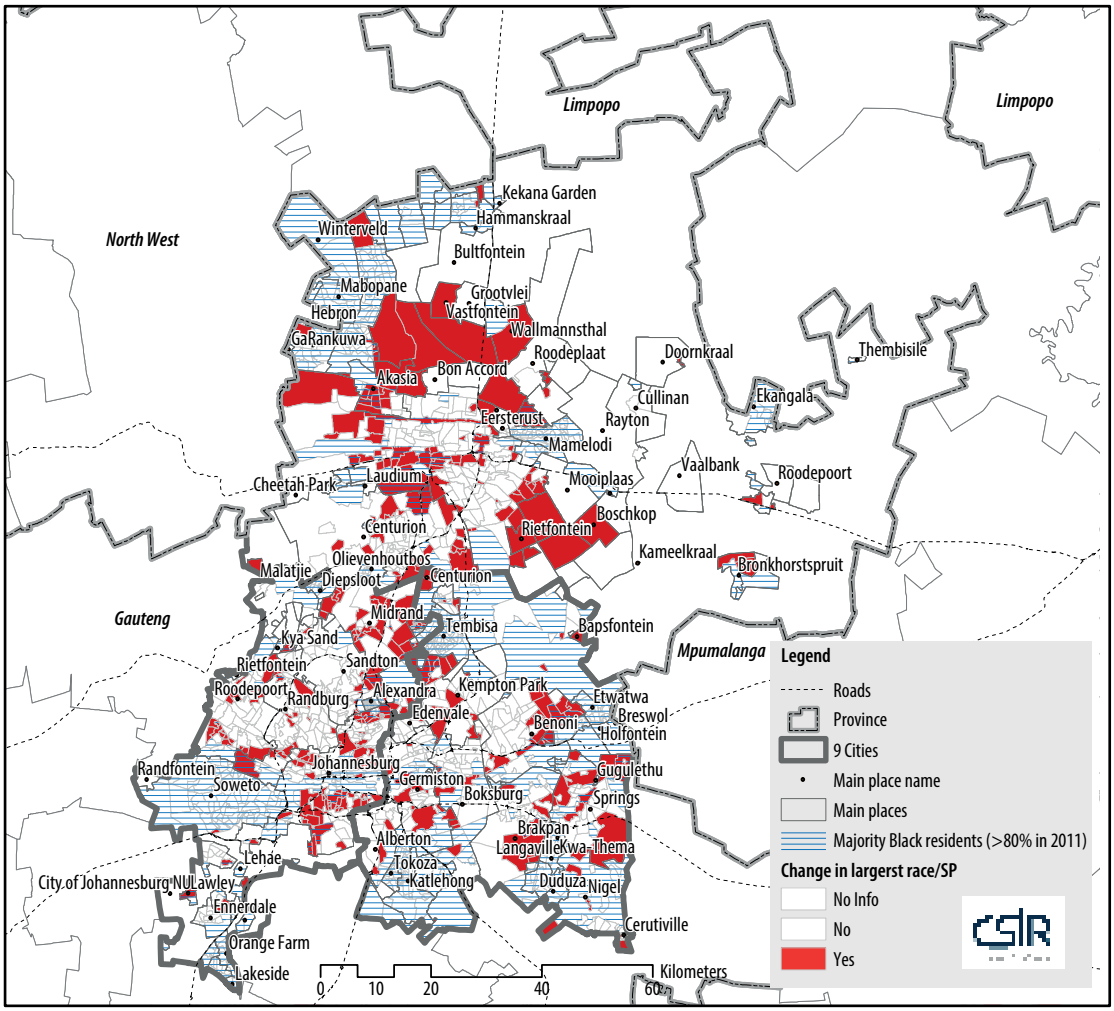
Despite the development of integrated public transport network plans, the private car is still prioritised in cities, and networks remain fragmented. In particular, "existing bus and minibus taxi operations need to be better integrated with the rail and bus rapid transport networks, to reduce transfer times and costs and to improve the speed and quality of commuter journeys" (COGTA, 2014: 40). There is also a lack of NMT infrastructure and facilities, even though most trips to education facilities are on foot. The limited research available has found that "children of poor (but not the poorest) families are sometimes sending their children long distances to school, at considerable cost" (Harrison & Todes, 2013: 30). In Johannesburg, a quarter of children travel more than five kilometres to school, with many travelling even longer distances, while in eThekwini, children travel up to 50 kilometres to get to school and use several modes of transport, including walking, buses and taxis (ibid).

Urban integration

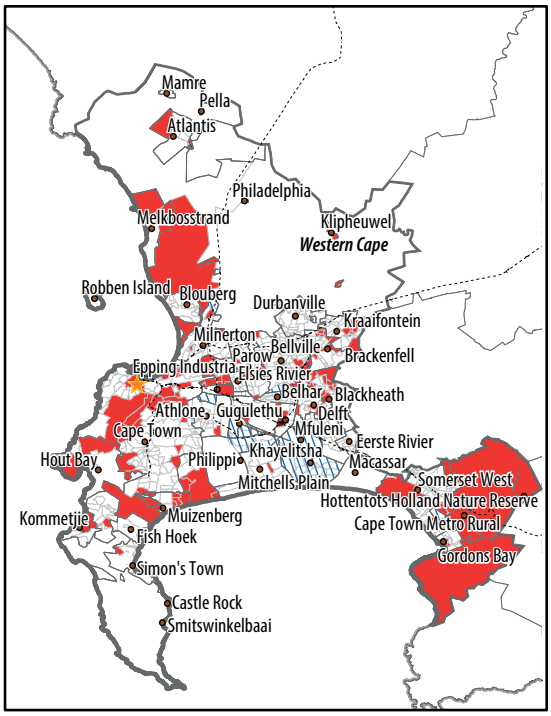
Urban integration refers to racial (and class) integration, as well as integration in the workplace (formal and informal) and in public places (SACN, 2014b). Urban integration was measured by comparing the percentage change across all population groups within an area (sub-places) in order to see whether the dominant race group had changed. For example, an area that had mostly coloured residents in 1996 changing to a majority of black residents in 2011. Looking at the racial change within spatial areas is especially relevant in South Africa, where under apartheid people of different racial groups were excluded from group areas. Figure 4.7 shows in red the sub-places where the dominant race group changed.

3 Modal integration is defined as seamless travel between different public transport (PT) modes and services. This is achieved by creating a metropolitan PT systems consisting of a primary network supplemented by a secondary network. The primary network consists of corridor services where the PT operates in a separate right of way bus lane; the secondary network consists of feeder or community services that run throughout the metropolitan area and feed directly to main corridors at key nodal points for transfer.

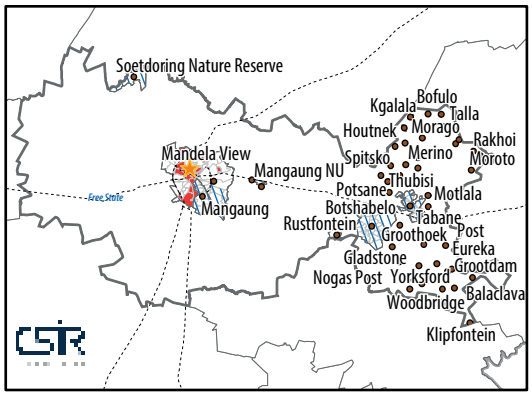
Figure 4.7: Change in dominant race per sub-place

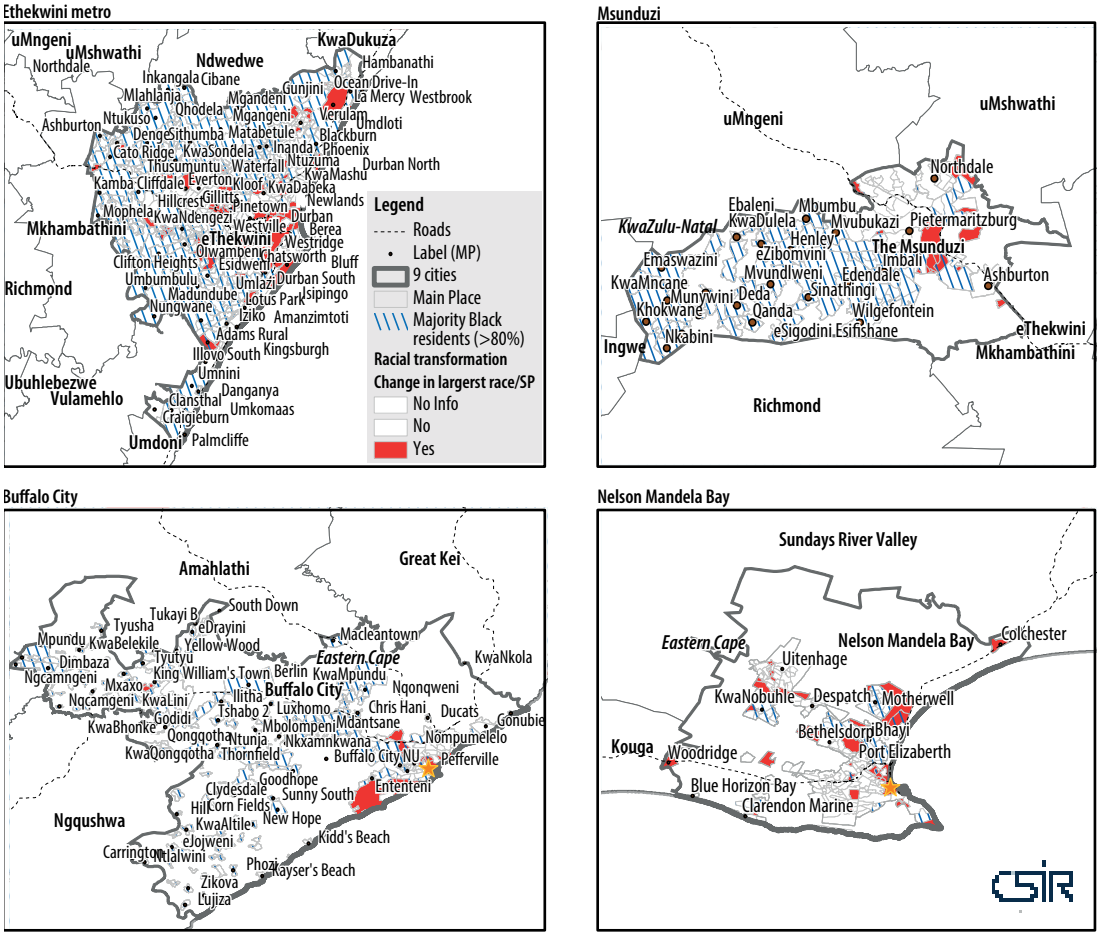


Cape Town metro



Mangaung





Source: CSIR (2015)

One of the major trends to emerge in Figure 4.7 is the change in dominant race group in middle-to-high income areas. The racial mix in inner city areas has become more apparent, except in Cape Town, which may be because traditionally coloured citizens lived and chose to remain in the inner city. However, more recently in Cape Town, poor people are being displaced from rental stock in the inner city, as developers buy up properties to be redeveloped and then sold as medium-rise sectional title apartments.

Ward data in Johannesburg, Cape Town and Mangaung between 1996 and 2011 was analysed to establish the degree of racial mixing, ranging from 50% (low segregation) to 90% (extreme segregation). The analysis found that levels of "extreme" segregation had increased (to 54.6%) in Johannesburg, as some of the mixed areas in 1996 had become entirely black, but declined in Cape Town (to 37.8%) and Mangaung (to 69.5%). Black Africans had become an "increasingly significant percentage of the population in every municipality" increasing from 70.2% to 76% in Johannesburg, from 63.2% to 73.6% in eThekwini and from 77.5% to 83.1% in Mangaung (Harrison and Todes, 2013: 28).

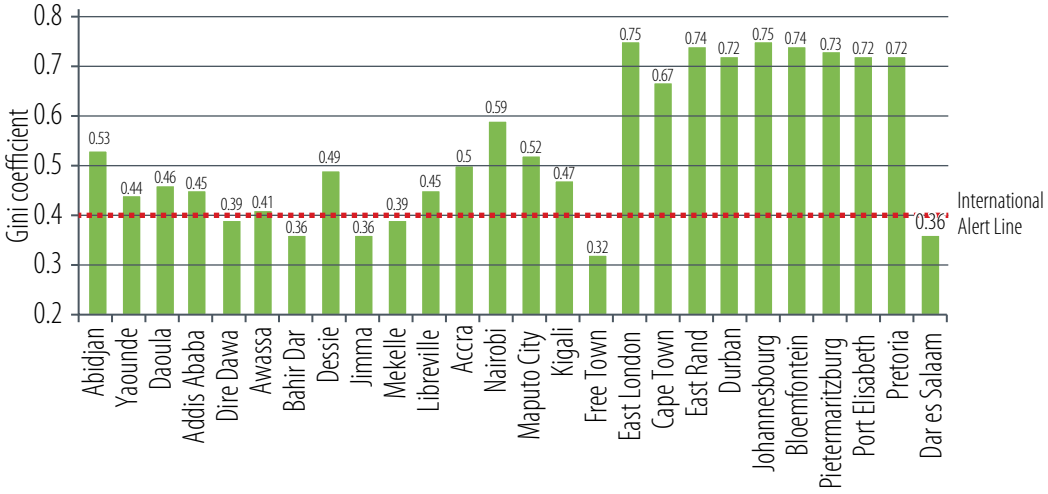
As mentioned, urban integration is more than just racial integration – it is also about the (formal and informal) workplace and public places (SACN, 2014b). Research on urban public spaces is scant, but a survey by the City of Cape Town (2010) found that a quality public space contains certain basic elements: lighting, safety and security, cleanliness, shelter for taxi commuters, ablutions, proper maintenance and management, electricity and recreational space. Urban public spaces should provide recreation and sports, places for the soul (accessing peace and quiet and contemplation), proper transport interchange facilities, a public facilities cluster or urban square, and association with an economic hub. What these findings imply is that access to public spaces should be "as of right" to the city, which questions the adequacy of urban public spaces to meet citizens' needs.

Urban inequality

> About 1 in 4 South Africans is out of work, and 1 in 2 among young people. Despite the progress in reducing poverty, there is a long way to go in tackling inequality. While a black middle class has grown up in the past 20 years, the average white household still earns about six times the average black household, and inequality within the African population has increased. Access to education has improved, but the overall quality continues to lag.[4]

The stubbornly high (and rising) levels of inequality are of great concern in South Africa, and all cities demonstrate extremely high inequality levels (i.e. Gini coefficient values over 0.6[5]) that are among the highest in the world (Figure 4.8). The international alert line is 0.4, above which inequalities may have serious negative political and socioeconomic consequences if not addressed.

Figure 4.8: Gini coefficient for selected African cities in 2008[6]



Source: UN-HABITAT Global Urban Observatory

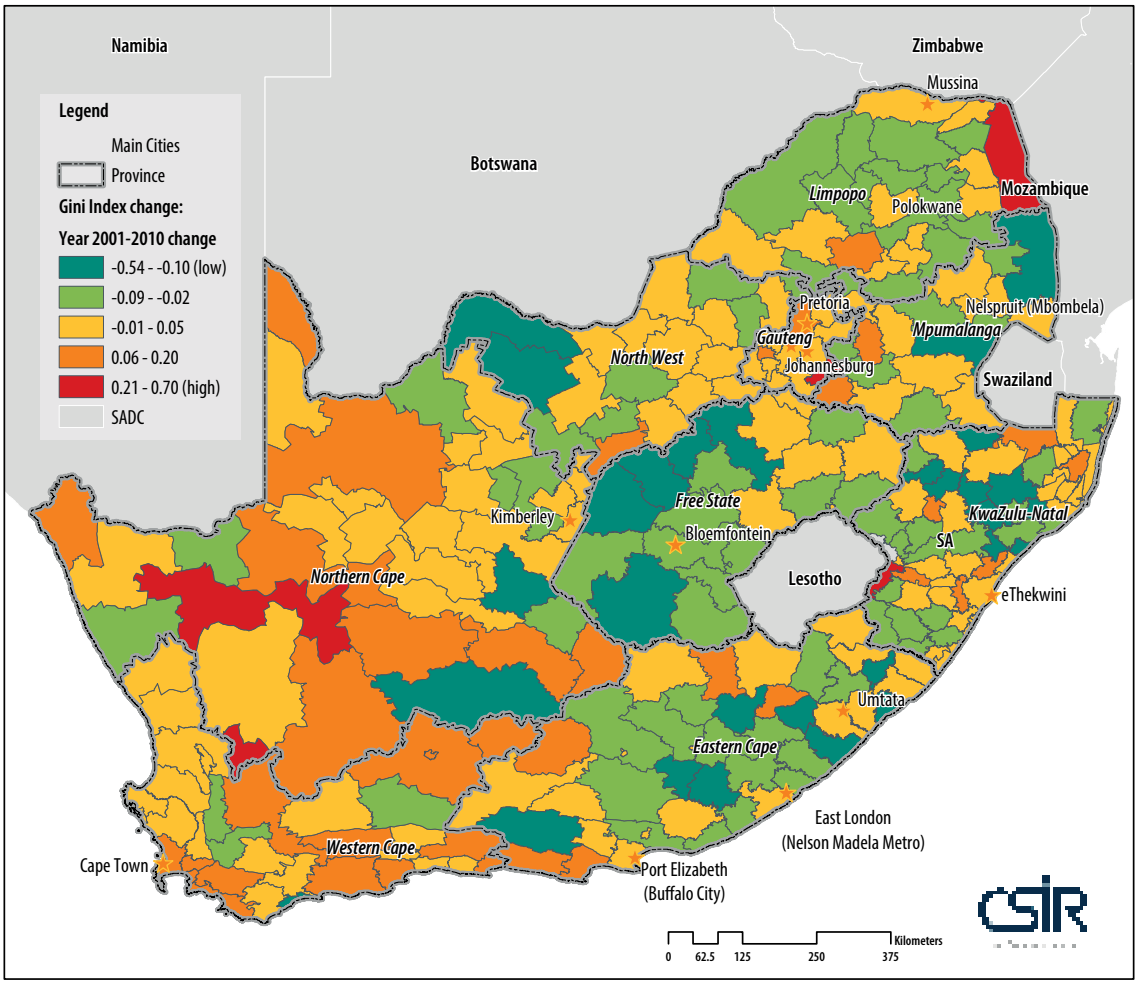
4 Remarks by David Lipton, First Deputy Managing Director, International Monetary Fund, at the University of Cape Town, 5 March 2015

5 The Gini coefficient is an international measure of inequality and is reflected as a value between 0 and 1, where 0 is perfectly equal and 1 is perfectly unequal.

6 Although this comparative chart is only available from a dated report (the SoCR Almanac contains more current data), the figure is used here to illustrate the point that inequality is comparatively higher in South African cities than anywhere else in the world, which continues to be true to SACN's knowledge.

As Figure 4.9 shows, inequality levels have not changed significantly over the years, implying that South Africa has not addressed inequality issues. The green shaded areas indicate a movement towards less income inequality, while the orange and red shaded areas indicate increasing inequality.

Figure 4.9: Extent of change in Gini coefficient (2001–2010)



Source: CSIR (2015)

Income inequality, as measured by the Gini coefficient, is insufficient to describe what is happening within communities and should not be interpreted separately from a qualitative understanding of what is a decent livelihood (CSIR, 2015). To understand livelihood better, the change in percentage income for the urban poor between 2001 and 2011 is presented in Table 4.3.

Table 4.2: Change in lowest income classes (2001–2011)

City	Total households		Total poor households		% of poor households		% change
	2001	2011	2001	2011	2001	2011	2001–2011
Mangaung	188 713	231 904	54 775	39 250	29.0	16.9	–12.1
Buffalo City	189 036	216 261	62 995	50 240	33.3	23.2	–10.1
eThekwini	821 822	956 712	216 827	212 203	26.4	22.2	–4.2
Msunduzi	134 877	163 981	34 822	35 441	25.8	21.6	–4.2
Nelson Mandela Bay	265 018	324 289	66 176	68 133	25.0	21.0	–4.0
Ekurhuleni	778 038	1 016 983	200 299	226 435	25.7	22.3	–3.5
City of Johannesburg	1 048 362	1 434 869	226 744	292 471	21.6	20.4	–1.2
City of Tshwane	646 887	910 003	125 590	166 578	19.4	18.3	–1.1
City of Cape Town	777 341	1 068 564	119 117	181 502	15.3	17.0	1.7

Source: StepSA (2013)

Between 2001 and 2011, despite growing numbers of households, the percentage of households considered poor decreased in eight of South Africa' nine cities, with Cape Town the exception. The percentage of poor urban households decreased significantly in Buffalo City (–10.1%) and Mangaung (–12.1%). In larger metros, the number of poor households are increasing because of population growth, smaller households (households splitting) and in-migration. The decreases in Buffalo City and Mangaung may also imply that poor urban households are leaving in pursuit of better opportunities in other places.

In considering the magnitude and growth of urban inequality, fundamental questions have to be asked about the social and political economy of South African cities, the role and responsibility of the state, as well as the systemic social and economic structures, practices and actors that sustain such inequality.

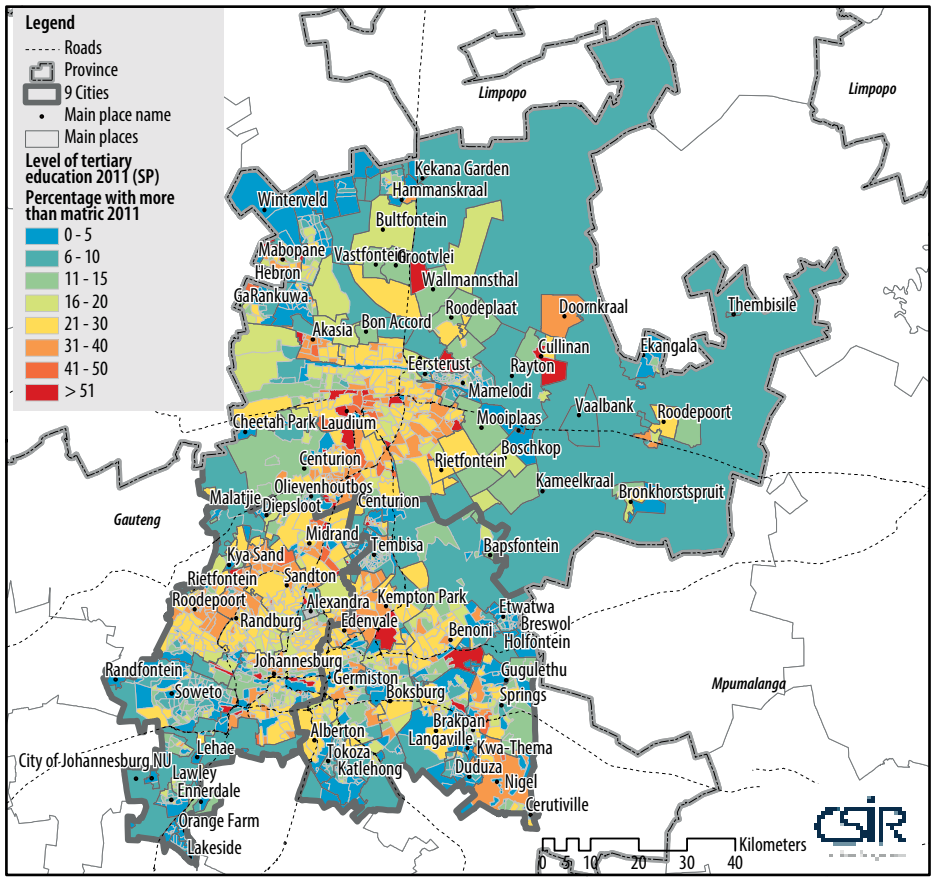
Human capital

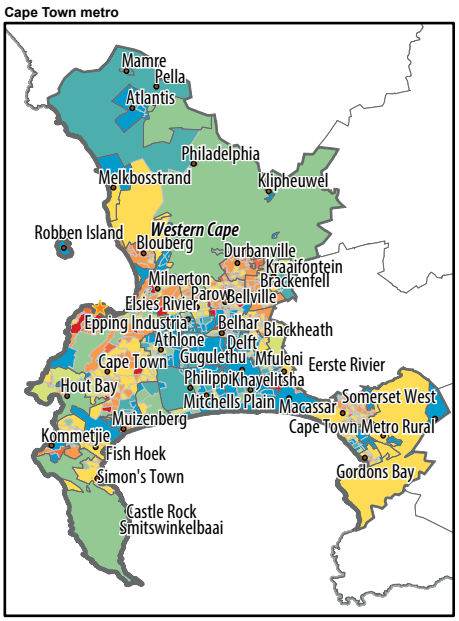
While remote rural populations are relatively worse off than urban dwellers in absolute terms (Noble and Wright, 2013), high levels of deprivation are found in urban areas, particularly in townships and informal settlements. These urban dwellers experience multiple deprivations, including overcrowding, poor quality housing, a lack of services and rule of law, and a high risk of eviction (Satterthwaite, 2015). Even well-established, well-located townships still have poor education and health facilities, which leads to yet another urban inefficiency (and cost to the poorer households): the daily exodus of many learners from township schools to suburban schools.

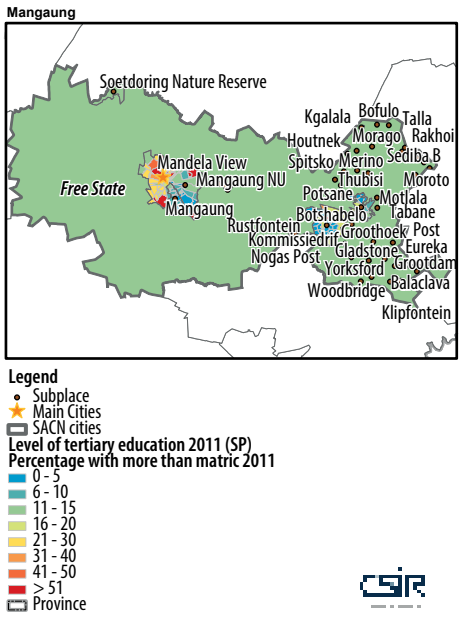
The ability of poor individuals to develop themselves and their communities depends on building their capabilities, which are affected by their education (skills), health and access to services. There is a correlation between relatively disadvantaged areas and lower levels of education. In addition, these services (education, health and social services) are generally not local government functions, further complicating the ability of cities to turn around this trajectory of spatially determined underdevelopment.

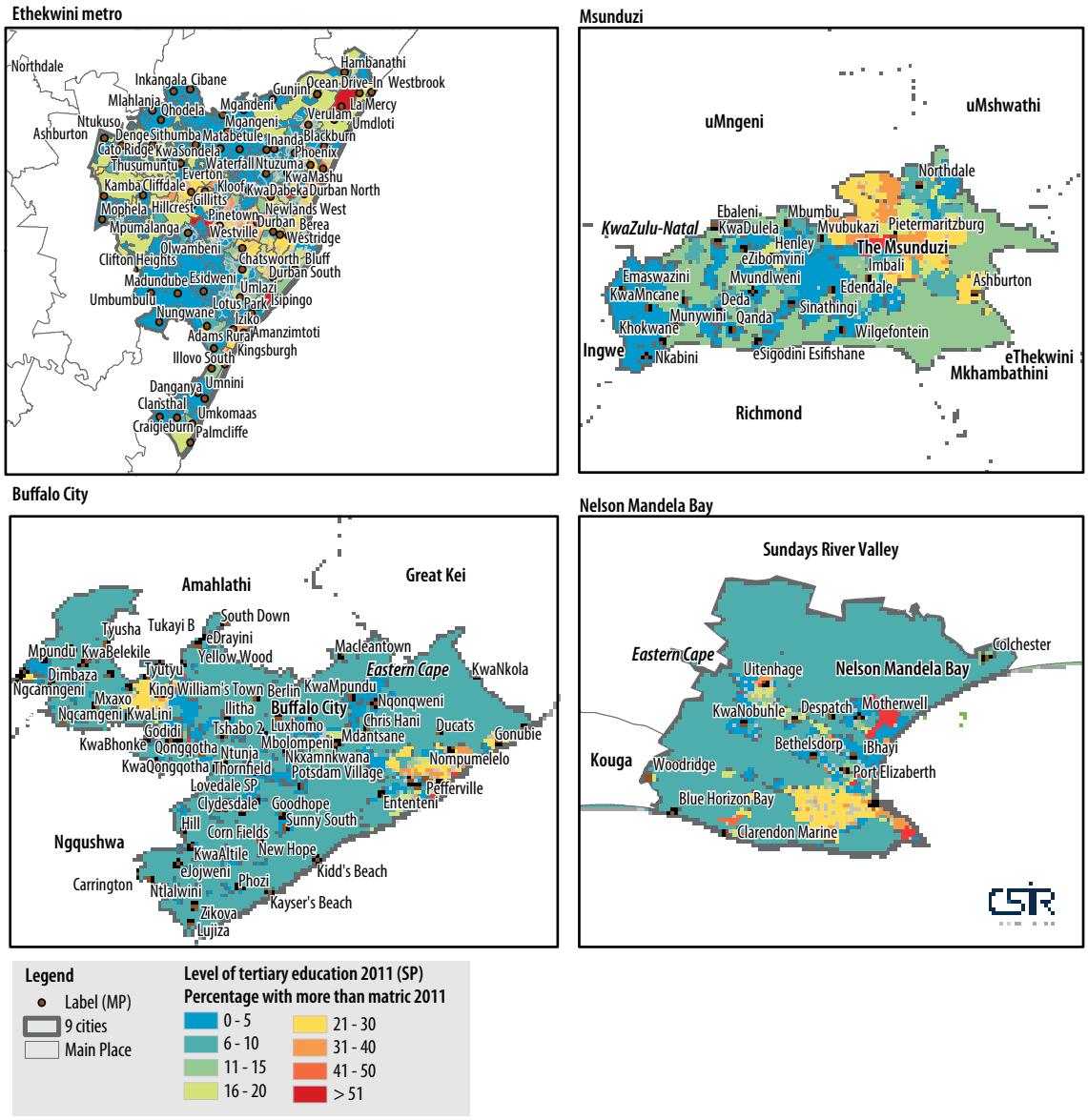
Figure 4.10 clearly illustrates that the percentage of people with qualifications is still lower in townships and on the fringes of cities than in the accessible or central urban spaces. For instance, very few of the population have a post-matric qualification in Mitchell's Plain and Khayelitsha (Cape Town), in Soweto, Thokoza, Alexandra and the GaRankuwa/ Winterveld (Gauteng) and in the rural settlement areas south and north of the N3 (eThekwini).

Figure 4.10: Percentage of population with more than a matric certificate









Source : CSIR, http://stepsa.org/human_capital_development.html

GENTRIFICATION: Exploring alternatives approaches

Since the late 1990s, more compact, integrated, mixed-use and inclusive urban development plans and policies for urban areas across South Africa have been encouraged. These kinds of developments are considered critical for transforming urban space. However, municipalities have been slow to respond in an innovative way because of the complex institutional arrangements and many actors, the politics of urban spaces and the cost of financing more inclusive and transformed settlements. Instead, new developments or revitalisation of decaying inner city areas have been left largely to the private sector. As the private sector's motive is often profit driven, the result has been gentrification, whereby existing communities are marginalised and excluded from the process.

Gentrification is simultaneously a physical, economic, social and cultural phenomenon that involves the invasion of urban space by middle-class or higher-income groups and the displacement of many of the original occupants. It involves the physical renovation or rehabilitation of what was frequently deteriorated housing stock that is upgraded to meet the requirements of the new owners. In the process, the prices of both renovated and un-renovated housing in the affected areas significantly appreciate, and tenure is transformed from rental to ownership (Hamnett, 1984).

To assist local government and the private sector to achieve development that is more inclusive, alternative approaches include using inclusionary zoning to develop affordable housing, as well as establishing and supporting community land trusts and community wealth building initiatives. Other important aspects include promoting mixed developments (in terms of use and income) and interventions that protect people from being evicted or pushed out due to higher interest and investment (e.g. rent regulation).

Some of these approaches have been successful elsewhere in the world and may be of relevance to South Africa. Much will depend on the specific contexts, and so local governments would have to understand their local issues and which approaches are most applicable. Nevertheless, certain key considerations underpin inclusive development:

- **Urban management:** Rapidly growing urban populations place increasing demands on land, housing, services and infrastructure, but the scale and speed of urbanisation, weak revenue bases and lack of administrative and technical capacity can mean that provision and maintenance are unable to keep pace with demand. The results are environmental decay and deteriorating living conditions, particularly for the urban poor. The ongoing maintenance of the built environment remains key to more liveable and sustainable cities.
- **Financing approaches:** The key actors, who are local government, private developers and community stakeholders, need to not only source funding for development, but also create a funding strategy. Therefore, financing becomes a critical factor when trying to achieve a transformative local government and inclusive development.
- **Urban land:** Urban land is at the centre of the spatial transformation agenda and inclusive development. As such, the transformation agenda cannot be achieved without addressing the land ownership, access and land management problems inherent in the country.

Source: Adapted from SACN (2016c)

Urban safety

South Africa's cities offer economic opportunities, but also tend to attract and experience relatively higher rates of crime than other areas. The causes of violence and crime in South African cities result from a number of factors combined, "including poverty and inequality to economic exclusion and unemployment as well as weak governance, the challenges of urbanization and resultant poor urban design" (Gotsch et al., 2014: 4).

Unsafety has direct implications for a city's growth, development and overall quality of life. Crime specifically constrains growth in a number of ways (SACN, 2016a), as it:

- costs business, by reducing profits and diverting funds away from investment in productive capacity;
- costs government, by diverting funds from spending that could stimulate growth;
- costs households, by diverting funds from growth investments such as education;
- erodes human capital through injury, death or flight of skilled workers;
- excludes workers from job market through, for example, fear of accepting jobs in off-hours or far from home;
- discourages foreign investment;
- blunts the impact of spending on long-term growth investments (such as schooling and public transport) if they are disrupted by crime.

In recent years, local government has been arguing for clearly delineated roles, responsibilities, functions and accountability for urban safety. Municipalities are increasingly tasked with safety-related functions, which are not matched with the necessary funding. Furthermore, the overwhelming incidence and effect of violence and crime cannot be dealt with only by law enforcement/policing. An integrated and effective response to crime and violence requires the involvement of other functions, in particular planning, and social and economic development.

Discussions around urban safety tend to focus on the middle class, but evidence suggests that crime and violence disproportionally affect those who can least afford it (UN-Habitat, 2015). In South African cities, low-income areas, such as townships and informal settlements, have poor safety because of socioeconomic factors and exclusionary planning, both of which are partially a legacy of apartheid. This affects perceptions of safety and the interaction of urban residents with public space (driving a retreat to the private). Integrated approaches — that go beyond conventional security and policing — are needed to address the social, economic, spatial and political drivers of violence and crime. These require stronger intergovernmental relations, resource allocation and evidence-driven policy and implementation.

Most South African cities have public safety policies and strategies in place, but implementation has had varying degrees of success.

In **Johannesburg**, the city's long-term plan to achieve its vision of becoming a world-class African city, Joburg 2030, embraces the principles and spirit of the Johannesburg Safer Cities project (Gotsch et al., 2014). In addition to the urban safety programmes, the city has various urban renewal programmes,

including township regeneration projects (e.g. the Alexandra Renewal Project), city improvement districts aimed at inner city neighbourhoods (e.g. Joubert Park, Hillbrow, Berea, Yeoville and Bellevue). As a result, a slight, but positive reduction in rates of violent crimes and burglaries has been observed (ibid).

In **Cape Town**, safety is one of the priority areas in the city's integrated development plan (IDP), which attempts to incorporate "violence and crime prevention into a broader safety plan that includes disaster and risk management in the fields of fire prevention and road traffic safety etc." (Gotsch et al., 2014: 17). A key sub-component of the city's safety plan is the Violence Prevention through Urban Upgrading (VPUU) programme, which was successfully piloted in Khayelitsha. The VPUU programme adopts elements of the UN Habitat Safer Cities programme and the World Health Organisation's Life Cycle Approach together with the concept of asset-based development (Ewing, 2015). Its approach to safer environments is quite distinct from the market-oriented redevelopment of the Cape Town CBD *(Samara, 2011)* and has had some success in crime reduction. This may be because of the programme's inclusionary approach that includes co-creating urban spaces with the community and locally based urban management practices.

eThekwini's Safer City Strategy recognises the importance of community participation and city-wide partnerships in reducing crime for both citizens and tourists *(City of Durban, 2000)*. However, apart from mentioning that Durban needs to become safer, the city's IDP does not seem to explain exactly how the issues of crime and violence are to be tackled (Gotsch et al., 2014: 17).

Despite cities' safety programmes, private developers have pursued gated developments for those who can afford them. These developments are fundamentally exclusive, as they turn their backs on the surrounding public domains and, ironically, increase insecurity by violating established urban safety design principles of visibility and public responsibility.

COSMO CITY: A case study in urban safety

The case study assessed how preventative interventions (in this case a better approach to human settlements) could increase safety.

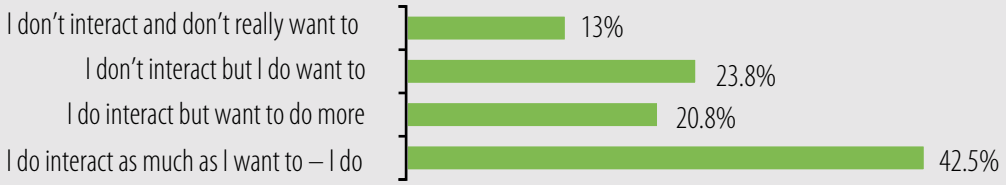
Located north-west of Johannesburg, Cosmo City is an example of a mixed-use and mixed-income settlement developed through a public-private partnership (CODEVCO) between real estate developer Basil Read, a black economic empowerment consortium called Kopano, the City of Johannesburg as landowner and the Gauteng Provincial Government as subsidy provider. The formal population in Cosmo City is now estimated at around 70 000 people, but the total population may be closer to 100 000 because the number of people living in backyard sublets is unknown.

The main objective of Cosmo City was to promote better "social cohesion" and thereby reduce levels of crime. The model responds to the challenge of South Africa's fragmented cities where income inequality is extremely high and areas are sharply segregated by class and race. Cosmo

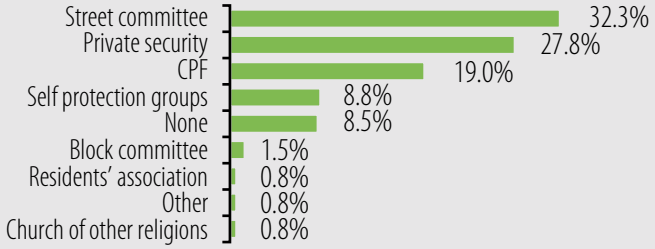
City's unemployment rate is about 30% (compared to Johannesburg's average of 25%) and the monthly income for most households is less than R12,800. Two-thirds (66%) are formally employed and a fifth (40%) are informally employed. Other sources of household income include government grants, such as pensions (25%), family support or remittances (14%) and rent from a dwelling, flat, or garage (10%).

To assess social cohesion and local governance, residents were asked about how they interacted with other people and which organisations made the most difference to their quality of life.

Social cohesion: How would you describe your interaction with other people who live in Cosmo City?



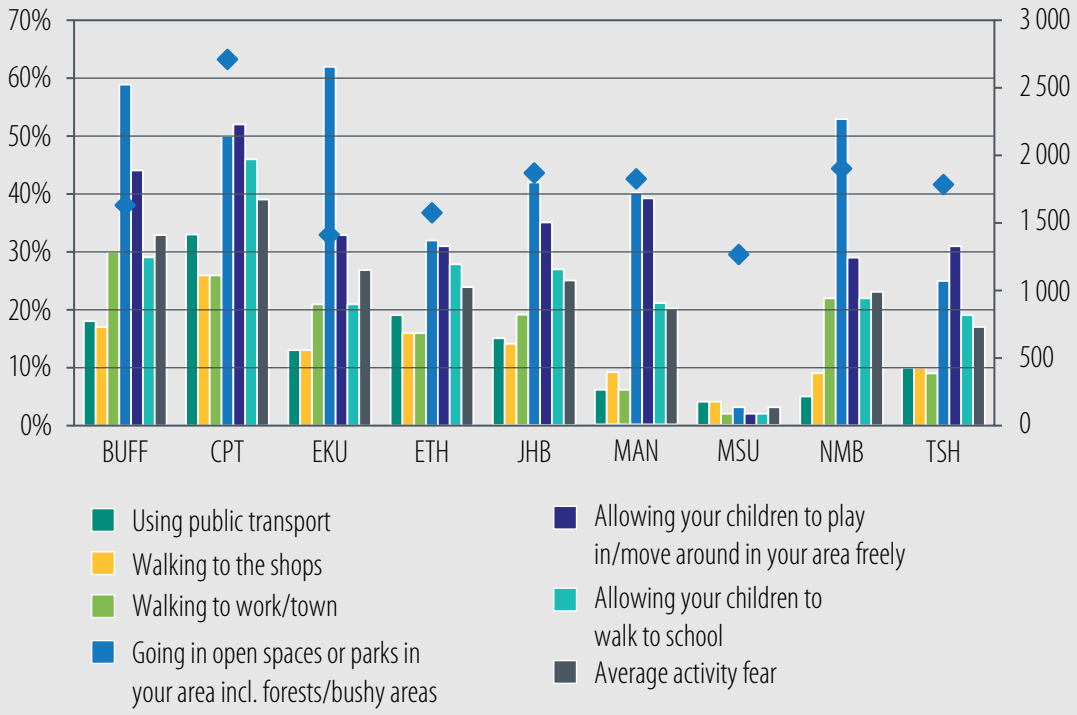
Local governance: Which, if any, of these organisations makes the most difference to your quality of life in your neighbourhood?



The results suggest unequivocally that people in Cosmo City feel part of their communities and that strong bonds have developed at local neighbourhood level. Street committees have the greatest impact on respondents' quality of life, while private security has a surprisingly high relevance, particularly for the more affluent households.

Social cohesion rests on active citizenship, and sharing in public life and in public space, while research suggests a correlation between perceptions of crime and the growing retreat from public space. Therefore, safety and reduced crime and violence create the conditions for (and precede) social cohesion.

Crime: Does fear of crime prevent you from doing any of the following in your area?



Recommendations

- *Develop capacity within local government to deal with violence and crime prevention.* Based on an audit of existing institutional and human resources available within metros and other municipalities, provincial and national government should assist municipalities to set up appropriate fiscal, personnel and organisational systems to fulfil their violence and crime prevention responsibilities.
- *Activate and resource communities to play their part.* The state has the primary responsibility for ensuring the safety of citizens but cannot do it alone. A vital part of the solution is active citizenship and the social energies within communities. The social cohesion approach used in the Cosmo City case is a building block, while street and block committees (and community policing forums) have an important role to play in creating safe environments, particularly for income groups that cannot readily access private security.
- *Design for cohesion.* This includes ensuring good mobility and accessibility to various means of transport, promoting multi-functionality of public spaces, drawing people of diverse backgrounds to share the same services and facilities, as well as feelings of comfort and safety (Pinto et al., 2010).

More purposeful safety and crime prevention is needed because safety precedes and creates the conditions for social cohesion. And to achieve urban safety requires effective urban governance and good intergovernmental relations, as well as cross-sectoral collaboration between spatial planning, transport and mobility, human settlements, social and economic development and community safety.

Source: Adapted from SACN (2015b).

Collective violence[7]

Two main dimensions are associated with collective violence in urban South Africa, especially in townships: strike action or protest violence, and xenophobic violence (Gotsch et al., 2014). Strike action or protest violence is usually what are termed "service delivery protests"[8] or employment disputes, and often result in the loss of life and damage to property *(von Holdt et al., 2011)*. Xenophobic violence is violence against non-South Africans, such as in 2008 when approximately 62 people died and over 100 000 people were displaced by xenophobic attacks (ibid). Since 2014, xenophobic attacks have occurred sporadically, but there has been a wave of attacks since January 2015 (SACN, 2015a).

VIOLENCE IN URBAN AREAS: Through xenophobic attacks

The *Sunday Times* pictures of Emmanuel Sithole being butchered like a cornered animal by Afro-phobes in Alexandra, South Africa, will remain etched in my mind for a long time. It is difficult even to grasp the savagery unleashed on Mozambicans, with the burning of Ernesto Alfabeto Nhamuave at the Ramaphosa informal settlement in 2008. That image remains lodged in the deepest parts of my being, the sheer horror of it impossible to dislodge.[9]

Kazango Elizee from the DRC married a South African woman and they lived in Thokoza, East Rand. Life was relatively easy until the 2008 xenophobic attacks at which time the couple and their children moved to a shelter in Randfontein. He is a qualified teacher but cannot access work. In his words: 'I cannot get a job, cannot open a bank account. I feel insecure. It's like hell. What can I do? I need protection from somewhere ...? Elizee says that the protection he seeks can only come from the department of home affairs in the form of refugee papers but he is reluctant to visit because he has experienced xenophobia there.[10]

Protests are another indicator that citizens are feeling unheard. Between 2012 and 2014, five metropolitan municipalities accounted for half of all recorded protests: Cape Town and Johannesburg were the most protest-prone municipalities, with 14% of service delivery protests each, followed by eThekwini, Tshwane and Ekurhuleni (Figure 4.11). These cities represent the best resourced, globalising and therefore desirable cities to move to and live in. However, the service protests imply that cities are not adequately satisfying their citizens' rights to access urban resources and services. (In some cases, protests may have been politically motivated.)

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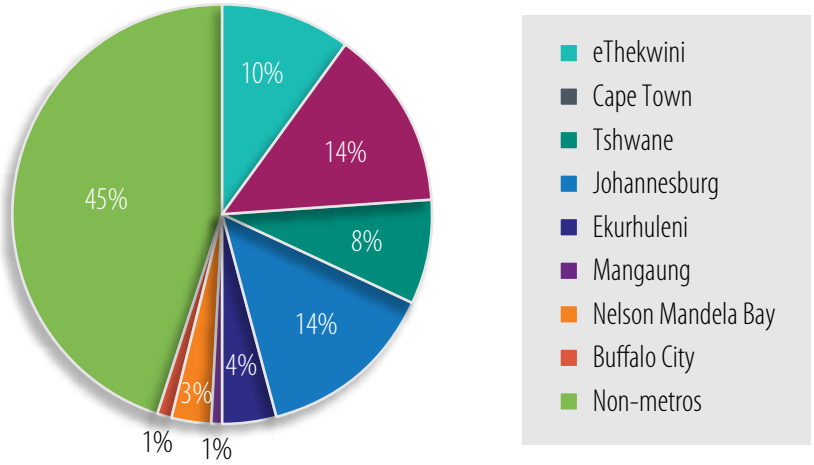
7 Collective violence is but one of 21 crime and violence indicators in cities. It was selected here because it identifies with a collective or group taking a position against another group in order to achieve a political, social or economic objective (SACN, 2014c). Public/collective violence is also an indicator of urban exclusion – having to fight or engage in protest action for rights that should be enjoyed 'as of right' as a citizen.

8 The legitimate rights of communities and/or workers to protest is not under-estimated here. The intention is not to take away from the legitimate engagement with the state in response to injustices, poor access to service delivery, lack of rights and freedoms. The focus here is on public and collective violence as a result of actions by both metro municipalities and protesters.

9 Ncube T. 2015. 'I fear the future is here', *Mail and Guardian*. 8–14 May, page 22.

10 Nkosi O. 2015. 'They know they can kill us and we can't do a thing', *Mail and Guardian*. 22–28 May, page 14.

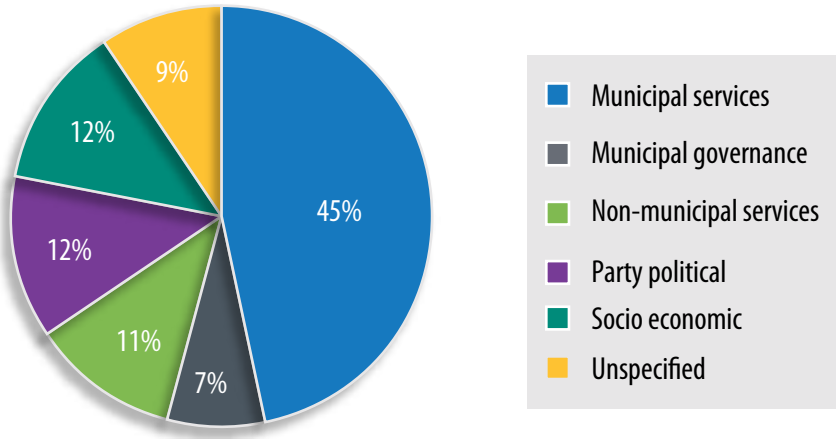
Figure 4.11: Protests in metros 2012–2014



Source: Powell et al. (2015)

The number of violent protests reached a record high in 2014, when almost 80% of protests involved violence by participants or the authorities, compared to less than half in 2007 (Powell et al., 2015). The grievances behind the protests were grouped into six categories (Figure 4.12).

Figure 4.12: Protest issues



Source: Powell et al. (2015)

More than half (52%) of the protests were related directly to municipal services or municipal (mal) administration, indicating high levels of dissatisfaction in urban spaces. It may be the case that protest issues relate to dissatisfaction with broader governance and/or service provision or demands for access to services that do not necessarily fall within the realm of municipal responsibility. However, because protests happen at the local level, and municipalities are considered the sphere of government closest to the people, demands are often targeted at them.

TOWARDS MORE INCLUSIVE CITIES

Citizenship refers to the public and/or universal access to those resources/common urban elements that enable citizens to exercise the freedom to lead the kinds of lives that they have reason to value (Sen, 1999). This includes access to urban resources and services that can promote health, education and general well-being.

Andile's story, which echoes the lives of many households in South Africa, demonstrates that exclusion is still an everyday experience for many families, but particularly poor families living in urban areas. The story illustrates that under present urban governance, South African cities are experiencing the type of pressure that can only lead towards deeper socio-spatial division, with poor, black families having no voice to engage authorities in respect of their most basic needs such as education.

Current interventions

The VPUU programme in Cape Town appears to have had reasonable success in addressing some of the drivers of crime and violence, such as economic exclusion and unemployment (both in a limited way), as well as poor urban design. The programme relies on a sense of public space ownership, which makes it both sustainable and meaningful in terms of active and participative citizenship. It is an example of how resources can be focused on local communities, using an area-based approach, to drive specific targets such as preventing violence, upgrading urban spaces and restructuring the public domain. However, a limitation may be that the VPUU has only occurred at a local area planning scale, not at a city-wide scale.

The Community Works Programme[11] (CWP) is another example of an existing government programme that promotes social justice through inclusion. Part of the Expanded Public Works Programme (EPWP), the CWP is not just a job creation programme, but also a community programme in that it seeks to create "useful work",[12] which is decided in ward committees and local development forums (Drimie and Pieterse, 2013). In other words, the programme engages local communities in an attempt to create active and participative citizenship. These kinds of programmes (VPUU and CWP) could be rolled out at city scale and begin to target not only existing communities, but also newly created integrated urban settlements, ensuring active citizen inclusion.

11 The CWP is a government programme aimed at tackling poverty and unemployment. It forms part of the Expanded Public Works Programme (EPWP), which was launched in April 2004 to help alleviate unemployment by creating at least one million work opportunities in five years (40% women, 30% youth and 20% people with disabilities). Currently in its third phase, the EPWP now aims to create six million work opportunities by 2019 (Drimie and Pieterse, 2013: 30; SACN, 2016b).

12 Work that improves the local area and quality of life of inhabitants, such as fixing community assets like schools, roads and parks, and setting up food gardens (Drimie and Pieterse, 2013: 31).

If adopted as part of municipal planning, community-based planning (CBP) can be an effective citizen participatory tool that promotes and improves citizen inclusion.

> The notion of citizens as passive recipients of service delivery by governments is one that has been questioned from the very genesis of CBP. The linkage of CBP with SLA [the Sustainable Livelihoods Approach], which promotes empowering local actions through use of available local skills and resources, creates opportunities for citizens to be actively engaged in providing their own local services, with support from others if needed. The strengthening of the linkages between service delivery and livelihoods is an aspect that could be explored more through the Expanded Public Works Programmes and Community Works Programmes in South Africa, for example (Lewis et al., 2014: 4).

These (and other similar) programmes should continue to be developed and rolled out in urban areas throughout South Africa, using trained local human resources and skills transfer among citizens. The CBP has shown that it has great potential for building partnerships between local communities and local government that result in genuine programmes of co-production.

In addition, the engagement of local government and citizens in implementing the National Development Plan (NDP) is crucial for building urban inclusion and empowering ordinary citizens. The new National Planning Commission (appointed in 2016), which will oversee the NDP's implementation, must ensure that officials and citizens commit to equal participation, especially in large cities. The roles of both officials and citizens will need to be clearly identified, so that they can work together and inspire one another to achieve the NDP's aims, which include prosperity, wellbeing and social stability. Importantly, trust is a fundamental ingredient for the successful implementation of the NDP – without trust among all participants, the plan has no hope of success.

EQUAL OPPORTUNITIES, INCLUSION AND REDRESS

Equal opportunity is about reducing the impact of factors such as gender, ethnicity, place of birth and parental income and wealth and family background on people's life chances. Success in life should depend on people's choices, effort and talents, not their circumstances at birth. (NPC, 2011: 464–465)

Four out of the five inclusion-related proposals in the National Development Plan directly imply direct roles of cities:

- Reversing apartheid geography by establishing new spatial norms and standards – densifying cities, improving transport, locating jobs where people live, upgrading informal settlements and fixing housing market gaps
- Ensuring that no South African lives below the minimum standard of living.
- Growing the economy and employment, so that 11 million jobs are created by 2030.

Source: NPC (2011)

Furthermore, citizen education and skills training are needed, so that citizens are empowered, become more literate in local affairs and are provided with skills, such as how to understand a municipal budget. In this regard, the idea of citizen academies should be explored, as proposed by the NPC. The concept of citizenship academies is that of "learning spaces" initiated by municipalities in partnership with local civil society or learning institutions (Gorgens et al., 2013). The citizenship academy incorporates a strong focus on community empowerment, particularly in relation to practical planning, dialogue and project management at neighbourhood level, to inform local government development processes. However, the ultimate goal should be to facilitate a structured and sustained dialogue between communities and local government in the form of communities of practice. These "spaces" and "communities of practice" can be expanded to create cohesion among different groups with varied backgrounds to establish networks that could potentially address matters of xenophobia and migrant exclusion (Drimie and Pieterse, 2013).

Spatial planning interventions

Steps to achieve urban spatial planning that is more inclusive (adapted from Gouverneur, 2014) begin with advocating for political acceptance among local government with a stronger emphasis on inclusive planning and interventions that are mainstreamed in existing plans and legislation, such as the integrated development plans (IDPs) and spatial development frameworks (SDFs). SDFs should focus on the provision of public infrastructure that must be budgeted for in multi-year public expenditure frameworks, and should be aligned with sector infrastructure priorities. This more inclusive focus should also be emphasised and strengthened in national policy frameworks such as the Integrated Urban Development Framework (IUDF).

It is also necessary to develop an urban land approach that:

- identifies and reserves appropriately located public land and buildings in the inner city, as well as cheaper land in the wider metropolitan area;
- defines institutional land tenure models, consolidated land-use management schemes and optimal land subdivisions solutions, innovative financing approaches and tools to encourage mixed-land uses to support public infrastructure investment; and
- fosters, monitors and supports the transformation and expansion of the public land and infrastructure investment programmes, so as to meet the needs of people who require accommodation and settlements now and in the future.

The reservation of land or buildings in inner cities is especially important and should be for high-density, mixed-use and integrated developments to accommodate legal external migrants as well as internal migrants and citizens in need of decent accommodation. Inner city areas offer access to employment and to informal economies, as a consequence of their size and density (Harrison and Todes, 2013), and also substantially reduce the cost of transport. For the urban poor, living in the central city means that they can walk to economic opportunities, which in turn reduces transport expenses. In addition, access

to public transport is generally increased (Venter, 2012). SDFs could explore a transport-oriented development approach to city development and compact urban development (FFC, 2011) that specifically considers the needs of the poor. The findings of such an exploration should also be aligned with the propositions of those advocating more compact urban development.

CONCLUSION

Urban social and spatial justice will not be achieved for the large majority in South African cities unless the ongoing urban migration is into well-serviced or better located areas, including the previously white or middle-income suburbs, as a result of upward mobility and being able to afford to live there. This implies that the collective and universal aspects of achieving the "right to the city" have been ignored in favour of citizens who can afford to buy their right to the city. In other words, South African cities have not allowed the social functions of the city and the use of public resources, such as public land, transport and facilities, to achieve urban inclusion at city-wide scale.

An inclusive city is one that is not only open to but also values all people and their needs on equal terms. It bestows rights to the city on all citizens, particularly those who contribute to it economically, socially, culturally, informally and so on. The South African cities barometer indicates that access to urban resources has improved, However, South African cities are still largely benefiting those who can afford to "buy" their rights and freedom to the city, while thousands like Andile and his family (and many migrants) are still socially, spatially, culturally and economically excluded. They cannot live the lives that they value and have reason to value – they remain unfree. As demonstrated in this chapter, this "unfreeness" is evident in the eruption of crises in urban areas (e.g. seemingly constant service delivery protests), the urbanisation of poverty and the limitations placed on the urban poor, including migrants, to access urban resources and freedom.

RECOMMENDATIONS

Cities need to remove unfreedoms,[13] by putting in place practical strategies and programmes to help to deal with (unfree) citizens' exclusion, so that the city is not just open to certain people but is accessible to a range of citizens, including the poorest of the urban poor. Instead of frustrating citizens and not listening to their voices, particularly those of the poor, urban society should heed those voices by implementing measurable efforts to increase inclusiveness. Strategies for removing unfreedoms could include programmes for achieving social justice by reducing, at scale, inequality and poverty, creating jobs; and the promotion of citizen education and training.

13 See Samuels (2005)

South Africa requires a spatial policy approach to address growth and change (internal and external) to get ahead of the urbanisation issues facing our cities in order to achieve reasonable spatial justice for all citizens. The IUDF (COGTA, 2016) provides a strong foundation for this.

The existing spatial development frameworks of cities must be strengthened, so that they are more inclusive and accommodating of external and internal migration, by anticipating population flows and developing approaches for "welcoming" new urban residents. This may mean identifying and making available well-located land close to transport interchanges, key nodes and corridors where new urban residents are able to settle. Using cheaper land on the periphery of cities for the development of human settlements must at least be carried out circumspectly. The land utilised should be serviced public land, established for mixed-use purposes, which is directly connected into an urban accessibility grid serviced by frequent and affordable integrated public transport and NMT networks.

Public investment should be directed into enabling inclusion, through access, basic services, urban management, and controls against disasters, such as flooding, and providing public infrastructure that begins to structure future private investment in economic opportunities, commerce and industry. The EPWP could be linked to these public investment programmes.

South African cities are among the most unequal in the world. This implies that inequality must be addressed by, among others, lowering urban unemployment and creating opportunities for more liveable incomes and better opportunities to improve livelihoods. If not, citizens at the lower end of the inequality spectrum will feel increasingly excluded and unfree in South African urban society. Therefore, cities must commit to promoting urban inclusion and access in their cities going forward. These following mutually inclusive recommendations should be considered

SUSTAINABLE **CITIES**

Leveraging the transition to sustainability

@leboditibane

Key Messages

1. The typical South African city is growing in a resource-intensive way and suffers from inefficiencies across all sectors (energy, food, water, waste and transport).

2. The current silo approach to planning and delivery is inefficient and increases risks of exclusion.

3. Cities should pursue spatial transformation, which encourages compact cities and sustainable neighbourhoods that value natural and open spaces.

4. Sustainability and growth are interdependent, and so sustainability must be fundamentally embedded in a city's development paradigm, and not just in its long-term visions and strategies.

5. Cities need to tackle resource efficiency aggressively.

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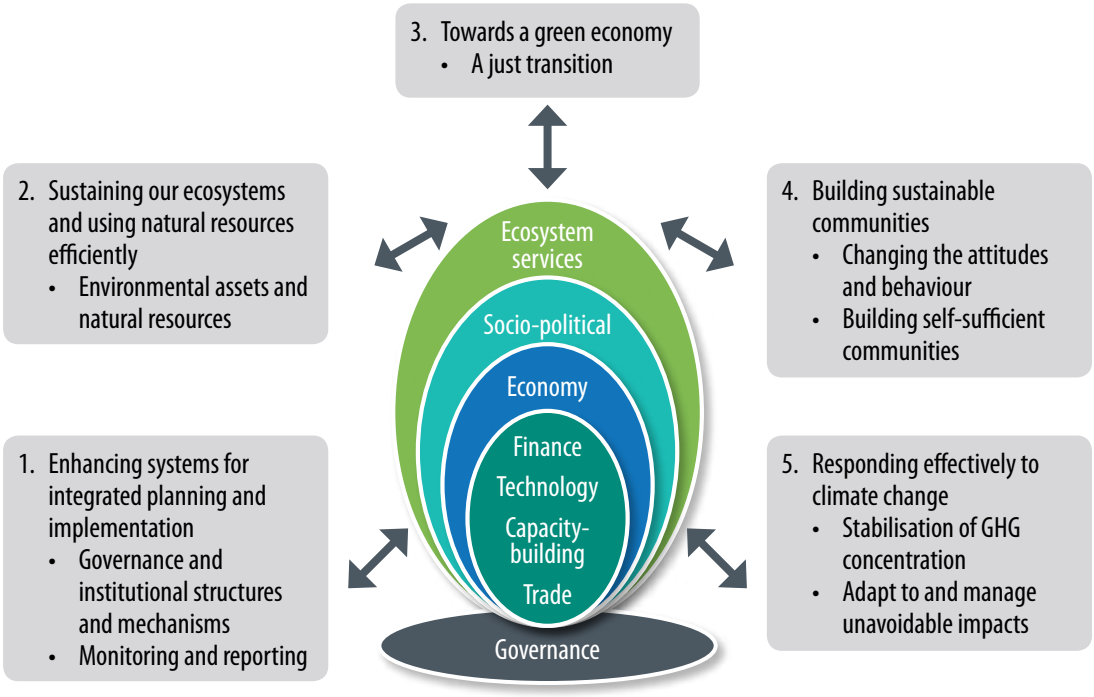
INTRODUCTION

Since 1994, the government has clearly positioned South Africa as a country on a sustainable path. The South African Constitution requires local government to "secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development". In support of this constitutional objective, the National Environmental Management Act (NEMA) (No. 107 of 1998) established cooperative governance principles, institutional mechanisms and sustainable development tools needed to promote environmental sustainability. These include environmental impact assessments, environmental management frameworks, environmental management cooperation agreements, environmental management plans, environmental implementation plans and regular State of the Environment reports.

In 2008, the National Framework for Sustainable Development was adopted. It became the National Strategy for Sustainable Development (NSSD) in 2011. To achieve the nation's vision for sustainable development, the NSSD proposes five strategic interventions and means of implementation required (DEA, 2011a), as shown in Figure 5.1.

Figure 5.1: Sustainable development priorities and means of implementation



Source: DEA (2011a)

Although environmental sustainability is mainstreamed across government spheres, with champions beginning to lobby for broader sustainability, faster implementation is required.

A sustainable city is defined here as a city that meets its developmental responsibility (social justice and urban safety) in a sustainable, spatially transformed and resource-efficient way (natural and economic resources, and human capacity) that takes into account the limited biophysical planetary boundaries

(environmental thresholds). Living sustainably means grappling with the "perfect storm" associated with the inseparability of water, food, energy and climate change (Oxford Martin University, 2013: 18).

Cities have control over resources (water, electricity, waste and land, etc.), and the condition of these resources affects both the local and national economy. Furthermore, revenue generated from managing these resources is used to subsidise services provided by cities to residents. Efficient consumption and maintenance of these resources is important because the economy will be negatively affected if they are depleted or degraded.

In 2011, the State of Cities Report (SoCR) assessed South Africa's nine major cities under the theme of resilience (SACN, 2011). Resilience was referred to as the ability of urban systems and institutions to accommodate different sources of change and adapt to a state of flux. As urban spaces are dynamic and constantly evolving, an integrated systems thinking approach is required to assess and manage them. Cities must view sustainability as part of their everyday business (i.e. service delivery), not as a fringe environmental concept. The SoCR 2011 concluded that resilient cities need to be accountable for resource usage, which requires high-quality, city-level data on resource stocks and flows.

The country has made good progress in development, but sustainability is not yet seen as central to service delivery. The percentage of households with "access to a basic level of water (one stand pipe within 200 metres)" increased by about 35%, from just over 60% in 1994/95 to over 95% in 2011/12 (The Presidency, 2014: 71), and South Africa is considered "one of the few countries in which tap water is safe for drinking and use" (ibid: 127). Waste management has improved tremendously, with waste collection in all nine cities above the national average of 65%. However, progress has come at a cost. For instance, the coastal areas in Cape Town and eThekwini have been the most transformed from their natural state, which means they are rapidly losing the ability to provide ecosystem services and to buffer coastal communities from sea level rise.

This chapter aims to provide a perspective on accelerating transition towards sustainable and inclusive cities. It uses a resource-efficiency lens on energy, waste, water and food security to reflect on environmental sustainability, and examines how cities understand and manage cross-cutting issues such as land, air quality, climate change, disaster management, coastal management as well as rural-urban linkages. Foresight principles are proposed as a tool to operationalise existing growth and development strategies.

CITY TRANSITIONS TO SUSTAINABILITY

In 2015, the Paris climate agreement on cities at COP21[1] emphasised that, unlike cities in the developed world, African cities, as key drivers of growth, will not have the luxury of riding an environmental Kuznets curve (i.e. to pollute now and implement sustainability practices later). Cities

1 COP stands for the Conference of Parties, which is held annually to review the implementation of the Rio Convention that includes the UN Framework on Climate Change (UNFCCC).

will need to have low-emissions growth and development trajectories that work smartly within an increasingly resource-constrained world. Yet, despite a relatively high level of expressed political commitment, South African cities are not transitioning to sustainability quickly enough.

Cities have in place planning tools, such as integrated development plans (IDPs), spatial development frameworks (SDFs) and service delivery and budget implementation plans (SDBIPs). They have developed and improved service delivery in key sectors: energy, waste management, water and sanitation, human settlements and public transport, and have begun tackling climate change, food security, and disaster and risk reduction. However, the apartheid spatial development legacy combined with rapid urbanisation mean that cities are continuously playing catch-up, as access to infrastructure and services falls behind population growth. This pressure feeds urban sprawl, which, in turn, encourages car use, exacerbates social segregation, increases greenhouse gas (GHG) emissions and leads to the loss of natural resources.

As a result, the typical South African city is resource intensive and suffers from inefficiencies across sectors (energy, food, water, waste and transport). Some decoupling[2] has been observed in the energy sector, but generally the development trajectory is unsustainable. Volumes of waste are disposed annually at landfill sites, which are fast running out of airspace; freshwater reserves are constrained; and GHGs and other air pollutants continue to be emitted from electricity generation and vehicles that run on fossil fuel. Cities continue to depend on food that is produced elsewhere, making them vulnerable to shocks in the food value chain (e.g. rising costs because of drought, flood, or increased electricity and petrol prices).

Income and wealth inequalities aggravate the situation. Equitable access to services and infrastructure eludes many communities within the cities. Although middle- and high-income households are investing in rainwater storage, renewable energy, solar water heating and grey water systems across the country, the majority of the population remains in poorly connected settlements, with poor access to public transport and subject to increasing water, electricity and transport costs, which stretch household budgets even further. The consequence is a deepening energy poverty that is perpetuated through generations.

Cities need to appreciate that environmental sustainability is the foundation for the economic and social well-being of their citizenry, as underscored by the cross-subsidisation that happens between the different levels of households. They have powers, planning tools and instruments that can be used to ensure the efficient management and consumption of resources. Where their mandate and ability is constrained by national legislative ambiguity, cities can use existing intergovernmental cooperation platforms to negotiate such ambiguities. Cities have made significant progress towards sustainability, and this is analysed through energy, waste, water and food security.

2 Decoupling refers to the ability of an economy to grow without corresponding increases in environmental pressure. In many economies, increasing production (GDP) raises pressure on the environment. An economy is said to be decoupled when it is able to sustain GDP growth without having a negative impact on environmental conditions. The OECD definition: the term "decoupling" refers to breaking the link between "environmental bads" and "economic goods". In other words, the rates of increasing wealth are greater than the rates of increasing impacts. *https://en.wikipedia.org/wiki/Eco-economic_decoupling*

SUSTAINABLE ENERGY

Sustainable energy refers to the production and consumption of energy in ways that support social and economic development in an environmentally benign manner (SACN, 2015a). The current electricity crisis facing the country is an invitation for cities to invest more in renewable energy and energy efficiency, but this will require rethinking the way cities charge for electricity.

Supply shortages led to load-shedding in 2008 and again in 2014–2015, negatively affecting businesses and households. Eskom is under severe financial strain to maintain its operations and bring new capacity online. Many municipalities are struggling to pay for electricity used, which compounds Eskom's financial pressures. Emissions from coal-based electricity and high consumption of fossil diesel and petrol are also under scrutiny because of the country's commitment to reducing GHG emissions.

For municipalities, reducing Eskom-supplied electricity sales will affect city finances, as cities use proceeds from electricity sales to cross-subsidise other functions and services. Furthermore, the price of renewable energy technologies is becoming attractive for businesses and households. While this move is good for industry development, cities are likely to lose income from electricity sales, as businesses and middle- and high-income households adopt renewable energy and everyone reduces their consumption because of rising electricity tariffs. Therefore, cities need to find innovative ways of growing their revenue.

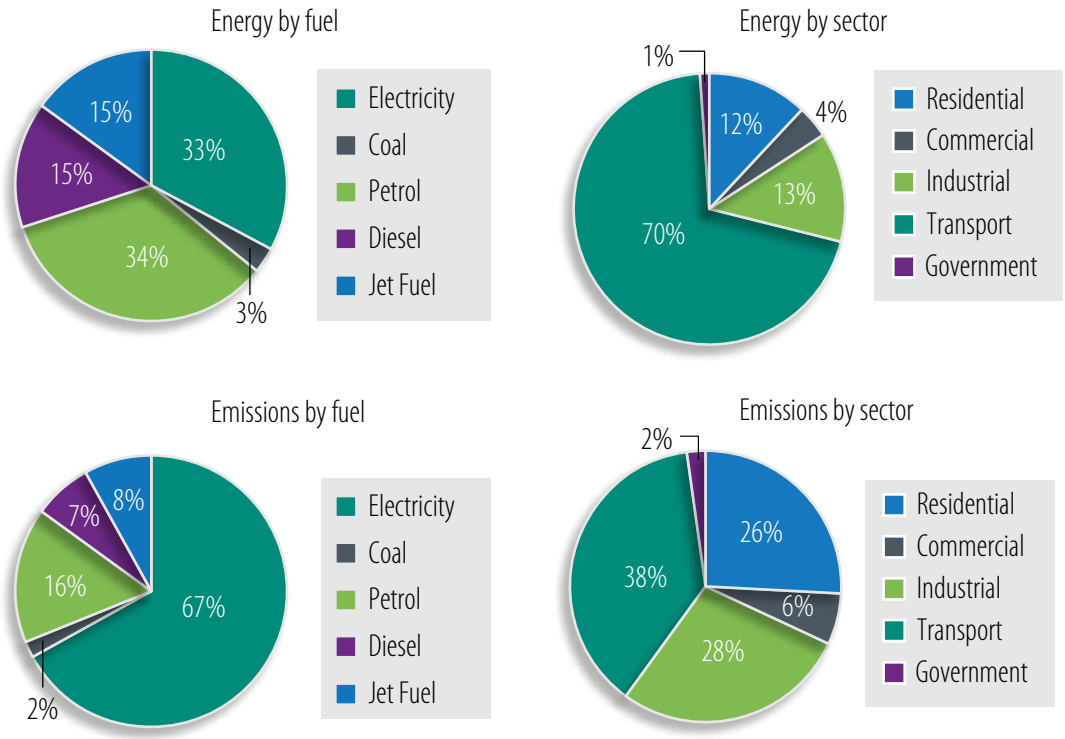
ENERGY: legislation, policies and plans

The National Energy Act (No. 34 of 2008) aims to ensure that diverse energy resources are available for all South Africans, and its objectives include effective energy management and conservation. The Act paves the way for increased renewable energy supplies and energy efficiency initiatives. It obliges the Minister of Energy to develop an Integrated Energy Plan that includes the supply, transformation, transport, storage and demand of energy. Sustainable energy is further promoted through the Renewable Energy White Paper (DME, 2003) and the Energy Efficiency Strategy (DME, 2005; SACN, 2015a). Cities can support these national ambitions through developing policies and bylaws.

The Integrated Energy Plan is meant to guide future energy investments, while the Integrated Resource Plan guarantees security of electricity supply and reduction of carbon emissions through diversification and introduction of cleaner technologies. The Integrated Resource Plan identifies the need to accelerate tapping into the country's solar, wind and hydropower resources, while exploiting fossil fuels and mineral resources more responsibly. As of May 2015, 4116 MW of renewable energy had been procured (DoE, 2015) as well as plans pronounced for nuclear expansion, but the slow diversification of national energy supply means that energy production will remain largely dependent on coal for some time.

Most of South Africa's energy consumption occurs in cities: just eight cities (metros) consume more than one-third of national energy consumption, and more than half of all petrol and diesel (SEA, 2015). Figure 5.2 shows the energy use and emissions for a typical metro.

Figure 5.2: Energy use and emissions for a typical metro



Source: SEA (2015)

Figure 5.2 shows that:

- Energy use is split evenly between petrol (34%), electricity (33%) and diesel and jet fuel (30%), with a negligible contribution (3%) from coal. The transport sector accounts for 70% of energy consumed within a typical metro.
- Electricity generation is the largest contributor to emissions, accounting for two-thirds (67%) of all emissions. This is in part because South Africa uses coal to generate the bulk of its electricity, and coal has a very high emissions factor. The transport sector is the largest emitter (38%), followed by the industrial and commercial sectors (34% combined).

As the largest consumers of energy, cities are at considerable risk from rising electricity tariffs, crude oil import tariffs and climate change pressures. Yet, at the same time, they have a huge potential to enhance energy security, reduce emissions and lead the transition to cleaner energy sources. In this regard, cities have made some progress, as the following sections illustrate, but implementation and scaling-up of initiatives have been limited.

Renewable energy

Small-scale, local renewable energy generation is becoming increasingly financially and technically viable (SEA, 2015). The Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) has accelerated the shift to photovoltaic (PV), wind, as well as landfill, wastewater and biogas-to-electricity projects. In 2014, municipal-led or supported local renewable energy development was at 67,647MWh/year from zero installations in 2005 (SEA, 2015). This is a significant effort that needs increased support from national government.

PV projects: In 2012, Ekurhuleni installed 200 kWp of solar PV plant from 860 solar panels, with plans to scale up to 600kWp, while in 2014, Cape Town installed 167 kWp of rooftop PV panels, with 90 kWp planned for installation by June 2016. eThekwini has developed a Solar City Framework to promote the local manufacturing of PV technology and its uptake in residential and commercial properties. The output of this framework is an online solar map that can be used to quantify solar potential before further investment. There are also plans to install 150 kWp on municipal buildings.

Wind power: The wind farm in Darling, Cape Town, offers 5.2 MW of installed capacity, while in Nelson Mandela Bay, the 1.8 MW Coega wind farm is being developed and privately supported by a municipal Power Purchase Agreement (PPA) and wheeling agreement.

Landfill gas to electricity: The largest plant is in eThekwini, where the Bisasar Road produces 7 MW per year from landfill gas. Johannesburg is planning to generate 18.6 MW from its five landfill sites, while Ekurhuleni and Buffalo City continue to flare as feasibility studies are undertaken.

Wastewater gas to electricity: Johannesburg's Northern Water Works Treatment Plant has plans to ramp up production to 4.5 MW.

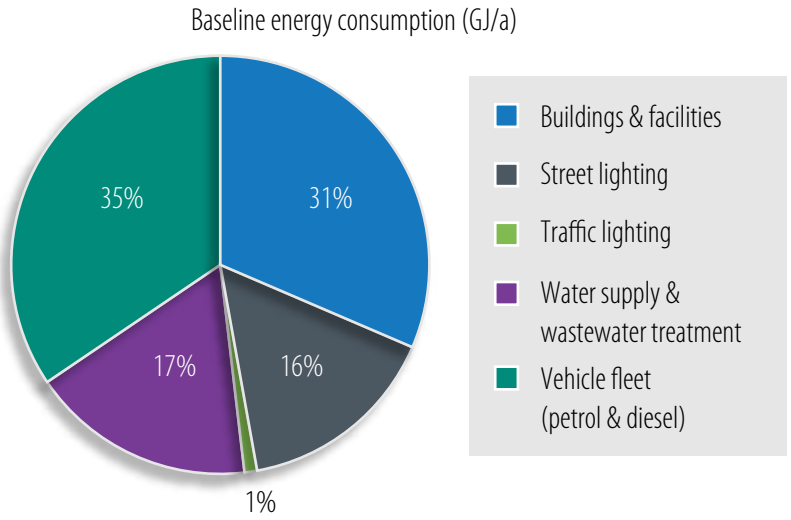
Waste to electricity: Tshwane's Bronkhorstspruit facility currently produces 3 MW with expected full capacity of 4.5 MW.

Micro-hydro: Cape Town has 2 775 kW installed capacity at the Wemmershoek, Blackheath, Faure and Steenbras water treatment plant facilities (SEA, 2015).

Energy efficiency

At the national level, energy efficiency and fuel switching remain under-exploited despite their benefits for job creation, financial savings and enhanced energy security. Cities can lead the way and, in so doing, will not only save money, but also encourage the residential, commercial and industrial sectors to follow suit. Payback times are often reasonable and large savings can be achieved by retrofitting streetlights, traffic lights, water pumps and buildings with technologies that are more efficient.

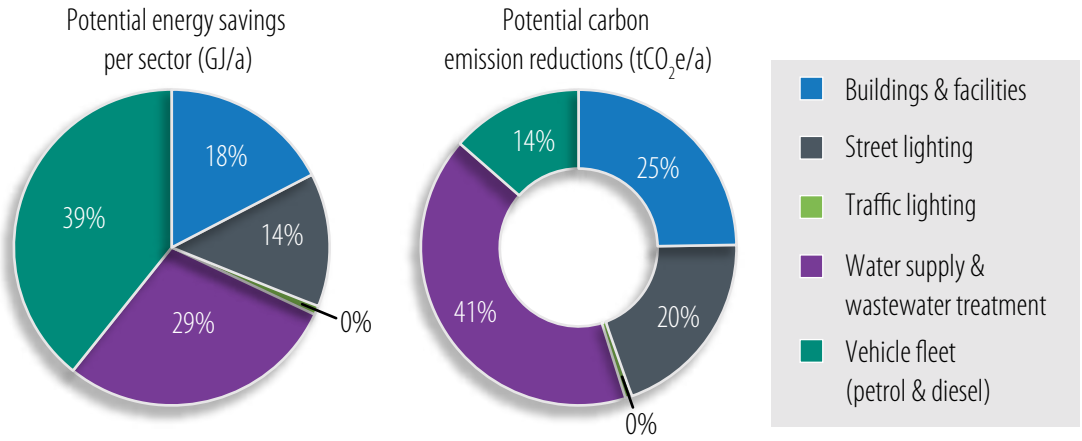
Figure 5.3: Average baseline energy consumption per sector (GJ/a) in a city



Source: SACN (2014a)

As can be seen in Figure 5.3 there is significant energy consumption in cities and so the potential end-use savings are considerable: 39% from the municipal fleet, 29% from the water supply and wastewater sector, 18% from buildings and facilities and 14% from street lighting (SACN, 2014a). If the full potential of energy savings were captured, the result would be a significant reduction in carbon emissions across the sectors (Figure 5.4). It should be noted that in the case of the municipal fleet, the potential is higher for energy saving (39%) than for emission reduction (14%). This is because liquid fuels have a lower carbon content than electricity.

Figure 5.4: Potential energy savings and carbon emissions reductions per sector/annum



Source: SACN (2014a)

Cities have introduced energy efficiency policies, strategies and campaigns, and have established implementation forums. Implementation is often financed through the Eskom Rebate Programme (for low- and high-pressure solar water heating systems), and the Energy Efficiency Demand Side Management (EEDSM) programme for street and traffic lighting, building lighting, heating, ventilation and air conditioning systems, and more recently for water pumps in water and wastewater plants. Through the EEDSM fund, eThekwini has managed to implement a number of energy efficiency projects focusing on traffic lighting, street lighting and its municipal buildings. Between 2009/10 and 2010/11, eThekwini Transport Authority replaced all 75W incandescent traffic lights with 15–20W LED lights, and spent a total of R25.4-million on traffic lighting retrofits.

SUSTAINABLE TRANSPORT: impact on energy consumption and emissions

While not a direct resource, such as energy or water, transport has an important impact on energy consumption and emissions. The transport sector is responsible for 38% of emissions (as shown in Figure 5.2), which is not surprising as the private car and minibus taxis were the only modes of transport to show an increase in use between 2003 and 2013 (see Table 2.1 in Chapter 2). A strong business case has been made for cities to encourage the use of cleaner fuels, such as compressed natural gas (CNG) and biogas, in public transport vehicles, including minibus taxis (SACN, 2015a). Switching to cleaner fuels will reduce emissions considerably, especially as the minibus taxi industry will remain a highly relevant mode of transport for the foreseeable future.

Municipalities can promote sustainable transport through greening their municipal fleet and improving mobility within cities, which will lead to more efficient use of resources (time, productivity, affordability and air quality). Cities own and operate thousands of vehicles, which account for 35% of municipal energy consumption (Figure 5.3). Therefore, greening municipal fleets makes sense: reduced emissions would lead to reduced air pollution and less respiratory illnesses, while municipalities would save on fuel costs. The lifecycle costs for procuring and operating green bus fleets using either biofuels, CNG/biogas, or electric batteries, have largely converged with those of EuroV diesel buses. All options comply with EuroV tailpipe emission standards and can reduce GHG emissions by over 70%. Biogas and bioethanol have good potential as a sustainable fuel, if care is taken in sourcing them, while electric vehicles can be charged with solar PV to achieve a 100% reduction in emissions. This move would also reduce dependency on imported crude fossil fuels (SACN, 2015c).

Improving mobility through an integrated public transport system that includes mass transit and non-motorised transport (NMT) will also result in lower emissions, more efficient use of resources and increased productivity. The larger cities have introduced bus rapid transit (BRT) systems as part of their plans for integrating public transport.

- **Johannesburg** is rolling out its Rea Vaya BRT system in multiple phases, which is complemented by 190 Metrobus buses that run on dual-fuel (diesel and CNG). Of this Metrobus fleet, 70 (40 new dual fuel and 30 rehabilitated and converted buses) began operating in July 2015. Furthermore, NMT infrastructure, especially in the student-oriented suburb of Braamfontein and parts of Soweto, has been developed.

- **Tshwane** initiated its A Re Yeng BRT system in 2014, and the first buses became operational towards the end of 2015. Approximately 30% of this fleet will operate on CNG, but this percentage is likely to increase for both BRT and metro buses. The city has also procured 10 Nissan Leaf electric vehicles for use by various departments within the city. Money has been spent on infrastructure design and upgrading parts of WF Nkomo Street in the central business district to be a pedestrian zone.
- **Cape Town** has a MyCiTi BRT system that connects the airport, previously disadvantaged townships and other suburbs with the central business district. The city also maintains good infrastructure for NMT and sends its bus drivers on good driving behaviour courses.

Accelerating the transition to sustainable energy

The scope is huge for the roll-out of a robust municipal renewable energy programme that would have positive spin-offs for job creation and skills development. The SALGA Energy Efficiency and Renewable Energy Strategy for Local Government (SALGA, 2014) provides an overall policy framework, while individual cities have strategies in place (e.g. energy and climate change, green economy framework, etc.). The capacity to manage these projects is gradually developing, especially in Tshwane, Cape Town, Ekurhuleni, Johannesburg and eThekwini. Cities need to explore on a much bigger scale the three ways they can be involved in the electricity supply, i.e. being a generator as demonstrated above, an off-taker from IPPs and the middle-man through wheeling agreements of green electricity.

The national REIPPP is providing valuable lessons and experience for introducing renewable energy into the supply mix. The complementary capacity from cities, through waste-to-energy and PV projects, adds stability into the grid and, if better coordinated and managed, could alleviate the current electricity supply constraints.

Cities should actively participate in the national forums aimed at finding sustainable energy solutions in order to clarify the regulatory ambiguity, for example, the mandate and contribution of municipalities in electricity generation and energy efficiency. The urban energy network jointly convened by the SACN, SALGA and SEA is a valuable platform and was strengthened in 2014 by the development of a national website *www.cityenergy.org.za* which acts as a repository of information on policy, research and guidelines relating to urban energy matters

The growth in sustainable energy governance and capacity is laudable and has resulted in the building of new capacity in other service delivery departments. In Ekurhuleni, eThekwini and Johannesburg, waste department officials are involved in methane gas harvesting and gas-to-electricity generation initiatives. In Tshwane, the cross-departmental sustainability task team, facilitated by the City Sustainability Unit, provides an alternative model for mainstreaming sustainability in city operations. In Cape Town, public lighting retrofit has drawn in officials from the roads department and led to managers of city-owned buildings being trained in energy management.

A fundamental lesson from the cities' many energy efficiency and renewable energy projects is that some of these projects are replicable and scalable, and that low-hanging fruits should be targeted. This could be enhanced by strengthened horizontal learning on both success stories and where results were not as envisaged. Data management, monitoring and evaluation of interventions could facilitate large-scale roll-out.

Another lesson is that a market-driven approach to energy transition is having unintended consequences, creating a form of exclusive urbanism. The technology is expensive, which means that middle- to high-income households and businesses can afford it, whereas the benefits are most needed among lower-income groups. Cities therefore need to adopt a holistic approach to the management of sustainable energy in order to lessen future economic and social burden.

WASTE

Waste management services are under pressure from rapid urbanisation, population growth, unsustainable consumption patterns and rigid traditional waste-management practices. Cities have little choice but to adopt better waste-management practices because of increasing environmental pollution and diminishing landfill airspace, as well as the high cost of developing new landfill sites.

Global best practices and green waste-management studies show that cost recovery mechanisms and financial incentives for waste producers can change waste generation behaviour. In the case of pay-as-you-throw (PAYT) schemes, whereby the polluter pays, cost recovery and financial incentives go hand in hand. For example, the Belgian province of Flanders increased selective collection and recycling from 34% in 1995 to around 70% in 2002 through the use of PAYT schemes in conjunction with other initiatives; since 2002, the percentage has stabilised (SACN, 2014d).

The high volumes of unsorted waste disposed at landfill sites show that South Africans have not yet realised that household and commercial waste is a cost-effective source of raw materials. This battle can only be won if tackled jointly by government (regulation) and the private sector (producers of products and packaging). In addition, the concept of a circular economy[3] is in its infancy in South Africa. Cities need to take the lead in forging stronger partnerships with the private sector in order to reap the economic and environmental benefits of turning waste into worth.

3 "A circular economy is an economy which balances economic development with environmental and resources protection. It puts emphasis on the most efficient use and recycling of resources, and environmental protection. A circular economy features low consumption of energy, low emission of pollutants, and high efficiency. It involves applying cleaner production in companies, eco-industrial park development and integrated resource-based planning for development in industry, agriculture and urban areas." (UNEP, 2006)

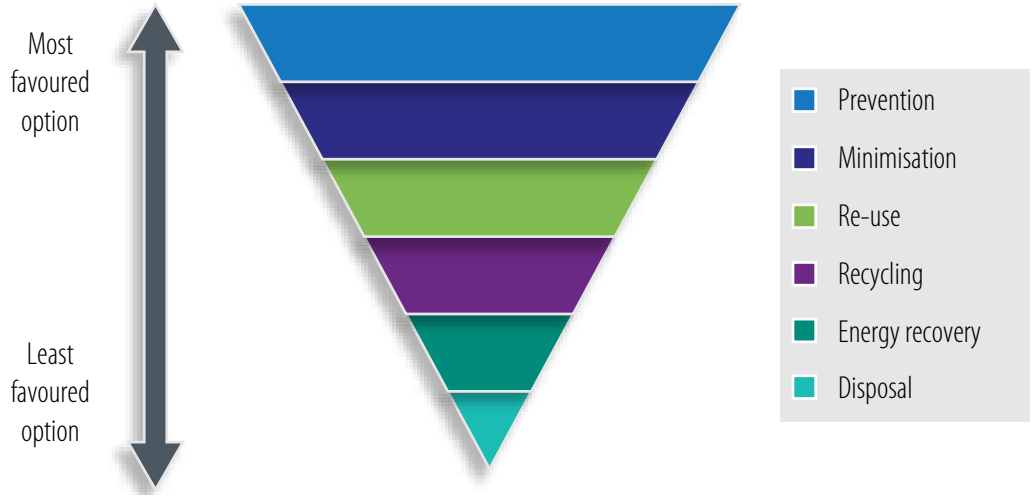
WASTE: legislation, policies and plans

Constitutionally, proper waste management is a core municipal function. Integrated sustainable waste management in cities is guided by national policy, including the National Environmental Management Waste Act (No. 59 of 2008, amended by Act No. 14 of 2014) and the National Waste Management Strategy (NWMS).

The Act mandates municipalities to develop integrated waste-management plans (IWMPs). These, in turn, must form part of municipal IDPs and SDBIPs. Municipalities may, at their discretion, set service standards for waste separation, compacting and management, and disposal of solid waste. Local standards must be aligned with provincial and national standards, where these exist (DEA, 2011c). IWMPs are key to strengthening waste governance in local municipalities. Cities with IWMPs perform much better than cities without them, as illustrated in Table 5.1 – Johannesburg and Cape Town have functional IWMPs and waste policy frameworks hence their good collection rates. Developing up-to-date waste strategies and plans, and gathering better waste-related data, are important first steps in developing waste-management practices that are more effective and sustainable.

The waste hierarchy is a common approach to waste management and "consists of options for waste management during the lifecycle of waste, arranged in descending order of priority: waste avoidance and reduction, re-use and recycling, recovery, and treatment and disposal as the last resort" (DEA, 2011c: 6), as shown in Figure 5.5.

Figure 5.5: The waste hierarchy



Source: SACN (2014c)

Over the past two decades, waste collection in the SACN member cities has improved significantly (Table 5.1).

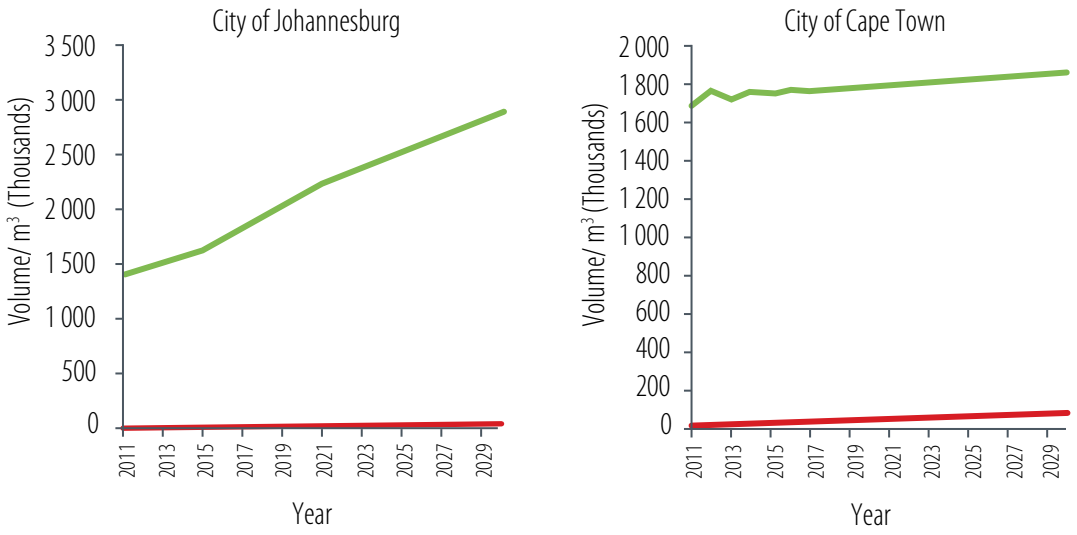
Table 5.1: Waste collection models in the cities

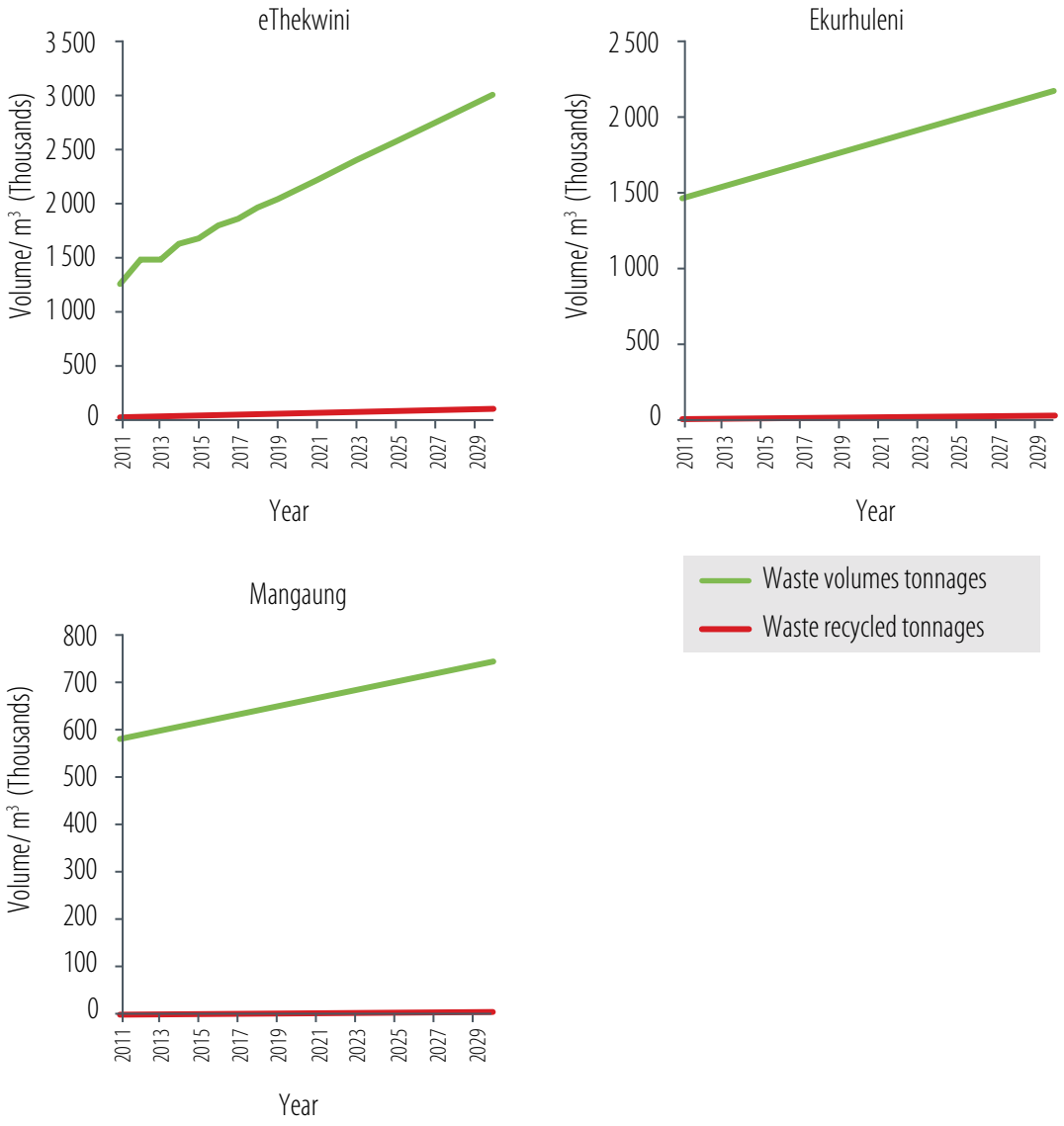
Municipality	Weekly refuse removal municipality (% of households)		Weekly refuse removal municipality/ private sector (% of households)	
	2001	2011	2001	2011
Johannesburg	90.9	95.3	94.1	97.0
Cape Town	94.3	94.3	93.0	95.0
eThekwini	85.7	89.9	70.0	87.9
Ekurhuleni	87.9	88.4	88.8	89.4
Nelson Mandela Bay	86.1	82.9	93.5	91.5
Tshwane	75.2	80.2	76.1	82.0
Mangaung	60.0	78.9	66.7	83.1
Buffalo City	71.2	70.4	65.3	71.3
Msunduzi	59.5	53.2	No data	No data

Mangaung's waste collection service increased by more than 10% between 2001 and 2011, while most cities have waste collection levels that are above the national average of 65%. In 2011, over 95% (97.3%) of households in Johannesburg had access to weekly refuse removal, compared to 59.5% in Msunduzi (SACN, 2014c).

Despite this improvement, unless more progress is made, cities will be grappling with high volumes of waste in 2030 (se Figure 5.6). The Department of Environmental Affairs (DEA) needs to allocate resources to and work closely with cities and the private sector to establish programmes and awareness-raising campaigns to address high volumes of waste. The NWMS expects cities to employ staff who can plan and establish waste separation and recycling facilities, and effectively communicate with communities about proper waste-management practices.

Figure 5.6: Waste volumes disposed of at landfill sites per city





Of particular concern is the alarmingly low level of recycling in cities. Figures 5.7, 5.8 and 5.9 provide a snapshot of recycling levels in 2013/14 in three cities: Cape Town, eThekwini and Ekurhuleni.

While the progress in improving waste collection and exploration of various alternatives including waste to energy and integration of waste pickers are laudable, creative ways are needed in order to support a "reduce, re-use and recycle" (3Rs) mentality.

Figure 5.7: Recycling figures for the City of Cape Town

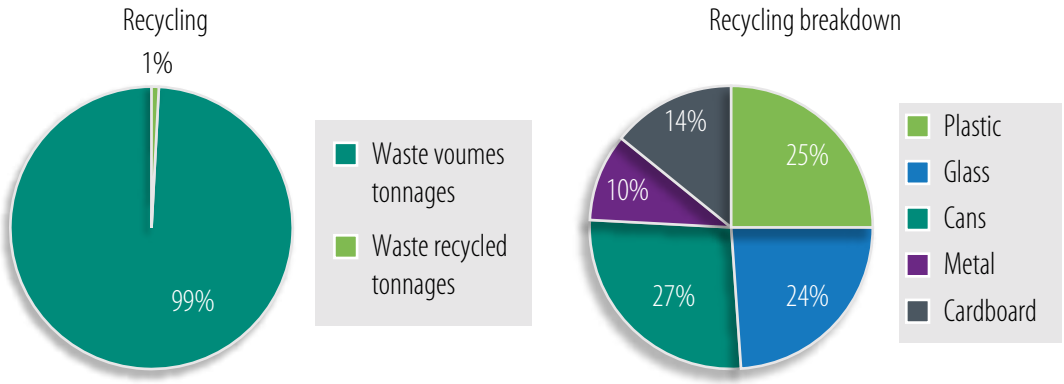


Figure 5.8: Recycling figures for eThekwini

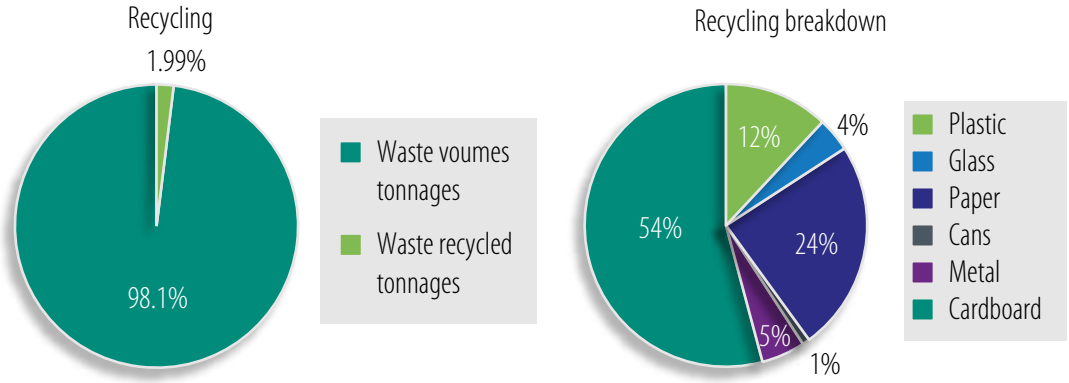
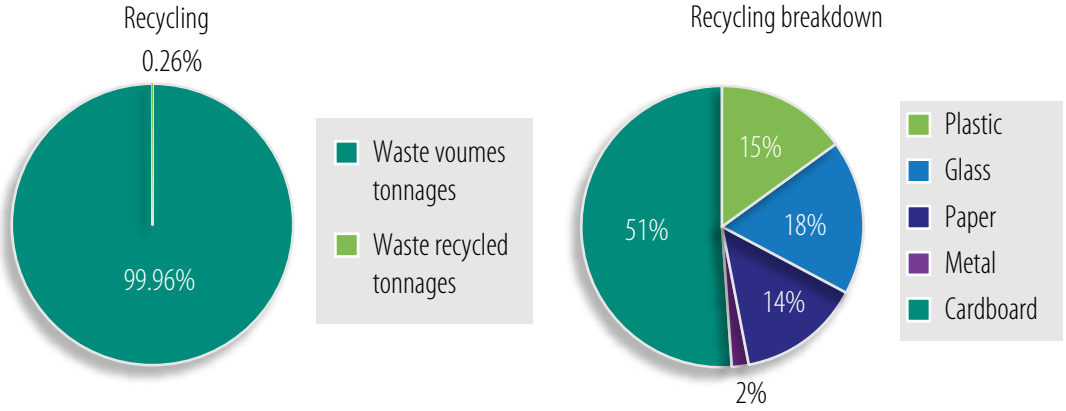


Figure 5.9: Recycling figures for Ekurhuleni



Cities are exploring various alternatives and these are being demonstrated by three cities as described below.

Cape Town owns and operates (via private contract) two materials recovery facilities: Athlone Refuse Transfer Station (ARTS) and the Kraaifontein Waste Management Facility (KWMF); a third facility to service the South Peninsula area is planned. At these facilities, the waste is compacted into 20-ton containers and then transferred to a landfill site. KWMF is a clean facility, receiving waste that is recycled at source by 42 000 households provided with 130 litres bins, whereas the Athlone is a dirty

facility (i.e. waste is sorted manually at the site). The Athlone facility employs 100 people from the Langa community, while the KWMF employs 240 people (COCT, 2015).

In August 2007, **eThekwini** Cleansing and Solid Waste Unit initiated a recycling project known as the Domestic Orange Bag Recycling Project. Each household is provided with a three-month supply of orange bags. The orange bags are only used for recycling paper, cardboard, plastic, polystyrene and tetra-pak, and are collected with the normal domestic refuse bags. In 2015 nearly one million (953 510) households are participating in the project, which is planned to extend into the township areas in phases, starting with Umlazi (EMM, 2015).

Johannesburg is exploring a combination of waste-management interventions, including the separation of waste at source. In 2009, a waste separation project was piloted at the Waterval Depot, whereby households separate their waste, placing packaging papers in orange reusable bags, and other recyclables (e.g. bottles, cans) in a colourless plastic bag (Pikitup provides the bags). As only residual waste goes into the household's 240 litre refuse bin, the result has been less waste collection rounds by the refuse collection trucks. The plan is to implement the project throughout the city. To date, 264 889 households are participating in the project, which has been extended to Zondi, Avalon, Midrand, Diepsloot and Orange Farm areas. Since the project started, approximately 187 000 tonnes of waste has been diverted away from the landfill sites (City of Joburg, 2015).

Accelerating the transition to sustainable waste management

Waste management is an essential city service that, if poorly planned, can lead to costly environmental and public health issues. Traditional landfills are still the most common method of waste disposal, despite the fact that cities are rapidly running out of airspace. The current landfills are not coping with the volumes of waste generated by a nation that is not environmentally conscious. Furthermore, this type of waste disposal is not sustainable. For instance, in a space of six months (June–December 2013), Tshwane had to close three of its full landfill sites, and the remaining five sites have rapidly diminishing airspace (City of Tshwane, 2015b). Another reason for encouraging waste diversion away from landfills is that approving and developing a new landfill takes approximately five years.

Cities can accelerate this transition in two ways: (1) reconfigure the current system in order to relieve pressure on existing landfill sites; (2) investigate cost recovery mechanisms and a regulatory framework that would facilitate the nation's mind shift away from being heavy waste generators. Cities can reconfigure the current system through partnerships and investing in full-blown separation at source, infrastructure (differentiated bags and vehicles to pick them up), integrating waste pickers and strategically placing transfer stations, buy-back centres and large-scale multi-purpose recycling facilities. Cities need to investigate the feasibility of PAYT tariffs and promote waste as wealth. Tracking material inflow in the waste sector will also assist in closing the loop towards resource efficiency.

The waste sector is undergoing a global revolution that presents an opportunity for job creation and entrepreneurial initiatives, including waste-to-energy power generation. Cities can learn from each other. For instance, Cape Town has experience in operating both a dirty and a clean materials recovery facility, and Tshwane launched its materials recovery facility in 2015. Citizens who are interested in waste management can be involved in city projects, instead of the current isolated separation-at-source projects and continued non-acknowledgement of waste pickers that have been documented to divert substantial volumes away from landfilling.

WATER

Cities must provide access to reliable, safe water and sanitation services, as well as protect ecosystems against pollution and degradation. As part of their obligation to deliver basic services, cities must maximise the availability of water resources, which requires careful management; capital expenditure on infrastructure for extracting, treating and conveying water to the ultimate user; and technical capacity (and operating expenditure) to ensure the infrastructure remains in good working condition.

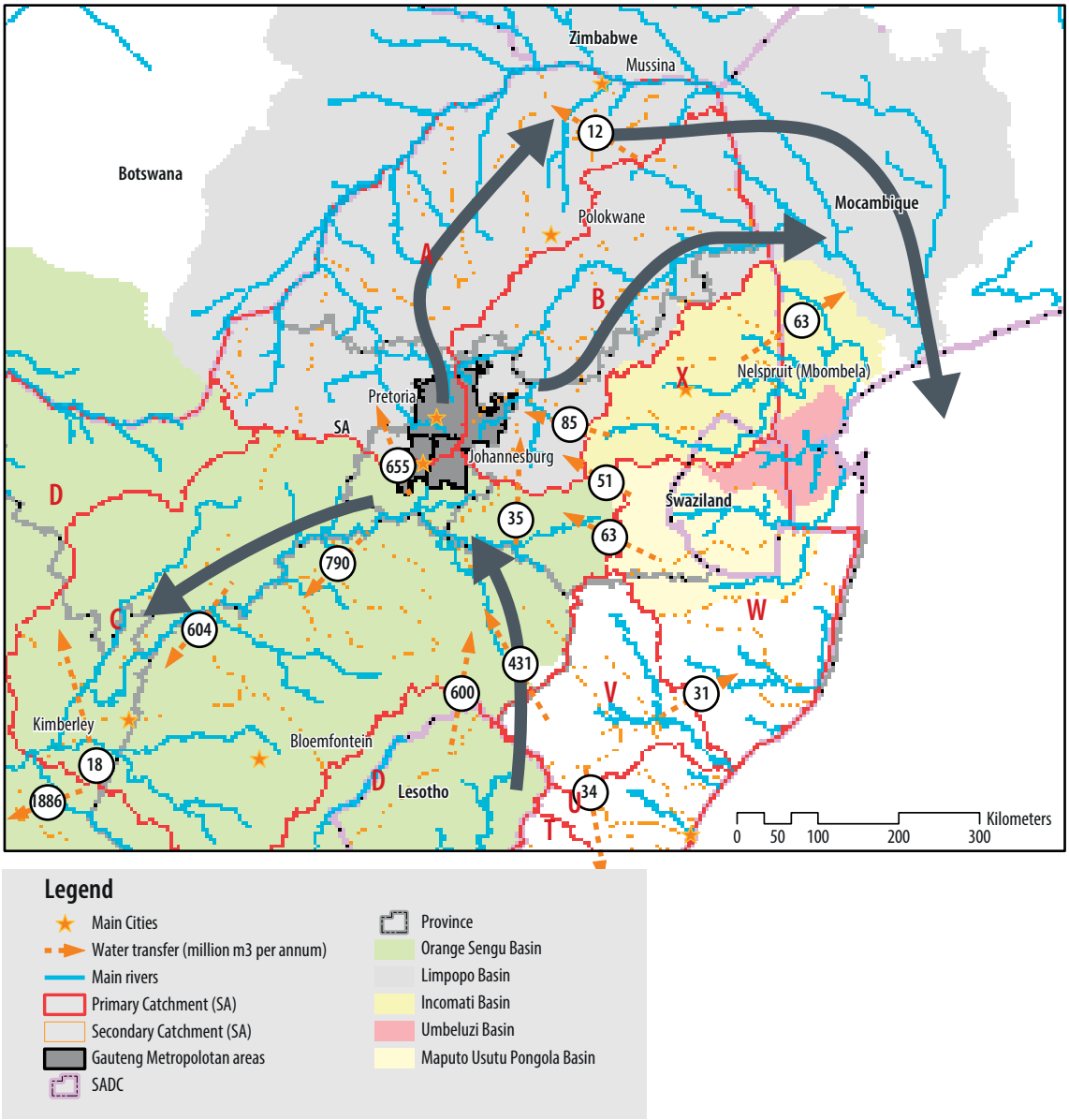
WATER: legislation, policies and plans

In 2013, national government developed a National Water Resources Strategy (NWRS) with the aim of ensuring that water resources are protected and conserved for the long term. The Department of Water and Sanitation (DWS) has divided the country into Water Management Areas (WMA) to reflect the large spatial variations in climate, water availability and requirements, the nature of economic development and population characteristics, as well as potential for growth and development.

Currently, national government (through the DWS) is responsible for water resources planning, development and management, including the bulk water infrastructural systems, and provides water to water service authorities (WSAs). As WSAs, municipalities are tasked with ensuring access to water services as prescribed in the National Water Act (No.36 of 1998). Some municipalities have water service providers (WSPs) that provide water services in accordance with the Constitution, the Water Act, bylaws and any specific conditions set by the respective WSA.

As Figure 5.10 illustrates, cities are often located in areas with inadequate access to water or where growth and development has outgrown local supply.

Figure 5.10: Depiction of in- and out-flows of water catchments into Gauteng cities

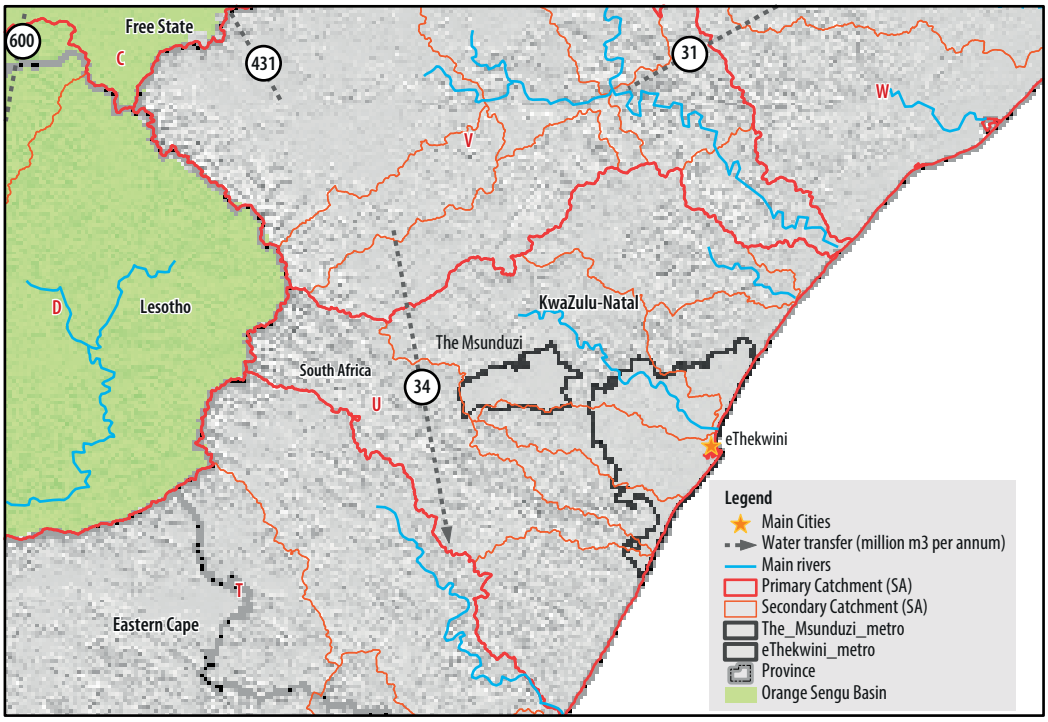


Source: CSIR

Tshwane, Ekurhuleni and Johannesburg are located on the headwater where (i) available water from local sources cannot meet the demand, and (ii) the rivers are polluted from poorly treated effluent and solid waste. Water flows in from a number of catchments, including Lesotho, to satisfy urban demands. Equally important is that Johannesburg is at the top of the catchment, and so the runoff from the city goes into the Atlantic Ocean (for the southern area) or to the Indian Ocean via Zimbabwe and Mozambique. The highly polluted water has a substantial impact for downstream areas.

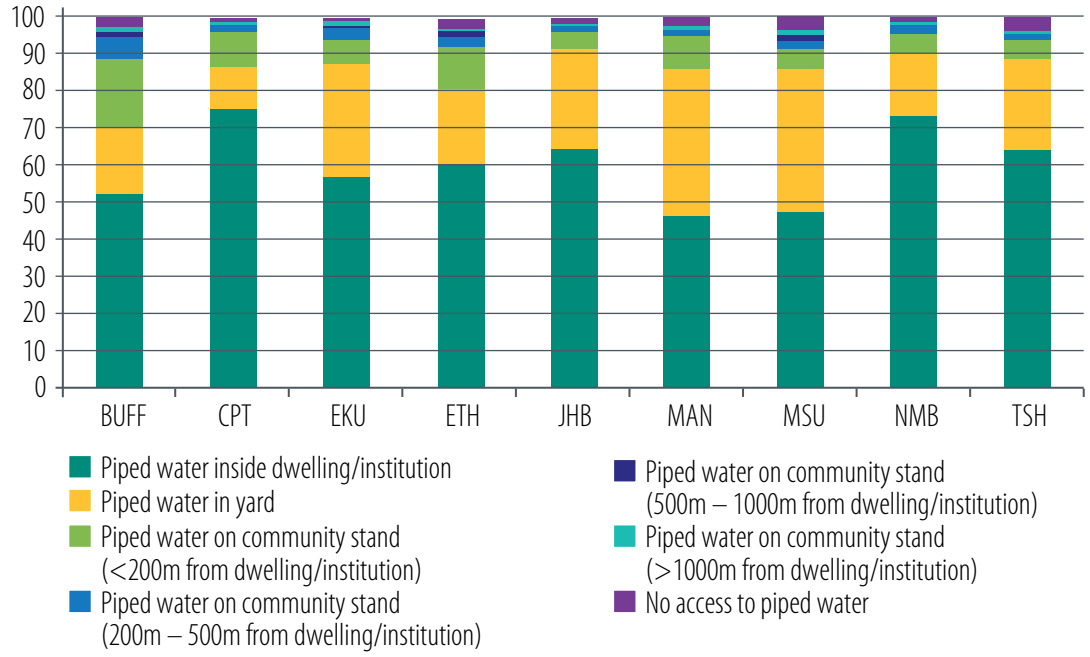
Figure 5.11 shows water in-flow for eThekwini and Msunduzi, as well as out-flow into the ocean, with subsequent negative impacts on coastal life.

Figure 5.11: Depiction of in- and out-flows of water catchments into KZN cities



In general, the cities have good water management. Cape Town's water and wastewater infrastructure is considered the most adequate, based on the proportion of households and persons with access to water and sanitation, and the relatively low new infrastructural needs. However, this does not account for the quality of the service provided (SACN, 2015a).

Figure 5.12: Percentage of households with access to water (2010)

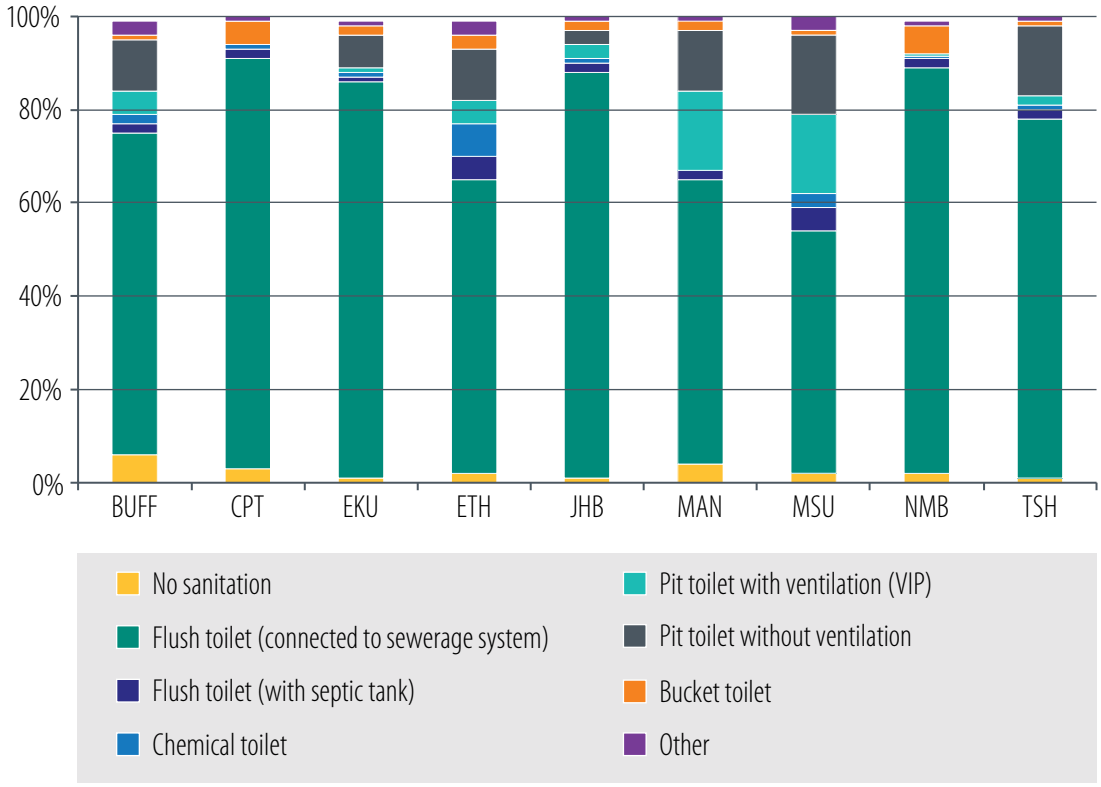


Source: SALGA/WRC (2014)

As Figure 5.12 shows, Cape Town and Nelson Mandela Bay have the highest proportion of households with piped water inside dwellings. Cities such as Buffalo City and eThekwini, with large rural areas, have more difficulty supplying piped water to households. Cape Town, eThekwini, Mangaung and Msunduzi have the highest proportion of households with metered connections. In addition, Cape Town, Ekurhuleni, eThekwini and Nelson Mandela Bay have the best budgeting performance for spending on asset management. eThekwini (whose Water and Sanitation Department won the 2014 Stockholm Industry Water Award), Buffalo City and Cape Town have the best technical capacity, measured by the number and qualifications of people occupying technical positions in their water infrastructure departments (SACN, 2015a).

Over the last 20 years, access to potable water services has increased dramatically in urban areas. However, cities still face challenges in providing adequate sanitation services to households. Inadequately collected and/or treated waste can compromise water quality through pollution, affect human health and reduce the water's fitness for use.

Figure 5.13: Access to sanitation (2010)



Source: SALGA/WRC (2014)

As Figure 5.13 shows, over 80% of households have flush toilets connected to the sewage system in Johannesburg, Cape Town, Ekurhuleni Municipality and Nelson Mandela Bay Metro. In Msunduzi and Mangaung, ventilated improved pit (VIP) latrines are used by nearly 20% of households.

The type of sanitation system and how well it is maintained has implications for the control of outbreaks and spread of water-borne epidemics. The risk of pollution is lower in cities where a high proportion of households have access to flush toilets connected to the sewage system, with the infrastructure to collect and convey sewage to the point of treatment. However, this type of sanitation is expensive for both the consumer and the city, which may explain why the higher proportions are found in economic hubs whose consumers are better able to demand and pay for high service levels.

As a scarce and valuable resource, water needs to be treated carefully. This means taking care of both the water infrastructure within cities and freshwater resources (rivers and wetlands). The overall condition of freshwater resources and wetlands in the country needs to be monitored to prevent further deterioration. Larger metros are better able to attract and keep the essential technical skills to deliver adequately treated water to the final consumer, and so the risks to human health are relatively lower than in less-resourced municipalities. However, treatment of wastewater to an adequate level for discharge into the environment remains a challenge across all cities and has a negative impact on freshwater resources.

The level of water losses is indicative of the state of South Africa's ageing water infrastructure and inadequate maintenance. Between 2009 and 2013, Cape Town, Tshwane and Nelson Mandela Bay consistently kept the percentage of water losses below 30% (SACN, 2015a).

ETHEKWINI: Stockholm Industry Water Award winner

In 2014, the eThekwini Department of Water and Sanitation received the Stockholm Industry Water Award, in acknowledgement of its transformative and inclusive approach to providing water and sanitation services. In a water-scarce country, persistent challenges are increasing access to services with diverse geographic conditions, while maintaining existing infrastructure and growing the rates base. eThekwini achieves this through:

- *Business with a heart*: the municipality provides basic free water and sanitation services, while ensuring that municipal bills are paid. For example, the municipality will gradually write off the debts of customers who make regular payments to their current accounts.
- *Community engagement*: the municipality's participatory approach makes use of customer service agents, community engagement and street theatre to educate and raise awareness among communities of the challenges associated with service delivery.
- *Technology driven*: the municipality uses evidence-based research to support the roll-out of the water and sanitation programme, and stakeholder participation to pioneer and test new technologies.
- *Learning from and sharing experiences*: the municipality recognised the need to connect and learn from other city departments that have an impact on water management, and to provide opportunities for staff members to access learning and development opportunities.
- *Collaborating and partnering*: collaborating and partnering with a wide range of organisations created the space for a number of research projects and initiatives to support municipalities in other African countries.

Accelerating the transition to sustainable water management

Water and sanitation services are one of the fruits enjoyed from development over the last 20 years. However, cities still need to improve their knowledge of the relationship between water and water users, the importance of ecosystems, and the different water resource types that are available. They also need to better understand existing and emerging threats to reliability of delivery of water to consumers and build the necessary capacity (technical and financial) to address the challenges.

Going forward, water-related challenges are going to become increasingly important for city management, and, if not adequately tackled, the risks to people and infrastructure will increase. Cities have made good progress in providing access to water services, but the maintenance and renewal of existing infrastructure is lagging, and the networks are ageing. The DWS (2014) has highlighted the inadequate levels of investment in water infrastructure. Operational and maintenance issues need to be prioritised in order to avoid risks to the economy (from escalating costs and the impact on the economy) and to the health of humans and the ecosystem. As cities grow and change, the infrastructure designed and built decades ago may not be able to meet and adapt to future conditions. For example, stormwater systems need to cope with increased flooding resulting from the spread of impermeable surfaces and the loss of natural areas, as well as possible climate-change impact. Sewers may be unable to cope with peak rain periods, leading to overflows and untreated wastewater being released into the environment. Cities also face the challenge of increasing water costs and rising water tariffs, within the context of a limited revenue base.

FOOD SECURITY

Urban household food security depends on the availability, accessibility and use of food, and is affected by a household's disposable income. This is because urban residents have to purchase most of their food, whereas people in rural areas can produce their own food (SACN, 2015a). Food security should be viewed and contextualised within the entire food system, which consists of (i) the activities, actors and institutions who grow, process, distribute, acquire, consume and dispose of food, and (ii) the outcomes of these activities contributing to food security. Therefore, if food security depends on the food and broader systems, approaches to address food insecurity must extend beyond the individual and household, and consider food systems at the neighbourhood, city and national scales, as well as the interface of these various systems (SACN, 2015a).

South Africa is one of only three food-secure countries in Africa (FAO, IFAD and WFP, 2013), although the food system has become increasingly consolidated in the last two decades. South African agriculture has become more export-oriented and is highly reliant on imports, leading to concerns about the presence of highly processed foods and price fluctuations. The deregulation of the food system has also made tracking food within the system harder, and the subsequent critical data gaps make governance more difficult.

Although the country is considered food secure, both the rural and urban poor experience food insecurity. The South African National Health and Nutrition Examination Survey found that over half of households nationally are at risk: 28% of hunger and 26% who experience hunger. The equivalent figures in urban informal areas were 32% and 36% respectively. Supporting this finding are case studies that consistently show high levels of food insecurity in urban areas. With regard to trends, nationally food insecurity was in decline but appears to have plateaued. However, with ever-increasing food and other prices, the levels of urban food insecurity are likely to get worse (SACN 2015a).

Research has found that the informal food retail sector is more responsive to the food security needs of the poor than the supermarket sector. The informal food retail is often more expensive per unit, but, by design, is more attuned to the retail needs of the poor. Poor households make small, frequent purchases because of limited disposable income, storage and refrigeration. Poor households also tend to get home after supermarkets have closed because of the current urban form and inadequate public transport. Informal sector food retailers have longer opening hours than supermarkets, while street vendors sell ready-to-eat foods that satisfy the needs of these communities.

FOOD SECURITY: legislation, policies and plans

The South African Constitution enshrines the right to food and nutrition in Sections 27(1)(b) and 28(1)(c). Therefore, the state (including local government) needs to work towards realising this right. An overview of national policies and strategies found little emphasis on urban food security. Food security is overwhelmingly identified as a rural problem, and so no funding is allocated to urban food insecurity. However, the National Development Plan (NDP) and the Integrated Urban Development Framework (IUDF) do elevate the role of local government in this regard (NPC, 2011; COGTA, 2016).

The NDP argues that malnutrition is the direct outcome of food insecurity. Urban food insecurity is characterised by low dietary diversity, high malnutrition and obesity, and distinct hunger seasons. This is caused by factors that include household income, income stability, household structure and household asset base, as well as geographic access to a range of food sources, access to transport and stability of food prices (SACN, 2015a).

Cities have a number of programmes aimed at food and nutrition security, but these programmes are often spread across departments, directorates and sub-directorates. With the exception of the City of Tshwane's Agriculture and Environmental Management Department, municipalities do not have departments of agriculture, forestry and fisheries, health or education. While all cities recognise the challenge of urban food insecurity, and include food security in some form or another in their IDPs, these city plans have not been reviewed to test implementation or success.

Buffalo City has food insecurity levels of 52% (SACN, 2015b). The approach in its IDP is centred on promoting food security through agricultural production, in partnership with the provincial Department of Rural Development and Agrarian Reform. The East London Fresh Produce Market is identified as a project with the potential to transform the market and encourage participation of historically

disadvantaged groups, through facilitating access to the market system (for informal traders, and small, medium and micro-sized enterprises) and improving the functioning of the market. Interventions include upgrading the sales system, the informal traders (hawkers) storage facilities, and the cold room facilities, as well as extending the trading hall.

Ekurhuleni recognises food scarcity as a strategic tension and the connection between urban poverty and food insecurity: the "lack of food for many households [...] has to do with the fact that food is mostly a cash commodity". The focus is on investing in food networks that can support cash-strapped individuals, and creating "urban spaces that are not only meant for houses but also food production networks". Food security is also included in the city's Macro Strategic Framework, which identifies sustainable agriculture as a programme within the re-industrialise strategic goal.

eThekwini has identified hunger and food security as a major challenge facing residents, which is compounded by the shortage of land available for food production. The IDP calls for a multi-pronged approach to improve livelihoods, with the intention of initiating programmes to assist in alleviating food insecurity, such as community support farms, community gardens, hydroponic projects and the provision of seedlings and compost, as well as professional support programmes. In 2009, the municipality established an Agricultural Management Section, with the immediate aims of food security, economic empowerment and environmental sustainability, and the long-term vision of food sovereignty for eThekwini residents.

In **Johannesburg**, as many as 42% of poor households are estimated to be food insecure. The city's Food Resilience: Urban Agriculture Support Programme aims to (i) develop "a spatial food security index" to collect and map information about the city; (ii) coordinate and support urban agriculture projects in the city; and (iii) lay the groundwork for the Food Empowerment Zone. This complex and ambitious programme appears to have integrated aspects of the Brazilian Zero Hunger Strategy and is supported by a range of stakeholders, including provincial government, research institutions, non-governmental organisations (NGOs) and the private sector. In addition to urban agriculture, focus areas include child nutrition, food safety compliance linked to a healthy eating campaign, agri-resource centres and processing hubs providing value-chain support to emerging farmers, apprenticeship programmes, a land release programme for agricultural land, people's restaurant systems, food for waste exchanges, food empowerment zones and food garden development in every house, school and community centre.

Cape Town includes food security when discussing the city's role in environmental health through food control, and when referring to rainwater harvesting for food gardens as part of a water conservation initiative. The Economic Development and Facilitation Programme within the Economic Department houses an Urban Agriculture Unit, which develops policy around urban agriculture, food security and poverty alleviation. Policies cover urban agriculture (COCT, 2007), which seeks to establish a place for urban agriculture in the city, and food gardens (COCT, 2013), which addresses food insecurity and the creation of local economic opportunities through establishing sustainable food gardens. This falls within the city's strategic focus area "the Caring City". The recent Strategic

Development Plan for the Development of Urban Agriculture has seven key focus areas for translating the urban agriculture policy into action: awareness and advocacy, policy and legal frameworks, research and knowledge development, multi-stakeholder participation, production, marketing and youth engagement.

Mangaung's intention is to ensure food and nutrition security, while reducing the cost of living for low-income and working-class households. It encourages investing in new infrastructure (value chain and public transport) in areas affecting the poor. These imperatives suggest a link between food and spatial urban dimensions. The establishment of both rural and urban food gardens is put forward as a poverty reduction and household food security strategy. The 2014/15 target set was to develop 2800 urban and rural households' food gardens. The IDP also mentions food in relation to environmental health and food control.

In **Tshwane**, food security falls under Sustainable Communities, and a number of programmes have been identified. The Department of Agriculture and Environmental Management oversees two programmes: the Agricultural Starter Pack Programme, which focuses on the distribution of garden tools and seedlings to support homestead and community food gardens; and the Food Bank project that provides food parcels to non-profit organisations. The Health and Social Development Department, in partnership with NGOs, oversees projects for vulnerable groups, such as soup kitchens, food gardens and training, information sharing, exercise programmes and income-generating activities. The IDP also includes expanding the school-feeding scheme and a child nutrition project focused on vaccinations, HIV/Aids complications and malnutrition. Strategic Objective 5 in the IDP connects to food security through the promotion of sound governance, which calls for agricultural land to be protected for agricultural development and job creation. This is in line with the New Metropolitan Spatial Development Framework overseen by the Department of Spatial Planning.

In **Msunduzi**, households (particularly female-headed households) spend, on average, 52% of their income on food. Msunduzi emphasises working towards greater food security through home garden programmes. Home gardens are positioned as a response and solution to food insecurity, but details are not provided in the municipality's IDP. Food safety is discussed in Environmental Health and (briefly) under emergency relief in the Disaster Risk section.

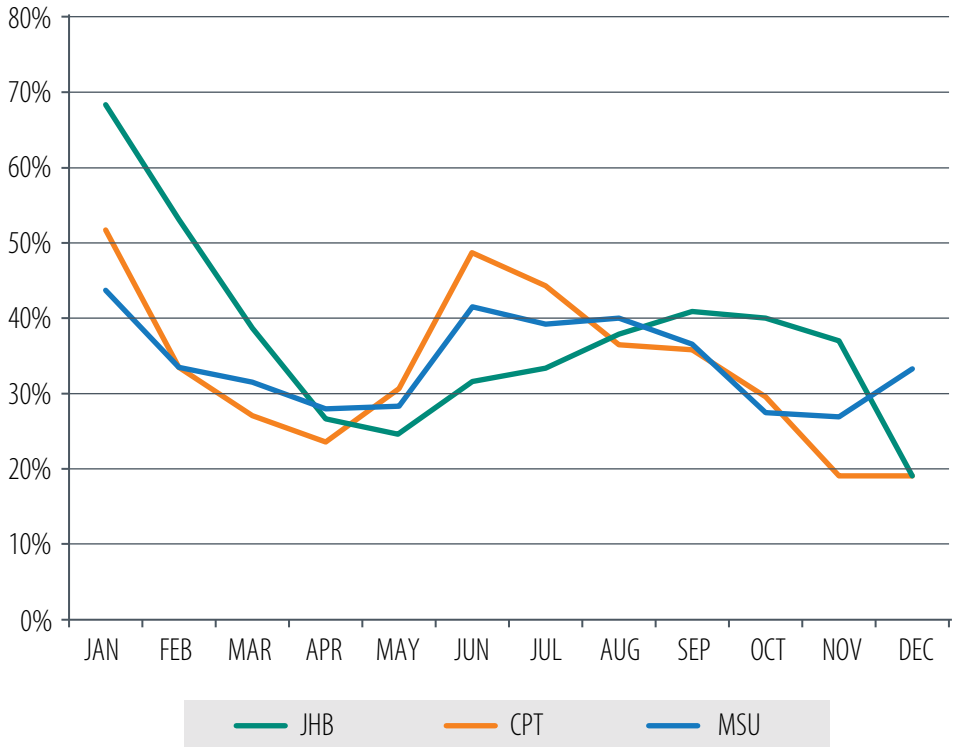
In **Nelson Mandela Bay**, food security is part of the Agrarian Transformation and Food Security objective, which falls under Goal 6 (enhanced livelihoods). The municipality proposes integrating food security into spatial planning, through identifying land parcels for food gardens in all suburbs, and developing food gardens and orchards on vacant or underutilised private and public land. Like in Buffalo City, the municipality partners with the provincial departments of rural development and agrarian reform and social development, which are involved in a number of food gardening projects. Overall, boosting emerging agricultural development, urban agriculture and food garden development is seen as critical for poverty alleviation and food security. Food security is also mentioned within the framework of the Integrated HIV and Aids Plan for Nelson Mandela Bay.

Accelerating the transition to food security

All of the cities' IDPs include programmes related to food security, but monitoring and evaluation (M&E) are needed, to assess whether or not the programmes have been successfully implemented. For instance, effective M&E in the case of Johannesburg's Food Resilience Urban Agriculture Support Programme indicates that it will require more funding in order to achieve its objectives.

Figure 5.14 highlights two distinct hunger seasons when vulnerable households struggle to access sufficient food: (i) in January, as a result of households overspending on food during the festive season and having to cover other expenses, such as school fees; in addition, most businesses close down over December and January, reducing income and casual labour opportunities. (ii) In June, as a result of adverse weather conditions in winter that prevent industries from operating at full capacity, thus employing less manual labour, which means that poor households have lower incomes. This pattern has significant health implications, particularly for individuals on chronic medication who require consistent nutrition. Therefore, social safety nets are needed to respond to these predictable times of food insecurity.

Figure 5.14: Months of inadequate household food provisioning: Cape Town, Msunduzi, and Johannesburg



Source: SACN (2015b)

Cities should go beyond providing access to urban agriculture and play a wider role in shaping the characteristics and trends of the food systems as a whole. Cities can make greater use of existing policies and plans (e.g. IDPs, SDFs, open space master plans, land-use planning, housing and transport plans) to leverage food security interventions. Strategies must be developed that recognise the informal food retail sector and ensure the sustainable management of fresh produce markets, in order to create a thriving business environment that could appeal to unemployed youth. The partnerships identified in the current city interventions need to be strengthened.

CROSS-CUTTING ISSUES

While commitments to move towards low-carbon cities are being made, cities need to acknowledge cross-cutting issues that affect sustainability. They include land, air quality, climate change, disaster management and rural-urban linkages.

Land

Land is an important and limited asset for cities. With increased urbanisation and sprawl, cities are expanding their footprint and using additional land on the periphery, which is not sustainable. A century of development in natural areas and poor land-use practices has reinforced inequalities within cities. Chapter 2 looks at land in relation to the built environment and spatial transformation, whereas this chapter examines land as an environmental and biophysical asset. Nevertheless, it should be noted that the ability to transform a city spatially depends on making sustainable land-use planning choices and valuing inclusive natural and open spaces within cities.

The quality and quantity of available land is under pressure from demands for housing and supporting services to cater for the growing urban population, the need for space in which to dispose of waste products, and the requirements of expanding manufacturing, technological, agricultural and general industries. To ensure that land, as a physical resource, is used optimally requires understanding how spatial development patterns are changing over time, and how the transformation of land leads to the loss or enhancement of urban functionality and efficiency. A further consideration is that the limited land available needs to be used more efficiently than it currently is, which give rise to debates around urban densities, new cities and the implementation of the Spatial Planning and Land Use Management Act (No. 16 of 2013). For example, good quality agricultural land is often under demand from human settlements and mining, or other land-hungry activities such as infrastructure (and servitudes) and dams. And where agricultural land is available, it needs to be more efficient and productive to cater for a growing population.

Outside of the demands within the water and energy sectors, land is likely to be the resource most under pressure and demand in the future.

Biodiversity

South Africa is the third most biodiverse country in the world and the only country to contain an entire floral kingdom within its borders. The loss of this biodiversity makes ecosystems more vulnerable to shocks and disturbances, less resilient, and less able to supply humans with needed services. Healthy ecosystems are critical for human well-being, as (for example) inland wetlands are the principal source of renewable fresh water for human use, storing and purifying water through the removal of excess nutrients and other pollutants. Disruption of wetland purification processes can have devastating impacts at the source and for downstream end users. Therefore, extracting value from natural systems for lifestyle gains without paying attention to sustainability can do irreparable harm to the very systems that are required for human well-being. The utilisation of resources must not exceed their natural rate of regeneration or the minimum level required for ecological functioning.

Cities are exploring ways of using planning and land use to enable the natural and built environment to co-exist. Conserving key biodiversity areas and maintaining ecological infrastructure not only protects the biodiversity, but also provides a better quality environment for communities. Responses at city level have been in the following areas:

- Integrating biodiversity into land-use planning (mainstreaming);
- Requiring environmental authorisations that are sensitive to local biodiversity and ecological infrastructure;
- Protecting areas and environments; and
- Rehabilitating core biodiversity features.

Nelson Mandela Bay was the first municipality to gazette a Bio-regional Plan in South Africa, while Cape Town, Johannesburg, Tshwane and Ekurhuleni all have draft bio-regional plans. The plans contain key spatial biodiversity information to integrate into spatial plans. A map of biodiversity priorities with accompanying guidelines informs land-use planning, environmental authorisations and natural resource management.

Cities can help preserve critical biodiversity by connecting existing and future protected areas through a network of interconnected open spaces. Conserving and restoring priority biodiversity areas enhances ecosystem resilience and contributes to climate change mitigation and adaptation. Continued dialogue and improved policies are needed to tackle how cities manage and integrate biodiversity within their landscape and economic growth, in a context that is continuously evolving.

Table 5.2 shows how urban land uses changed between 2000 and 2013. Overall urban land uses are expanding, agricultural land is being lost and less land remains in a natural condition. These changes may have a significant impact on the sustainability and future resilience of the cities.

Table 5.2: Land transformation and natural areas within cities (2000–2014)

	Year	Buffalo City	Cape Town	Ekurhuleni	eThekwini	Johannesburg	Tshwane	Msunduzi	Mangaung	Nelson Mandela Bay
Cultivated	2000	6 465.87	64 058.94	30 328.83	27 081.72	9 137.88	73 491.93	4 512.42	122 007.42	1 818.27
	2014	30 755.52	40 183.56	36 548.19	23 520.60	6 839.91	108 805.95	5 382.54	170 604.00	8 492.22
	Change	-17%	-59%	17%	-89%	-34%	23%	-10%	24%	36%
Degraded	2000	29 369.34	0.00	0.00	17 405.28	0.00	10 605.69	1 388.16	7 816.86	3 651.84
Mines	2000	484.47	589.32	9 692.73	430.38	5 104.44	5 524.47	113.04	138.87	642.96
	2014	181.62	1 015.56	5 046.39	247.23	2 697.30	4 209.75	49.23	1 490.04	1 397.61
	Change	–167%	42%	–92%	–74%	–89%	–31%	–130%	91%	54%
Natural	2000	179 063.37	98 506.53	70 897.68	121 541.22	63 369.99	422 132.85	35 006.76	447 747.12	147 770.73
	2014	186 218.55	131 026.50	69 678.81	101 151.54	58 381.74	379 836.81	28 637.55	406 471.14	150 077.43
	Change	4%	25%	–2%	–20%	–9%	–11%	–22%	–10%	2%
Plantations	2000	1 580.67	6 278.85	1 838.88	1 147.23	1 544.40	9 198.99	2 988.90	1 037.43	543.87
	2014	5 922.27	3 224.52	4 852.17	1 421.10	5 976.54	7 599.69	4 049.73	2 124.27	998.10
	Change	73%	–95%	62%	19%	74%	–21%	26%	51%	46%
Urban Built-up	2000	32 642.64	74 844.72	70 151.13	57 694.95	80 412.39	100 261.08	19 269.45	36 903.51	37 600.29
	2014	27 746.73	63 872.64	68 740.56	99 981.00	83 334.87	114 115.95	24 314.49	40 437.27	31 425.66
	Change	–18%	–17%	–2%	42%	4%	12%	21%	9%	-20%
Waterbodies	2000	3 817.98	3 704.22	14 544.54	4 437.72	4 831.20	8 403.93	232.38	12 329.10	3 804.57
	2014	2 599.65	8 659.89	12 587.76	3 417.30	7 169.94	15 050.79	1 077.57	6 853.68	3 441.60
	Change	–47%	57%	–16%	–30%	33%	44%	78%	–80%	-11%
Grand Total		**253 424.34**	**247 982.58**	**197 453.79**	**229 738.50**	**164 400.30**	**629 618.94**	**63 511.11**	**627 980.31**	**195 832.53**

Open spaces

Ecological and social open spaces are important aspects of a sustainable city. Traditionally, open spaces are seen as the green spaces and parks within a city, yet open spaces can range from sports fields, highly landscaped and altered spaces, and public parks. Within a city's land-use planning, streets (walkways), urban squares and institutional areas are not always defined as urban open space, but are a critical part of the open space network (along with social and ecological spaces). The open space network is often poorly planned and not adequately maintained. Informal settlement areas, in particular, often do not have any shared public spaces. Yet, the link between open space planning, urban densities and land-use planning is important in creating a sustainable city. Public spaces and land create a sense of community, and facilitate social and economic development and community revitalisation.

While large public green spaces are often highly valued, and most cities have a Metropolitan Open Space System (MOSS) that includes a spatial plan for prioritising and planning for public spaces. For example, eThekwini uses its MOSS (the Durban MOSS or D'MOSS) to connect the public, private and tribal open spaces (including natural and transformed spaces) within the metropolitan area. The D'MOSS is integrated into the local planning schemes, and environmental areas covered by the D'MOSS may not be developed unless approval is given by the Environmental Management Department. In cases where development is approved, significant controls are imposed, such as the use of environmental or conservation servitudes. The aim is to ensure that the site's ecosystem is protected and not adversely affected by development activities.

Coasts

The National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008) was a major paradigm shift for coastal management in South Africa, particularly for local government (Celliers et al., 2009). The Act recognises that cities are responsible for various spatial aspects of coasts and must develop coastal management plans, which are integrated into land-use planning schemes. All coastal cities have an Integrated Coastal Management Plan in place, and eThekwini and Cape Town have coastal setback lines (on average 10 metre contour above mean sea level), which also support the city responses to climate change adaptation.

Urban growth and expansion have a significant impact on coastal zones and their resources, which are valuable for many different sectors, including mining, fisheries, forestry and tourism. The demand is increasing for non-consumptive tourism, such as use of beaches (sun-bathing, swimming and picnicking), recreational fishing, boat-based whale watching, shark-cage diving and filming.

Climate change is likely to affect coasts, particularly in ecological sensitive areas and where the built environment has encroached into coastal surge areas. The coastal zone itself will be subject to sea level rise (Breetzke et al., 2011), and the consequent flooding and coastal erosion can result in loss or damage to coastal infrastructure (including breakwaters, roads and buildings) and ecosystem services.

The coastal land can be broadly classified as natural, degraded, urban and agricultural. As coastal land is transformed from its natural state, it loses its ability to provide ecosystem services, and, in particular, to buffer coastal communities from sea level rise and coastal surge. Along South Africa's coastal belt, most urban land occurs in the three largest cities: Cape Town (25%), eThekwini (27%) and Nelson Mandela (12%).[4] Cape Town and eThekwini have been the most transformed from their natural state (Table 5.3).

Table 5.3: Land transformation and coastal areas

City	Natural Land cover (ha)	Natural Land cover (%)	Total Area (ha)
Buffalo City	30 755.52	74%	253 424.34
City of Cape Town	40 183.56	55%	247 982.67
eThekwini	23 520.60	45%	229 738.77
Nelson Mandela Bay	8 492.22	78%	195 832.62

Source: DEA National Land Cover 2013/2014 dataset provides at a 1:75 000–1:100 000 data application scale, available from http://egis.environment.gov.za/frontpage.aspx?m=27

During peak storms, eThekwini's coastline experiences unprecedented levels of erosion and associated damage to built-up areas within the coastal zone (Breetzke et al., 2008). As coastlines are not static but continually change and either erode (retreat) or build seawards (accrete), it is important to adapt management practices to respond better to changing sea levels and land changes.

A further pressure on coasts is pollution discharged from domestic sewage, industrial wastewater and stormwater flows. Poorly managed stormwater runoff is collected and channelled, and ends up in rivers and on beaches. Runoff water may be polluted with heavy metals, oil residues, nutrients and pathogenic microorganisms. Furthermore, coastal systems are often subjected to littering and dumping, which affects human health, reduces tourism and damages the ecosystem.

Future challenges for coastal areas relate to energy generation, such as off-shore and wave energy. Within the context of climate change, consideration is being given to technologies where the ocean seabed can be used for carbon storage. Small desalination plants have been implemented (e.g. Knysna) as means to alleviate water scarcity in South Africa, but the relative costs and scalability of desalination need to be fully explored.

Air quality

Pollutants from urban activities and growth are released into the atmosphere, which is the single largest resource shared across cities. Sectors that contribute the most to atmospheric degradation are transport, power generation, incineration, waste and biomass burning (Khumalo et al., 2002). People

4 *http://soer.deat.gov.za/51.html*

in the city and in their homes then breathe in the airborne pollutants, which can result in respiratory illnesses (South Africa has some of the world's highest asthma rates). Air pollution affects tourism, property values, plant growth and agricultural outputs.

Indoor air quality: Air pollution is found both outdoors and indoors. Indoors, poor air quality is caused by bad ventilation, burning of fuels (coal, paraffin, wood, dung, etc.), tobacco smoke, asbestos and pesticides, etc. The poorest households and vulnerable people (elderly, sick and children) are the most at risk from indoor air quality pollution, as burning fuels for cooking and heating can produce high levels of particulate and carbon monoxide, which, in turn, can cause or increase susceptibility to respiratory illnesses (Khumalo et al., 2012). The increasing cost of electricity means that more and more urban households are turning to other, more affordable and polluting fuels (SEA, 2014).

Outdoor air quality: Outdoor air pollution comes from both natural (veld fires) sources and those caused by people. Most air pollution is concentrated in urban areas and results from industrial processes, such as fossil fuel burning (coal, oil and natural gas) for electricity and liquid fuel production, biomass burning and waste incineration, as well as domestic fuel burning and vehicle emissions. During winter, a brown haze may be seen over many informal settlements, caused by burning wood and coal, and the levels of particulate matter in the air often far exceed the air quality standards. PM10 levels come from burning of wood and coal and PM2.5 from vehicle emissions. Between 2004 and 2011, PM10 levels increased in the City of Johannesburg, with the highest levels found in Alexandra (Gauteng DARD, 2011). Vehicle emissions are a major contributor to poor outdoor air quality in cities, responsible for 90–95% of carbon monoxide and 70% of nitrogen oxide emissions (Schwela, 2004), and contribute to smog, especially in areas of high traffic congestion. Air quality monitoring stations near busy traffic intersections often show elevated PM2.5 levels, which is an indicator of pollution from vehicles idling in traffic.

Industrial air pollution: The bulk of industrial air pollution emanates from mining (including coal). The worst affected areas are the Vaal Triangle, the South Durban Industrial Basin and the Highveld. Poor land-use planning has resulted in heavy industrial developments being located much too close to residential areas (Leaner et al., 2009), affecting mostly the poor and more vulnerable households living in settlements established during apartheid. Air pollution in these areas can cause residents long-term negative health effects, not only when the industries are active, but even long after industrial operations have ceased. For example, in Johannesburg human settlements close to mine residue areas are affected by wind-blown dust from the mine tailings storage facilities.

Monitoring air quality: The National Environmental Management: Air Quality Act (No. 39 of 2004) is the main legislation for managing air pollution and also regulates air quality standards and responses. As cities generate so much air pollution, it is important to maintain a network of air quality monitoring points. However, in part because of a lack of capacity and training, the air quality monitoring stations are not always operational or do not adequately monitor all the necessary variables (DEA, 2011b).

Climate change

Climate change is not purely an environmental issue and cannot be addressed in isolation. South Africa is signatory to a number of global environmental treaties, but these commitments are realised at local government level. Therefore, stronger intergovernmental relations are required when developing and implementing climate change mitigation and adaptation policies. The National Climate Change Response Policy provides the framework for mainstreaming climate change in development, while cities have developed climate change strategies and recognise the need to mitigate the impacts of climate change in their growth and development strategies and IDPs. However, the policy intent is not sufficiently present in the day-to-day service delivery operations. This is an area that can be strengthened, using peer-to-peer learning presented by platforms such as C40,[5] Metropolis[6] and ICLEI- Local Governments for Sustainability[7]. In light of Paris Agreement cities have to lead the local government sector's understanding and implementation of the Agreement.

Climate change adaptation and resilience: No matter how robust the mitigation measures are, a certain degree of climate change is inevitable because of historical emissions and the inertia of the climate system. In 2011, at COP17, local governments across the globe signed the Durban Adaptation Charter, which advocates forward-looking adaptation. While the effects of mitigation may take several decades to manifest, most adaptation activities take effect almost immediately and can be applied on a regional or local scale. Adaptation addresses the risks associated with both future climate changes and current climate variability.

- In 2004, eThekwini launched its Municipal Climate Protection Programme, which focuses more on adaptation than on mitigation (unlike many other cities). Initially funded from the municipal biodiversity budget, in 2010/11 the city received its first dedicated climate change funding and has subsequently used various sources of international funding to supplement municipal resources. eThekwini supports a radical shift to a new mode of urban planning, management and governance (Roberts & O'Donoghue, 2013).
- The City of Tshwane's Vision 2055 is to be a low-carbon, resource-efficient sustainable city and is supported by the 2013 Green Economy Strategic Framework (City of Tshwane, 2013a). The Executive Mayor champions climate change in Tshwane, and a Sustainability Unit was established in 2013 to coordinate the climate change response within the broader context of sustainability across the city. A vulnerability assessment of the city has been completed that identifies regions to be prioritised for adaptation measures, and a joint action plan for adaptation and mitigation is under development.
- Johannesburg is developing a Strategic Framework that will inform a Comprehensive Climate Change Strategy. The City has been at the forefront of climate change response and builds its capacity through peer learning and exposure. It was the first South African city to host the ICLEI-Local Government for Sustainability in 2001 and joined the C40 Cities Climate Leadership Group in 2005.

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5 The C40 Cities Climate Leadership Group is a network of the world's megacities taking action to reduce greenhouse gas emissions.

6 Metropolis, or the World Association of the Major Metropolises, is the leading international organisation that represents cities and metropolitan regions with more than a million inhabitants.

7 Founded in 1990 as the International Council for Local Environmental Initiatives, now called Local Governments for Sustainability, ICLEI is the leading global network of local governments dedicated to sustainability, resilience, and climate action..

Emissions reduction to mitigate climate change: The current urban growth is accompanied by increased emissions within cities, and so the focus needs to be on reducing emissions. While efforts have been made to reduce emissions associated with coal-based electricity, a similar effort is needed to reduce emissions from the transport sector.

- Johannesburg has a fairly established and operational emissions reduction programme that dates back to the establishment of the Climate Change Action Programme in 2006. Flagship projects to date include the Rea Vaya BRT system, biogas to electricity at Northern Water Works Treatment Plant, the Cosmo City climate-proofing project and the Robinson Deep landfill gas to electricity.
- Tshwane has an ambitious sustainable energy programme that includes solar PV, waste to energy, cleaner fuels for transportation and sustainable neighbourhoods that integrate livestock farming, energy generation and urban agriculture. This programme is complemented by energy efficiency interventions and a green buildings programme that includes the construction of the 5-star rated City Headquarters green building.
- Cape Town's commitment to climate change response is articulated through its Energy and Climate Change Strategy (COCT, 2006a) and the Framework for Adaptation to Climate Change in the City of Cape Town (COCT, 2006b). The city was one of the cities whose efforts were supported by the Danish Development Agency (DANIDA) Urban Environmental Management Programme. The city continues to implement the emissions reduction programme and to build capacity within the city. The city also allocates internal resources towards the programme.
- Johannesburg, eThekwini, Cape Town and Tshwane are active members of the Carbon Registry for voluntary reporting on reducing GHG emissions, and, together with Nelson Mandela Bay, Ekurhuleni and Buffalo City, are active participants in the ICLEI/WWF Earth Hour challenge, which aims to encourage large uptake of mitigation action by cities.

Disaster management and risk reduction

Reducing risk is critical to achieving broader developmental objectives in urban areas. The IUDF (COGTA, 2016) argues that proactive action to address risk is integral to creating sustainable urban growth. Cities are where most of the population lives and consumes resources. This consumption usually surpasses urban planning and service delivery, thereby making the system vulnerable to disasters. Common problems during the rainy season are blockages in the stormwater drainage system and low-lying bridges that get swept away by heavy rains.

Disasters can result in the loss of human life and the destruction of livelihoods, and are extremely costly. The Disaster Mitigation for Sustainable Livelihoods Programme (DiMP) analysed the direct damage losses incurred over the course of eight severe weather events in the Western Cape between 2003 and 2008. It found that the provincial government, followed by municipalities, incurred the most costs. Provincial departments reported direct damage costs of R1.8-billion that were mainly carried by the departments of agriculture, provincial roads and housing. The costs for local and district municipalities totalled R513-million, mostly from flood-damaged roads and stormwater infrastructure (DiMP, 2014).

An analysis of three cities – Johannesburg, Ekurhuleni and Mangaung – examined their resilience to climate change in the food, water and transportation sectors. It found that existing policies lack appropriate consideration of (and reference to) climate change variables, while strategic planning documents do not adequately cover the interlinkages of planning and managing climate change impacts across all three sectors. Therefore, planning for solutions to improve city resilience will most likely be reactive and isolated rather than proactive and integrated (SACN, 2015a).

With disaster and risk reduction, prevention is better than cure. Events such as heavy storms and rains happen anyway, but they are exacerbated by climate change to an unbearable level for humans and ecosystems. On 28 November 2013, this increasing vulnerability was clearly seen in reality when fist-sized hailstones affected over 44 800 households in regions 1 and 6 of Tshwane. The city's reactive response and lack of a systematic approach to dealing with natural disasters created some tension, delays and inefficient follow-up processes. A report, which was commissioned by the city to quantify the extent of the damage, recommended the development of both a 10-point checklist of actions for making the city resilient and of building blocks for disaster risk reduction in line with the five priorities of the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters (City of Tshwane, 2013). Cities need to strengthen planning around disasters and risk reduction, including implementing coordinated proactive strategies with early warning signals and having dedicated infrastructure maintenance budgets.

Rural-urban linkages

The UN projects that 71% of South Africa's population will live in urban areas by 2030, reaching almost 80% by 2050. This rapid urbanisation intensifies the rural-urban linkages: people living in cities still maintain some form of connection with the rural area of origin, which can take the form of remittances, social capital, cultural practices, tourism and livelihoods, while resources consumed in urban areas (e.g. food production, electricity generation and water flow) originate in rural areas and the urban hinterland.

People leave rural areas for various reasons, including drought, the lack of income-generating opportunities and a desire to leave farm manual labour, although the expected job opportunities in urban areas do not always materialise. The place where these rural migrants settle in the city often depends on family and social relationships that can facilitate access to shelter, job/income opportunities and access to social and health facilities. Informal settlements are the access point for many rural migrants, from where they are able to strategise and plan how to access the broader urban space for work and services, etc. (SACN, 2015a).

Migration puts pressure on cities' sustainability because of increased demands for services, such as water, land, energy, food etc., and for housing and human settlements, access to public transport, educational, health and community facilities. A combination of strategies needs to be explored to better understand the linkages that exist between urban and rural spaces. The IUDF (COGTA, 2014) states that strengthening rural-urban linkages is a mechanism to achieve sustainable and inclusive development. Cities are vulnerable to shocks in the rural areas that lead to increased migration or reduced resource inflow. Therefore, cities have a role to play in facilitating a dialogue on rural-urban linkages.

PRINCIPLES OF A SUSTAINABLE CITY

Urban growth is normally followed by resource consumption and access to quality services – roads, health, schools, connectivity, etc. Since 1996, South African cities have performed fairly well in providing access to basic services – water, electricity, waste management, human settlements and public transport. However, stubborn and rooted challenges remain in the form of urban sprawl, unsustainable mobility options, inefficient consumption of natural resources, inadequate exploitation of renewable options and persistent, inequitable economic opportunities. Silo planning perpetuates this inefficient system, resulting in less impactful development.

The transition towards achieving cities that are more sustainable is not slow because of a lack of commitment, policy directive or know-how. The bigger obstacle is the lack of an integrated and holistic approach to sustainability. Some key shifts are needed in order to see significant progress towards sustainable cities by 2030.

- A *systemic approach* is critical for engaging the issues and improving the city's response to becoming sustainable.
- *Collaboration* is imperative, both within city structures and externally. Strengthened stakeholder engagement is a critical part of co-creating a sustainable future, to ensure buy-in, the leveraging of sustainable partnerships and efficient resource use.
- Cities need *a robust framework* of key sustainable city principles. Such a framework should describe practical key performance indicators (KPIs) with an M&E component.

As a framework for transition towards 2030, the following ten principles are proposed, aligned with the overall vision of cities in the future, i.e. inclusive, productive, sustainable and well-governed cities that benefit all who inhabit them:

- Principle 1: Collaborate for a resilient future (transitioning from silos to systems)
- Principle 2: Establish and maintain internal and external strategic alignment
- Principle 3: Resource efficiency and closing the loops
- Principle 4: Renewable energy (a significant role for cities in cleaner, decentralised renewable energy generation)
- Principle 5: Embrace and leverage diversity
- Principle 6: Capacity building as a critical enabler for change
- Principle 7: Integrate and redefine resilient and effective service delivery
- Principle 8: Localisation within the city construct
- Principle 9: Thriving livelihoods
- Principle 10: Data intelligence

This framework could be used as a tool to implement and test the efficacy of city development strategies. Its integrated and holistic approach will result in effective outcomes with the proper planning, resources and M&E. The idea is that cities should develop robust individual plans that define their programmes, projects and activities in all of the principles.

CONCLUSION

Sustainability needs to be understood broadly and holistically, and environmental sustainability should become the foundation to anchor the other pillars concerned with the productivity, inclusivity and well-being of citizens. South Africa's developmental challenges can still be fulfilled with certain levels of economic growth, but pursuing development in a non-integrated way that ignores the environmental thresholds could threaten the local and national economies. This situation could be costly for cities to reverse.

Cities are embracing the sustainable development path, despite limitations resulting from ambiguous national policies, in particular: (i) Section 34 of the Electricity Regulation Act, which specifies that additional new generation capacity can only be added to the national grid through a ministerial determination, and yet this ministerial determination has not been made for municipalities. (ii) The Integrated Energy Plan and Integrated Resource Plan do not specify which generation capacity share has been allocated to municipalities. (iii) Gas is not classified as a vehicular fuel in the regulations thus making use of gas (e.g. compressed natural gas) to propel engines illegal.

In light of the current electricity crisis, cities have a role to play in stabilising the grid by promoting renewable energy and improving energy efficiency. For example, the solar city map developed by eThekwini provides guidance for fully exploiting solar energy for residential and commercial purposes. Generating energy from solid waste needs up-scale exploitation, while energy efficiency is critical because of required leading times for new generation capacity including renewables. To counter the potential negative impact of renewables on city finances such as solar power, cities need to investigate alternative revenue streams and financing models (see Chapter 7). Furthermore, national and local government must also work closely to review regulatory constraints, set realistic targets for diversifying energy supply and allocate adequate resources.

Current city transitions towards sustainable development are inadequate, as shown by intensive consumption of resources, infrastructure backlog, youth unemployment and urban safety challenges. This presents an opportunity to do things differently to effect pro-poor spatial transformation of the current urban form where low-to-middle income households live in outer suburbs and townships. Efficient and inclusive public transport networks will reduce transport-related emissions and help achieve socioeconomic inclusion. However, to function optimally, such public transport networks require high-density developments, as public transport use is greater in areas of higher density (Weakley & Bickford, 2014). The sanitation, water, electricity and housing infrastructure backlogs present an opportunity for innovation that could catalyse small enterprise development.

Cities need to forge trusted partnerships and collaborations in order to achieve the long-term goal of sustainable, spatially transformed resource-efficient cities. Between now and 2030, cities will have to make difficult decisions, guided by long-term vision that is co-created with stakeholders. They can choose to support the haphazard path of development dictated to them by investors, property developers, national government and state-owned enterprises. Or, cities can (and must) look for better, resilient and efficient systems that serve the needs of the local people.

RECOMMENDATIONS

Develop and embed a sustainable cities framework where capacity exists (2016–2021). This robust, holistic and integrated framework must be based on the sustainable city principles. Its main objectives are to operationalise and test the efficacy of the city's growth and development strategies. Although not all the principles should be turned into programmes, they must be fundamental to service delivery across departments. The modular form of the principles allows cities to continue with areas where progress has been started while programming other components.

Ensure concrete measurement of progress in the transition, including baseline studies, KPIs and M&E systems. Sustainability issues and environmental conditions are not adequately represented because of a lack of data and monitoring systems. Urgent investment in environmental data collection and monitoring is needed, as monitoring provides a scientific basis for policy and strategy development, as well as compliance measurement against targets, and helps to determine any enforcement responses. A formal structured mid-term review should be conducted by 2018 to measure the implementation of sustainability frameworks, and to ensure that the data and systems are in place to make M&E possible. Cities would be at different levels, with some having scaled-up projects, while others may have developed the framework or identified capacity gaps. If successful, by 2021 a detailed review of progress against the KPIs set out in a city framework would be possible, and the projection to 2030 could be redefined.

Confront resource efficiency more aggressively, based on the concept of a circular economy, whereby products are designed for ease of re-use, disassembly and remanufacturing. This would enable vast amounts of material to be reclaimed from end-of-life products and re-used, which can create the foundation for economic growth. The waste sector makes a good example where small, medium and micro enterprises will emerge, thus contributing to reducing unemployment, poverty and income inequality, i.e. the goals of NDP (NPC, 2011).

Pursue spatial transformation that encourages compact cities by facilitating regeneration and densification, which will result in integrated sustainable neighbourhoods. Compact cities contribute to a spatially transformed city in its broadest sense of achieving social, economic and environmental values. Public and private investment is needed for transit-oriented development that is enhanced by public transport and supported by green building.

The transition to sustainable and inclusive cities has its complexities and is a significant change process. However, the cost of not doing enough in a context of unsustainable development practices far outweighs the benefit of increased investment for sustainability. In order to facilitate the much-needed change in pace and trajectory, an institutional re-configuration that views sustainability as a way of doing business, from top management through to finance and procurement departments, is required. This will shift policies and practices away from the business-as-usual approach, which tends to stifle innovation and stunt sustainability.

WELL-GOVERNED **CITIES**

Growing from form to substance

@matthewkanniah

Key Messages

1. Cities have put good governance structures and processes in place, but are not yet achieving the desired social and spatial outcomes.

2. Cities do not adequately mobilise and involve all city stakeholders, including civil society and the private sector, in building a long-term vision of and commitment to spatial transformation.

3. Cities should move from the form and process of governance to its substance: performance outcomes, coordination, and democratic governance.

4. Cities need to improve collective leadership, operational capability, and stakeholder relations and participation.

5. Cities should institutionalise accountability by allocating clear responsibilities and forging sound intergovernmental cooperation and alignment.

@twistedcamerastrap

INTRODUCTION

The standard and value of democratic governance and management in cities remain a focus of public scrutiny. The last State of Cities report (SACN, 2011) highlighted the importance of stabilising intergovernmental relationships (IGR), building capability and restoring trust. Despite real progress, the complexities of governing South African cities have made the envisaged spatial and social transformations elusive. This is because the constraints and opportunities, as well as the tough choices and hard decisions needed to drive urban development, are not adequately understood or consistently pursued.

Governance is about how societies and organisations make decisions, who has a say, and how accountability is exercised. Governing systems include "the agreements, procedures, conventions or policies that define who gets power, how decisions are taken and how accountability is rendered" (Graham et al., 2003: 3). The mode of governance determines the level of trust between the municipality, citizens, civil society, the private sector and other government departments, and thus the ability to negotiate outcomes and get results.

South African cities are well governed in terms of structures and processes. They have regular elections, representative councils and ward committees, formal bureaucratic structures, finance and audit controls, and stakeholder-driven short- and longer-term integrated development plans (IDPs). However, good governance is measured not only on structures or process, but also on outcomes. Based on outcomes, much more work is needed to create spatially and socially transformed cities. In this regard, the SACN definition of good governance is pertinent (SACN, 2011: 118):

> Good governance refers to the capacity of city councils and their partners to formulate and implement sound policies and systems that reflect the interests of local citizens, and to do so in a way that is transparent and inclusive of those with least power and resources.

Important aspects of effective governance include bureaucratic capability, active citizenship and political legitimacy. But more important are the power dynamics within cities, how these play out in community and institutional interactions, and how those with the least power and resources are accommodated. While policy clearly articulates the ideal of democratic developmental cities, the reality is that, despite having the structures and processes in place, cities have been less successful in driving a spatial transformation agenda.

Governance is about how and where decisions are made, whereas spatial transformation is about how and where people live in cities (Williams, 2000). In other words, governance is about authority (the right to decide) and voice (the right to participate). Cities have formal governing systems (councils, wards committees, financial compliance and oversight entities), but it is the

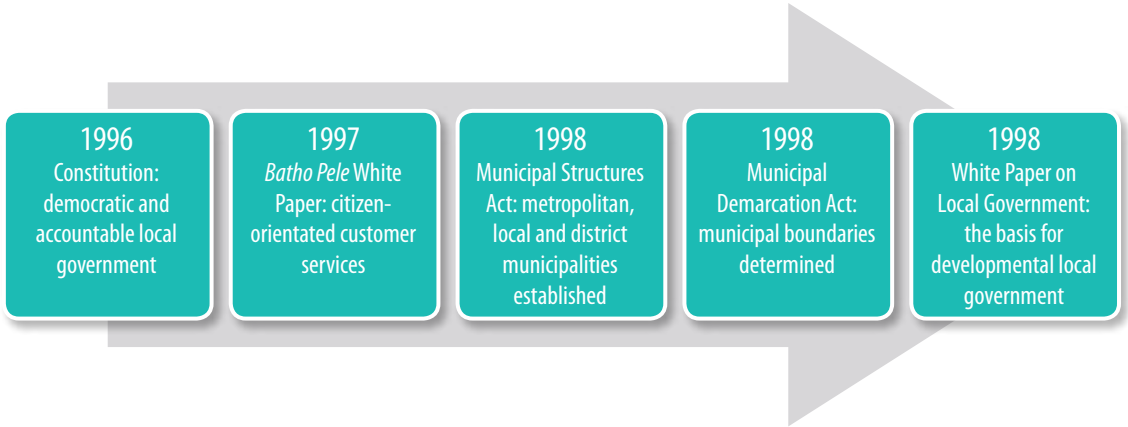
informal political and social cultures (established routines and institutions[1]) or structural inequalities that influence the effective alignment between city governments, communities and civil society. These long-established cultures and inequalities inhibit social change and spatial transformation.

Collective leadership is required to shift established practices and to give effect to the vision of transformed cities. However, leadership remains fragmented and divided, struggling to gain access to local resources and focused on short-term gains. Collective leadership implies the involvement of all actors, including civil society and the private sector, working together with city governments towards achieving economic growth and social development (Heller, 2015). Links between city and communities, or embeddedness,[2] and a capacity to coordinate are critical to democratic accountability and development outcomes (ibid). Yet despite cities having clearly defined authority, bureaucratic legitimacy and fiscal independence, their transformative capacity (Weiss, 1998), i.e. their ability to coordinate and mobilise communities and stakeholders, has been limited.

City governance in policy and regulations

Metros (supported by national and provincial policy) have put in place mandated governance systems and structures, which include executive councils, effective bureaucracies, ward committees and participatory planning. The 1993 Interim Constitution laid the foundation for recognising municipalities as autonomous entities with revenue-generating power. Section 153 of the 1996 Constitution requires metros to ensure the provision of services, promote development and a safe environment, and encourage the involvement of communities. Several white papers and Acts followed that framed the transition to democratic local governance (Figure 6.1).

Figure 6.1: Policy and regulation defining the transition



1 Institutions here refer to historically developed sets of social practices (routines, stories and drills) that pattern decision-making (McLennan, 2009). Young (2011) argues that institutions "are relevant …insofar as they condition people's ability to participate in determining their actions and their ability to develop and exercise their capacities".

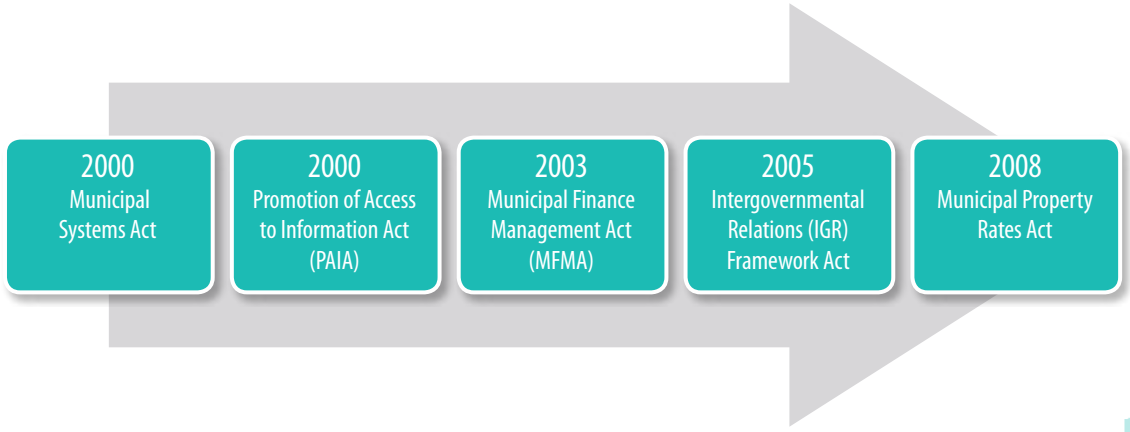
2 Embeddedness reflects the extent of city links to local communities and stakeholders. It is a mobilising capacity that enables cities to be developmental and transformative.

In addition to defining the parameters and structure of the three spheres of government, the Constitution provides for the progressive realisation (subject to available resources) of socioeconomic rights, from fair labour practices to giving every citizen the right to have access to basic public services. Most of the legislation setting out the governance framework for municipalities (and the public service) is based on the nine values and principles of public service outlined in Chapter 10 of the Constitution, which states:

> Public administration must be governed by the democratic values and principles enshrined in the Constitution, including the following principles:
>
> a. A high standard of professional ethics must be promoted and maintained.
> b. Efficient, economic and effective use of resources must be promoted.
> c. Public administration must be development-oriented.
> d. Services must be provided impartially, fairly, equitably and without bias.
> e. People's needs must be responded to, and the public must be encouraged to participate in policy-making.
> f. Public administration must be accountable.
> g. Transparency must be fostered by providing the public with timely, accessible and accurate information.
> h. Good human resource management and career-development practices, to maximise human potential, must be cultivated.
> i. Public administration must be broadly representative of the South African people, with employment and personnel management practices based on ability, objectivity, fairness, and the need to redress the imbalances of the past to achieve broad representation.

The 1998 White Paper on Local Government mandates local governments to work with citizens to meet their needs and facilitate growth and development. The formal transition to a new system began with the enactment of the Municipal Demarcation Act (No. 27 of 1998), followed by the Municipal Structures Act (No. 117 of 1998 amended in 2000 and 2002), which provides for the establishment of metros, executive mayors, speakers and ward committees. Elections for these new structures were held in December 2000. The Local Government: Municipal Systems Act (No. 32 of 2000) defines the process of developmental transformation by requiring the participation of citizens in decision-making (Figure 6.2).

Figure 6.2: Policy and legislation defining transformation



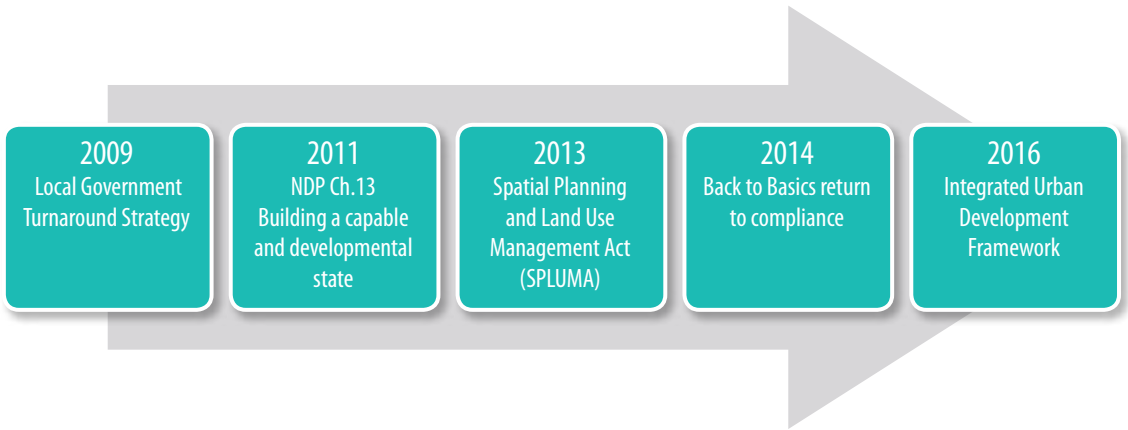
Section 51 of the Municipal Systems Act requires a municipality to be responsive, service oriented and performance driven and to establish working political-administrative relationships and well-organised and efficient delivery systems. These requirements are reinforced in most local government legislation, including the Municipal Finance Management Act (MFMA) (No. 56 of 2003), the Municipal Property Rates Act (No. 6 of 2004) and the Division of Revenue Act, which annually sets the intergovernmental fiscal transfers limits (de Visser, 2009). These Acts define the shape, form and functions of city governance.

A council led by an executive mayor governs the city. A speaker (elected by the council) chairs the council, and a municipal manager (appointed by the council) runs the administration. Councils are expected to plan, adopt policies and engage communities (de Visser, 2010a). The municipal executive initiates policy, oversees the administration and takes regular decisions. Ward committees ensure formal (but not substantive) community participation. The IDP, which is decided with local communities, enables the coordination of the work of all three government spheres, while also including the private sector, civil society and non-governmental organisations (NGOs). Ward committees and stakeholder associations – social workers, community-based organisations (CBOs), non-governmental organisations and other resource persons – together make up the IDP Representative Forum.

Cities are at the coalface of participatory governance and transformation, and have to deal with a regime of complex regulations, compliance requirements and policies, from land-use management systems and environmental impact assessments, to public private partnerships (PPPs). Implementation is immensely complex, given the spatial and long-term development planning demands, incentives and regulatory frameworks, the redistributive rating systems and the restructured tax regimes that are all needed to transform the historically skewed spatial delivery patterns of cities.

Although cities have set up the structures and systems required to adhere to the prescribed rule of law, they have limited human and financial resources for implementing the complex laws, regulations and demands. This can be seen in the challenges related to the devolution of housing and public transport. The overload of national policy and legislative interventions has "the unintended consequence of breeding instability and a lack of confidence in and among local government politicians, practitioners and communities" (George and Baatjies, 2015: 16).

Figure 6.3: Strategies to accelerate transformation



The Department of Cooperative Governance and Traditional Affairs (COGTA) is in place to ensure that the three spheres of government work together effectively. COGTA has initiated several programmes aimed at supporting implementation and building the capacity of local government to deliver (Figure 6.3). The 2009 Local Government Turnaround Strategy was an attempt to kick-start dysfunctional governments, while the more recent Back to Basics strategy is focused on getting municipalities to move away from top-down service delivery to a culture of serving communities. Finally, the Integrated Urban Development Framework (IUDF) is designed to unlock the development synergy that comes from coordinated investments in people and places. All of these programmes and strategies influence governance in cities, and the more recent initiatives are framed by Vision 2030 and the long-term growth path mapped in the National Development Plan (NDP).

Delivering a well-governed democratic developmental city

Development is about having relevant policies, particularly industrial policy, as well as specific institutional arrangements (both formal and informal, and public and private) that together provide the optimum conditions for economic growth and development. Cities should be seen as local developmental states, as most cities have defined and delegated political and bureaucratic powers, distinct jurisdictions, fiscal authority and a direct relationship with citizens (Heller, 2015; Thun, 2006; Zhu, 2004). In this sense, they are "critical sites of economic transformation and social transformation" (Heller, 2015: 2).

City management involves coordinating and integrating public and private activities to tackle the development challenges of an entire city or a particular city space. All these processes are located in particular social and economic contexts related to history, geographic location, politics and leadership.

The challenge in South African cities is that service delivery deficiencies are most pronounced in historically black townships and informal settlements because of apartheid legacies. This means that the efficacy of governance is different in different parts of the city (and indeed in different parts of the country), as measured by the quality of local services and institutions, the democratic participation of local citizens and communities in policy-making, and the accountability of elected and public representatives.

A particular challenge is to change the relationship between their governments and citizens from "provider and beneficiary" to "reciprocal cooperation" (McLennan, 2009). The IUDF views urban governance as (COGTA, 2014a: 11):

> managing the intergovernmental dynamics within the city, relations with the province and with neighbouring municipalities. City governments need to manage multiple fiscal, political and accountability tensions in order to fulfil their developmental and growth mandates. The result will be inclusive, resilient and liveable urban spaces.

While these dynamics are critical aspects of governance, addressing social exclusion and ensuring accountability requires stronger collaboration with local communities and stakeholders (Heller, 2015). Evidence of effective and transformative city governance might include the following:

- Institutional arrangements (formal and informal, and public and private) that collaborate to provide the optimum conditions for economic growth and social development. This may include, for example, IDP processes, as well as spatial development plans.
- The will to push through development and modernisation projects aimed at lifting the widest number of people out of the poverty in the quickest time. Political and public leaders must be seen as accountable for driving development that favours the poor.
- Pragmatic governing strategies that promote city, rather than factional, ethnic or patronage, interests. Honesty, merit and hard work are key pillars of governance.
- An effective bureaucracy with low levels of corruption and a strong sense of accountability. Sufficient administrative, technical and economic capacity and competence exist to set goals and implement policies.
- Long-term development plans that have broad public and stakeholder legitimacy linked to well-established coordinating, monitoring and evaluation mechanisms.
- Strong anti-corruption and oversight measures to ensure that the city is able to resist being captured by special interests, supported by dynamic stakeholder and government alliances.
- Public participation based on a reciprocal relationship between the city and its communities that leads to negotiated agreements on priorities and publicly valuable outcomes.
- IGR and devolutions that support the autonomy of cities and ensure that developmental mandates are met.
- Fiscal independence evident in an ability to manage revenue generation and debt, comply with Treasury regulations, report and achieve clean audits.

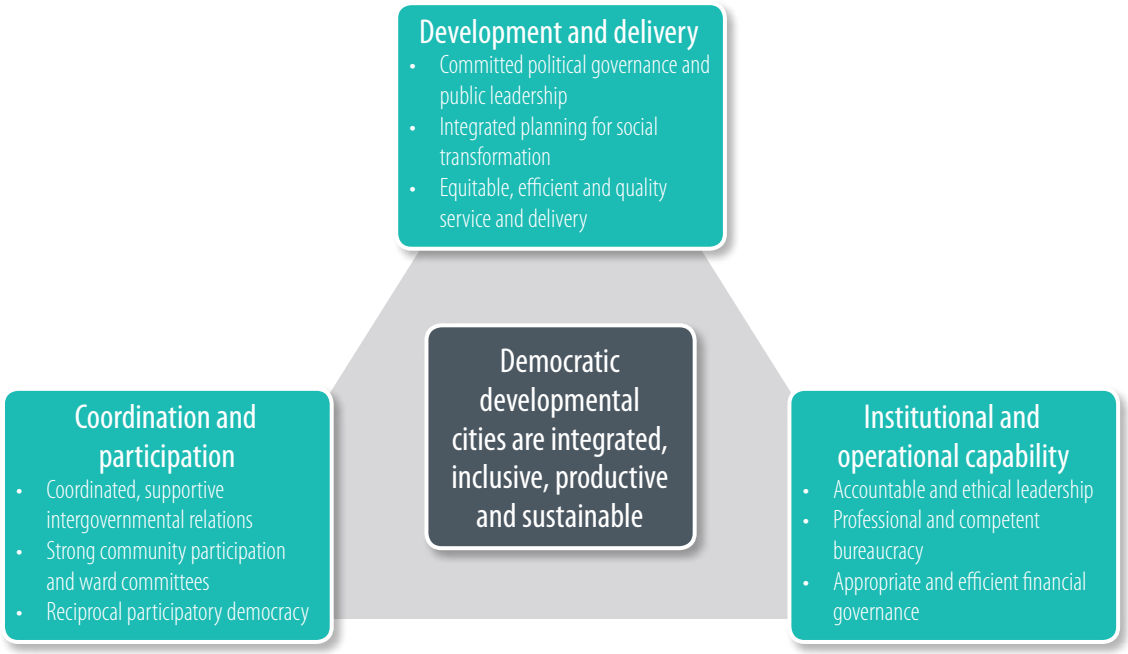
Williams (2000: 175) argues that socio-spatial transformation is layered with complexities that are linked to the quality and focus of governance in cities:

> If it is true that urban transformation is aimed at fundamental change in South African cities, it should be reasonably obvious that all forms of government, at all levels of society, should experience similar change in order to foster and sustain democratic practice (the substance of urban transformation).

Social and spatial transformation (an important outcome of good governance and explained in detail in Chapter 2) requires institutional transformation, a shifting of political and power relations, and specific management and technical capacities (Williams, 2000).

Figure 6.4 represents graphically the governing strategies that support social and spatial transformation, clustered into three broad categories: development and delivery, institutional and operational capability, and coordination and participation. These categories echo Williams' requirements of institutional change, democratic and inclusive politics, and integrated planning. In this understanding, well-governed cities are integrated, inclusive, productive and sustainable. To achieve this will require governance practices that are democratic, equal and developmental.

Figure 6.4: Governing strategies that support transformation



COORDINATION AND CITIZEN PARTICIPATION

Transformative governance requires cities to drive development with their government partners, local stakeholders and community support. Developmental local government is about being "committed to working with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve their quality of life" (1998 White Paper, section B). The foundations of democratic city governance are IGR, stakeholder coordination and citizen participation. These foundations enable various stakeholders to play their roles and stake their claims in the dynamics of city planning. However, this model of state-led development can undermine real cooperation, as some opt out to await their privileged roles or entitlements.

Cities earn public trust and legitimacy by meeting mandates, keeping promises and engaging communities and stakeholders in decision-making. The metros have made some progress in committing to collaboration and partnership. Although some box ticking exists, communities and stakeholders do participate in planning, if not in implementation. All cities have established public-private partnerships of various types, as well as ward committees and IDP processes that include communities.

When citizen participation or stakeholder coordination is low, cities are less effective because multi-stakeholder resources are not used to achieve development goals. However, vocal or established city interests tend to engage most, which can undermine attempts to include the voices of the urban poor, women and youth. These participation patterns shape decision-making and limit the space for transformation. They explain why, despite their intentions, transformation strategies tend to favour the privileged and to side-line historically neglected communities.

Blurred intergovernmental responsibilities affect cooperative governance

The unclear allocation of responsibilities to national, provincial and city governments blurs accountability and affects development coordination across government spheres and sectors. This is most notable in relation to devolved powers such as housing, energy, transport, land, water and spatial planning. It also creates local expectations that cities find difficult to meet because "communities may demand answers from councillors regarding policing issues, education, housing subsidies, identity documents and pensions, while the Constitution locates competence over these issues with national and provincial governments concurrently" (de Visser, 2010b: 50).

In addition to creating expectations and being contrary to the principles of cooperative governance, in practice national and provincial spheres of government tend to define priorities, which means that "councils have only limited power and discretionary resources to address their own priorities – as identified by their citizens".[3] This disconnect – between what cities can do with the resources available to them, and what citizens' expect from them – is often a reason for popular local anger, dissatisfaction and rising service delivery protests.

Section 154 of the Constitution obliges national and provincial governments to "support and strengthen the capacities of municipalities to manage their own affairs, to exercise their powers and to perform their functions". However, the intergovernmental fiscal, planning and delivery processes and mandates are poorly aligned. The Cabinet cluster system, which was introduced to improve policy implementation by bringing together different spheres and linked departments, also does not appear to be effective. The IGR system is inherently weak on accountability because it does not link incentives and sanctions to performance. Cases in point are integrated transport, housing, energy and infrastructure. Although cities, as the implementing sphere, have some control over ensuring better coordination and alignment of interventions, they do not always have the finance, capacity or skills to deliver what has often been decided at national level.

Uncertainties arise across the IGR system as a result of the devolution or non-devolution of functions, which raises the question of "who should make urban policy decisions, and be held accountable for urban development outcomes" (Savage, 2013: 11). Legislation, such the National Housing Act and the National Land Transportation Act, does not provide guidelines or deadlines on the delegations. As a result, policy is worked out without thinking through the complexities of implementation within city spaces, and national and provincial departments sometimes duplicate what cities are supposed to be doing. This duplication could be avoided if the roles and responsibilities of cities, provinces and national departments were clearly delineated.

An integrated approach is needed because governing cities is complex. Integrated service delivery demands **functional**, operational, planning and systems integration, but South Africa's public service generally operates in functional silos. The silo mentality within and between national, provincial and

3 Mail & Guardian. 'The people rate local government', 1 April 2011. http://mg.co.za/article/2011-04-01-the-people-rate-local-government

local government creates vertical and horizontal fragmentation, and undermines governance efficiency. An alternative "whole-of government" approach (i.e. government shares objectives across boundaries) is an underlying intention of a single public service as envisaged in the Public Administration Management Act (No. 11 of 2014).

Community participation and ward committees need strengthening

Ward committees are a space for democratic governance in cities and provide a forum for planning and oversight. They are specifically designed to allow communities to participate in decision-making, influence the IDP processes and budget allocation, and monitor the performance of the municipality. However, in practice, few ward committees play this role and do not exercise active oversight (COGTA, 2010; Naidu, n.d.). The ability of ward committees to influence decision-making is affected by their representivity, powers and functions, and access to information.

Representivity

Ward committees are meant to represent local community interests, but the interests represented are narrow. This is to a large extent because a ward committee is limited to ten members who rarely represent all local interests – depending on local power dynamics, key local stakeholders (from business, politics and civil society) either dominate or are excluded. As a result, despite inclusive policy intentions, ward committees are captured by local interests or politics, which limits their effect on local transformation (Benit-Gbaffou, 2008; Pieterse, 2013; Fikeni, 2015). This is most evident in impoverished or marginalised areas, whereas suburbs are able to retain contact (Heller, 2015). The ward committee system has resulted in (Fikeni, 2015: 26)

> ward councillors being the gatekeepers, rather than the link between Council and constituents. Ward councillors no longer go door-to-door and engage inhabitants or meet with them at their structures (governing bodies, business chambers, community forums etc.) and are in many instances not the conduit of information from the community to the municipality and vice versa, keeping inhabitants updated with the goings-on in the municipality.

Powers and functions

Unless the municipal council delegates powers to them, ward committees serve in an advisory capacity. Ward committees have increasingly become appendages of the dominant parties in the city (Piper and Deacon, 2008; Cameron, 2014). One weakness of the system is that an elected councillor is legislatively mandated to be the chair of the Ward Committee. In many cases, the elected councillor/chairperson appoints party members to be members of the ward committee, which may mean that alternative views are suppressed. Another challenge is that a ward committee chairperson who is not a member of the dominant party is unlikely to be taken seriously. In addition, many councillors lack an adequate understanding of what is required to change local spaces. Ward councillors have limited power in council and lack incentives to be accountable to voters. These structural constraints lead to "the development of patterns of clientelism at the local level" (Bénit-Gbaffou, 2008: 1). As a result, residents resort to other means in order to be heard, while poor and excluded people are drawn into these patronage networks as a pragmatic means of accessing resources for their survival.

Access to information

As many ward councillors do not always attend council meetings, ward committee issues do not make their way into the minutes and are not reflected in IDPs (de Visser, 2009). The ward committee often does not receive the information needed from the council to make decisions, while decisions are often presented to the ward committee long after council has taken these decisions; in effect, it becomes simply a rubber-stamp exercise. Ward committees need to be well-informed and capacitated to engage with the implications of city policies in their localities.

Citizens have to have the space to engage but can only do so if dissent is tolerated and if sufficient information is provided. Participatory governance is a continuum of closed, invited and claimed spaces (Naidu, n.d.). Ward committees are invited spaces, while special interest groups or residents' associations occupy claimed spaces. Active citizenship involves claiming spaces or actively engaging in invited spaces. The exercise of voice (the right to participate) is insufficient for dealing with exclusion, but the solution to greater inclusivity and transformation does not necessarily lie in creating new participatory mechanisms (Naidu, n.d.: 10):

> Rather, much will depend on the how these spaces are created, who populates them, how voice and agency are exercised in them and the nature of the power relations which surround and imbue these potentially democratic spaces. Key to realizing a truly democratic space is the accommodation of dissent. At present ward committees serve to silence dissent, as a disciplinary space.

Ward committees: a failed space

Ward committees have mostly failed as a space for effective community participation and oversight. This is partly because of the structure (that allows ward councillors to be "captured"), but also because communities do not always use the space provided by ward committees. Instead of exercising their voice in ward committees, communities use protest as a means to express their demands (Booysen, 2012). This tension, between a perceived lack of access to formal structures and the perceived benefits of protest, is to a certain extent the consequence of a *state as provider* model of governance. Although many urban citizens form coalitions (ratepayers' associations, street committees, safety forums), the most marginalised rely on the city to provide the basic infrastructure for their survival.

A different model is required for social transformation, one of dynamic reciprocal engagement. This means shifting the prevailing political culture from favouring the dominant party and the socially privileged, to including marginalised groups. Participation can be enhanced by encouraging communities to be more inclusive and using ward committees to hold councillors accountable. Furthermore, changes should be introduced to ensure that ward committees reflect local interests and power dynamics, and membership should be extended and not include leaders of parties formally represented in the council.

Electoral politics in tension with substantial democracy

Local government is not inherently more democratic or accountable than the other spheres, but its proximity to citizens creates expectations of answerability and responsiveness. Yet the electoral system for local government contributes to political centralisation, as 50% of seats are ward based, and the remainder allocated according to proportional representation from a party list. This "has centralised enormous power in the hands of party leaders", with mayors and councillors owing their position to party bosses not the voters (Cameron, 2014: 588). Nevertheless, this trend may shift as local elections become more strongly contested.

Ward councillors often lack the motivation (and/or capacity) to challenge the council on behalf of local communities, while the executive is busy dealing with macro challenges. This means that policy priorities are not adequately negotiated and transformation agendas lose out to local and city-wide patronage. This tendency to follow the dominant party line undermines the logic and diversity of decentralised local governance.

Table 6.1: We can influence local government decisions

	Black (African)	Coloured	Indian/Asian	White	Total
Agree	52.30%	47.60%	45.10%	38.30%	49.90%
Disagree	17.20%	20.90%	23.50%	22.10%	18.30%

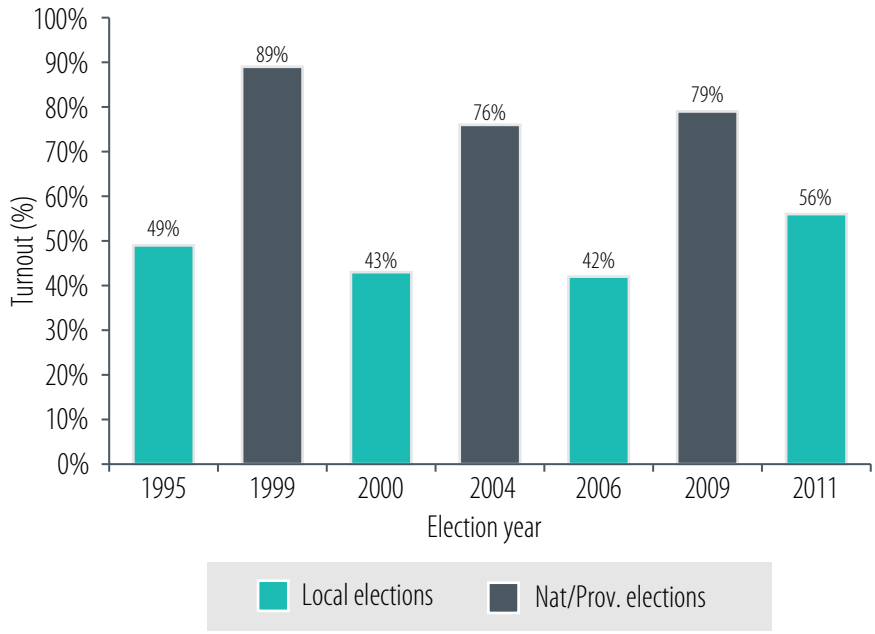
* Respondents were asked "Do citizens like me have the power to influence decisions made by local government?"

Source: IJR, Confronting exclusion, 22 November 2013, p. 21, IRR South Africa Survey, 2014.

As Table 6.1 shows, only 50% of local citizens think they can influence decision-making. Box ticking on one side and distrust on the other side erode the space for practical deliberation on options. Citizen activism is limited to voting turnout, or protest, rather than consistent engagement in democratic spaces (Drimie and Pieterse, 2013).

Well-governed cities have regular elections according to a formal electoral process in which political parties and citizens participate. Indicators of democratic electoral political processes include voter registration, turnout and access to formal spaces to be heard. Figure 6.5 suggests national and local participation levels are moving in opposite directions, with the former declining and the latter rising.

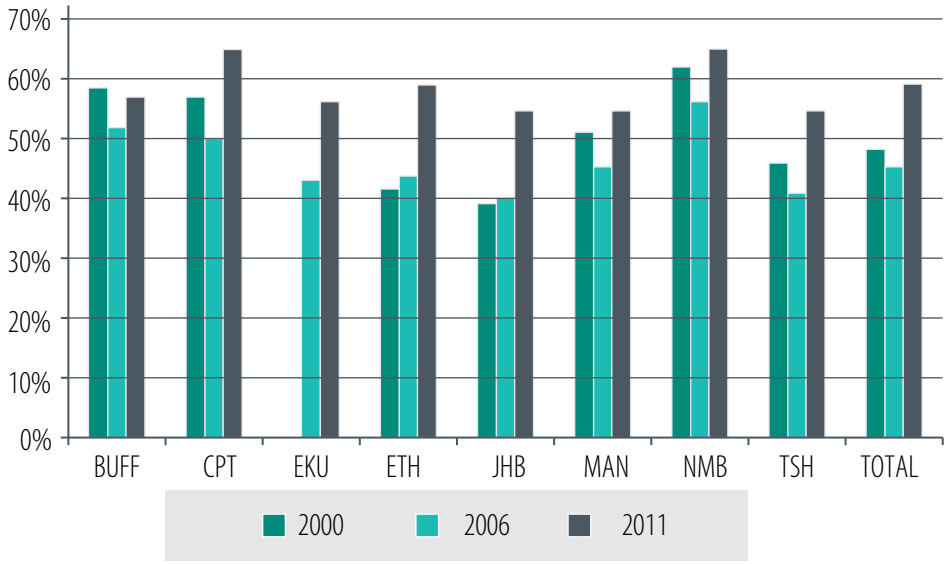
Figure 6.5: Turnout for national and provincial elections (1995–2011)



Source: GPG (2014: 56)

The first national and local elections had higher levels of participation because of the mood and euphoria associated with the first democratic election. And, over the last three local government elections, voter registration and participations (i.e. voter turnout as a percentage of voters registered) have improved. The number of registered voters in the metros grew by over 50%, from just over six million (6 327 642) in 2000 to nearly 10 million (9 783 122) in 2011. The average voter turnout in the nine major cities dropped from 48% in 2000 to 45% in 2006 but increased significantly to 59% in 2011 (Figure 6.6).

Figure 6.6: Percentage of voter turnout per metro (2000–2011)



Source: Electoral Commission of South Africa (IEC)[4]

4 http://www.elections.org.za/content/Elections/Municipal-elections-results/

The higher voter turnouts in 2011 were likely the result of closely contested elections in cities (Schulz Herzenberg, 2012). For example, between 2006 and 2011, voter turnout increased by 15% in Cape Town, reflecting the race for the control of the city. Support for the ANC has declined in metropolitan areas but increased in rural areas (O'Donovan, 2015): the average support for the ANC in metropolitan areas was 55% in contrast to 77% in rural areas.

Table 6.2 suggests that the 2016 local elections will be hotly contested in many of the metros.

Table 6.2: ANC (as dominant party) support trends in metros

Metro	% population in rural or traditional areas	2004 %	2009 %	2014 %
Johannesburg	0	69	63	54
Ekurhuleni	0	70	68	56
Cape Town	0	45	33	32
Nelson Mandela	0	69	50	49
Tshwane	1	67	61	51
Mangaung	7	77	65	64
eThekwini	15	59	68	66
Buffalo City	16	82	68	68

Source: O'Donovan (2012)

In urban areas, governance concerns (accountability, transparency, representation and economic security) define electoral politics, whereas in rural areas the issue is basic service provision. In metros, poor governance and uneven development in the context of rapid urbanisation creates instability, making urban reform and transformation urgent (O'Donovan, 2015). This is evident in the continuous governance challenges in Buffalo City (Mfene, 2014). If these concerns of urban communities are not addressed, "the schism between rural and urban areas is set to increase", and there is likely to be "increasing protest action among the disadvantaged in urban areas as well as a sense of grievance that increasingly cuts across class lines in rapidly growing metropoles".[5]

5 *http://dullahomarinstitute.org.za/our-focus/mlgi/talking-good-governance/election-2014-the-coming-battle-for-control-of-the-big-cities*

COMMUNITY-BASED PLANNING: Strengthening citizen participation

A study by the Khanya-African Institute of Community-Driven Development (Khanya-aicdd) in partnership with SACN looked at how community-based planning (CBP) has strengthened citizen participation in cities across the African continent.

CBP emerged in South Africa before spreading to other regions, and its aim is to make development more relevant to local priorities, empowering local communities in the development process, and deepening democracy. The different participatory planning approaches used in various politico-administrative contexts were examined. Experiences from South Africa, Ghana, Uganda, Zimbabwe, Nigeria, Ethiopia and Kenya were used to improve, innovate and develop CBP as a best practice tool for participatory planning.

Participatory planning tools rely heavily on the politico-administrative structures to incorporate and implement community priorities, and on the ability of communities to drive development processes. Such processes can transform governance systems, allowing for active engagement with citizens and strengthening government's accountability, efficiency and responsiveness. With the proliferation of decentralised governance systems across the continent, different decentralisation models are adopted, and public participation is not necessarily dependent on political or administrative decentralisation.

An appropriate enabling environment is a key factor for participatory planning. Almost all the countries studied have public participation legislation and policies in place. However, in some instances (e.g. Ghana), incoherence, duplication and uncertainty have prevented the policies from being translated into real and meaningful engagements. In other instances (e.g. Zimbabwe), a lack of political will means that efforts have remained at very embryonic levels.

The presence of institutionalised and clear planning frameworks and processes determine the levels of public participation. Public participation is potentially enhanced if the processes are obligatory and defined (as in Uganda and Nigeria), but very limited if they are undefined (as in Ghana and Zimbabwe). The degree of citizen engagement ranges from basic consultation on externally derived plans (in Ghana) to ongoing monitoring and evaluation of plans developed in participatory processes (in Nigeria).

A conducive environment for public participation needs civil servants who understand and can implement the appropriate policies, frameworks and tools, but this capacity is not being systematically built in any of the countries studied. In South Africa, no national capacity development plan or standards exist. Efforts have been made to orient and capacitate frontline staff and planners in CBP, but municipalities and line departments run training programmes in isolation and often in parallel.

The success of these processes also depend on the extent of public participation in financial matters, which varies. In some instances, local people are involved in developing budgets (e.g. Ethiopia, and Nigeria), whereas in other instances (e.g. South Africa) the lack of budgetary commitment to community plans has frustrated community engagement processes. The process itself is often unsustainable if it relies on external finance (as with Social Accountability

funded by the World Bank in Ethiopia) and therefore requires regular external input in order to be implemented. In addition, the cost and time commitments required by CBP affect sustainability. For example, in South Africa public participation informs the IDPs, but the effort involved means that this process is not undertaken when the IDPs are reviewed annually.

A lack of funding can lead to unintended consequences. In Uganda, where funding was unavailable, local people mobilised to get funds through various means to implement their development priorities. This is an indication of the power of people to drive such processes.

The key lessons for improving CBP:

1. A legitimate development process is required that integrates CBP, including financially.
2. CBP needs to be treated as a process, not just as an event (as is currently the case), and to include full participation, capacitation, commitment, delivery, monitoring and evaluation.
3. Training is crucial for the various actors (development practitioners, decision-makers, etc.) but must be conceived and facilitated in a creative and flexible way, allowing for contextualisation and innovation.

Source: Lewis et al. (2014)

INSTITUTIONAL AND OPERATIONAL CAPABILITY

Legitimate democratic governance as envisaged in the White Paper on Local Government (1998) requires both a capable, accountable and developmental city bureaucracy, and a coordinated stakeholder and business sector. Within cities, formal and informal institutional arrangements create the conditions for economic growth and social development. This is because administration defines the quality of governance and delivery, and provides the systems and processes used to make and implement policy. In effect, what is needed is an effective bureaucracy with sufficient administrative, technical and economic capacity and competence to set goals, implement policies, be accountable and report on progress.

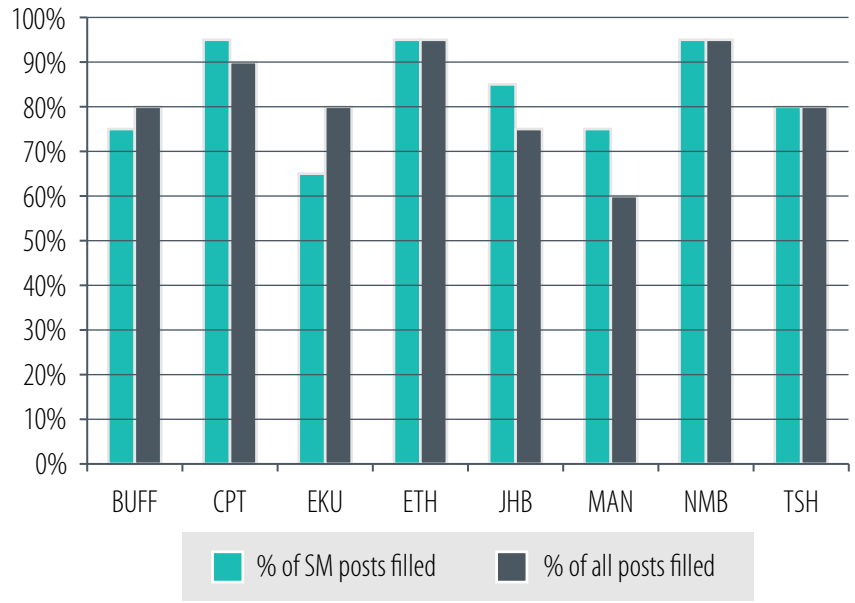
Metros have made considerable progress in putting in place modern management systems, supply chain systems, effective internal finance and auditing systems, and operating committees and planning institutions. However, the administrative challenges remain and relate to people, performance management, operational delegation, supply chain management and monitoring of corruption. When assessing operational capability, the focus should be on what is under the control of city governments, i.e. staffing, performance and compliance reporting, as these enable city governments to fulfil their mandates (Powell and O'Donovan, 2015).

The right people are not necessarily in the right places doing the right things

Effective management is about doing the right thing (meeting needs) by doing things right (effective and efficient implementation). Doing things right involves management practices that link inputs and activities to outputs and outcomes. Accountability comes from being non-partisan and competent. Non-partisan suggests that the administration focuses on the interests of all citizens in the city (not of the political party in power), whereas competent (or merit) means that the administration can provide appropriate technical and policy advice to support decision-making and implementation.

With some exceptions, metros have been largely successful at staffing, i.e. filling posts. In 2014, all but two metros had permanently appointed municipal managers (MM) and chief financial officers (CFOs). The exceptions were Buffalo City, which had neither a MM or a CFO, and Nelson Mandela Bay, which had an acting CFO. Figure 6.7 shows the percentage of senior management posts and all posts filled between 2010 and 2013.

Figure 6.7: Percentage of senior management (SM) and all posts filled



Source: Data from Powell and O'Donovan (2015)

The capable cities index, developed by Powell and O'Donovan (2015) using Stats SA non-financial census data for the period 2010–2014, measures "the capacity of cities to consistently fill staff and management positions", including the CFO and MM positions (ibid: 3).

From the study, the following observations can be made:

1. Capacity varies widely, with many smaller municipalities ranked higher than metros in terms of posts filled. This suggests that different cities will require different strategies and norms when filling posts.
2. Senior management vacancy rates are lower if cities have permanent MMs and CFOs. In metros, vacancy rates at this level are lower than the norm.

3. Not having permanent CFOs and MMs seems to correlate with higher vacancy rates in general.
4. All the metros have filled over 80% of posts, except for Ekurhuleni, Mangaung and Buffalo City.

The most significant vacancies, which have the biggest impact on effective delivery, are those in housing, transport planning and senior management. Most metros have a shortage of critical skills in planning, project management, and engineering. For example, in 2013, eThekwini's vacancy rate was 14% overall but 24% for critical skills (Musvoto and Mkize, 2015). Buffalo City's staff vacancies in critical skills are given in Table 6.3.

Table 6.3: Staff complement in the engineering sub-directorate in Buffalo City

Infrastructure and engineering sub-directorate	No. of posts	No. filled	Total vacancies
Water and sanitation	1 180	857	323
Roads, stormwater and transportation	476	319	157
Design and implementation	135	39	96
Special assignments and strategic operations	1	1	0
Support services	420	200	222
Integrated Public Transport System (IPTS)	6	2	4
TOTAL	2 218	1 418	798

Source: Musvoto and Mkhize (2015)

As Table 6.3 shows, Buffalo City has a shortage of professional engineers, professional technologists and transport planners. This shortage of technical capacity limits a city's ability to maintain infrastructure and to mentor recently qualified engineers who are not sufficiently experienced in the practicalities of municipal engineering services.

The authority to select and employ staff is decentralised to cities but is undermined by the ANC's cadre policy and deployment strategy, which requires ideological commitment rather than administrative competence for posts (Cameron, 2014). There is a corresponding effect on senior management appointed by councils. SALGA has called for a depoliticisation of "administrative appointments in all spheres, such that, if one chooses to take an administrative deployment he/she cannot serve as an elected office bearer of the party" (SALGA, 2012: 6). A clear delineation between municipal management and party political governance is important if city administrators are to be professional and independent.

The danger of cadre deployment is that it may lead led to the appointment of people without the appropriate skills to perform their jobs adequately, resulting in inefficiencies and governance failures. COGTA has admitted that party deployment and political interference does undermine the effectiveness of delivery (COGTA 2014b). In Cape Town, the switching of senior managers when political leadership changed led to administrative instability, while the Johannesburg billing crisis may have been because of one or two deployed senior managers (Cameron, 2014).

Local government will require new kinds of skills to deal with the implementation complexities of transforming South African cities. For example, cities need up-to-date data, as well as analysis and intelligence, in order to meet delivery demands, run highly complex billing systems and do long-term planning. Officials in cities will have to move away from procedural, rule-bound practices to an innovative, adaptable and pragmatic developmental outlook. In addition, integrated management, across levels of government, horizontally and vertically aligned, requires an ability to work and problem solve in context.

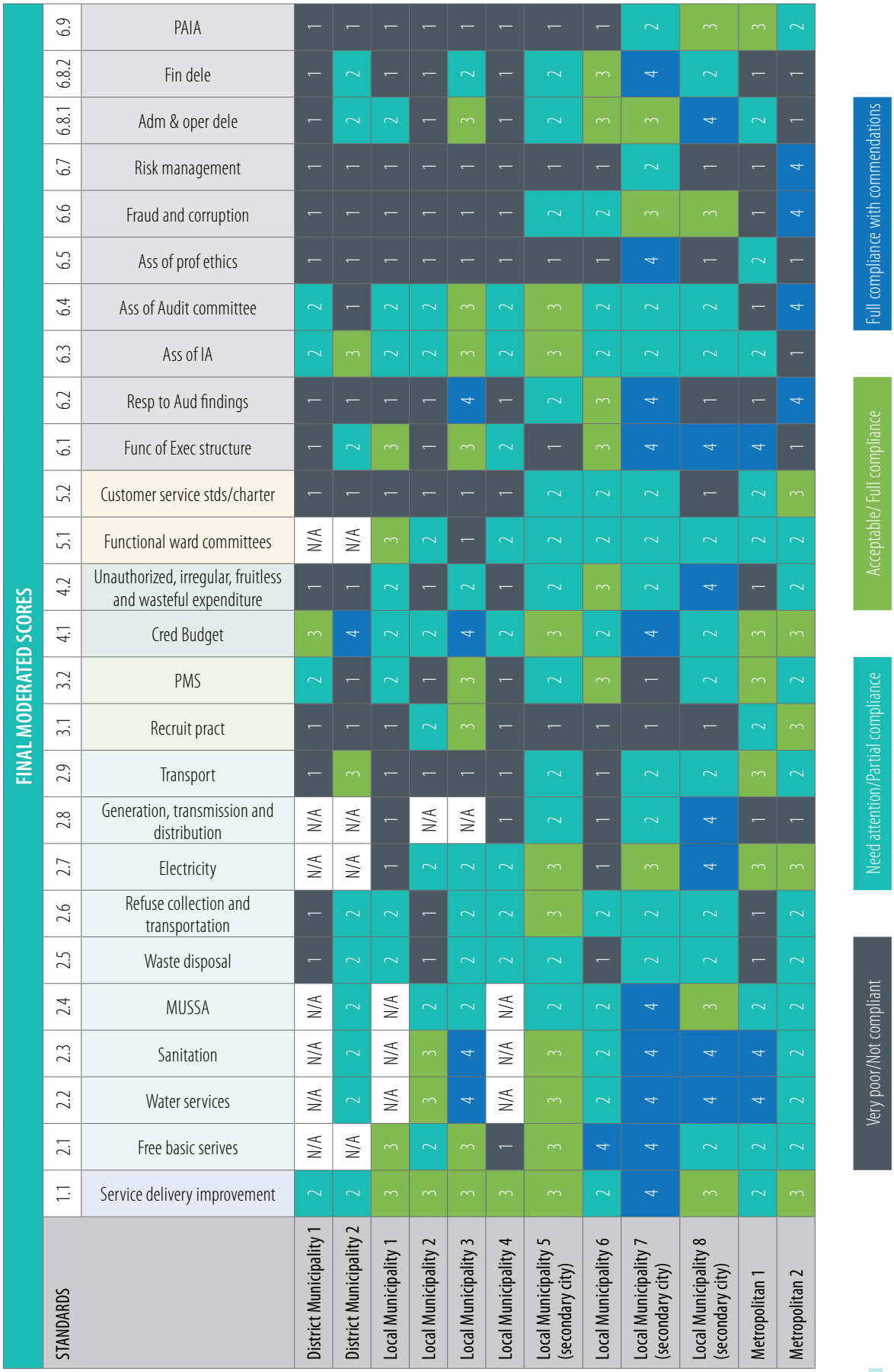
Skills and the ability to do the work are one part of the capacity equation. These can be developed through strategic partnerships with universities, business and civil society (see Chapter 8), or innovative solutions such as linking the inexperienced with the retired. As competence is complemented by will and space: people must want to do the work and be in a supportive space (McLennan, 2011). The space is created by the organisational cultures, policies and management practices that define daily routines and delivery procedures. In other words, the administrative institution should work effectively and efficiently (SACN, 2014).

All metros have established and functioning administrative systems. However, the current management space, inherited in part from a racially exclusive but efficient apartheid municipal machinery, may not be able to adapt to the requirements of integration and spatial transformation. The mind-set of line hierarchy and compartmentalisation is strongly established, limiting efforts to introduce new systems or different, more horizontal forms of organisation and working.

The Department of Planning, Monitoring and Evaluation (DPME) has piloted a Local Government Management Improvement Model (LGMIM), as one of several initiatives to improve local government performance. The pilot project included two secondary cites and two metros (outlined in black in Figure 6.8).[6] The six performance areas assessed were integrated planning and implementation, management of service delivery, human resource management, financial management, community engagement (ward committees) and governance (internal audit risk management and corruption). Cities self-scored on a scale of 1 (not compliant with legislation) to 4 (working smartly), and their results were then independently reviewed and mutually moderated. As seen in Figure 6.8, municipalities generally scored themselves as not compliant, with the exception of integrated development planning, where seven municipalities achieved a level 3 (compliant) score and one city achieved a level 4 score. The metros generally seem to perform better than other municipalities, but red and yellow alarm bells are found in all areas, especially performance, community engagement and governance.

6 This first pilot was seen as a test of the tool and the processes associated with the self-assessment. The focus, therefore, was not necessarily on making a judgement on the performance of the individual municipalities. The tool under development may have affected the ability of municipalities to reflect accurately the status of management practices, and the tool has subsequently been improved for future application. The patterns do, however, show that the metros and secondary cities in general performed significantly better against the standards than the local or district municipalities that participated. This was mainly because of better record management practices, connectivity and human resource capacity to engage with the tool and its content.

Figure 6.8: LGMIM scores



Source: DPME (2015)

All the cities have performance management systems in place that follow the broad guidelines provided by COGTA. However, like for the provincial and national public services, these systems are uneven and subject to patronage. In addition, there are rarely consequences for poor performance. Work done on provincial and national management systems shows that departments work more effectively when leaders and managers actively ensure compliance and incentivise performance (DPME, 2014).

Many cities have ineffective performance management systems or do not comply with their own system (see 4.1 and 4.2 in Figure 6.8). Some municipal managers do not have signed performance contracts or have not signed them within the timeframes stipulated in the Municipal Performance regulations. Some cities do not have clear rules and procedures for dismissals and suspensions, which can also be politicised.

The City of Johannesburg (CoJ, 2009) has an interesting performance management system for Section 57 managers. The system is linked to the city's Service Delivery and Budget Implementation Plan (SDBIP or City Scorecard). Individual performance targets are agreed with the city manager and aligned with colleagues' scorecards. The city manager monitors individual performance regularly, but managers also have to present to a Human Resources Performance Audit Committee. Radebe (2013) found that this system enables employees to understand and link critical success factors to major tasks and job responsibilities. However, the system also has some weaknesses related to integrating and aligning individual and organisational performance, including a focus on senior management and the lack of adequate information and collaboration within and across departments.

Ethical leadership is necessary for accountability

Ethical leadership enables accountability, a foundation of democratic governance. Accountability means being responsible for doing something that is mandated and being able to explain why and how it was done (or not). Political and institutional leaders are assumed to be competent, and to have knowledge and experience, a high standard of honest professional ethics and work behaviour, a strong public service orientation, a commitment to do the job well and positive, respectful working relationships.

Ethical leaders set the standards for appropriate and accountable conduct. These standards are outlined in the Municipal Systems Act, which includes codes of conduct for councillors (Schedule 1) and municipal staff members (Schedule 2), with the aim of preventing corruption. Both codes require that politicians and officials are honest and transparent, disclose interests, do not use their positions for personal gain, and do not accept gifts or disclose information without authorisation. Councillors should act in good faith, in the best interests of the municipality, attend meetings and not intervene in the administration. And staff members should loyally and impartially execute the rule of law, treat all people equally and without prejudice, serve the public interest and not have undue influence on a councillor.

These codes define the ideal nature of the political-administrative interface, which affects long-term planning. However, in practice, politicisation of the administration and politicians' tendency to interfere can lead to high staff turnover and organisational instability. Increasingly, senior managers' careers depend on political support rather than management performance, which compromises democratic accountability and service delivery (McLennan, 2014).

Political infighting and conflict between councillors and management can undermine city governance. The Municipal Systems Act, in Section 53 (terms of reference) and Section 59 (municipal delegations), blurs the roles of the legislative and administrative functions. Confusion over who is in charge of a municipal administration, i.e. the legislative and/or executive authorities, can undermine oversight and lead to conflicts.

South Africa's executive mayor system puts extraordinary responsibilities, demands and expectations on the incumbent. In addition, while the complex local government system demands high-quality municipal council managers and councillors, the same is not required of political appointees who may not have the necessary skills to do their jobs properly. Another source of instability is the unclear role of the Speaker who is meant to chair council meetings and ensure that councillors adhere to the code of conduct for councillors. However, municipalities have seen power battles between speakers and mayors, and speakers have also faced opposition when seeking to enforce the Code of Conduct for Councillors.

The turnaround strategies in Msunduzi and Buffalo City demonstrate how political instability in the council can destabilise an administration. Problems occur when administrative appointments are made on the basis of politics rather than competence. Therefore, the administration needs to be buffered (SACN, 2014: 23):

> One way to achieve this is through depth in management: senior management is likely to be drawn into Council politics to some extent and when this happens, middle management becomes very important for providing stability, continuity and day-to-day leadership. Another is through having strong systems and processes in place that continue to function despite instability at the top.

Some suggest that separating legislative and administrative powers can clarify political and administrative duties.[7] However, the conflation makes it more difficult to know who is in charge of the municipal administration, as "separating the executive and legislative roles will not materially affect governance in a positive way. Rather the solution lies in a better utilisation of the existing policy and legal frameworks and, importantly, effective political and administrative leadership." (de Visser, 2010b: 91). This is because "of the disastrous consequences that inappropriate behaviour and political interference can have on the functioning of municipalities and therefore on service delivery" (ibid: 97).

7 Addressing the financial challenges in municipalities in the context of a review of the local government model, keynote address by the Deputy Minister of Cooperative Governance and Traditional Affairs (Y. Carrim) at the Institute of Municipal Finance Officers Annual Conference, Johannesburg, 6 October 2009.

Unethical behaviour is one of the reasons that local government is seen as the most corrupt of the three government spheres. According to Auditor-General Kimi Makwetu, irregular expenditure goes hand in hand with flawed procurement and contract management.[8] The supply chain management systems of many municipalities are often vulnerable to manipulation, although less so in the metros. The Public Expenditure and Financial Accountability (PEFA) Reports for three metropolitan municipalities (Tshwane, Johannesburg and Ekurhuleni) confirm that metros need to tighten up on payroll and procurement controls (SACN, 2015: 51). However, irregular expenditure on its own is not an indicator of corruption, as it could be because of poor planning, management or controls. Thus, tighter controls on procurement and expenditure are needed, as well as systems to accommodate metro inexperience in these areas.

Surveys show that many South Africans view corruption in local government as a problem. A TNS survey conducted among 2000 residents in eight major metro areas found that "36% of people feel that the government is not reducing corruption levels, while 50% believe that it is".[9] Securing an administrative position or a council seat is increasingly seen as a route to enrichment, as key positions in municipal government and politics provide access to lucrative government contracts, tenders and power to appoint staff. Free State ANC chairperson Ace Magashule has warned about the practice of buying votes at the party's elections: "You can see that people no longer want to study. They've got businesses, tenders. People no longer work hard. It's a scramble for power, it's a scramble for resources".[10] ANC general secretary Gwede Mantashe has accused some local leaders of "gatekeeping", i.e. blocking upright members from participation, while bulk buying members for factional purposes. He laments that members are "ignorant of the values, traditions and culture of the organisation", and that many join in order to have the right "credentials" for business deals but "have no interest in the well-being of the organisation beyond their narrow material interests".[11]

Financial governance has to tighten further

Financial governance requires that all financial processes comply with Treasury regulations, through internal control systems backed by accurate reporting. Financial governance ensures the efficient management of resources, supply chain management and exercising of controls. Legislation, such as the Municipal Structures Act and the MFMA, regulates which systems and structures ensure sound financial management. The South African Treasury (National Treasury, 2011: 73) has emphasised that

8 Fin24. 'AG: State spent R21.1bn irregularly', 19 October 2011. http://www.fin24.com/Economy/AG-State-spent-R211bn-irregularly-20111019

9 BDLive. 'South Africans believe most top leaders are corrupt – survey', 21 October 2012. http://www.bdlive.co.za/national/2012/10/21/south-africans-believe-most-top-leaders-are-corrupt--survey

10 Mail & Guardian. 'Chairperson speaks out on scramble for power in ANC', 24 April 2012. http://mg.co.za/article/2012-04-24-chairman-speaks-out-on-scramble-for-power-in-anc

11 The Star. 'ANC imploding', 21 September 2011. http://www.iol.co.za/the-star/anc-imploding-1141768

sound financial management practices are essential to the long-term sustainability of municipalities. They underpin the process of democratic accountability. Weak or opaque financial management results in the misdirection of resources and increases the risk of corruption. The key objective of the Municipal Finance Management Act (2003) (MFMA) is to modernise municipal financial management in South Africa so as to lay a sound financial base for the sustainable delivery of services.

Financial governance is an area in which metros do reasonably well, with some exceptions. The PEFA assessments demonstrate a basic level of functionality is present in metros (SACN, 2015). Budgets are credible, comprehensive and transparent (to citizens and entities) and matched by effective internal controls. Clear guidelines for budgeting are in place, allowing metro departments and citizens to engage before the budget is set. The metros are also able to reconcile budgets, and record and report on time. Table 6.4 shows areas that need improvement.

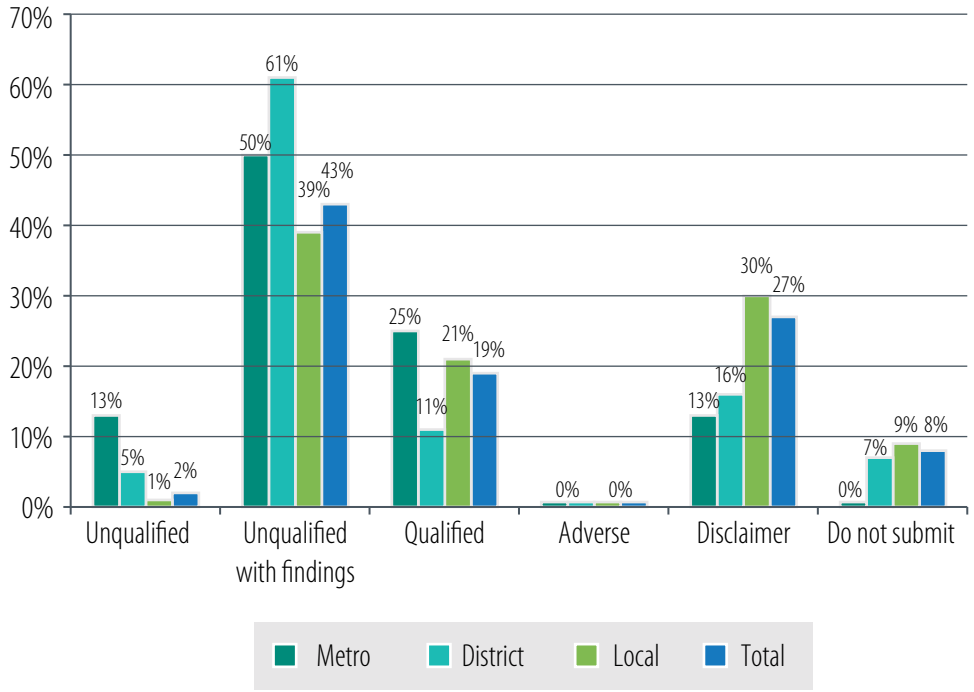
Table 6.4: Areas of financial governance that need improvement

Performance Indicator		Comments
PI-4	Stock and monitoring of expenditure payment arrears	There is no evidence that any of the metros are taking action to address this problem, despite the fact that if it remains unresolved, it may well damage credit worthiness and lead to higher costs in future.
PI-14	Effectiveness of measures for taxpayer registration and tax assessment	Given that property rates are a substantial source of 'own revenue' for each metro, it is perhaps surprising that this area of weakness is not being addressed.
PI-18	Effectiveness of payroll controls	There is no evidence that addressing the weaknesses inherent in a manual system is a priority.
PI-19	Competition, value for money and controls in procurement	While each metro is in the process of establishing an Ombud who will amongst other things adjudicate procurement disputes: other weaknesses are not being addressed.
PI-21	Effectiveness of internal audit	This weakness may be addressed as the (relatively newly-established) Audit Committees become more effective.
PI-24	Quality and timeliness of in-year budget reports	There is no evidence that addressing the limitations of the accounting systems is a priority.

Source: SACN (2015: 57)

Audit performance is an indicator of financial governance. Powell and O'Donovan (2014) developed a Municipal Audit Consistency Barometer (MAC-B2) using "audit consistency as a measure of resilience in local government". They examined the Auditor-General's report against the background of the government's approach to improving municipal audit outcomes, looking at consistency of performance over a five-year period. Financial controls appear to be relatively well established in metros (Figure 6.9).

Figure 6.9: Municipal audit consistency (2008/9–2012/3)



Source: Data from Powell and O'Donovan (2014)

Although metro municipalities have the greatest administrative capacity, district municipalities have better audit performances. The majority (66%) of the district municipalities consistently receive unqualified audits, compared to 63% for metros (Powell and O'Donovan, 2014). Unlike most local municipalities, metros have access to skills and financial resources, which contributes to their good performance in audits. In 2013/14, only 58 out of 335 municipalities and municipal agencies achieved clean audits. They included two metros (Ekurhuleni and Cape Town), 38 municipalities and 18 municipal entities. Tshwane, Johannesburg, eThekwini and Mangaung achieved unqualified audits with findings (a lack of standard operating procedures for the accurate recording), while Buffalo City and Nelson Mandela Bay obtained qualified audits with findings (irregular expenditure due to inadequate systems).[12]

Financial governance has both a strategic and an operational component. Strategically, finances must be managed to accommodate fluctuations in the economy and the resulting changes in costs and revenues; operationally, cities must put in place clear financial goals, policies and controls. Maintaining a healthy financial base that fully supports the services of cities according to political priorities requires constant vigilance. This is often reflected in restructuring and reshaping services, implementing new financial management systems, securing sound recurrent revenues, and making responsible spending adjustments because of limited revenue growth in order to balance the budget.

12 Stone S. 2015. 'Most of SA's metropolitan municipalities fail to achieve clean audits', ***Business Day Live (BDLive)***, 7 June 2015.

Cities face shortfalls in revenues, mainly because intergovernmental grants and own-source revenues are inadequate for their expenditure needs. They need to diversify their sources of revenue and reduce their reliance on property taxes, as well as improve their efficiency in revenue collection, particularly user fees for services such as electricity and water. Other revenue options that could be explored include parking and tourist taxes. Cities can also borrow on the capital market. According to the National Treasury (2011), the "sustainability of a municipality's borrowing depends on a wide range of factors, including the strength of its management team, the type of infrastructure funded, and the municipalities' revenue management record" (National Treasury, 2011: 95). Cities that successfully adhere to their financial policies are able to build their image in the capital markets, which contributes to steady bond rating upgrades. Investors are willing to invest in bonds with higher credit quality, thereby lowering the interest rate cities must pay to service their debt. Solid credit ratings also allow cities to borrow money more affordably.

The finance department within cities plays a central role in collecting and analysing data, ensuring results are properly documented, and assisting departments in pursuing opportunities for improvements. A key function of the city's finance department/treasury is debt management, and appropriate guidelines need to be in place to manage all borrowings. Management policies have to address debt repayment and refinancing, as well as debt affordability.

Effective management of capital budgets is a crucial aspect of maintaining healthy city finances. This involves constantly evaluating infrastructure needs and forecasting the timing and financial requirements of new construction and rehabilitation. Moreover, the capital planning process must be synchronised with the annual operating budget cycle, to allow for regular assessment of capital needs and projections.

The relative tight fiscal framework means that the space is limited for transformation spending once routine operational costs are removed. The Built Environment Performance Plans (BEPPs) are a temporary measure to ensure more effective use of funds to enable integrated planning and interventions. However, a broader conversation is needed about how, and in whose interests, local government is funded. Chapter 7 explores in greater detail the challenges of local government funding and alternative revenue options are explored in greater detail.

SERVICE DELIVERY AND DEVELOPMENT

As Chapter 3 illustrates, South African cities are powerful growth machines: the five largest cities[13] together contribute 52% to the national economy (Cameron, 2014). However, a lack of links to local communities (or embeddedness) has limited the opportunities to promote social inclusion (Heller, 2015). Strong planning and own revenues have enabled cities to address many historical backlogs, but market forces have created a well-coordinated coalition between white wealth, professionals and a politically connected black middle class (Heller, 2015).

The quality and location of service provision still favour the middle class over the marginalised. Although cities have significantly improved the delivery of basic services and have strategies in place to facilitate economic growth and social development, the tendency is to focus on integrated development, not spatial transformation.

Historically advantaged (former white) areas have benefited from proportionally more private and public sector investment. For example, between 1991 and 2003, all but three of 27 new shopping malls were located in Johannesburg's northern suburbs (Heller, 2015). Richer suburbs have the tax base, which brings in valuable city income, attracts private sector investment, and both private and public sector resources. The complex challenge for cities is how to lift the quality and provision of services in poorer areas that do not have a significant tax base.

Plans not aligned to long-term development strategies

All the cities have growth and development plans, some of which are updated annually, while others have longer timeframes (commonly three- to five-year planning cycles). Cities need to be adaptable but should not lose sight of the long-term goal of spatial transformation. City space is dynamic, changing to accommodate increasing urbanisation. Therefore, cities not only have to transform the apartheid spatial legacy but also manage growing informality by providing infrastructure and services.

Cities have to balance the competing needs of people living in backyard shacks, informal settlements and those on the housing waiting list, as all of them have equal expectations from government. Development is also affected by national and provincial departments, over which cities have no control. For example, in Ekurhuleni, the national education department is failing to provide education facilities to new low-income housing settlements because of a backlog of over 10 years. As a result, land reserved for schools ends up being rezoned or invaded by informal settlements.

Within cities, the coordination of interdepartmental spatial transformation initiatives could be improved, i.e. between planning departments and the transport, economic development and human settlements departments. The lack of alignment is compounded in relatively small metropolitan municipalities, such as Ekurhuleni and Buffalo City, which have weak planning departments.

13 Johannesburg (14%), Cape Town (11%), Tshwane (9%), Ekurhuleni (9%) and eThekwini (9%).

The main challenges for aligning urban management plans are summarised in Table 6.5.

Table 6.5: Alignment challenges facing urban management plans

Category	Challenge
Input	**Names and aims:** Lack of coherence in the terminology and intent of the plan. The names of the plans (i.e. plan, vision, strategy, framework, etc.) often do not correlate with the purpose or aim of the documents, and most cover similar ground.
	Time horizons: Very little consistency in the period covered by a long-range plans.
	Methods employed: Local, provincial and national plans show very little consistency in methodologies employed.
	Referencing of other plans: In general, provincial plans seldom reference other plans and so are not linked to plans of other spheres.
Key considerations	**Roles and responsibilities:** The lack of assignment of responsibilities in long-range plans points to a clear lack of discussion and consensus among the various groups.
	Planned activities or clearly defined actions: A majority of the plans does not have clearly laid-out activities with clear timelines and objectives.
	The role of cities and spatial visions: Not all long-range plans translate their vision and strategies into a spatial vision, especially the economic development plans. Municipalities do prepare spatial development frameworks (SDFs), but these form part of the IDP, which is a five-year plan, not a long-term strategic plan.
Outputs	**Empirical targets and goals:** The vast majority of plans speak in fairly general terms about their long-term aims and goals. Few provided actual targets, and only two of the plans actually put figures to what needs to be achieved.
	Monitoring and evaluation: Mechanisms for measuring progress are very scarce, and only the NDP and the New Growth Plan indicate how progress would be measured over time.

Source: SACN (2013)

A city's spatial development framework (SDF) presents future land-use potential and indicates priority areas. However, it does not include a phased and integrated implementation plan that takes into account population and economic growth, infrastructure capacities, readiness across municipal, provincial and national departments, and agreements with developers on guaranteed take-up. Nor does the SDF identify the costs and benefits of providing infrastructure to different areas, or define areas for deep versus shallow investment (Musvoto and Mkhize, 2015).

The participation of communities in city planning is not optimum. As mentioned, the politicisation of ward committees means that the dominant party acts as a gatekeeper between the society and the local state. Instead of working with local communities to plan appropriate development, coalitions direct resources to support patronage and political ambitions that favour the wealthy and omit or side-line the poor. As a result, communities often turn to protest because they have lost faith in formal governance institutions.

Still playing catch-up on basic services

Between 2001 and 2011, cities showed a notable improvement in the provision of infrastructure services, including sanitation, refuse removal, water, electricity and dwellings. Over the decade, most categories improved by 10% on average. However, infrastructure backlogs continue to challenge smaller cities (Table 6.6).

Table 6.6: Improvements in basic service delivery (2001–2011)

City	Population		Households		Flush toilets connected to sewerage		Weekly refuse		Piped water inside dwelling		Electricity		Formal dwellings	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
Ekurhuleni	2 481 762	3 178 470	745 576	1 015 465	81.5%	85%	87.9%	88.4%	43.1%	57.2%	75.2%	82.2%	70%	77.4%
City of Johannesburg	3 226 055	4 434 827	1 006 910	1 434 827	82.3%	87.1%	90.9%	95.3%	50.1%	64.7%	85%	90.8%	77.4%	81.4%
City of Tshwane	2 142 322	2 921 488	606 025	911 536	68.4%	76.6%	75.2%	80.7%	46.9%	64.2%	79.2%	88.6%	74.9%	80.7%
eThekwini	3 090 122	3 442 361	786 746	956 713	61.3%	63.4%	85.7%	86.1%	51.2%	60.2%	80.3%	89.9%	72.8%	79%
Nelson Mandela Bay	1 005 779	1 152 115	260 799	324 292	77.6%	87.4%	86.1%	82.9%	47%	74.1%	75.2%	90.5%	75.2%	87.2%
Buffalo City	704 855	755 200	191 958	223 568	63.9%	68.8%	71.2%	70.4%	31.8%	52.6%	63.3%	80.9%	62.9%	72.5%
Mangaung	645 440	747 431	185 013	231 921	47.9%	60.7%	60%	78.9%	26%	46.1%	84.9%	91.4%	71.7%	83.7%
City of Cape Town	2 892 243	3 740 026	759 485	1 068 573	85.4%	88.2%	94.3%	94.3%	69.4%	75%	88.8%	94%	78.9%	78.4%
Msunduzi	552 837	618 536	130 292	163 993	52.3%	51.6%	59.5%	53.2%	38.3%	47.9%	85.8%	91.9%	69.1%	73.7%

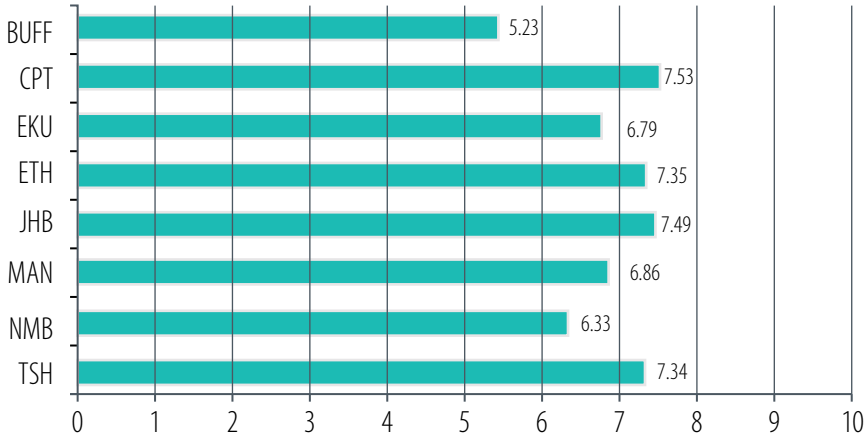
Source: Stats SA

Although the level of infrastructure services delivery has increased across all the cities, availability is disproportionately weighted towards the middle- and high-income residential areas. Most of the backlogs in services are in low-income residential areas, such as established apartheid-era townships, post-apartheid low-income settlements and informal settlements. In these areas, the quality of services is also a major concern. Between 2012 and 2013, the number of households using bucket toilets in South Africa rose by 10%. Three SACN member cities reported an increase in the number of households using this sanitation mode. In Nelson Mandela Bay, 30 202 households still use the bucket system, while the figures for Msunduzi and Mangaung are 1 585 and 1 419 respectively (Stats SA, 2013). The backlogs are likely to increase with further urbanisation.

The service delivery ranking for local government developed by the Institute of Race Relations (SAIRR, 2014) used 10 indicators: unemployment, Grade 12 education, poverty, bonded housing, electricity, access to piped water, no access to piped water, refuse removal, flush toilets and no flush toilets. Most

of the metros scored close to 7 out of 10, with the exception of Buffalo City and Nelson Mandela Bay (Figure 6.10). Although these rankings suggest that metros are improving service delivery, averages can disguise uneven and poor delivery, most of which affect impoverished areas in cities.

Figure 6.10: Service delivery rankings (score out of 10)



Source: SAIRR (2014)

Citizen Disillusionment

Despite local government's commitment to the *Batho Pele* principles of people first, many communities and citizens perceive local government services as unsatisfactory. A survey prior to the local government elections in 2011 found that only one in 10 citizens (11%) were satisfied with the quality of service delivery provided by local councils, compared to four in 10 (39.5%) in 2006.[14] The researchers concluded that local government staff and leaders need to change their attitudes towards their constituents, and simply improving skills or putting more money into the system will not resolve the problem of municipal officials and councillors being unresponsive to citizens.[15]

The Human Sciences Research Council (HSRC) surveyed citizens in two metros, the urban Tshwane Metropolitan Municipality and the rural OR Tambo District Municipality, to find out why the existing public engagement mechanisms and processes (*Batho Pele*, SDBIPs, etc.) are not bearing fruit (HSRC, 2012). The survey found that the problem was "ineffective, intermittent and non-transparent communication between the government (service providers) and citizens (recipients of services)" (ibid: 3). The public participation that takes place, through suggestion boxes, *izimbizo* (public meetings) and official council and ward committee meetings, is ineffective. The communication channels between municipalities and citizens and the community structures (i.e. ward committees) are also ineffective. Municipal councillors and community leaders do not have the capacity to address citizens' grievances, while some citizens are unaware of government policies. For instance, in Tshwane, only 17% of people

14 *Mail & Guardian*. 'The people rate local government', 1 April 2011. http://mg.co.za/article/2011-04-01-the-people-rate-local-government
15 ibid

knew anything about the city's IDP, and only 34.5% of citizens participate in municipal activities. The youth rarely participate, although the recent introduction of free Wi-Fi in Tshwane may significantly shift how younger citizens engage with local government.

Citizens often become disillusioned because of the lack of feedback "on grievances that had been raised in previous meetings": the same problems arise, but there is little action. One of the reasons for the poor public participation is that officials often use public meetings to "tell citizens of projects they had not been consulted about". The perception among citizens of ward committees is that "the process of electing the ward committees is fraudulent" and that "committee members represent their own self-interests rather than those of the community" (ibid: 3).

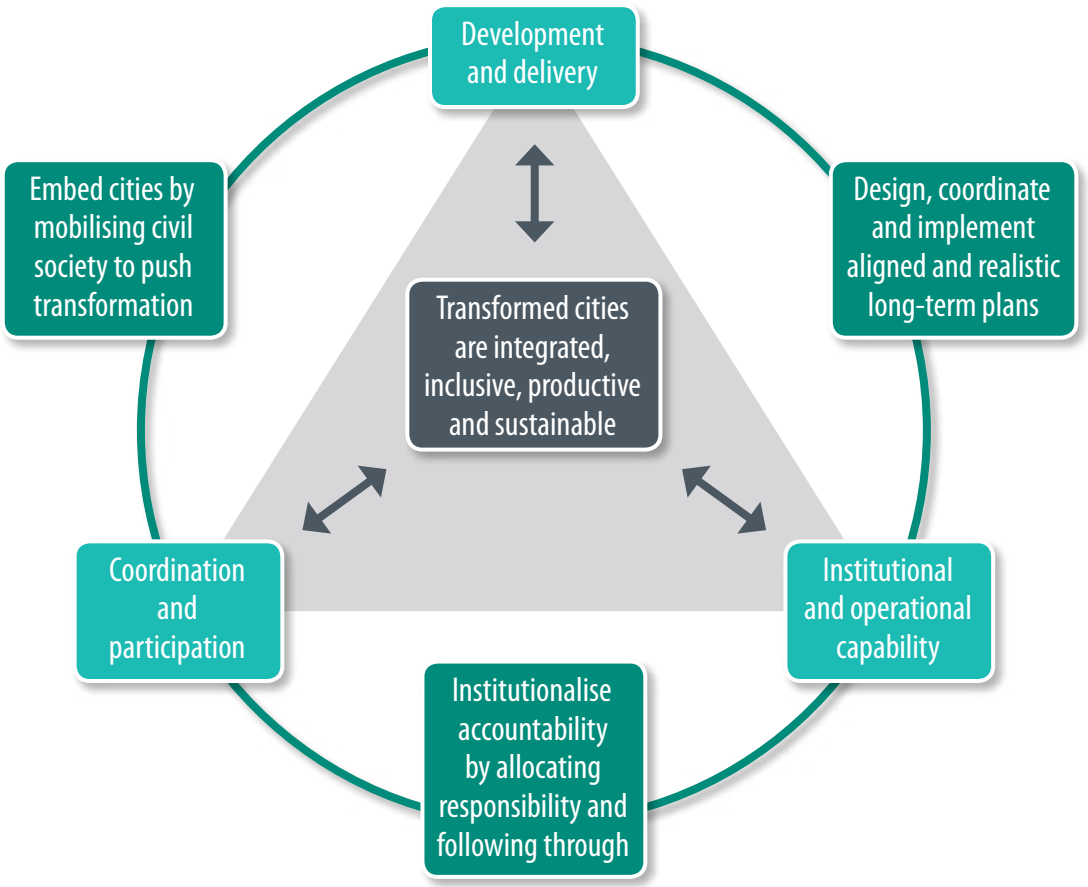
The HRSC concluded that metros do not have adequate or credible feedback mechanisms in place. It recommended that municipalities conduct a regular Citizen Report Card Survey to get feedback on the quality of public services delivered. In this way, the cities can monitor the efficiency and accountability of government services, based on feedback from citizens about the availability of, access to and reliability of public services.

CONCLUSION

The state of governance in SA cities is a mixed story. On the positive side, the past two decades have seen significant improvements in service delivery, and cities have good strategies in place to facilitate economic growth and social development. However, cities lack consistent quality leadership, administration and management, and have poor interdepartmental and intergovernmental linkages and coordination. The spatial, social and economic transformation of cities has been limited, and the distance between the governors and the governed has grown.

Cities need to change how and where decisions are made in order to transform how and where people live in cities, and to realise the overarching national vision of a democratic developmental state. A different understanding of governance is required, one that moves beyond formal structures and processes to address the power dynamics and politics that shape day-to-day practices and complicate the achievement of outcomes. While all aspects of city governance have improved over the past five years, a more consistent focus on transformation is needed to shift the distribution patterns in favour of the poor and marginalised in cities. This means moving from a one-size-fits-all model, where the city is the provider and society (communities) is the receiver, to a differential co-production model, where existing institutions are used to push boundaries and shift distribution (Figure 6.11).

Figure 6.11: Expanded conception of a well-governed city



In many ways South African cities are well governed. They have a myriad of plans that mirror the NDP, including growth and development strategies, urban development strategies, IDPs, area-based management plans and various precinct plans. They have the capacity, structures and systems that can enable "city officials and their partners to formulate and implement sound policies and systems that reflect the interests of local citizens, and do so in a way that is transparent and includes those with least power and resources" (SACN, 2011: 120). However, cities have not yet succeeded in mobilising all city stakeholders towards building a long-term vision and commitment to effect spatial transformation. This is because political processes and historically developed practices disrupt attempts to shift power away from those who have access to those who do not.

A well-governed city expands the decision-making spaces. Authority and voice are used to enable real engagement and negotiation over what the city should be. The focus moves from distributing spaces, access and resources, to establishing relationships that support development. In this ideal, well-governed South African city, role-players are committed to transforming society and creating inclusive spaces. Formally elected committees represent the interests of local communities in wards and in the council, while a professional and committed bureaucracy implements policy that favours the poor and marginalised. The city balances short-term adaptability with long-term transformation and is supported by national and provincial government. It is able not only to generate revenue, but also to form partnerships with the state and business to fund new development and generate economic growth.

The established routines need to change in order to give effect to the vision of transformed cities articulated in the IUDF. It will require visible, credible and collective leadership across urban communities (government, business and civil society). This leadership, whether from government, political parties, business or citizens, needs a clear and common understanding of the future South African city and what each must contribute. Until this leadership is created, South African cities will continue to be held back by short-term partisan politics and capture by elites.

In addition to being visionary, South African cities of the future will require robust anticipatory capabilities. "Anticipatory governance" refers to a systems-based approach for enabling governance to cope with accelerating, complex forms of change (Fuerth 2012: 4). It implies a "system of systems" approach in which there are three key, mutually reinforcing elements:

1. a disciplined *foresight–policy linkage* (to embed a long-term perspective in policy and action);
2. *networked management and budgeting practices* that are linked to a mission statement; and
3. *feedback systems* to enable continual monitoring and adjustment, so as facilitate system learning.

On a fundamental level, well-governed cities must "get the basics right." As such, it will be essential that cities continue to deliver and maintain critical infrastructure and services that enable social and economic development, and that they do so equitably and sustainably. In moving city governance from form and process to substance, the real challenge will be to institutionalise new practices so that they become the daily routines and norms of city governance.

RECOMMENDATIONS

Realistic long-term plans must be aligned, coordinated and communicated widely, through the local press and linked to public reporting processes that build trust and legitimacy with communities**.** This will require cities improving their administrative, technical and economic capacity to coordinate implementation by building coalitions with local experts, higher-education institutions and communities. By actively engaging relevant communities, cities can ensure that planning processes are not captured by politicians, coalitions and other interests, and that development strategies favour the poor and excluded. This can be achieved through mechanisms such as citizen juries (randomly selected community members who make decisions based on information presented) that are less vulnerable to manipulation than ward committees.

Cities need to be pragmatic in promoting city interests and, at the same time, clarify roles, responsibilities and delegations, and ensure that intergovernmental partnerships support the autonomy of cities. Cities must set the example by declaring responsibilities, reporting regularly and having consequences for non-performance. This applies to the monitoring and evaluation of individual and city performance and the need to monitor spatial transformation differently and over long periods of time. Unless consequences and incentives are clear and actioned, any performance management is simply box ticking. To ensure that developmental mandates are met, a simple first step would be to

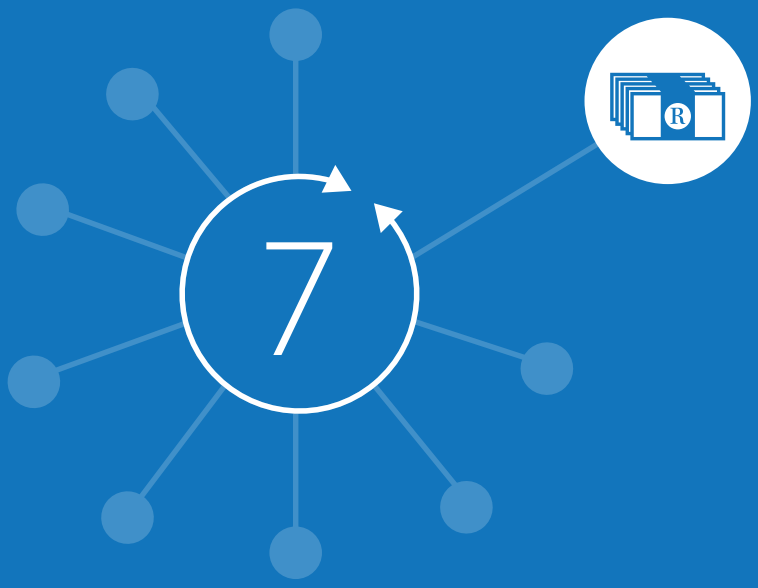
devolve properly the relevant powers away from provincial and national spheres to cities, and to trust cities to take the lead in urban planning, pulling in other levels of government as and when required.

Cities should mobilise civil society and strengthen local participation in order to push transformation. If the ward committee system is to continue, the effectiveness of ward committees should be addressed by, for example, changing their constitution to include all local interests, which will minimise political capture and lead to negotiated agreements on priorities and outcomes. At the same time, cities need to galvanise communities, the youth and other interests in the fight against corruption. Cities could, for example, develop an anti-corruption smartphone app that encourages reporting, implement strong anti-corruption and oversight measures, and establish dynamic stakeholder and government alliances to ensure that special interests do not capture the city.

Whereas these recommendations speak primarily to city-level enhancements, it is also important they be seen within the context of the broader systemic recommendations made by the IUDF to strengthen intergovernmental alignment in urban policy, planning, budgeting and implementation. That cities need to play a leading role in the governance and development of their spaces is not to mean that they can go it alone. The rest of the system, as emphasised in the IUDF, must pull in the same direction if effective urban governance is to be achieved.

FINANCE AND **INNOVATION**

Sustainable financing for today's and tomorrow's cities



@iamthetakz

Key Messages

1. Cities have improved their financial reporting and audit findings, and increased their revenue and expenditure significantly.

2. Challenges to municipal financial health include inadequate finance for delivering required infrastructure and services, affordability of municipal services for consumers, corruption, and an increasing administrative burden.

3. Cities should continue to seek operational efficiency gains and improve revenue collection.

4. Cities need to make better use of existing revenue sources and explore innovative financing options, including reforming the current municipal financing model.

5. Cities must balance immediate community development aspirations against longer-term transformation needs.

@mikebarwood

INTRODUCTION

With total expenditure of R164.0-billion in 2014, SACN member cities are collectively responsible for managing larger budgets than any of the individual provinces. Every day they deliver services that affect over 20 million people, or about 40% of the total national population. Municipal officials, councillors, civil activists and others interested and involved in local government have a duty to understand and debate how cities raise and spend their money. In a well-functioning democratic local government system, debates should include whether:

- City budgets are appropriate and responsive to local conditions and priority needs.
- Budgeting processes are adequately consultative and informed by sufficient analysis of feasibility, cost estimates and risk assessment.
- Budgets are translated into a clear enough performance management system to enable accountability through reporting against performance indicators and targets.
- Local revenue and taxes are reasonable, serve a redistributive or social justice agenda, and influence citizen behaviour in an appropriate way (through incentives and penalties).
- Expenditure achieves service delivery improvements, developmental results, value for money and longer-term sustainability gains.

The South African municipal finance management system has matured since the Municipal Finance Management Act (MFMA) (No. 56 of 2003) was promulgated. For the past 10 years, SACN has been measuring and reporting on the financial position and performance of South African city governments. Over this period, the cities have demonstrated improved capacity to manage public funds and achieve expenditure outcomes. They have also developed their financial and performance reporting systems, to enable more immediate and detailed interrogation of results. However, despite these system improvements, cities do not have sufficient financial resources to realise their constitutional mandate, deliver services to the satisfaction of citizens and improve their global competitiveness. They are limited in their ability to fulfil their developmental local government role because of insufficient budgets for new infrastructure to transform the space economy, inadequate revenue-raising opportunities and threats to current revenue sources.

Cities may have made progress in planning for the future but do not have the financial freedom to realise these plans, despite calls to devolve funds and functions to cities. Yet, within the intergovernmental system, cities are best positioned to understand the lifecycle costs and benefits of the range of infrastructure investments that influence land-use patterns (including housing, transport, service distribution networks, and social services). They are also best able to understand and anticipate the long-term consequences of spatially targeted investments in peripheral or segregated developments. The municipal finance model needs to be reformed, so that cities can have more autonomy in raising and allocating the funding required to achieve their objectives of resilience, sustainability and shared growth.

This chapter was developed using information from the SACN State of City Finances reports. It provides a synthesis of key findings and themes related to the state of city finances over the last 10 years and highlights the financial management challenges that cities continue to face.

FINANCIAL REPORTING AND OVERSIGHT

Since 2010 most SACN member cities have improved the quality of their financial management and reporting and, since 2011, have had improved audit findings: seven of the nine cities achieved unqualified audits in 2014 (Table 7.1).

Table 7.1: Summary of audit outcomes (2010–2015)

	2010	2011	2012	2013	2014	2015
Johannesburg	Qualified	Qualified	Qualified	Unqualified	Unqualified	Unqualified
Cape Town	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified
eThekwini	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified
Tshwane	Qualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified
Ekurhuleni	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified
Nelson Mandela Bay	Unqualified	Adverse	Qualified	Qualified	Qualified	Qualified
Mangaung	Disclaimed	Disclaimed	Outstanding	Qualified	Unqualified	Unqualified
Buffalo City	Qualified	Adverse	Qualified	Qualified	Qualified	Qualified
Msunduzi	Qualified	Unqualified	Unqualified	Unqualified	Unqualified	Unqualified

Source: SACN (2015)

The Public Expenditure and Financial Accountability (PEFA)[1] sub-national study of three Gauteng metropolitan municipalities found that the municipalities are demonstrating relatively sound financial management practices in relation to international good practice. Reforms continue at national and local levels that seek to improve further municipal financial management. Some cities have established municipal audit committees to strengthen internal audit processes. Payroll and procurement are two large expenditure areas where controls can be improved.

1 The most comprehensive framework to assess the quality of budget systems and institutions is the Public Expenditure and Financial Accountability (PEFA) Performance Measurement Framework for public financial management (PFM). This framework has 31 indicators, and measures institutional arrangements at all stages of the budget cycle. It also addresses cross-cutting dimensions, budget credibility and donor practices. The framework was designed to provide a benchmark for donors and governments to measure PFM performance and track progress over time. (*https://www.pefa.org/en/content/pefa-framework)*

In 2013/14, unauthorised, irregular as well as fruitless and wasteful expenditure combined accounted for only 6% of metropolitan municipal expenditure,[2] demonstrating that the metros seem to be performing relatively well (with the larger metros performing notably better). Across local government, the Auditor-General has noted that management responses to audit reports are not yet systematic and timely within all metros (AGSA, 2013; 2014).

National Treasury has issued 75 circulars to provide guidance on how to improve compliance with the Local Government: Municipal Finance Management Act (No. 56 of 2003) (MFMA) and the application of good practice in municipal finance management. On 15 June 2007, the Municipal Regulations on Minimum Competency Levels were issued, requiring officials who are responsible for financial management to have higher education qualifications, work-related experience, and managerial, financial management and supply chain management (SCM) skills. All municipalities and their municipal entities were given five-and-a-half years to implement these requirements (i.e. by 1 January 2013). The aim was to ensure that the responsible officials have the necessary skills to manage municipal finances in accordance with the provisions of the MFMA and the regulations governing local government finances, including the relevant reporting standards. This deadline was subsequently shifted to 1 January 2015. For the first time, in March 2015, disciplinary procedures were instigated against 36 senior municipal managers who did not have the required academic qualifications for their jobs.[3] None of the SACN member cities, except for Nelson Mandela Bay (whose municipal manager was dismissed) were implicated.

In addition to providing clear guidelines on the competency standards, National Treasury has made training material available for use by training providers. Accredited training programmes are offered by approximately 78 tertiary training institutions, including universities, further education and training (FET) colleges and private training institutions. Each municipality or municipal entity carries the cost of training and the time-off given to officials to achieve the required competence, which has placed a noticeable burden on the cities. Reports on the value of the training are mixed. Some experienced senior officials without formal qualifications have found the training a waste of time, and many have started but not completed various modules. Less-experienced officials and officials, who would like to build careers in local government, are more positive about what they have gained from the training.[4]

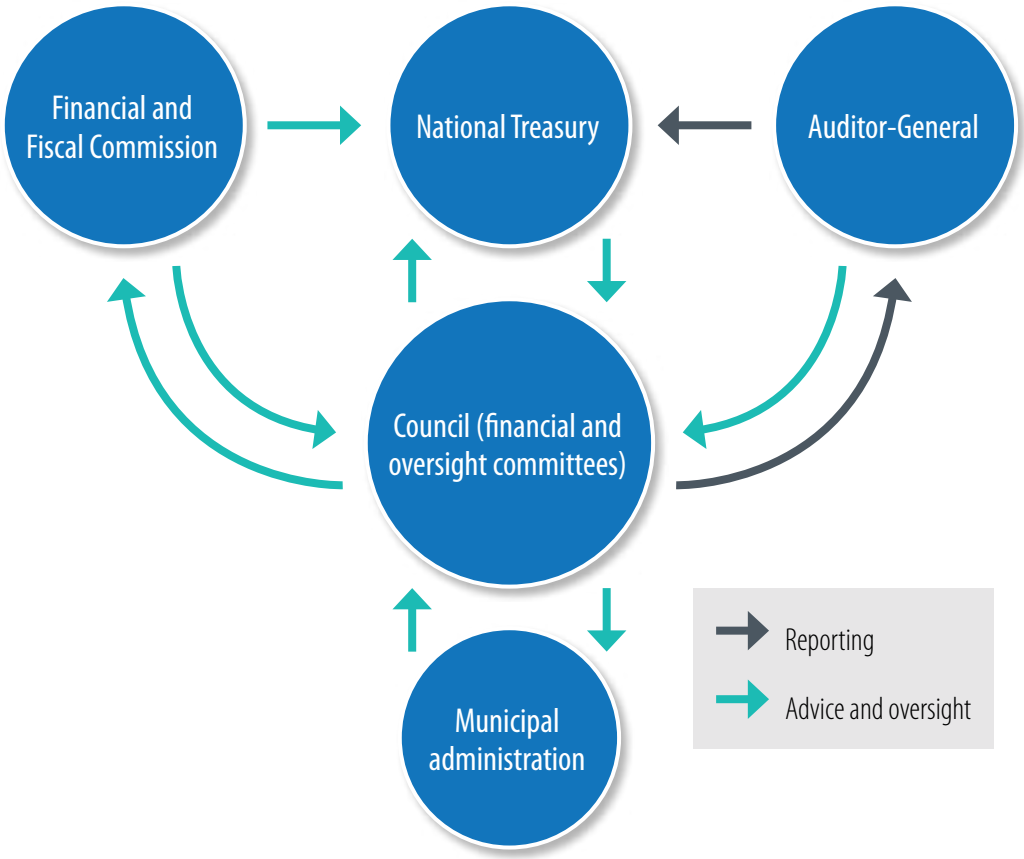
The MFMA regulates financial reporting and oversight, and the key external stakeholders are depicted in Figure 7.1.

2 A response from the finance minister on 20 February 2015 to a question raised in the National Assembly. *http://www.treasury.gov.za/publications/other/MinAnsw/2015/Reply%20to%20PQ%20366%20[NW394E].pdf*

3 Rand Daily Mail, 'Thirty six "unqualified" government officials fired', 10 March 2015. *http://www.rdm.co.za/politics/2015/03/10/36-unqualified-government-officials-fired*

4 Various informal interviews with municipal officials in 2014 and 2015.

Figure 7.1: Reporting and oversight lines for municipal finance



- The National Treasury collates and publishes consolidated quarterly reports on municipal expenditure against budgets and annual financial statements that reflect the state of a municipality's finances.
- The Auditor-General is responsible for assuring the quality of financial and performance reporting systems across the public sector.
- The Financial and Fiscal Commission advises and makes recommendations to Parliament, provincial legislatures, organised local government and other organs of state on financial and fiscal matters. It supports the creation and maintenance of an effective, equitable and sustainable system of intergovernmental fiscal relations in South Africa, which it does through producing and publishing a series of technical and review reports on financial themes.

The financial departments in the nine cities all have a similar structure, with a Chief Financial Officer (CFO) responsible for managing the teams and divisions that deal with at least the following functions: budgets, treasury, revenue management and SCM. Financial teams tend to have significant influence in the city administrations, and the Member of the Mayoral Committee responsible for finance is always a senior member of the Mayoral Executive Committee. Figures 7.2 and 7.3 give two examples of how the finance function is structured in the cities.

Figure 7.2: Nelson Mandela Bay Municipality's finance function in 2015

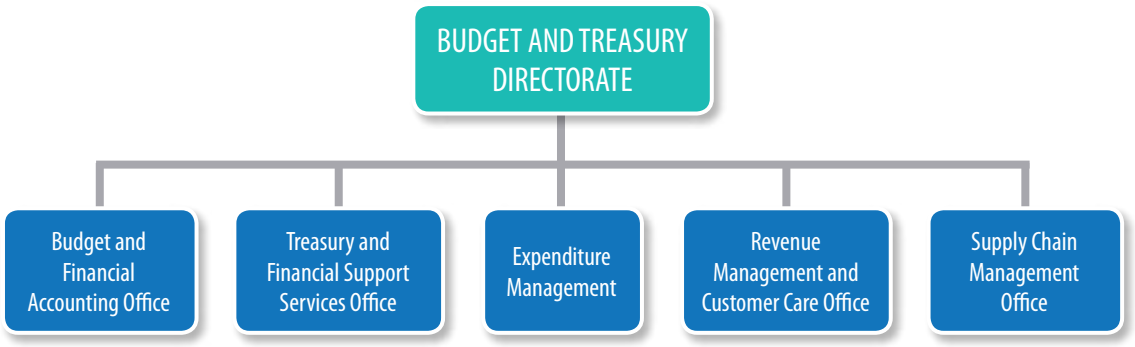
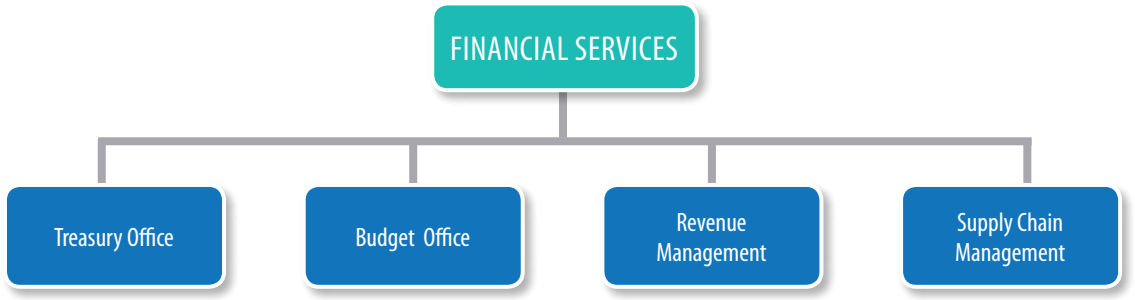


Figure 7.3: City of Tshwane's finance function in 2015



In recent years, a key trend has been the development of internal audit functions and risk management practices. The purpose of internal audit departments is to assure the quality of financial and performance reporting systems, and to support audit committees in fulfilling their oversight role. The maturing internal audit and risk management functions represent an administrative burden for the line departments, as audit and risk management processes require time and attention from officials, and can distract from core responsibilities. However, risk management and audit processes add to the competence and effectiveness of municipal administrations, and managers and members of the executive should be trained in how to optimise their usefulness.

The International Standards for the Professional Practice of Internal Auditing (ISPPIA) defines internal auditing as "an independent, objective assurance and consulting activity designed to add value and improve an organisation's operations. It helps an organisation accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes."

Source: National Treasury (2009b)

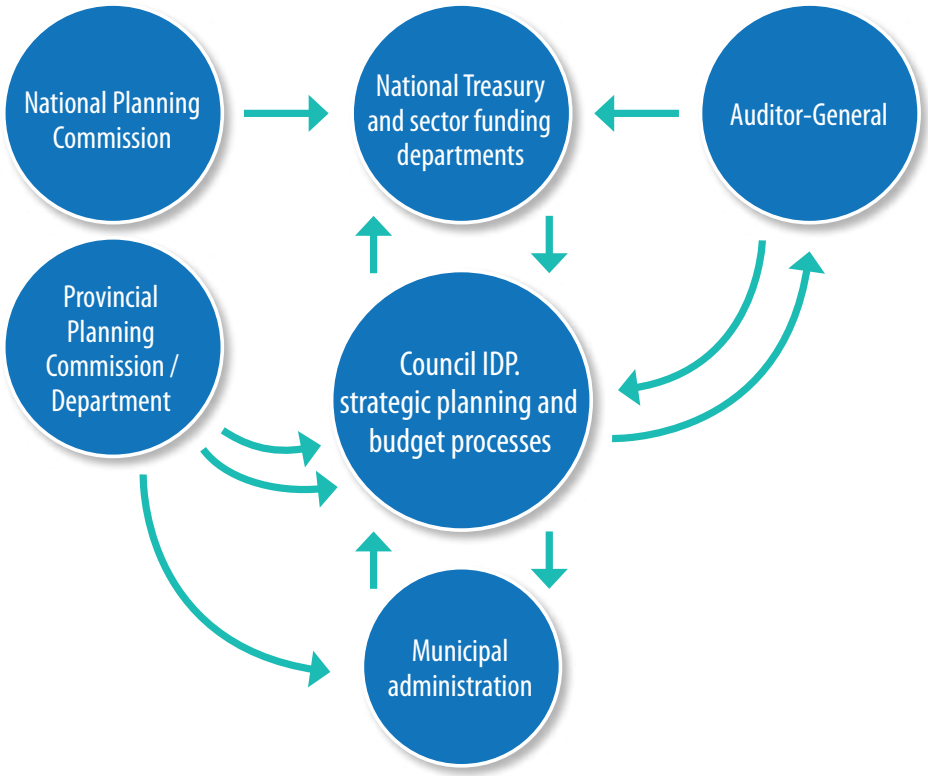
ALIGNING BUDGETING AND OUTCOMES

The Constitution states that "a municipality must structure and manage its administration and budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community". The MFMA requires municipalities to align their priorities, plans, budgets, implementation actions and reports.

The key components of the financial management and accountability cycle include:

- The **Integrated Development Plan (IDP)**, which sets out the municipality's goals and development plans. These need to be aligned with the municipality's available resources, based on realistic estimates of costs, and reflective of local development needs and priorities which are confirmed through meaningful public consultation. Council adopts the IDP and undertakes an annual review and assessment of performance against objectives.
- The **three-year budget** sets out the municipality's plan for revenue raising and expenditure that must be approved by council. The allocation of funds needs to be aligned with the priorities in the IDP.
- The **service delivery** and **budget implementation plan** (SDBIP) sets out monthly or quarterly service delivery and financial targets aligned with the annual targets set in the IDP and budget. As the municipality's implementation plan, it lays the basis for the performance agreements of the municipal manager and senior management.

Figure 7.4: Institutional arrangements for budgeting



The challenge is that the interface between planning, budget and outcomes is weak because the outcomes approach to budget reporting was "superimposed on an existing performance management and budgeting framework" (FFC, 2013: 335). Cities link their performance objectives retrospectively to a relevant outcome, which is based on priorities set by national government. This linkage exercise is theoretical and abstract, and rarely aligned to the cities' departmental or individual performance management systems.

The cities' budgeting processes still largely follow a sectoral approach, "where individual departments bid for additional resources" (ibid: 336). However, the links between inputs, outputs and outcomes are unclear, as operational and organisational structures do not always match programme budget structures. The MFMA Budget and Reporting Regulations require municipalities to present the "financial performance budgets" in two formats: (1) by function, e.g. governance, water, and electricity, and (2) by responsibility, i.e. according to the organisational structure of the municipality. In cities, functions are usually aligned to the organisational structure because cities are large enough to justify having separate departments for each function. But in the small municipalities, often a single department is responsible for a number of functions.

South Africa is not the only country tackling the issue of linking planning, budgets and outcomes.[5] The solution lies in programme or portfolio budgeting, whereby expenditure is classified by broad functions or programmes aggregated across city departments (FFC, 2013). The Collaborative African Budget Reform Initiative (CABRI) shares this view and runs training courses on programme budgeting for public officials across Africa.[6] Some cities, including the City of Johannesburg, have introduced a cluster approach to budgeting and programme alignment. The results have been mixed: many officials are critical of the time demands and apparent duplication of effort resulting from cluster coordination meetings and reporting processes; yet these complaints seem to be balanced by the benefits of shared knowledge and coordinated programmes.[7]

Furthermore, management performance incentives in South Africa are not directly linked to the achievement of an outcome. Instead, incentives are formulated around individual performance agreements and a handful of conditional grants. Conditional grants are seldom tied to a specific outcome, and their incentives are meant to trigger spending performance rather than expenditure outcomes (FFC, 2013).

Increasingly, the story of municipal finances is linked to political and technical leadership. Cities need to be more assertive about their role in planning and leading future investments in the urban space. The quality of budgeting processes, the effectiveness of audit and risk management systems, and the credibility of reporting, along with evidence-based decision-making, are all dependent on an informed engagement with the executive (SACN, 2014a).

5 See SACN (2010) for an analysis of regional intergovernmental fiscal systems.

6 *http://www.cabri-sbo.org*

7 Various interviews with municipal officials at the City of Johannesburg 2014–2015.

EVOLUTION OF FINANCIAL POLICIES IN THE CITIES

The evolution of financial management policy and practice can be divided into four phases.

Phase 1: Establishing democratic local government institutions and systems (1994–1999)

In the early days, the focus was on demarcating the new municipal boundaries and establishing the laws and regulations to govern local government, e.g. the Municipal Structures Act (No. 117 of 1998). The Reconstruction and Development Programme (RDP) informed municipal service delivery, and the emphasis was on addressing service and infrastructure backlogs, as well as access to housing and services.

This phase was characterised by the following:

- Incomplete financial statements and financial data that was not comparable.
- Fluctuating operating expenditure.
- Increasing reliance on intergovernmental grants and a slight decline in revenue from property taxes.

> **Key lessons:**
>
> Financial feasibility and the spatial trade-offs between feasibility and governance need to be understood. Roles and responsibilities need to be clarified, and unfunded mandates confronted (SACN, 2007).

Phase 2: Regulating and standardising municipal financial management (2000–2003)

During this period, two important Acts were introduced: the Municipal Systems Act (No. 32 of 2000), which defines the legal nature of a municipality, clarifies its executive and legislative powers, and establishes a framework for municipal planning, performance management, as well as the use of resources; and the MFMA, which defines roles and responsibilities and (as noted) regulates financial reporting and oversight. Many national departments introduced policies with implications for developmental local government. These include Breaking New Ground (BNG) (a human settlements strategy) in 2004; preferential procurement; and public-private partnership (PPP) regulations. The economic growth priority gained ground with the introduction of the Growth Employment and Redistribution (GEAR) macro-economic strategy.

This phase was characterised by the following:

- A reduction in own-revenue sources, with increasing threats to municipal finances from the non-payment of municipal accounts.
- Slight increases in operating surpluses.
- The introduction of municipal bonds, which were first issued by the City of Johannesburg in 2004.

> **Key lessons:**
>
> Limited capacity makes compliance with the MFMA difficult. There is thus a need for financial management training, as well as improved oversight and accountability systems and practices (SACN, 2007).

Phase 3: City autonomy and accountability (2004–2010)

The Local Government Municipal Property Rates Act (No. 6 of 2004) established a uniform property rating system across the country. During this period, cities established internal audit units and practices, strengthened audit committees and their oversight responsibilities, and improved external audit practices and reports. Cities called for the built environment functions and funding to be further consolidated at local level because of the limited success of planning-led development through the IDP. This would enable cities to play a greater role in transforming the space economy and changing inherited apartheid spatial patterns. The Green Economy gained traction, with discussions about the natural resource crisis (electricity and water) and the financial implications of demand-side management. This was, in part, because municipal services were becoming increasingly unaffordable for urban dwellers (SACN, 2011).

This phase is characterised by the following:

- More detailed analysis of comparative financial data, as data quality and availability improved.
- Some growth in own revenue (from service charges) and less dependency on grants and subsidies.
- Higher capital infrastructure spending in the period leading up to the 2010 FIFA World Cup, funded mainly by grants from national government.
- The recognition that reinvestment in existing assets was vastly insufficient, and maintenance of assets underfunded.

> **Key lessons:**
>
> Policy contradictions and competing objectives undermine local government's implementation role. Local planning is not comprehensive enough and is not respected by other government spheres and entities. Perceptions of corruption increase, driven by more extensive audits and media reports of financial mismanagement, tender fraud and wasteful expenditure (SACN, 2013).

Phase 4: Outcomes-based delivery (2011–2015)

After the establishment in 2010 of the Department of Performance Monitoring and Evaluation (DPME) in the Presidency, a government-wide monitoring system was introduced, with performance agreements signed between the President and the Cabinet ministers. The maturing municipal risk management systems and approaches required constant review and prioritisation of risks, a clear assignment of risk management responsibilities and detailed reporting. The National Planning Commission (NPC, 2012) published the National Development Plan (NDP), and National Treasury and the DPME began expenditure reviews. The larger cities (Johannesburg, Cape Town and Tshwane) appointed chief economists or expanded their economic capacity, as awareness grew about the importance of economic analysis for economic development policy and plans, expenditure and investment plans and project preparation.

This phase was characterised by the following:

- Community protests in reaction to failures in public participation and local political contestation and dissatisfaction with service. This was mirrored by more assertive opposition politics in many councils.
- Intensive and compulsory financial management training.

- Bulk purchases (of water and electricity) as a percentage of city expenditure continued to grow, and spending on repairs and maintenance remained inadequate.
- Employee costs increased, while capital expenditure declined. However, operating surpluses remained relatively stable at about 5% of operating expenditure.

Key lessons:

Audit is a double-edged sword, as it may drive system improvements but can also result in a loss of confidence and trust. Many municipalities and municipal entities are paralysed or slowed down by fear of non-compliance and the administrative burden of increased risk management.

South Africa's public finance management system

South Africa has a respected public finance management system. In 2008, the PEFA assessment of South Africa's public finance gave high scores for transparency, and fiscal discipline and control (PEFA Secretariat, 2008). More recently, the PEFA methodology was used to evaluate the public financial management system across all government spheres, i.e. national government, Gauteng province and the three Gauteng metros. It found that "[b]udgets appear credible in national government, Gauteng and the three metros, with only minor concerns about the forecasting of revenue" (SACN, 2015: 47). The significant rate arrears in the three metros were being managed with appropriate provisions being made, which may also be a sign that projections of revenue could be more accurate (SACN, 2015).

The municipal finance management system also contributed to the following country rankings in 2013:

- The Global Competitiveness Index of the World Economic Forum ranked South Africa 53 out of 148 countries. South Africa did well on measures of the quality of its institutions (41st) and the high accountability of its private institutions (2nd).
- The World Bank/IFC's Doing Business report ranked South Africa 39 out of 185 countries. South Africa was a strong performer in terms of tax payments (32/185), but electricity supply remained one of the country's major weaknesses (150/185).
- The Emerging Markets Opportunity Index by Grant Thornton SA ranked South Africa 14 out of 26 countries. South Africa was the leading emerging economy in Africa and the only country on the continent to be ranked in the top 15 worldwide.
- The Economic Freedom index, published by The Wall Street Journal and US think tank the Heritage Foundation, ranked South Africa at 74 out of 177 countries. This index uses 10 benchmarks (including financial freedom, property rights, and freedom from corruption) to measure the economic success of 179 countries.

However, the Corruption Perceptions Index (CPI) by Transparency International ranked South Africa 67 out of 174 countries, with a score of 44, in 2014. The CPI measures the perceived level of public-sector corruption in 174 countries and territories, and is a "survey of surveys", based on expert and business surveys. Countries are ranked on a scale of zero (perceived to be highly corrupt) to 100 (perceived as having low levels of corruption). With a score below the 50 mark, South Africa is closer to the highly corrupt end of the spectrum and performs more poorly than neighbouring countries like Botswana, Namibia, and Lesotho.

National Treasury uses Uniform Financial Ratios and Norms as a benchmarking tool to compare municipal financial management performance. The MFMA Circular 71 provides guidance on a set of measures for financial position, financial performance and budget implementation (National Treasury, 2014b). Reporting against these ratios and norms is not prescribed yet, but National Treasury has indicated that these reports will be compulsory at some point.

MUNICIPAL FINANCIAL PERFORMANCE

Over the past 10 years, SACN has tracked financial performance indicators, through the State of the Cities Reporting system (Table 7.2). All data is drawn from the audited financial statements of the municipalities.

Table 7.2: List of finance performance indicators with definitions

	Performance indicator	Definition
1	Percentage of capital and maintenance budgets allocated and spent	Percentage of the allocated budgets spent on developing and maintaining infrastructure – a measure of commitment to IDP and SDBIP goals
2	Capital and maintenance budgets	Percentage of budget allocated to maintenance and operations, versus new capital development
3	External audit	Status of audit findings
4	Residential and business rates	Rand value of rates paid by residences and businesses
5	Services charges	Rand value of charges paid by residences and businesses for services
6	Capital grants and transfers	Value of grants and transfers for capital expenditure
7	Spending profile	Metro expenditure by type (e.g. public transport, residential housing, roads)
8	Capital expenditure	Funding for capital projects by source
9	Debt collection	Amount of bad debt recovered
10	Debtors	Money owed to metros
11	Bad debt	Money owed to metros by creditors that cannot be collected (i.e. loss and all reasonable collection efforts have been exhausted)
12	Acid test ratio	Current assets minus inventory divided by the current liabilities
13	Debt to income ratio	Total liabilities of municipalities compared with their total revenue
14	Current ratio	Current assets providing cover to meet current liabilities
15	Debt ratio	Proportion of debt municipalities have relative to their assets – an indication of how much municipalities rely on debt to finance their assets
16	Budget funding	Value of shortfall between budget and income
17	Wasteful expenditure	Value of wasteful expenditure

A selection of these indicators are reviewed and analysed in this section, to give an overview of revenue and expenditure trends and the financial health and prospects of the cities.

Municipal revenue

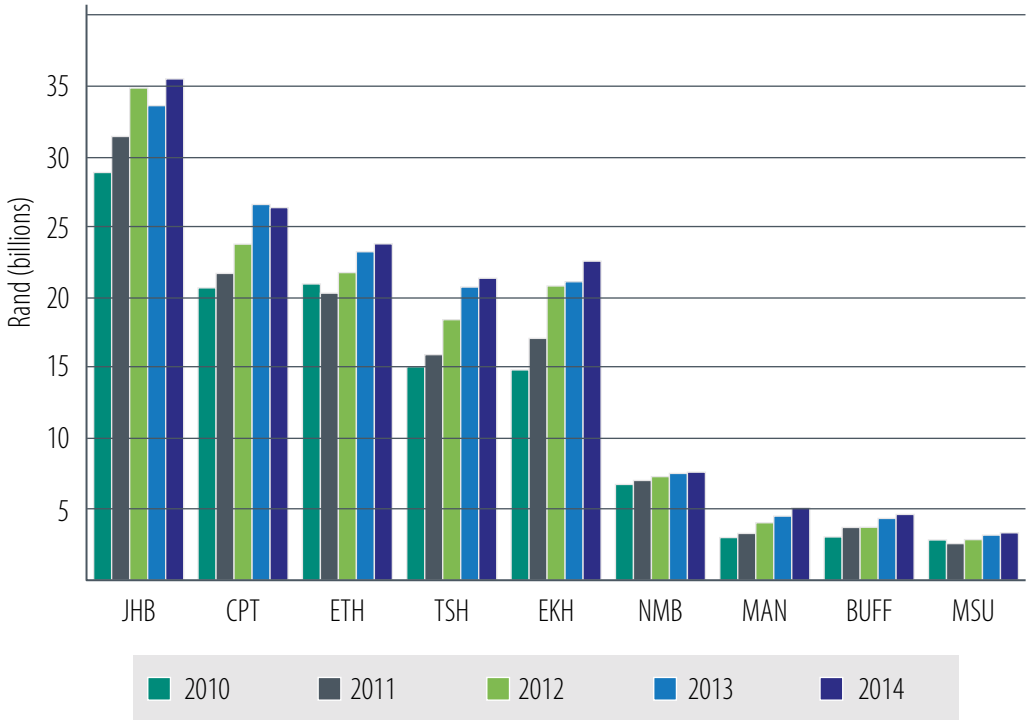
Since 2008, SACN member cities have collectively seen a steady rise in revenue, which has grown at an annual average of 10.5%. Total city revenue increased from R55.3-billion in 2003 to R84.8-billion in 2008 and (after a small decline in 2009) rose steadily to reach R150.6-billion in 2014. Table 7.3 provides a summary of revenue between 2003 and 2014, while Figure 7.5 shows revenue per city for the 2009/10–2013/14 period.

Table 7.3: Summary of revenue

Aggregate real city revenues by source (constant 2012 R b)												
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Property and other taxes	20,976	29,170	32,538	35,876	26,273	26,389	29,126	32,077	32,330	34,564	35,874	40,049
Service charges	30,118	38,483	40,452	39,770	41,840	41,492	46,389	56,200	65,400	74,309	76,874	76,997
Operating grants										15,168	14,773	15,655
TOTAL OPERATING REVENUE	51,094	67,653	72,990	75,645	68,113	67,881	75,514	88,278	97,730	124,041	127,522	132,700
Capital grants	2,341	2,281	4,480	4,909	5,871	11,021				11,287	13,042	12,884
Interest	1,853	2,876	2,883	3,097	3,997	4,484	4,100	2,682	2,307	2,120	3,031	2,808
Other non-operating revenue	0,001	0,227	0,405	0,742	0,763	1,420	0,314	0,311	0,444	0,437	1,585	2,239
TOTAL ALL REVENUE SOURCES	55,288	73,037	80,758	84,394	78,744	84,806	79,928	91,270	100,481	137,885	145,180	150,631

Source: SACN (2015)

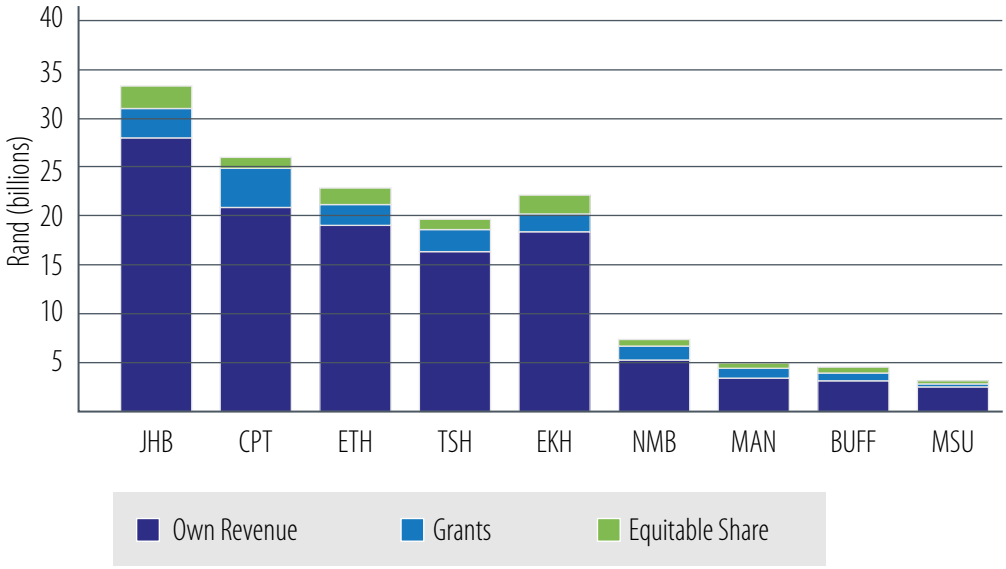
Figure 7.5: City revenue (2009/10–2013/14)



Source: SACN (2015)

As Figures 7.5 and 7.6 show, Johannesburg collects more revenue than the other cities. Own revenue (mostly property taxes and service charges) has increased its contribution to overall revenue. For cities, property rates represent a significant source of own revenue. Since 2005, municipalities have rated property based on the value of land and improvements, which has resulted in a general increase in property rates but poses a burden for poorer households. In 2009, SACN proposed a range of property tax relief measures including exemptions, exclusions and rebates, indirect property rates instruments to impact market behaviour, special rating areas, and other planning and zoning instruments (SACN, 2009b).

Figure 7.6: Revenue by source (2013/14)



Source: SACN (2015)

Although grants still make up a relatively small percentage (between 6% and 14%) of total revenue, some cities are increasingly relying on conditional grant funding, especially for capital expenditure. There is an ongoing debate about the share between the municipal equitable share (an unconditional transfer to municipalities from the national fiscus) and conditional grants allocated to municipalities for specific programmes such as public transport, public works and housing. Many of the CFOs would prefer more funds to be transferred to municipalities in the form of unconditional grants, which would allow cities to make more informed and strategic use of this funding. In response, national government has consolidated some conditional grants to the cities and relaxed conditions to allow for greater flexibility. However, at the same time, equitable share funding to cities is under pressure because of national government's aim to use it as a redistributive instrument to support smaller municipalities (National Treasury, 2012a).

As Figure 7.6 shows, the largest revenue source for cities is own revenue, which is made up of service (utility) charges, property rates and other taxes. Growth in this revenue is mostly because of the increase in utility charges, which are passed on to the consumer. However, the ever-rising electricity prices and load-shedding pose a significant threat to future municipal revenue because electricity

sales will undoubtedly reduce, as consumers find a way to go off-grid, aided by advances in storage technology. Therefore, municipalities will need to find ways to keep users on the grid, through (for example) guaranteeing energy supply or investing in local/neighbourhood storage solutions, and incentivising independent power producers, by (for example) changing an annual penalty for opting out of the grid, or encouraging investment in smart meters.

To make up for the reduced income from electricity sales, cities will have to introduce other sources of revenue, such as a local business tax,[8] or demand-side charges for waste, water and energy. Cities could also leverage municipal-owned properties through development rights or leasing, or optimising uses such as outdoor advertising and increasing rents. Large amounts of wealth are tied up in public property assets, which can be used to generate significant income or save costs. However, a concern is that some cities are selling off municipal property in order to finance deficits instead of looking at leveraging development rights to such properties in order to increase revenue over the longer term.

Municipalities allocate development rights and construct public infrastructure, which translate into added value. For instance, municipalities create incremental land values (sometimes of significant magnitude) when they build roads, provide infrastructure services, or reallocate public offices. With a sound infrastructure investment strategy and changes in the land-use designation, municipalities can capture large portions of the capital investment costs from land value appreciation and subsequent land sales (SACN, 2009c).

VALUE CAPTURE: exploring opportunities

Value capture is a public financing technique that "captures" a part or all of the increases in private land values that result from new public investment (in, for example, public transport or a nearby school), by imposing a tax on the property or requiring an in-kind contribution (Urban LandMark, 2012). It is a way of recycling public funding invested in infrastructure and property developments for the public good.

The notion of value capture is not new, and instruments that are based on property value (e.g. the property rating system) are in use in South Africa. However, most municipalities have not adequately explored the opportunities that exist for creating and capturing value (Urban LandMark, 2009).

Any large-scale infrastructure development is likely to have a positive influence on land values in its vicinity. Some of this added value can be captured for the public good. To be effective, this needs to be negotiated and agreed among the role-players early on in the process, as the expectation that land values will increase is present from the proposal stage of a development.

8 "Theoretically, there is wide agreement that a local business tax is an appropriate tax for local government, and cities should continue to argue for such a tax to be considered." (SACN, 2015: 170)

In the case of property developments, a number of instruments can be used to capture value, based on three categories of benefit:

- Bulk infrastructure: e.g. development impact fees or contributions, joint development agreements, and air rights.
- Area-based development: e.g. a betterment tax or special assessment, zoning tools, land value increment taxes, land banking or leaseholds, and tax increment financing.
- Community development: e.g. city improvement districts (CIDs) or special rating district charges.

These instruments provide a means of capturing the value of public investment that can be used to fund much-needed infrastructure and to enable poorer communities to access well-located sites in the city.

Spending profile

Between 2003 and 2014, city expenditure grew by an average of 10% per year, from R58.8-billion to R164.0-billion. As reflected in Table 7.4, significant growth occurred between 2007 and 2010 because of increased capital expenditure in the run up to the 2010 FIFA World Cup. After a slight decline in 2011, expenditure has grown steadily.

Table 7.4: Aggregate city expenditure (2003–2014)

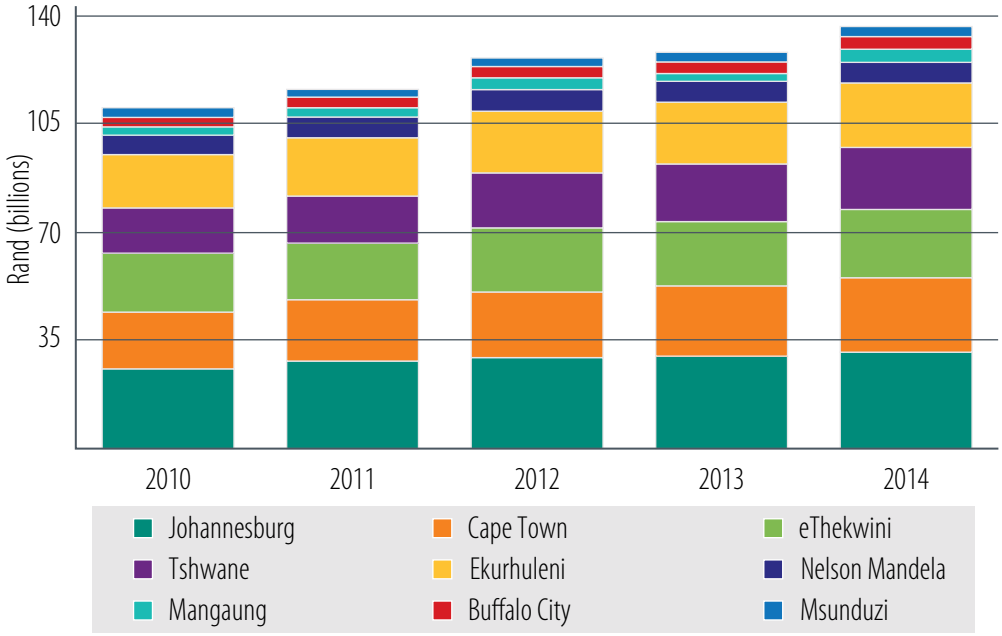
Constant 2012 Rb	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Remuneration	16.3	22.5	23.0	23.2	25.1	25.1	27.5	31.1	32.1	34.6	33.8	36.6
Bulk purchases	11.9	16.0	20.3	20.3	21.2	20.6	24.9	29.4	35.2	41.6	42.9	43.8
Other expenditure	26.0	34.9	35.4	36.7	37.1	40.5	44.5	49.6	48.7	49.9	51.3	55.9
Operating expenditure	54.2	73.4	78.7	80.2	83.4	86.2	96.9	110.1	116.0	126.1	128.0	136.3
Capital expenditure	4.6	9.3	11.4	12.6	15.0	21.6	27.7	26.7	18.3	18.7	25.7	27.7
TOTAL 9 CITIES	58.8	82.8	90.1	92.8	98.4	107.7	124.7	136.7	134.3	144.9	153.6	164.0

There is a direct correlation between increased capital expenditure on new infrastructure and rising operating budget requirements. However, as Table 7.4 illustrates, this is not reflected in the cities' budgets: capital expenditure has increased much faster than operating expenditure. As a result, infrastructure maintenance and operating budgets will come under increasing pressure, as departments have to do more maintenance with the same or less funding.[9] Even in 2006, municipalities were clearly not spending enough on maintaining infrastructure and managing their assets (CSIR and CIDB, 2007). Since then, municipal budget reforms have been introduced to address this issue. MFMA Circular 62 requires CFOs to provide written confirmation of adequate future operating and maintenance budgets for all contracts over R10-million prior to going out to tender (National Treasury, 2012c).

9 See also the *State of City Finances Report 2013*, chapter on City Assets.

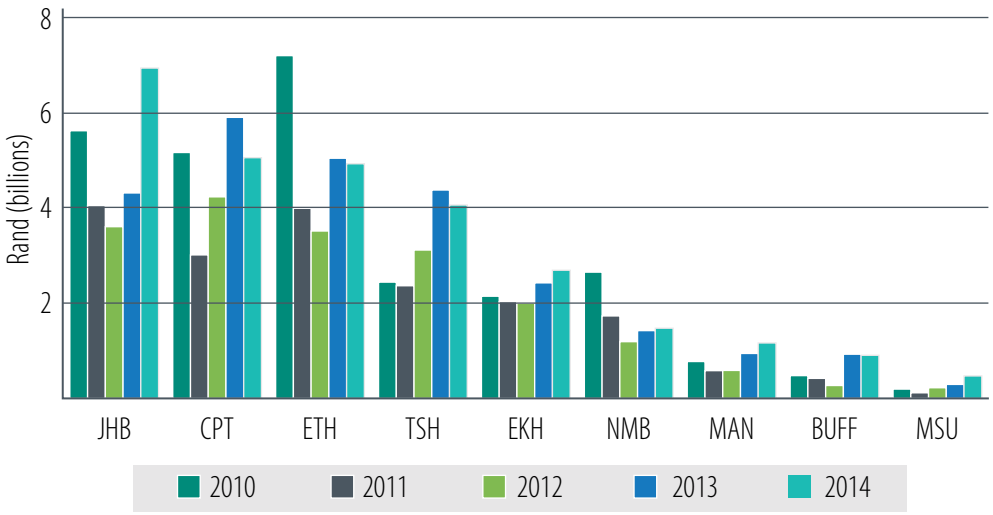
As Figure 7.7 shows, all the SACN cities have experienced growth in expenditure, but the impact is particularly apparent in the smaller cities which started from a low expenditure base.

Figure 7.7: Total expenditure by city (2010–2014)



Capital expenditure fluctuates over the period and per city, but in most cities peaked in 2009 in the run-up to the 2010 FIFA World Cup (Figure 7.8).

Figure 7.8: Summary of capital expenditure (2010–2014)



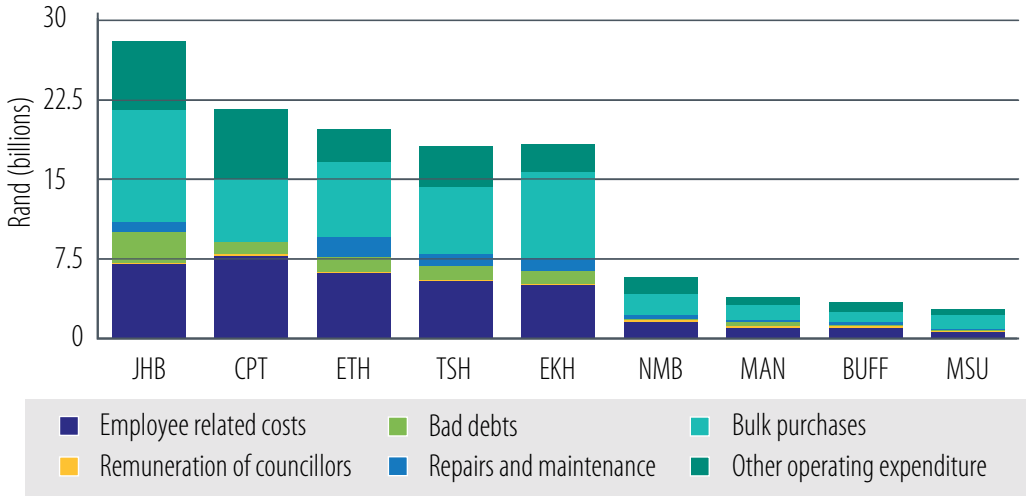
Source: SACN (2015)

Since 2013, most cities have steadily increased their capital investments, driven by the national infrastructure investment priorities, i.e. roads and public transport, housing (both RDP housing and, increasingly, social housing), and municipal services including water, sanitation and electricity

distribution. Johannesburg's capital expenditure has increased the most, to over R6-billion in 2014, matching the 2009 peak. Overall Johannesburg dominates capital expenditure, exceeded only by eThekwini in 2010 and 2013, and Cape Town in 2013.

Operating expenditure has shown steady growth, driven largely by strong increases in bulk purchases (of electricity and water) and in employee-related costs across all of the cities (Figure 7.9).

Figure 7.9: Summary of operating expenditure categories (2014)



The key cost driver has been bulk purchases of electricity, as the above-inflation tariff increases over a number of years have had a significant impact on electricity's share of expenditure. Since 2009, bulk purchases as a percentage of total operating expenditure has increased by between 1% and 14% across cities. This has placed pressure on all other operating expenditure, and cities have had to stabilise or reduce spending in other areas, such as repairs and maintenance and employee costs.

At 5% of total operating expenditure, repairs and maintenance are underfunded across all of the cities. Since 2009, its share of total operating expenditure has declined by between 5% and 2% in most of the cities. While saving on repairs and maintenance may be an easy option because the impacts are not immediately apparent, this strategy will be more costly in the medium term, as deteriorating infrastructure will have to be replaced rather than repaired.

Despite perceptions about runaway employee costs, most of the cities have stabilised growth in this expenditure since 2009 (Table 7.3).

Table 7.5: Expenditure on employees (2009–2014)

R billion	2009	2010	2011	2012	2013	2014	Annual average growth (2009–2014)	Growth in number of employees (2009–2014)
Johannesburg	5.89	6.56	6.82	6.88	7.07	7.09	2%	5%
Cape Town	5.24	6.24	6.52	6.92	7.06	7.83	6%	5%
eThekwini	4.72	5.13	5.18	6.58	5.69	6.21	5%	23%
Tshwane	6.53	3.96	4.47	4.82	5.03	5.48	8%	7%
Ekurhuleni	3.98	4.54	4.15	4.26	4.22	5.07	3%	-3%
Nelson Mandela Bay	1.48	1.81	2.02	2.03	1.63	1.59	-3%	0%
Mangaung	0.68	0.77	0.81	0.86	0.88	0.99	7%	3%
Buffalo City	0.77	0.87	0.91	0.96	0.93	1.02	4%	6%
Msunduzi	0.67	0.70	0.68	0.67	0.65	0.67	-1%	-3%
Total for 9 cities	26.96	30.57	31.56	33.96	33.16	35.96	4%	7%

Overall, employee costs have increased by an average of 4% annually, from R26.96-billion in 2009 to R35.96-billion in 2014. The only city to have substantially increased the number of employees is eThekwini, with an additional 23% employees joining the staff between 2009 and 2014. Over the same period, Ekurhuleni and Msunduzi have both reduced their staff complements by 3%. Collectively the SACN cities employed just over 157 000 people in 2014.

CORRUPTION: impacts of irregular expenditure

In 2013/14 the Auditor-General reported a reduction in irregular as well as fruitless and wasteful expenditure, but increases in unauthorised expenditure.

Irregular expenditure of R11.5-million was incurred by 264 municipalities – an improvement from the R12.2-million incurred in 2012/13. Non-compliance with procurement process requirements was the main reason for irregular expenditure.

The audit findings show that R6.6 million (58%) of the irregular expenditure was for goods and services received, despite the normal procurement processes not being followed. Unauthorised expenditure of R11.4-million was incurred by 190 municipalities (71%) – a significant increase from the R8.5-million in the previous year. While this is not a direct measure of corruption, it is an indication that corruption may be taking place. Overall R16.3-million in municipal expenditure could not be accounted for in 2014/15, a very small percentage of the R281.9-billion in total municipal expenditure.

- Despite this, the overwhelming perception is that corruption is endemic in some municipal functions including many of the law enforcement, vehicle licensing and supply chain management departments. The costs of corruption are not all direct and have political, economic and social costs. Politically, corruption is an obstacle to the rule of law. In a democratic system, offices and institutions lose their legitimacy when they are misused for private advantage, and developing accountable political leadership in a corrupt climate is extremely challenging.
- Economically, corruption depletes national wealth. Corrupt politicians invest scarce public resources in projects that will line their pockets rather than benefit communities, and prioritise high-profile projects such as dams, power plants, pipelines and refineries over less spectacular but more urgent infrastructure projects such as schools, hospitals and roads. Corruption also hinders the development of fair market structures and distorts competition, which, in turn, deters investment.
- Socially, corruption corrodes the fabric of society. It undermines people's trust in the political system, in its institutions and in its leadership, and a distrustful or apathetic public can then become yet another hurdle to challenging corruption.[10]

The cost of living in cities

A national conversation is needed about the rising cost of living in the big cities. It should include a discussion about redesigning municipal services and upgrading infrastructure to reduce operating and maintenance costs. For example, solar water heating programmes or small-scale biogas projects would reduce household energy costs over the longer term.

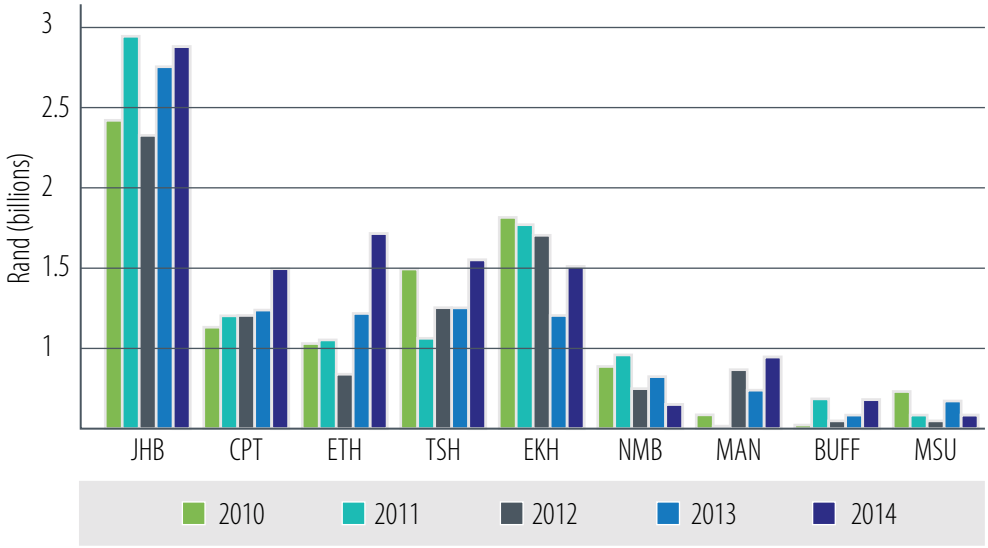
The above-inflation increases in municipal bills negatively affect local economic growth prospects, the number of indigent households and ratepayers' willingness to pay (SACN, 2015). Municipal bills are becoming unaffordable, especially for poorer households.[11] Smart meters and smart grids are tools that can assist cities to restructure their billing structures and to make tariffs more progressive.

The rising cost of living is a contributing factor to the rising levels of bad debt experienced by all of the cities (Figure 7.10). eThekwini has been most successful at managing this debt, while Cape Town has managed to limit the growth in debt since 2012. The City of Johannesburg introduced a SAP system in 2013, but problems with implementation led to a "billing crisis". By 2014, the city had managed to reduce the number of complaints, but it is not unreasonable to conclude that distrust in the billing system has driven some of the increases in bad debt.

10 Transparency International, FAQs on Corruption *https://www.transparency.org/whoweare/organisation/faqs_on_corruption/2/*

11 Chapter 5 of the State of City Finances report (SACN, 2015) provides an analysis of the affordability of domestic rates and service charges.

Figure 7.10: Bad debt per city (2010–2014)



South African cities also have to deal with the high social, financial and environment costs that are the result of apartheid spatial planning, which produced sprawling, low-density cities characterised by inefficient land use and distribution, where the "poor are typically located on the urban periphery" with "little access to housing and services" (FFC, 2011: 170). A recent study on the costs of sprawl in American cities estimated that the costs of energy use, road accidents, congestion and emissions amount to US$1-trillion per year (Litman, 2015). This is equal to approximately US$4556 per capita per year, of which US$2568 is a cost to households and US$1988 is carried by other people, such as the municipality or insurers.

A South African analysis found that housing and infrastructure costs for households were lower in peripheral neighbourhoods, encouraging investment decisions that increased urban sprawl (Biermann, 2006). However, at city-scale, sprawl results in significant additional costs, from installing and maintaining infrastructure for water and sanitation and other municipal services, to ongoing operating costs associated with providing services, such as waste management and community safety, in a dispersed geographic area.

Cities can unlock direct savings and reap wider benefits by encouraging a shift from private vehicles to public transport. The Rea Vaya BRT service in Johannesburg has resulted in an overall saving of over US$890-million (Gouldson et al., 2015). The key savings are a result of the reduced travel times and increased road safety, with lower greenhouse gas emissions contributing to about 10% of the savings.

A better understanding is needed of the systemic cost savings that can be achieved through spatial transformation, so that a case can be made for assertive spatial transformation policy and programmes funded through municipal revenue or intergovernmental transfers.

Effectiveness of spending and service delivery

National Treasury presents annual expenditure reviews for national, provincial and local government, as well as sector expenditure reviews (since 2013, for primary healthcare, education, human settlements and public transport). Most reviews found significant cost variations, inefficiencies, and limits to reporting on expenditure outcomes (National Treasury, 2001; 2002; 2003; 2004; 2005; 2006; 2007; 2008; 2009a; 2010; 2011).

In the cities, effectiveness is often about the appropriateness of capital spending. Choices and trade-offs have to be made: between building new infrastructure to address backlogs or to support economic development; between equitable infrastructure and services and catalytic spatially targeted investments; and between the types of infrastructure and development projects.

All agree that too little is being spent on infrastructure maintenance and management. Underspending on maintenance and repairs suggests a weak capital investment appraisal system and a weak relationship between life-cycle costing and budget decisions.

In the last five years, most capital expenditure has been on municipal roads and electricity distribution infrastructure (Table 7.6). The other categories of infrastructure expenditure include public transport, public works, municipal property development, community facilities and housing.

Table 7.6: Capital expenditure by infrastructure type (2010–2014)

R billion	Roads	Water	Electricity	Sewerage	Other	Total	% Road of total	% Water of total	% Elec of total	% Sewerage of total
Johannesburg	3.69	2.90	5.24	0.57	12.14	24.54	15%	12%	21%	2%
Cape Town	5.43	1.15	3.85	5.59	8.50	24.52	22%	5%	16%	23%
eThekwini	4.27	4.58	2.68	2.12	10.88	24.53	17%	19%	11%	9%
Tshwane	4.37	0.42	2.76	1.79	7.01	16.35	27%	3%	17%	11%
Ekurhuleni	2.76	0.78	1.83	0.58	5.35	11.30	24%	7%	16%	5%
Nelson Mandela Bay	2.77	1.17	0.95	0.80	2.78	8.47	33%	14%	11%	9%
Mangaung	1.08	0.56	0.64	0.67	1.11	4.06	27%	14%	16%	17%
Buffalo City	0.86	0.28	0.31	0.60	0.95	3.00	29%	10%	10%	20%
Msunduzi	0.36	0.13	0.26	0.19	0.36	1.30	28%	10%	20%	15%
	25.59	11.97	18.52	12.91	49.08	118.07				

Some cities have spent more on roads than others. At R5.43-billion, Cape Town spent the most money, while Nelson Mandela Bay spent the largest proportion (33%) of its capital budget on roads. Spending decisions are based on the extent and quality of the existing road network and associated infrastructure such as traffic lights, the scale of the backlog of gravel roads, and the need for road upgrades to address economic growth, safety concerns and congestion. These conditions vary from city to city, but the general

view is that roads are not being maintained and repaired adequately, despite the large allocations. Cape Town spent a similar amount on sanitation as on roads, while Johannesburg's focus has been on electricity infrastructure, and eThekwini has prioritised water infrastructure.

Another aspect of effectiveness is whether or not the cities achieve value for money through their spending. Cost efficiencies for delivering municipal infrastructure and services are difficult to benchmark because local cost drivers and conditions vary. In addition, some variations are inexplicable. For example, the cost per kilometre of constructing dedicated busways ranges from US$1-million in Jakarta to US$20-million in Islamabad.[12] In South Africa, Phase 1A of the Rea Vaya service in Johannesburg cost R37.7-million and Phase 1B cost R34.7-million per kilometre, while the first phase of new dedicated busways for Cape Town's MyCiTi cost an average of R49.4-million per kilometre. Cost variations can usually be explained by the type of infrastructure specified in the design of the systems, and by input costs such as professional fees, materials and labour. With robust systems for assessing capital expenditure, cities would be able to make more efficient investment decisions based on more credible costs and benefits.

Financial health of the cities

In its most recent annual assessment of the state of municipal finance, National Treasury made the point that an unqualified audit opinion does not mean that a municipality has no financial problems (National Treasury, 2014c).

In 2009, the Ministry of Cooperative Governance and Traditional Affairs (COGTA) launched its Operation Clean Audit (OCA), a programme aimed at improving financial management practice and results. However, this intervention was ill-conceived and had little chance of success (Powell et al., 2014): there was no correlation between the OCA targets and the actual condition of municipalities and provincial departments, no factual basis for believing the targets could be met, and no adjustment of the targets to the actual results. More importantly, as financial management matters largely fell outside of COGTA's legislative mandate, the department did not control the levers of change and so had to rely on persuasion and indirect implementation. COGTA also lacked any means to enforce compliance, as no sanctions were applicable in the event of targets being missed. An important lesson from this experience was the need to be clear about the limitations of information and control when implementing policy reforms.

South Africa is ranked among the top five countries with regard to transparency in public finance management.[13] At local government level, the municipal financial management challenges are similar to those experienced globally (Farvacque-Vitkovic and Kopanyi, 2014). For example, South African

12 For these and other examples, see *http://www.chinabrt.org/en/cities/param-quan.aspx?param=26*

13 "SA national budget remains one of the most transparent in the world. South Africa ranked 3rd in the world during 2015, beating the US, UK, Germany and France." *http://www.stanlib.com/EconomicFocus/Pages/SAnationalbudgetremainsoneofthemosttransparentintheworldSouthAfricaranked3rdintheworldduring2015.aspx*

cities have low capital expenditure patterns, give less attention to the repair and maintenance of infrastructure, and are best assisted through capacity development programmes when they experience financial difficulties.

National Treasury uses eight key measures to assess the financial health of municipalities (National Treasury, 2007):

- Cash as a percentage of operating expenditure
- Persistent negative cash balances
- Overspending of original operating budgets
- Underspending of original capital budgets
- Debtors as a percentage of own revenue
- Year-on-year growth in debtors
- Creditors as a percentage of cash and investments
- Reliance on national and provincial government transfers
- The extent of repairs and maintenance as a percentage of property, plant and equipment

A few of these indicators are discussed in greater detail below.

Table 7.7 highlights how operational expenditure is under pressure in the metropolitan municipalities. Most showed marginal overspending (averaging 2%) until 2011/12, but in 2013/14 this was substantially higher at 6%, representing a decline in financial health in the metros.

Table 7.7: Overspending of operating budgets in metro municipalities (2010–2014)

	2009/10	2010/11	2011/12	2012/13	2013/14
Metropolitan municipalities (8)	R Million	R Million	R Million	R Million	R Million
Total original operating budgets	96 657	109 105	124 931	138 942	149 512
Total overspending of original operating budgets	1 980	2 633	2 051	–	8 984
Overspending as % of original operating budgets	2%	2%	2%	0%	6%
Number of municipalities who overspent by					
less than 10% of their operational budget	5	6	4	8	2
between 10% and 25% of their operational budget	0	0	0	0	5
more than 25% of their operational budget	3	2	4	0	1

The underspending of capital budgets is an indicator of either limited capacity for project implementation, or poor project planning and budgeting. As well as issues associated with the conditionality of some grants. As Table 7.8 shows, the metro municipalities have a fairly good track record in capital expenditure: in 2013/14 the municipalities underspent only 13% of their original capital budget.

Table 7.8: Underspending of capital budgets in metro municipalities (2010–2014)

	2009/10	2010/11	2011/12	2012/13	2013/14
Metropolitan municipalities (8)	R Million	R Million	R Million	R Million	R Million
Total original capital budget	22 866	20 428	22 379	25 082	30 249
Total underspending of original capital budget	(1 039)	3 307	3 922	2 036	3 928
Underspending as % of original capital budget	–5%	16%	18%	8%	13%
Number of municipalities who underspent by					
less than 10% of their capital budget	0	0	2	3	1
between 10% and 30% of their capital budget	4	5	4	2	6
more than 30% of their capital budget	0	1	2	1	0

Of concern is the rise in debtors as a percentage of total own revenue since 2009/10 (Table 7.9).

Table 7.9: Debtors in metro municipalities (2010–2014)

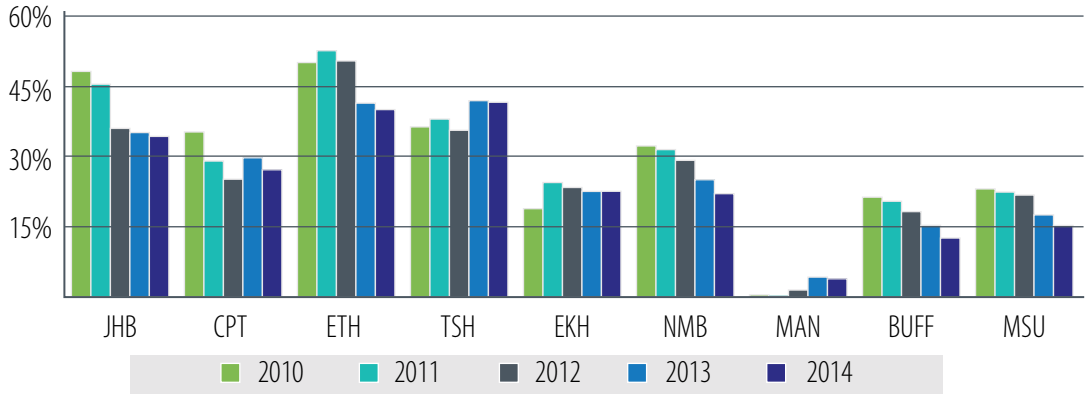
	2009/10	2010/11	2011/12	2012/13	2013/14
Metropolitan municipalities (8)	R Million	R Million	R Million	R Million	R Million
Total own revenue	103 482	100 907	51 319	53 763	146 182
Total debtors	32 412	38 636	46 089	57 659	52 879
Debtors as a % of total own revenue	31%	38%	90%	107%	36%
Number whose total debtors are					
less than 15% of their total own revenue	0	0	4	3	0
between 15% and 30% of their total own revenue	5	4	2	2	3
more than 30% of their total own revenue	3	4	2	3	5

The underperformance of collections against billed revenue can be attributed to the affordability of municipal services (National Treasury, 2012b). The ongoing economic slowdown and substantial increases in electricity tariffs are starting to have an impact on affordability and the ability of consumers to pay for services. Nevertheless, the growth in the level of consumer debt may also be because of the following:

- Failure by the mayors and municipal councils to provide political backing to revenue enhancement programmes (often councillors are in arrears with their own payments).
- Failure on the part of municipal managers to allocate sufficient staff/capacity to the revenue collection function, thus compromising implementation of revenue-enhancing policies.
- Poorly designed revenue management, indigent and debtor policies.
- Resistance among certain communities to pay for certain types of services (or to be billed in a particular way).
- Ratepayer boycotts, sparked by deteriorating service delivery and perceptions that the municipality is unresponsive to community concerns.

An encouraging development is that all of the cities have managed to reduce or stabilise their long-term liabilities over the last five years (Figure 7.11).

Figure 7.11: Long-term liabilities as a % of operating revenue



National Treasury has voiced an opinion that the cities should borrow more for infrastructure spending, and rely less on capital grants (National Treasury, 2014c), but it is not clear how much borrowing is appropriate.

When credit rating scores decline, the cost of borrowing increases. For South Africa, the factors that are currently driving declining credit scores include energy security and perceptions of future political stability. Most of these factors are beyond the control of municipalities, but cities can (and need to) work at distinguishing themselves from the sovereign rating by improving financial management, particularly bad debts, and the productivity of their own revenue sources. They should also explore funding sources that offer investors alternatives to the riskier sovereign debt-linked instruments.

In 2011, National Treasury claimed that "South African municipalities have an infrastructure investment requirement of about ZAR500-billion (US$61.7-billion) over 10 years", of which metropolitan municipalities account for R300-billion.[14] However, Moody's, one of the largest credit rating agencies, estimates that, between 2015 and 2017, these municipalities will only borrow about R24-billion, of which about 50% will be raised through municipal bonds.[15] Even with this funding, the gap remains significant.

Four of the cities – Johannesburg, Cape Town, Ekurhuleni and Tshwane – have already entered the debt capital market:

- In 2014, Johannesburg sold R1.5-billion of debt and plans to raise another R7.5-billion between 2015 and 2017. Its bonds have dropped 66 basis points to 9.52% since they were sold in June 2014.

14 Moody's. 2014. Moody's: South African metros' borrowing to rise to fund infrastructure projects, 18 May 2014.*https://www.moodys.com/research/Moodys-South-African-metros-borrowing-to-rise-to-fund-infrastructure--PR_325274*

15 Ibid

- In 2013, the City of Tshwane raised R1.39-billion through two inaugural bonds and plans to raise a further R10-billion over the medium term.
- In 2013, Ekurhuleni Municipality issued an R800-million amortising bond, the first issued by a South African municipality, after having previously issued more than R2.4-billion in bullet bonds with maturities ranging from 10 years to 12 years.
- By 2014, Cape Town had issued three bonds valued at R4.2-billion as part of the city's R7-billion domestic medium-term note programme.[16]

Increasing municipal borrowing and reducing dependence on intergovernmental grants should improve financial discipline and lessen the reckless spending that results from the need to spend capital funds within the year in which they are allocated. The additional oversight and checks and balances put in place by lenders will also improve compliance. One drawback is that borrowing will only be possible for projects with a feasible expectation of a return on investment. This means that social development projects, or projects with little prospect of achieving economic returns (which includes most of the public transport operations) will not be funded by borrowing, and so achieving a balance between grant funding and borrowing will be important. However, private finance sources such as "green" and social-impact bonds are being explored in the global municipal investment arena, seeking wider environmental and social return on investment. These potential finance sources and their viability will need to be monitored over the coming years.

According to the National Treasury's indicators, the financial health of the cities has stabilised and improved over the last five years. The maturing risk management systems in the cities make it possible to analyse common risks that all the cities face. The risks associated with the current state of municipal finances can be categorised as follows:

1. Service delivery risks
    - Staff refuse to work as a result of remuneration disputes.
    - Bulk services invoices do not get paid.
    - Contractors and suppliers do not get paid.
    - Spending on repairs and maintenance is invariably cut, placing service delivery and future revenues as risk.

2. Fiscal risks
    - Poor financial management processes and systems expose the municipality to corruption.
    - The municipality fails to properly use its resources by failing to collect available revenues.
    - Poor financial management increases the cost of borrowing for the municipality.

16 Municipal Focus. 2014. Infrastructure bonds help to pay R500 million backlog, 18 December 2014. *http://municipalfocus.co.za/infrastructure-bonds-help-pay-r500-million-backlog/*

3. Political interventions
    - Some municipalities have top-heavy, unaffordable "political offices" that often provide political advice on administrative matters and, in so doing, undermine and duplicate the role of the municipal manager, chief financial officer and senior managers.
    - Political interference in administrative decision-making processes (including SCM), which compromises municipal finances. In some municipalities, the interference impedes on revenue collection because the politicians do not want to antagonise the voting communities.

INNOVATION IN MUNICIPAL FINANCES

Since 2003, municipal finance management systems and practices have steadily evolved in South African cities. Certain themes are the focus of further innovation and learning: spatial transformation, the green economy, smart city strategies and ways of increasing revenue through asset management and alternative sources of funding.

Financing spatial transformation

As indicated in earlier chapters, national recognition and ownership are necessary to drive the agenda of transforming cities, so that the legacy issues can be addressed and, more importantly, cities can be prepared for their future roles, challenges and opportunities. This must be accompanied by serious consideration of adequate and sustainable city financing, and demands intergovernmental fiscal reform that recognises the medium- and long-term costs of urban spatial transformation (Smoke, 2015). Financing major, affordable public transportation systems, massively expanding access to quality public spaces and affordable accommodation, and ensuring inclusive, modernised urban economies (e.g. by counteracting negative gentrification effects and avoiding new technological access divides) have fiscal implications for urban municipalities (SACN 2015; SACN, 2016). A popular sentiment is that municipalities must borrow to finance economic infrastructure that grows the revenue base to contribute towards future own-revenue raising, i.e. property rates. However, growing the economy does not necessarily result in direct revenue-raising opportunities for the municipality. For instance, the recent expansion of public transport through the BRT represents an important infrastructure for growing the economy, but the reality has been an increased cost burden on the municipality.

The green economy

The importance of the green economy to municipal finances is growing (SACN, 2013; 2015).[17] However, local and provincial officials interpret regulation and legislation in the most conservative way, which is a

17 Chapter 5: The case for the green economy in cities and Chapter 6: Financial implications of demand-side management for electricity and water, in SACN (2013); Chapter entitled Use of tariffs to promote efficient resource use in SACN (2015).

barrier to innovation in environmentally sound projects (National Treasury and Western Cape DEADP, 2013). The level of skills available and the organisational structure of municipalities also impede the implementation of climate change-related projects. These projects need to be implemented by multi-disciplinary teams, whereas the organisational structure of municipalities is silo-biased, which creates divisions between technical experts in different branches (ibid).

With no simple and effective mechanism to raise adequate finance for climate change projects, the risk is that the adverse impacts of climate change on sustainable development and poverty reduction will be significant. Yet funding sources for green economy projects, such as climate change projects, do exist and include international climate change funding mechanisms, bilateral and multilateral assistance through overseas development agencies, and both private and public sector financing mechanisms in South Africa. Table 7.10 describes types of private sector investors.

Table 7.10: Private sector investor types

Investor Type	Function
Venture capital	Provide early stage capital to technology companies, project developers or demonstration projects and take significant risk, but expect higher returns. They typically target returns greater than 25%.
Balance sheet equity	Provide finance from private investors for a project that is reflected as equity or debt on their balance sheet. A company will evaluate a project based on the returns the project generates against the total finance provided by investors.
Project finance	Typically invest equity and leverage debt to achieve higher returns. Equity investors bear most of the risks in project finance arrangements. They assess projects based on risk-adjusted returns targeting returns greater than 15%.
Mezzanine	Provide a hybrid of debt and equity typically as debt capital that can be converted into equity if the loan is not repaid. It is generally subordinated to senior debt. Mezzanine investors typically target returns of 10–30%.
Debt	Provide loans to projects, with the main concern being the risk that project sponsors default on their obligations. Debt investors conduct detailed assessments of project risks, modelling scenarios in which borrower may default and likelihood of such a scenario. The key metric is the ***debt service coverage ratio***, which is calculated as cashflows available divided by principal and interest payments. Debt investors typically target returns of 7–12%.
Carbon finance (and other performance based payments)	Finance a project by paying for credits linked to the performance of a particular aspect of the project (e.g. in the case of carbon finance, these are the emission reductions generated by the project). Such investors will face additional risks associated with the market and price of the credit. Carbon finance investors typically assess returns based on fixed costs and revenue from the sale of credits.

Source: Gray and Tatrallyay (2012: 9)

The Gray and Tatrallyay study (2012) raised a number of challenges, including: the high upfront costs that most green economy projects require to finance technology change or infrastructure investment, the long payback period to recover the initial investment, self-funding constraints, the difficulty of financing investment on private property, the uncertainty of project returns and the lack of information. The study also highlighted success factors that contribute to the effective implementation of the projects. These are: sound project planning and preparation, robust implementation mechanisms, strong and consistent policy leadership, the use of low-risk financing instruments where available and the institutionalisation of post-implementation sustainability.

Smart city strategies

Smart city strategies include investing in ICT infrastructure and attracting technology businesses (e.g. establishing technology or innovation, or business process outsourcing hubs). Since 2013, all of the major cities have taken steps to commission and install broadband infrastructure, including providing free Wi-Fi in strategic areas or in public places (e.g. parks and railway or bus stations). The cost-benefit analysis for free Wi-Fi demonstrates a clear net gain to the city, as the economic activity that is stimulated by having access to the internet far outweighs the relatively low cost of installing and managing the service.

A market-led development is the introduction of digital neighbourhood solutions for well-organised, wealthy residential areas in the bigger cities. Craighall Park in Johannesburg was the first residents' association to announce such a solution, with the signing of a contract with Fibrehoods, a joint venture between Waterfall Investment Company and CSS Tactical, a security company, to invest in data and security infrastructure in the neighbourhood. This provides high-speed data through an aerial fibre network and 134 security cameras to support community security initiatives. Members of the residents' association pay for the infrastructure over a period of 10 years, and members can also become subscribers for the fibre to the home data services. The initiative has already resulted in increased property values in Craighall Park, and it will be interesting to see if all residents switch from Telkom fixed-line telecom services to the fibre services. Another initiative, Vumatel, provides free 1GB fibre connections to any school it passes, as it lays down fibre internet connections in selected suburbs in and around Johannesburg. A number of other neighbourhoods in Gauteng and the Western Cape are in discussions with service providers, while similar market-led neighbourhood services are being developed for energy supply, taking homes off the grid.[18]

If wealthy neighbourhoods choose to opt out of being connected to public networks, such as fixed telephone lines and electricity, the risk is that these public networks will not be financially sustainable. Therefore, municipalities should consider introducing special charges for those firms or neighbourhoods that do choose to go off-grid, in order to retain the revenue required to maintain and manage network infrastructure.

The use of municipal assets to increase revenues

National Treasury has gone on record to say that municipalities should be more entrepreneurial and innovative in the use of their assets, such as by leveraging more resources from the private sector and households (National Treasury, 2011: 91–103).

18 Fripp C. 'Inside Parkhurst's off-grid power plan – pricing and details revealed', 1 June 2015. *http://www.htxt.co.za/2015/06/01/inside-parkhursts-off-grid-power-plan-pricing-and-details-revealed/*

Cities construct, acquire, operate and maintain assets for service delivery or city development purposes. Every year, the nine cities create more than R10-billion in new assets. As their asset portfolios grow, municipalities need to manage effectively the increasing assets and associated lifecycle costs. Increasingly, municipal assets and capital investment are being used to increase local revenue and taxes.

Figure 7.12: Summary of municipal assets (2013)

ESTIMATED VALUE OF SACN CITIES INFRASTRUCTURE AND BUILDINGS		
R 589.69 billion	52%	R 306.52 billion
in replacement value	remaining service or economic potential	in carrying value

Source: SACN (2013)

Many of the cities have innovative examples of securing revenue through property leases and developments (Urban LandMark, 2009; 2012). They include the following:

- Nelson Mandela Bay has a lease agreement for the football stadium built for the 2010 FIFA World Cup. The lessee has strictly enforced event and performance targets, and rent is used to fund the operations of the Mandela Bay Development Agency.
- Newton Junction in Johannesburg was launched in 2014 as a retail and commercial property development on municipal-owned property. Atterbury secured a long lease through a competitive tender process that required the developer to meet minimum requirements for inclusionary space for arts and culture tenants, to satisfy the heritage conservation requirements for heritage assets on the site, and to make a financial contribution to the management and activation of the Newtown Cultural Precinct.
- The City of Johannesburg is also exploring transit-oriented property developments on a number of municipal-owned properties along the Corridors of Freedom. These are public transit facilities that make provision for expansion by private developers who are selected through a tender for a long-term development lease. For example, the Watt Street interchange near Alexandra will consist of a large bus and taxi interchange, as well as space for retail and housing developments by private partners.

The use of financial incentives and disincentives

Fiscal instruments can be used to incentivise certain behaviours from the private sector and households. For example, the current electricity and water tariffs encourage resource efficiency, as consumers pay more if they consume more.

The dilemma for cities is finding the right balance between charging enough to encourage resource efficiency and keeping tariffs sufficiently low to maintain competitiveness, while ensuring that a section of the population gets services for free (SACN, 2015). If priced right, tariffs can generate revenue for cities, reduce their operational costs, and improve living conditions for residents. Cities need to find the level at which the tariffs bring about behavioural change but do not risk the city's competitiveness or

encourage non-compliance. If priced too high, they can lead to costly unintended consequences. Increasing the price of some services (for instance, water) can lead to additional surpluses for cities, whereas increasing the price of electricity too aggressively may cause households and businesses to shift to alternative sources of energy, leading to cities losing revenue. In the case of effluent and solid waste, badly structured tariffs can lead to non-compliance, which can result in damage to the environment.

Tariffs and taxes are only one of the instruments that cities can use to reduce environmental degradation and to decouple the economy.[19] Tariffs need to be supported through other mechanisms, over which cities have some control. These include a comprehensive legal framework that is rigorously enforced – compliance monitoring and enforcement are crucial. Ongoing strategic and intelligent investments by cities are also important, in order to enable residents and businesses to make choices that are more resource-efficient.

Possible spatial transformation incentives include congestion charges, on-street parking fees, bulk infrastructure contribution waivers, contributions to rates from regulated CIDs and affordable housing rates rebates. In addition to the municipal bond options and local business taxes already discussed, other funding sources for capital projects include a provincial fuel tax to fund infrastructure for mobility improvements, and special rating districts (such as CIDs) that could provide funds for small public environment upgrading projects, for example park upgrades. Special rating districts represent a real untapped source of revenue. They could be used to upgrade infrastructure in business districts, to provide higher levels of service in economic nodes or in areas of concentrated movement (e.g. station precincts), and to redistribute resources to reduce inequality within a node or neighbourhood.

Pooled finance, or programme borrowing, is a way for cities to access loan finance for similar projects, such as station upgrades or township retail property developments, and can reduce the cost of borrowing because of the shared risk in the portfolio of projects.

FUNDING CITIES: Moving towards an alternate city finance model

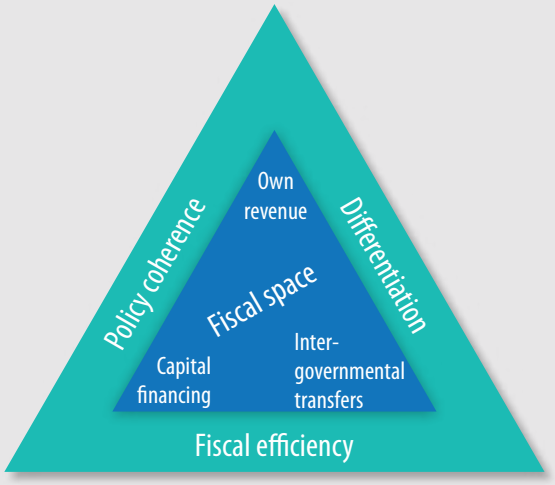
Stable and sustainable sources of city finance will be increasingly important for the growth and development of South African society. The reductions in available resources coupled with changing demographic and socioeconomic conditions are major threats to the already deficient current municipal financing model. Globally, municipal financing trends are moving towards:

- fiscal decentralisation (local government is allocated more direct local taxes and more overall responsibility for public finances);
- revenue source diversity (municipalities receive revenue from a range of sources); and
- unconditional intergovernmental transfers (money transferred from national or provincial government is discretionary).

19 An economy is said to be decoupled when it is able to sustain GDP growth without having a negative impact on environmental conditions. The OECD definition: the term "decoupling" refers to breaking the link between "environmental bads" and "economic goods". In other words, the rates of increasing wealth are greater than the rates of increasing impacts. https://en.wikipedia.org/wiki/Eco-economic_decoupling

Municipalities rely on own revenue and intergovernmental transfers to fulfil their financing needs – capital financing is not considered a source because it relies on future own revenue and transfers to pay back the borrowed money. To maximise these sources, three cross-cutting principles need to be applied: **policy coherence** (how the various revenue sources come together to support policy); **differentiation** (municipalities develop financing approaches reflective of their context, capacity and function); and **fiscal efficiency** (municipalities strive to maximise efficiencies in revenue collection and spending-value for money).

City financing principles



Characteristics for an alternate metropolitan financing model are:

Intergovernmental transfers

- Grant funding allocations must strive to be unconditional.
- The equitable share will continue to be an important source of revenue to assist municipalities in meeting the service needs of indigent households.

Own revenue

- Own revenue needs to be diversified. Currently, property rates (which are viewed globally as a strong local government revenue source) and service charges make up the bulk of metropolitan municipal revenue. This is limiting.
- Service charges need to be more agile and innovative to generate revenue in a changing resource environment.
- The proposed local business tax would bring municipal investment strategy closer to business infrastructure and service demands, as well as incentivise stronger collaboration between private and public sectors at local level. The form of such a tax would need to be discussed.
- The proposed wealth tax in cities needs to be explored, as it could be a useful financing mechanism to confront persistent inequality.
- Financing for infrastructure investment needs to be structured in a way that disincentivises development outside the city's priority areas. Land-based financing is critical to the spatial transformation agenda.

- Municipalities could rightfully lobby for a share of alcohol, cigarette and vehicle (as well as other) tax revenues raised nationally to be allocated to them, as the negative impacts of alcohol and cigarette consumption and vehicle use are predominantly felt in the large urban centres. Careful consideration of the administrative consequences of collecting these various taxes is required, as the cost burden can outweigh the gain, especially in the short to medium term.

Capital financing

- Borrowing, PPPs and other private financing options are important to consider but have their limitations. Most notable are the exclusionary tendencies of private sector financing, which look for a financial return on investment. The private sector's capital investment focus also raises concern over the impact on operating costs: funds can be found to build a number of projects (perhaps in a disconnected manner) but what about additional funds required for operating and maintaining the infrastructure?

This information is derived from SACN (2016) Towards an Alternative Financing Model for Metropolitan Cities in South Africa. An Expert Panel commissioned study.

NEW REVENUE MODELS: reducing dependency on electricity revenue

National Treasury's Government Technical Advisory Centre (GTAC) recently considered new revenue models to reduce dependence on electricity revenue, which is under pressure in all the cities (Cullinan, 2014). Globally, the energy landscape is becoming demand (or consumer choice) driven, rather than supply driven. Future revenue models must unlock private sector investment and create space to grow the energy market. Four broad municipal revenue options were identified:

- **Smarter**, which is essentially the current system of adding a mark-up to the sale of electricity purchased from Eskom and others. The smarter option is to use pricing and tariff structures (e.g. time-of-use pricing). Although this may lead to a drop in total sales (e.g. if customers are more conscious of peak pricing costs), revenue could be maintained or increased. Minimum requirements include smart meters, a differential tariff regime and incentives for municipal consumers to stay connected to the grid.
- **Different**, which envisages a new revenue model for municipalities based on providing access to the municipal grid and charging per unit transmitted across the grid. Revenues come from traffic (KwH) across the grid. The option of variable rates for different times of day or year could also apply, but only as a way of regulating traffic. Minimum requirements are a smart grid (including smart meters and surge management), energy intermediaries and a new tariff structure based on KwH rates.

- **Alternative**, which is where electricity sales no longer contribute to municipal revenue. This would require a complete reworking of rates and tariffs, so that all municipal revenue comes via property rates (or other sources). Requirements include research to determine how this model could work, risk management to avoid revenue shortfalls or unintended consequences, and smart meters.
- **Combined**, which includes a balance of variable and time-of-use tariffs, as well as differentiated charges that include cost of supply (fixed) and cost of energy (variable). It should also encourage energy intermediaries and wheeling,[20] with specific wheeling charges for non-Eskom supply based on KwH distributed (or another basis). System requirements include a smart grid, energy intermediaries (e.g. Amatola Green Energy), a good understanding of cost of supply, and incentives to stay connected to the grid.

Cities should engage with National Treasury to refine the set of revenue options, and select and implement the best alternative.

CONCLUSION

The largest urban municipalities have improved their financial management and reporting. They are able to identify corrective actions for wasteful, irregular and unauthorised expenditure, but further efficiencies can be achieved and cities need to strive to continue improving their fiscal performance. The three most pressing financial challenges for cities are: there is not enough money to deliver infrastructure and services at the required level; money is not spent effectively or does not provide the best value; and the need to balance spending on short-term priorities against longer-term development strategies.

While cities must explore opportunities to grow revenues, it is equally important for them to demonstrate that they are spending existing revenues efficiently and effectively. Residents, businesses and other contributors to city revenues will resist initiatives to expand the cities' tax-base if the general perception is that the city wastes funds. Their experience must be that the city is delivering services of an acceptable standard, infrastructure is aligned to the community's development priorities, the administration is efficient, and the standard of governance demonstrates honesty and integrity.

20 Wheeling is the transportation of electric energy (megawatt-hours) from within an electrical grid to an electrical load outside the grid boundaries. *https://en.wikipedia.org/wiki/Wheeling_%28electric_power_transmission%29*

RECOMMENDATIONS

If spatial transformation is important to South Africa and its cities, then the policy and financing logic for cities must support and incentivise the kinds of decisions and behaviours associated with achieving spatial transformation objectives. Enabling city administrations to make better decisions about balancing current and future needs will require a comprehensive review of the fiscal arrangements for large cities in South Africa. The goal should be to ensure a sustainable financing approach that addresses the roles and demands of cities now and for the future (SACN, 2016).

Cities need to ensure they are making complete use of their existing revenue sources, which requires innovation and commitment. They have to seek efficiency gains in the delivery of municipal services and operations, by using natural resources efficiently, reducing the cost of municipal services through technology upgrades, improving revenue collection, and better communicating the outcomes and results in financial and performance reports. In addition, cities can improve accountability, through refining the role of auditors and responding better to audit and risk management findings, as well as work harder to address systemic corruption at every level of interaction with the public and improve public service interfaces and access points.

Cities must continue exploring options for additional taxes or additional charges, as Section 229 of the Constitution gives municipalities the power to impose surcharges on fees for services provided by the municipality and impose other taxes, levies and duties appropriate to local government "if authorised by national legislation".

Cities should argue for a greater share of nationally raised revenue, as cities are the "engines of growth" for the economy and have the highest in-migration, although – given the tight fiscal situation (which is likely to continue for many years) – it is unlikely that funds will be available to increase the cities' conditional grant allocations.

Cities need to develop a financially sustainable and responsible borrowing strategy for key infrastructure projects and services, in anticipation of reduced grant funding in the medium term. They can use debt-financing instruments (e.g. municipal bonds) smartly to invest in infrastructure related to developments that will grow their revenue base and thus contribute directly to raising future own revenues. However, it should be noted that investments in economic infrastructure often do not result in direct financial benefits for the municipality, limiting the ability of debt and other private financing instruments to address most pressing infrastructure needs.

Cities should increase revenue through municipal assets and innovate around their property portfolios through property swaps, property value capture, public-private partnerships, development leases and innovative loan financing. This strategy should be guided by spatial development plans for the city. Municipal assets and revenue streams can also be used to increase the income generation capacity of green economy projects. For example, by developing a policy and charges for the use of electricity distribution infrastructure (wheeling) and feed-in tariffs for small independent producers.

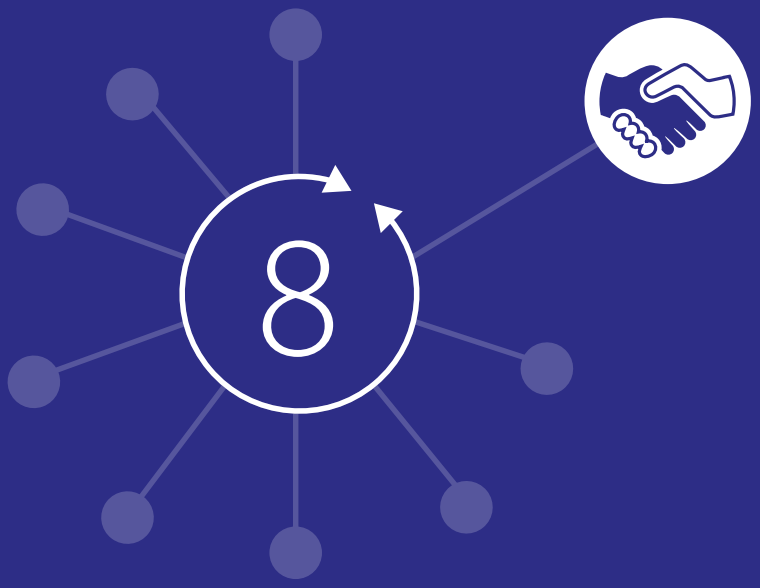
Project preparation needs to be developed as a municipal competency, through setting targets for project pipeline development work, establishing a project preparation facility within the city administration, and defining and assigning development facilitation roles and responsibilities within the administration.

With the start of a new mayoral term in 2016, the financial management teams in the cities will have a role to play in building the capacity of the executive to champion sustainable municipal financing and make good financial decisions based on sound evidence. They will also have to support the resilience of the urban system by driving efficient and effective expenditure, improving expenditure outcomes, and ensuring financially responsible budgeting. Finally, the financial and performance reporting systems are key to the credibility of city administrations: in-depth and quality reporting and audit processes can ensure that the municipalities are not paralysed or captured in the context of political uncertainty and change.

7

ENABLING **ENVIRONMENT**

Creating enabling environments for successful city development



@damianedidit

Key Messages

1. A Call to Action: For development strategies to be effective, all actors (state, private sector, knowledge institutions and civil society) have to cooperate and align their actions.

2. Local government's role must be understood by all, and demonstrated through unequivocal performance, accountability and leadership.

3. Cities need to be empowered and enabled to drive inclusive growth and development through spatial transformation.

4. Deliberate interventions are needed not only in market-friendly locations but also in formerly marginalised locations (e.g. townships).

5. Significant innovation across the board is required – creativity, experimentation, agility, and a culture of learning.

@ansa_sw

INTRODUCTION

The State of South African Cities 2016 report has viewed cities through different perspectives: first, introducing the urban reality through the built environment, followed by productivity, inclusiveness, sustainability, governance and finance. The chapters each provide an overview of the circumstances experienced by the cities and suggest various solutions. These solutions are not cure-alls and, in some instances, will make other interventions more expensive, longer to achieve or more complex to implement.

This chapter considers what needs to be done, and by whom, to create the enabling environments for realising the proposed solutions. It is an experiment in speculation and based on the realisation that all who are a part of South African cities need to improve the space in which they live. Current urban relationships need to change, so that conditions can be created for cities to build partnerships and to be dynamic urban systems of innovation. For far too long have the good intentions to make cities better for all been defined by non-implementation or limited project conceptualisation. Yet, an individual citizen cannot build a better city alone, and the impact of interventions cannot be limited to only certain parts of the city. Agglomeration must benefit the entire system – at national, regional and city level. To achieve this, all major actors in government, the private sector, knowledge institutions and civil society will need to act in concert.

This chapter does not provide definitive answers but attempts to stimulate debate about how to make cities the best possible places to live in, now and for future generations. After examining the main themes and solutions proposed in the report, the obstacles and enablers for developing transformed cities are explored through the perspectives of civil society, the private sector, knowledge institutions and government. The concepts of partnership and innovation are considered, as the basis for an urban innovation system framework. The chapter concludes with an urban innovation framework for South African cities and a set of overall recommendations for the achievement of transformation in South Africa's cities.

A RECAP: THE STATE OF CITIES REPORT 2016 IN BRIEF

With the exception of Nelson Mandela Bay and Buffalo City, SACN member cities have populations that are growing at a faster rate than in predominantly rural municipalities. This growth is a result of natural population increase as well as migrants seeking employment. Population growth has in part exacerbated socioeconomic inequalities, and contributed to high unemployment rates and the unsustainable use of resources, particularly water and energy. Paradoxically, at the same time, cities drive economic growth and job creation, offer a range of opportunities and activities, and have the highest living standards in the country. The State of South African Cities 2016 report communicates this reality through six themed chapters.

1. The ***Spatial Transformation*** chapter highlights the racial and class inequality inherent in the spatial form of South African cities, despite the changes since 1994, and the need for radical interventions to address these inequalities in order to transform the cities.
2. The ***Productive Cities*** chapter reviews the economic performance of the cities over the past 20 years and finds that economic development is unevenly spread over the space economy, which contributes to the high levels of socioeconomic inequality.
3. The ***Inclusive Cities*** chapter also emphasises the socioeconomic inequality entrenched in South African cities, as revealed by urban education, public violence, migration, access to basic services, transport and integration.
4. The ***Sustainable Cities*** chapter recognises the need to appreciate "planetary boundaries (environmental thresholds)" when undertaking development in the context of severe resource constraints and high levels of pollution.
5. The ***Well-Governed Cities*** chapter considers stakeholder relations, operational capability and service delivery, underlining the apparent "removal of the governing from the governed", the ineffectiveness of ward committees and the need for improved public accountability by officials and politicians.
6. The ***Finance and Innovation*** chapter charts the evolution of financial policies, assesses the key trends in municipal finances and considers green economy-related innovations, the smart city concept, the use of municipal assets to increase income and ways of generating alternative income.

The recurring theme throughout the report is the negative impact of entrenched socioeconomic inequality within South Africa's cities. This inequality occurs within the context of a growing population making increasing demands on limited resources, low economic growth, and local government systems and structures that are not functioning optimally and do not successfully address the complex issues of inequality. Against this backdrop, the report therefore calls for action in three areas: realising a better built environment, growing and broadening access to the economy, and changing society and its institutions.

Realising a better built environment

South African cities need to be more compact and denser, with mixed-use spaces and quality public spaces, where most people prefer to use public and non-motorised transport than their private vehicles. The inefficient spatial configuration, where the poor are located on the periphery of cities, must be addressed through further developing low-carbon public transport networks and constructing new settlements that integrate the disparate parts of the existing city. The result will be cities that are liveable, attractive and provide a high quality of life for residents.

What is also important is that South African cities should not be seen in isolation but within their international, continental, regional and provincial contexts. Local policies need to be aligned with regional policies, paying specific attention to rural-urban connections in relation to migration patterns, agriculture and natural resources.

Broadening access to the economy

Economic development is critical for transforming South African cities. Strong productive city economies that are able to attract, retain and develop firms and entrepreneurs are needed. Economic development in the city must also grow economic participation, create employment and improve the quality of life of residents. Businesses invest and operate in areas with attributes and advantages that support competitiveness, i.e. with locational value. Therefore, to stimulate economic development, cities need to focus on building on existing locational and business advantages, as well as creating new opportunities for excellence in formerly marginalised locations. The formal and informal sectors are both important for creating thriving livelihoods and meaningful work opportunities, and skills must be developed and small businesses supported.

More broadly, cities need to invest in their long-term future in order to ensure their sustainability and resilience. This means generating more income, providing infrastructure to meet future demand and building the capacity of municipalities to undertake green economy projects.

Changing society and institutions

Realising positive change will require building or overhauling existing social relationships, through clear intent and interventions (Table 8.1). The intentions and proposed actions consider a wide range of responses to challenges facing the urban built environment, economy, society and underlying institutions.

Table 8.1: Statements of intent and proposed interventions in State of Cities Report (SoCR)

Statements of intent in the SOCR	Proposed interventions in the SOCR
Cities are flexible enough to meet different socioeconomic needs in an unequal society.	• Targeted interventions to improve people's well-being (e.g. Safer Cities programmes, urban renewal programmes, City Improvement Districts). • Learning by doing, i.e. fail fast and fail small, learn from mistakes and replicate successes. • City dwellers also need to be allowed and enabled to realise both their freedoms and responsibilities to lead the kinds of lives that they value and that are valued within society.
Cities are strong enough to resist being captured by destructive socio-political forces and focus on socioeconomic development.	• Zero tolerance of corruption by all role-players in the city. • Transparent urban governance systems and processes.
Cities enable poor people to develop pathways out of poverty.	• Adequate education that enables people to find pathways out of poverty. • Improved connectivity and accessibility (which can include physical access, as well as factors such as language, affordability and acceptance) that build human capability.
All interests in the city (public sector, knowledge institutions, private sector actors and communities) work together to realise transformation.	• State and civil society that cooperate and coordinate their actions. • Public-private partnerships that spread and share risks optimally.

Statements of intent in the SOCR	Proposed interventions in the SOCR
Stakeholder engagement is characterised by maturity and trust among role-players.	• Local government that lobbies and collaborates with national and provincial government to catalyse transformation. • Information sharing between stakeholders.
Cities that have transformed how they function, i.e. their administrations and institutional arrangements.	• Coordinated, planned and implemented policies, linked to a well-established monitoring and evaluation mechanism. • Performance management systems with detailed incentives and sanctions for local government administrators. • A shift in the developmental outlook of municipal officials, from the rigid, procedural, rule-book approach to an innovative, adaptable, pragmatic approach. • A review of the role of ward committees.

Few of the proposed interventions are new to urban development conversations and have featured in previous State of the Cities reports. This suggests that these proposals are either not being implemented or not being implemented successfully and so not having the intended impact. In other words, obstacles are preventing implementation or, alternatively, enablers could support implementation.

OBSTACLES ("DISABLERS") TO DEVELOPMENT

The report offers a number of reasons why the proposed interventions and actions are not being implemented. A recurring reason is the extent and nature of both poverty (which is exacerbated by migration to cities) and inequality in our cities. The current spatial form of South African cities perpetuates poverty, and contains islands of extreme wealth and spatial isolation, which combine with ongoing discrimination based on race, nationality, religion, gender, sexual orientation and ethnicity. This gives rise to a populism that promotes reactive, short-term responses, which seek to "put the lid back on the pot" rather than provide long-term solutions. Another constraint to implementation is the low level of economic growth and subsequent limited employment opportunities. Furthemore, the economic growth experienced by South African cities has tended to benefit certain economic sectors and communities.

Perceived failure of government

Perhaps the most important obstacle to development is the lack of trust and poor relationships among city stakeholders that stem from the perceived failure of government. A common reason given for non-implementation is poor performance and coordination at all levels of government combined with the failure of state-owned entities (SOEs) to fulfil their mandate. The view of many city role-players is that government is becoming increasingly corrupt. Yet the long-held assumption (and expectation) is that government should provide services, which is reinforced by government's commitment to the

"developmental state" that addresses poverty and racial inequality, and to retaining strategic SOEs (e.g. Eskom, the Post Office and SAA). While this assumption in itself does not prevent implementation, it does define how role-players interact and relate with each other. It also places an unsustainable burden on government to meet the expectations of the other role-players (e.g. private sector and civil society).

The past 10 years have seen a growing sense among citizens and certain role-players (through the media) that government, and particularly local government, is failing to meet these expectations. As discussed in Chapter 6, this has manifested as anger and frustration directed at government officials responsible for administrative processes. This anger may be because government processes are not working or not working effectively enough, or have its roots in phenomena, such as the rise of populism in party politics, unemployment, increases in crime, violence and growing alienation of communities.

For communities in middle- and high-income areas of the city, anger and frustration with government comes to a head when proposed spatial development plans threaten the built environment status quo and come on top of increasing rates, tariffs and income taxes, which are in part due to cross-subsidisation of poor areas of the city. Communities respond through rates and tariff boycotts, the media, political intervention and litigation (or the threat of litigation). The impact of such "protest" actions can be severe, with projects delayed indefinitely, or groups of people excluded based on race, class, religion or types of land use. Yet these actions can also play a positive role, for example, in protecting heritage, parks, and other social facilities, and in raising awareness of conservation issues.

For communities in poorer areas, the lack of finances limits their response to poor service delivery to petitions, ward committee structures, the formation of local civic alliances and protest actions. Unfortunately, the flawed ward committee system can result in ward committees that support self-interest over the broader community needs and entrench paternalistic approaches to local matters. Protests are becoming more common and violent, and are often associated with a lack of or poor service delivery, and violence against targeted groups. Increasingly this violence ends in the destruction of government or private property. Combined with poor political leadership in these areas, the violent, destructive protests are driving a wedge between poor communities and government. And, as the expectations of poor communities and the ability of government to meet these expectations diverge, the need is growing for a compact between poor communities and government that covers development expectations and realistic service provision.

Lack of trust between government and informal sector

Decreasing levels of trust characterise the relationship between city administrations and the informal private sector, which is often survivalist in nature and has low to no profit margins, making the sector vulnerable to changes in government policy. As the informal sector is fluid, diverse and independent, it is difficult to define and build relations with interest groups and to define apolitical representatives. The Warwick Triangle case study illustrates the fragility of hard-earned partnerships between the state and private sector (both the informal and the formal), and how trust can be lost, unless long-lasting, flexible relationships are built that can survive crises and changes to political priorities.

WARWICK TRIANGLE: A fragile public-private partnership

For several years, the Warwick Junction precinct, which is adjacent to Durban's central business district, has been lauded as a flagship initiative that has "effectively integrated policy that was sensitive to the needs of the urban poor (street traders) with substantial infrastructure reorientation to meet the daily needs for almost a million commuters and informal traders" (Skinner, 2009). Warwick Junction represented an innovative urban precinct made up of a traditional herb traders market, cardboard salvaging initiatives, improved facilities for sellers of cooked *mielie* and bovine heads, the establishment of a Project Centre, etc. Among the successes was the establishment of an innovative management and stakeholder structure to enable a partnership between the city and the informal traders (Kitchin and Ovens, 2008). The city contributed appropriate infrastructure, while the traders volunteered to address urban management problems, mainly in the areas of crime and cleaning. This was achieved through extensive consultation with stakeholders, comprising local government, the informal and formal sector participants and other stakeholders.

However, from around 2010, the strong collaboration of the different stakeholders in the Warwick Junction was compromised by the city's attempt to support a R400-million Warwick Mall development and to undertake public environment upgrades in the precinct. The proposed development included plans to move approximately 600 traders from the Early Morning Market, a move that was strongly resisted. Press reports suggested an increase in metro police activity, challenges with permits and a general frustration locally with the city's lack of delivery of basic services in the area.[1] The relationship between the city and the traders broke down and, within a very short timeframe, went from being collaborative to being adversarial.

It was four years before the Council pledged to work with all affected parties and to amend the proposals made in 2010.[2] The city refurbishments would go ahead, but the concerns of existing traders would be considered in the revised plans. For example, the plans would no longer include the removal of the Early Morning Market.

This case illustrates some of the difficulties that the broader private sector has in contributing towards city transformation and in building relationships with the local government, which has to balance various interests.

1 *The Mercury*. 'The Warwick Avenue mistake'. 5 August 2014. http://www.iol.co.za/mercury/the-warwick-avenue-mistake-1.1730933#.VU3KI3CJhD8

2 'Warwick development plans. *Government Publications: Ezasegagasini Metro*, 21 Feb 2014.

Despondent government officials

For officials, this anger and frustration directed towards government leads to despondency, resulting in a more negative attitude to work, less commitment to the job at hand and, ultimately, poorer service. The focus becomes more about keeping heads down and waiting for retirement than about doing a good job. Thus, poor service delivery becomes a self-fulfilling prophecy. The cycle of administrative decline will persist unless managers are strong enough to deal with the processes and with citizens' problems, and systems are in place to reward officials for quality work under difficult circumstances. Managers and political leaders may be tempted to add to the workload of those departments and directorates that are performing and providing quality services, but the danger is that the existing capacity will become overloaded and erode, resulting in a high turnover of staff, lower quality of service and worsening shortages of relevant skills (PARI, 2012).

Private sector constraints

For the private sector, a major constraint is the long and complicated official processes to register and start a business. Processes connected to establishing a business, such as town planning approval, can also take a long time. The inability to get the required approvals on time makes it difficult to capitalise on market potential.

Corruption is another constraint and involves both the private sector and government. The most serious concerns relate to supply chain management (SCM), where the centralised process has tended to entrench corruption across government and has a direct impact on the private sector (ibid). Corruption manifests in irregular, unauthorised, fruitless and wasteful expenditure, and irregular awarding of tenders (e.g. government business given to government employees and their families). Additional checks and balances have been put in place in order to address these irregularities. Ironically, the private sector's acceptance of, and, in some cases complicity in, corruption has exacerbated the difficulties of doing business in cities. Thus corruption, which prevents the success of the city as a whole, cannot be seen as just a government problem, but rather a problem for all major role-players.

Private sector investment can play an important part in spatially transforming South African cities. However, perceived risks and market demand influence where the private sector invests. Private sector investments are made in locations perceived as "safe", i.e. where assets are protected and profits for the company and shareholders are guaranteed. This means that investment is directed at locations where there is less crime, such as multi-nodal, mixed-use nodes. Investment is considered riskier in "less proven" (i.e. marginalised) areas and communities. The other aspect is market demand that influences spatial trends. This demand defines the nature of the product or service provided by the private sector. It physically manifests as a particular type of design or land use, such as a townhouse development, low-income housing or shopping centres set in a sea of parking. The difficulty with this approach is that the poor on the margins of the city are often excluded from influencing these broader, market-led spatial trends.

Arguably, the primary constraint preventing spatial transformation is unemployment and the inability of the role-players to create sufficient job opportunities for urban dwellers. Given the current low-to-negative economic growth outlook, the future outlook for employment is grim. Therefore, government, the private sector, civil society and knowledge institutions must urgently work in unison to search for solutions to create jobs. In particular, they must undertake the following:

- Review the restrictive labour laws, to make it easier for the private sector to hire employees and create new jobs.
- Define an appropriate institutional mechanism to bridge the gap between the skills acquired by potential employees and the skills needed by government and the private sector. This mismatch of skills limits the opportunities available to first-time job-seekers and denies many access to work.
- Find a sustainable approach to promoting entrepreneurship, making it easier to start a company, to have access to knowledge needed to run a business and to negotiate government regulations.

For business, government and knowledge institutions to thrive requires quality service infrastructure that meets the needs of poverty alleviation, economic growth and environmental sustainability. At present, the poor quality of service infrastructure is a threat to spatial transformation of South African cities.

An issue related to infrastructure, which prevents city transformation, is access to land, especially well-located land belonging to state-owned entities (SOEs). One way to access such land is through public-public partnerships.

SOE-HELD LAND: Public-public partnerships

SOEs, such as Transnet, Eskom and Denel, hold significant tracts of well-located land in many, if not all, major cities in South Africa. Gaining access to non-core SOE land is critical for infrastructure development and the provision of low-income housing, as well as ensuring urban compaction and the more equitable development of cities.

Research undertaken for the Integrated Urban Development Framework (IUDF) highlights the difficulty in accessing state and SOE land (Ovens, 2013). The processes are arduous and rely in part on old-order legislation, and capacity is limited within national, provincial and local government to facilitate such transactions. The research has raised questions about the extent of disclosure made by SOEs of their non-core land holdings. The SOEs tend to release land (or make non-core land available) that is outside the main growth points or in areas of significant decline, rather than well-located land within major metropolitan areas. This implies speculative behaviour, as any land released is often the least desirable from a profitability perspective. The land price is also usually prohibitive for municipalities or provincial human settlement departments to purchase, as disposal usually occurs at market-related prices.

While collaboration is legislated for in relation to the acquisition of SOE land, the relationship between municipalities and other provincial and national departments and SOEs is often not cooperative and may in some instances be adversarial. Research suggests that the current approach and practices do not allow for innovation and leveraging of opportunities that support public interest in the transformation of our cities (ibid).

This section has highlighted some of the major factors that prevent spatial transformation. The following section consider the conditions that might support or enable implementation of the proposals made in the State of Cities Report (SoCR), focusing on the interventions of the key city role-players.

The obstacles to development and spatial transformation discussed above suggest a severe breakdown in the relationships and processes for running a successful city, as a result of different ideologies, life experiences and priorities, and (in certain instances) incompetence. To overcome these obstacles, an enabling environment needs to be created.

ENABLERS FOR DEVELOPMENT

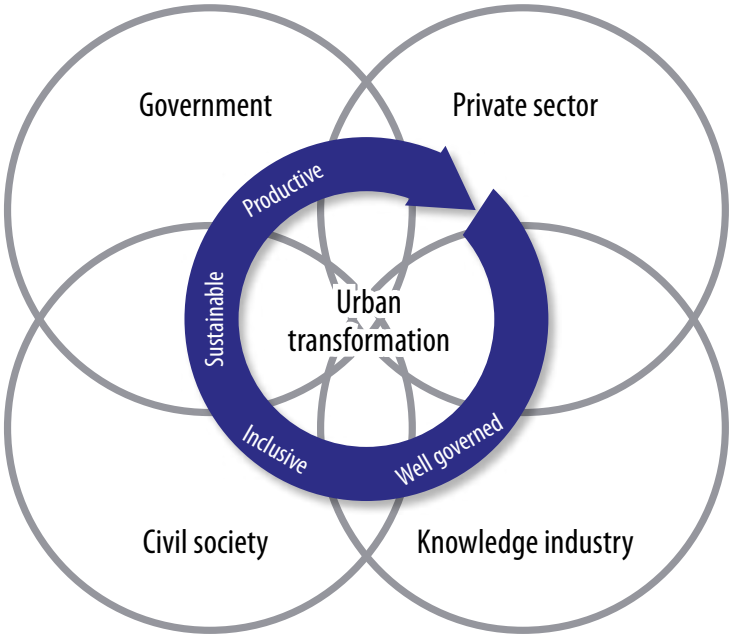
In spite of the SoCR's optimism, the obstacles and constraints to achieving the transformations desired are formidable and cannot be addressed by any single actor. Even government, no matter how capable, cannot on its own address the constraints, transform the built environment and urban economy, and build associated institutions. To solve their problems, South Africans at grassroots level will have to work together and not in isolation (Williams, 2000).

An important first step is to create trust between role-players, bridge ideological and socioeconomic differences and build on existing initiatives. All parties need to reaffirm that transformation is a long-term commitment and can be achieved through small, short-term interventions. Consistent communication is needed among the role-players to address the legitimate concerns of the other parties in order to sustain changes to the status quo.

All hands on deck!

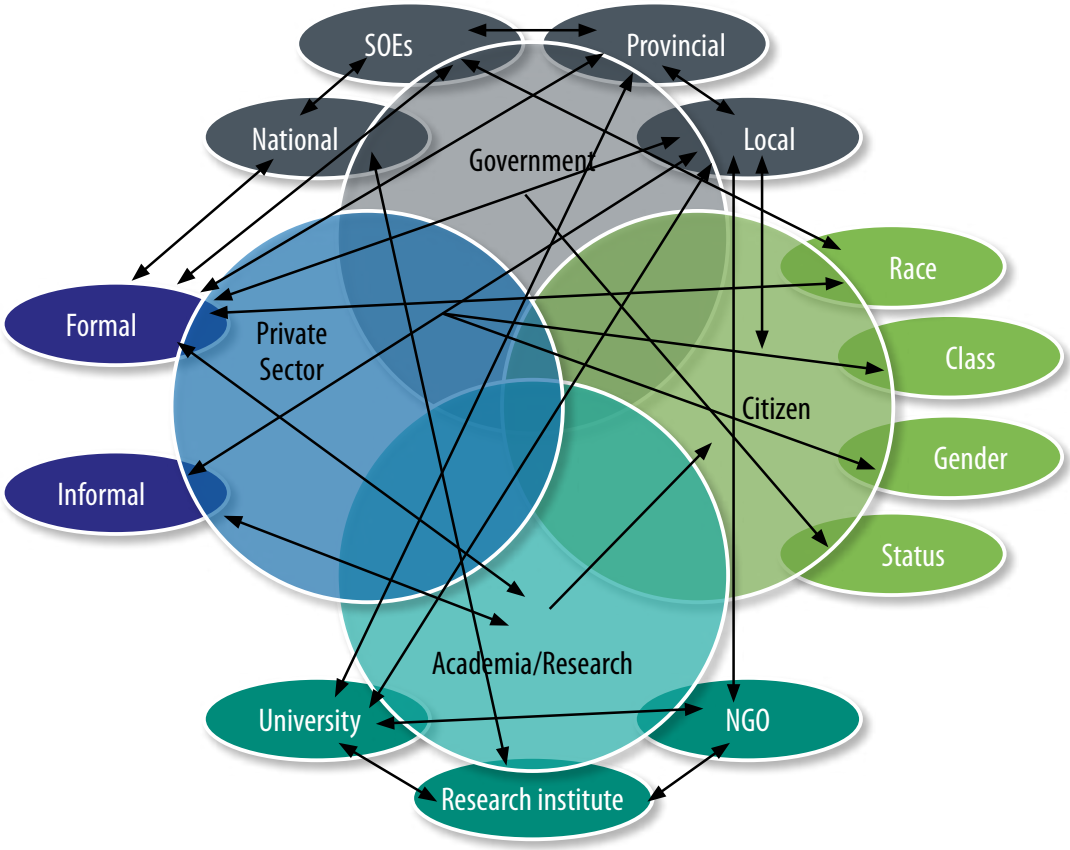
"[R]eaping the urban dividend will require, above all, a commitment from all role-players to collaborate, as well as strong intergovernmental coordination among the various role-players that influence city form and space" (COGTA 2016b: 33). As Figure 8.1 shows, innovation (which here is posited for urban transformation) occurs in that cooperative space where government, the private sector, knowledge institutions and civil society role-players meet – the "quadruple helix" (European Community, 2015) – enabling the necessary systemic change for improving the productivity, sustainability and inclusivity of cities.

Figure 8.1: The quadruple helix – transforming cities together



Role-player groups are neither homogeneous nor necessarily stand-alone entities. They have very different needs, levels of vulnerability, ability to engage and mobilise other actors, levels of dependency, resource availability and capacity to engage in innovation and collaboration. Moreover, relationships within a single group can contribute to positive development outcomes affecting other wider groups. Figure 8.2 demonstrates the relations between the role-players in city spaces with possible sub-groups.

Figure 8.2: City spaces



Given the complexity of role-player relations, an urban system of innovation cannot focus solely on economic growth and technical advances. It needs also to focus on defining new and better ways of alleviating poverty, addressing inequality, creating jobs and realising a quality built environment for all citizens. This can only be done by understanding the nature of power (political, economic, labour, and familial), institutions (functions, role-players, structures) and capabilities of citizens and other role-players. Through this understanding, a system that is more dynamic and speaks to the reality of South African cities can be developed. To achieve this will require building trust among parties, defining goals and outcomes, and being willing to compromise and see the problem from different perspectives. Most importantly, a wide range of role-players will need to get involved in addressing particular urban challenges and resolve to deal with the conflict and frustration that will likely arise during the course of realising a transformed city.

Central to creating such a cooperative space is building partnerships between role-players, identifying common values and attempting interventions that deviate from the norm. Creating this cooperative space requires the following (CIVICUS, 2015):

- A focus on the underlying conditions that enable citizens to fulfil their own goals, given the prevailing governance, policy, socioeconomic and socio-cultural factors.
- The freedom to associate.
- Access to information.
- The ability of all role-players to formulate, articulate and convey their opinions.
- The existence of spaces and rules of engagement for negotiation and public debate.
- The ability of the poor and marginalised to mobilise and realise their own needs.
- A broader role for civic organisations, so that they are more than simply advocates for a particular community or interest group, but become owners and providers of public services, and natural-resource and environmental management.

In other words, what cities need is democracy. However, the reality is that competition, anger and frustration dominate relations among role-players.

As the role-players (i.e. civil society, the private sector, knowledge institutions and government) operate in their specific contexts, the concept of "enabling" has different meanings.

Civil society

"Cities" are not their city governments; cities are their people. Communities and the range of non-state actors and organisations that constitute "civil society" are the central players in realising a democratic solution to the challenges holding back city transformation.

The Integrated Urban Development Framework (IUDF) proposes a number of local-level initiatives that are intended to create a space where government and civil society can engage (COGTA, 2016a). They include the following:

- Completing the National Framework on Participatory Governance, which encourages properly funded, citizen-led, neighbourhood planning processes.
- Developing models for civic education, exploring training options and equipping community members with the necessary skills.
- Establishing and maintaining public participation forums at various levels.
- Building institutional capacity within municipalities (and government in general) to engage with civil society.
- Exploring co-production mechanisms for finding solutions to better deliver local government services.
- Developing a social media strategy for broad-based information and engagement by leveraging new and accessible technologies.
- Exploring mechanisms that allow civil society to play a bigger role in social services delivery.

These generic proposals do not necessarily speak to the practicalities and complexities that local and provincial government have to manage in everyday interactions with civil society organisations and citizens (especially the poor and marginalised). One example of these complexities is the process of in-situ upgrading of informal settlements, which requires constant hands-on participation by government, civil society groups and individuals. Despite 10 years of experience, this process often remains a purely technical exercise of providing infrastructure, and does not include assisting communities out of poverty.

A number of lessons can be learned from the in-situ upgrading process (Pieterse and van Donk, 2014):

1. Government needs to provide the best possible quality public infrastructure and social facilities for the most neglected residents, so as to acknowledge their status as citizens of the city.
2. Infrastructure investment needs to consider the landscape, cultural requirements and community practices.
3. People need to be involved from the beginning to keep citizens engaged, so that the project can have significance at the individual level.
4. Mechanisms need to be put in place to ensure that the community assists government in the maintenance and upkeep of network infrastructure and social facilities, especially in very dense informal settlements, so that the investment can continue to be of value to citizens.
5. Platforms for public deliberation, disagreement and contestation within the community need to be set up and maintained. These platforms also need to act as a means of accessing government and other opportunities that may exist.

Government cannot afford to treat all citizens and their representatives in the same way because communities have different needs and different expectations. Similarly, communities and their representatives cannot treat all government officials and associated political representatives in the same way: the strategy will be different for a representative of an electricity or water utility than for a planning official or a ward councillor. Communities need to know how best to "exploit" the strengths of the different representatives in order to obtain the maximum from the interaction.

The ability of poor and vulnerable groups to initiate and promote innovative collaboration may be limited. These groups are easily negatively affected by over-regulation, changes in municipal policy, lack of consultation and, in some instances, victimisation. They are stigmatised, and so any relationships forged between them and other role-players are, at best, fragile. Once trust is broken, re-establishing relationships and partnerships takes significant effort and commitment by all parties. In working with vulnerable groups, multiple actor partnerships may be useful in mediating the interests of the different stakeholders. However, because the majority of the urban population is poor, city governments need to make increased efforts to develop sustainable and pro-poor approaches to development in order to create cities that are more inclusive and resilient.

Private sector

The National Development Plan (NDP) highlights the need for South Africa to raise employment levels through productive growth that is faster and more inclusive. This can be achieved by (NPC, 2012: 109):

> raising exports, improving skills development, lowering the cost of living for the poor, investing in competitive infrastructure, reducing the regulatory burden on small businesses, facilitating private investment and improving the performance of the labour market to reduce tension and ease access for young unskilled work seekers.

As the NDP emphasises, these outcomes will only be achieved through building partnerships among the different role-players. These partnerships will take different forms, depending on the context and required outcomes. Three examples of partnerships involving the private sector are highlighted below.

The National Business Initiative

The National Business Initiative (NBI) is a well-established forum that provides a platform for the private sector to engage with other urban role-players. It is a voluntary coalition of South African and multinational companies that are committed to working towards sustainable growth and development in South Africa. In 2016, the NBI launched it NDP Voluntary Action Plan which aims to support the NDP's implementation through a call for business action. Currently, the NBI focuses on the themes of energy efficiency; climate change, water and the green economy; skills development; and networking with non-business entities on human rights, labour, environment, anti-corruption and inclusive growth.[3] The NBI refers to "shaping of a sustainable future through responsible business leadership and action", which reflects the well-entrenched notion of corporate social responsibility (CSR) within South Africa. Many large private sector firms have CSR projects that seek to have a broader social or environmental impact beyond their core business. This concept could be further broadened to include other role-players (e.g. civil society), so that initiatives "link together" and have a greater impact.

e-Waste Initiative

An example of a civil society/private partnership is the e-waste initiative between MTN (the telecommunications firm) and the GIZ (*Gesellschaft für Internationale Zusammenarbeit*, the German

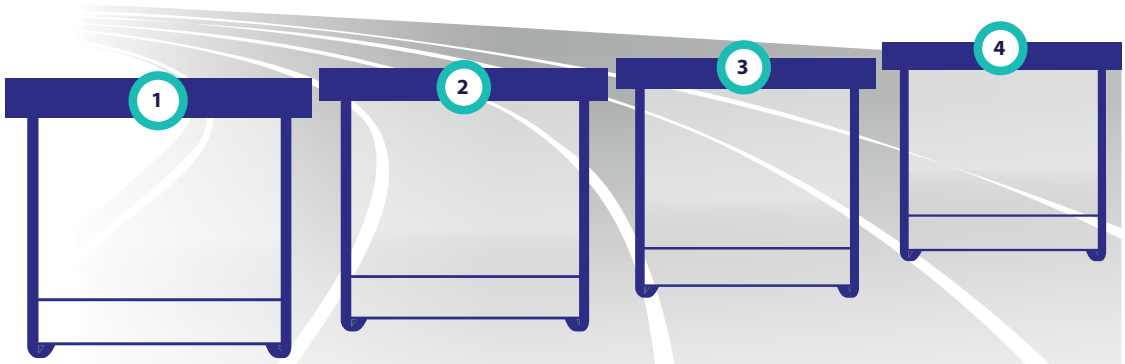
3 *http://www.nbi.org.za/*

development agency) that took place between 2011 and 2014. The aim was to recycle electronic waste by setting up collection points where citizens could drop off their old air-conditioning units, batteries, IT equipment, etc. that had reached their end, thereby providing a source of raw materials for small- and medium-sized recycling enterprises (GIZ, 2015). Eight e-waste collection points were established at MTN's high-volume repair centres countrywide.[4] In 2013, 469 tonnes of e-waste was dropped off for processing and recycling, but this dropped to 326 tonnes in 2014 because of shifts in citizens' habits following the economic downturn (e.g. instead of purchasing new handsets, citizens took existing handsets to be repaired). Other challenges included the capacity of the recycling enterprises and a lack of clarity in relation to e-waste legislation.

Infrastructure Dialogues

The Infrastructure Dialogues bring the private sector into a conversation with government and civil society regarding the provision of infrastructure. Initiated in 2009, the Dialogues are run by the NBI, the Development Bank of South Africa, the SACN, the Department of Planning Monitoring and Evaluation in the Presidency, the Economic Development Department and Cremer Media's *Engineering News*. The purpose of the Dialogues is "building awareness of the problems and opportunities presented by widening access to public infrastructure" (Infrastructure Dialogues, 2015: 2). The Dialogues provide a platform for building trust and a common understanding among stakeholders through discussions that cover a range of focus areas (Figure 8.3).

Figure 8.3: Summary of key Infrastructure Dialogues themes discussed 2012–2015



1. Legislation and planning
- Establish the right governance frameworks
- Integrate development strategies
- Ensure practical implementation
- Improve knowledge and appropriate skills
- Allocate funds effectively
- Integrate funding model
- Encourage private sector participation

2. Roles and responsibilities
- Ensure clarity on roles and responsibilities
- Improve understanding of realities and mandates
- Define responsibilities
- Ensure effective management tools
- Ensure right qualifications and experience
- Build coherence and integration

3. Participation and partnership
- Improve private sector involvement
- Encourage PPPs
- Foster relationship between public and private sectors
- Ensure understanding of requirements
- New financing structures and instruments

4. Implementation and maintenance
- Enhance leadership
- Focus on long-term benefits vs short-term gains
- Improve understanding of the importance of maintenance
- Address prioritisation issues
- Allocate funds effectively
- Improve technical skills
- Enhance management capability

Source: Infrastructure Dialogues (2015: 3)

4 *https://www.mtn.com/sustainability/ecoresponsibility/pages/ewaste.aspx*

The Infrastructure Dialogues attempt to create an enabling framework for cooperation and understanding among the critical role-players in relation to infrastructure provision. While the Dialogues have succeeded in creating a space for discussion, its impact is limited to a relatively narrow set of institutions. It is also a voluntary initiative and does not actively structure (or intervene in) the partnerships among stakeholders.

For private sector, government, knowledge institution and civil society partnerships to be successful, the various role-players each need to take cognisance of one another's respective goals, capabilities and interests. There needs to be a solid rationale (e.g. business case) and clear benefit for the parties involved. For example, when promoting a vision for the city or the redevelopment of given precincts – be it improving public open spaces, promoting public transport or capturing land value projects – the outcomes must also speak to the concerns and needs of business. One of the reasons for the success of the city improvement districts (CIDs) in cities such as Cape Town and Johannesburg is the emphasis placed on building robust partnerships between the various stakeholders, and incorporating the concerns of the private sector.

Knowledge institutions

In its preamble, the Higher Education Act (No. 101 of 1997) states that higher education institutions must "[r]espond to the needs of the Republic and the communities served by the institutions". Therefore, universities have developed community outreach initiatives that engage with civil society, the private sector, government and citizen in diverse ways. At the University of Cape Town, for example, the UCT Knowledge Cooperative[5] provides a way for communities and civic organisations to access knowledge, skills and resources within the university. The university, in turn, finds the best staff and students to assist with community projects. Initiatives include setting up websites and blogs, screening and training foster mothers (as part of cluster foster care initiatives) and assessing programmes (e.g. alien vegetation removal and juvenile prisoner reintegration programmes). This approach benefits both parties: the communities and civic organisations get expertise and enthusiastic students that make small (yet sometimes significant) contributions to meaningful initiatives, while universities gain practical experience and can test their theories. Nevertheless, many university interventions tend to be isolated and have limited impact. There may be space for a more coordinated relationship with civic organisations, the private sector or government that assists in solving structural gaps experienced by civic organisations in serving their communities.

In 2009, eThekwini set up the Municipal Institute of Learning (MILE) in collaboration with the Durban University of Technology, the Mangosuthu University of Technology, the University of KwaZulu-Natal and a range of other government and civic organisations.[6]

5 http://www.knowledgeco-op.uct.ac.za/kco/about

6 *http://www.mile.org.za/Pages/default.aspx*

MILE's strategic objectives are:

- To facilitate the enhancement of professional and technical capacity of local government professionals on the African continent.
- To position the eThekwini Municipality as a platform for innovating, learning and sharing with other municipalities, associations and networks, both locally and internationally.
- To leverage partnerships with tertiary institutions in order to promote collaborative research programmes that will ultimately improve the effectiveness of local government.
- To provide a municipal technical support service to other municipalities in an empowering and innovative manner.
- To coordinate the internal knowledge management agenda within the eThekwini Municipality.

The strength of this partnership is that it creates a forum where knowledge about good local governance can be shared through seminars, classes and on-line databases. This initiative could also be expanded to include the private sector and individual citizens in discussions around good city governance, while the outcomes of MILE could be incorporated into the planning process of eThekwini and other municipalities.

MILE is not the only research-driven initiative with a focus on cities. Another example is Urban LandMark, which was set up in 2009 with funding from the UK's Department for International Development (DIFD) in order to perform a "short term catalytic role" over seven years. The purpose was to understand urban land markets in South Africa with the intention of "making markets work better for the poor". Urban LandMark was organised around five broad activities: research, the dissemination of research findings, providing support, professional development, networking and advocacy.[7]

Early research exposed dynamic informal markets for the trading of land, shacks and houses that relied on social networks. Over time, Urban Landmark developed an incremental tenure model, whereby developmental interventions were linked to forms of tenure security that were appropriate for conditions in each settlement along a continuum to the full upgrading and freehold title. The approach focused on changing policies and procedures, not legislation. During the seven-year period, Urban LandMark produced many critical research and/or support documents, including:

- Understanding Township Economies and Commercial Property Markets
- Improving Access to the City through Value Capture
- A Guide for Municipal Practitioners on Managing Urban Land.

Despite being a small organisation with a limited budget, Urban LandMark fundamentally changed the discourse on tenure upgrade in South Africa, influencing policy and legislation. For example, the Spatial Planning Land Use Management Act (SPLUMA) (No. 16 of 2013) refers to the incremental upgrading of informal areas, or "the progressive introduction of administration, management,

7 *http://www.urbanlandmark.org.za/aboutus/index.php*

emergency services, and land tenure rights to an area that is established outside existing planning legislation and may include any settlement or area under traditional tenure". Moreover, the development principles outlined in Section 7 of SPLUMA require that "land development procedure must include provisions that accommodate access to secure tenure and the incremental upgrading of informal areas". These additions to the Act would in all likelihood not have been possible without Urban LandMark's advocacy.

Government

In addition to calling for a coordinated multi-level, society-wide approach to urban development and governance, the IUDF (2016) identifies specific interventions that will enable city governments to implement their development mandate more effectively:

- Increase the **devolution of powers and resources to metro government**. The focus needs to shift from policy development and procedural (compliance-driven) initiatives to improving implementation of the current mandates and taking on new functions.
- Strengthen **intergovernmental relations** between the three spheres of government.
- Undertake "**big data analytics**" when planning and budgeting long term, so as to incorporate future growth and development trends in the city.
- Improve **fiscal management** in order to facilitate urban growth, and, at the same time, address **sustainable financing of metros** through increased own revenue, loans, grant and equitable share funding received from National Treasury (SACN 2015; 2016).
- **Rationalise the regulation and reporting requirements** placed on metro municipalities by provincial and national government, to prevent inefficiency and duplication of datasets and processes.

Corruption has also been identified as an obstacle to development in cities and can be addressed through the following proposed interventions (PARI, 2012):

- Enforce municipal compliance with regulations, laws and standard operating procedures (National Treasury's role).
- Pay close attention to the design and implementation of municipal administrative systems and work processes (anti-corruption efforts work better when focused on organisational development and institution building).
- Stabilise senior management in local government, ensuring that critical posts are filled and minimising the appointment of acting managers. In addition, clear guidelines are needed that define the relationship between managers and political office bearers.
- Reform SCM within municipalities.
- Enforce consequences for transgressions by municipal staff.
- Strengthen investigation processes into allegations of corruption.
- Provide support mechanisms for municipal accounting officers.

Public participation should be the foundation of government's interactions with other role-players and is primarily the responsibility of local government. According to Section 16(1) of the Municipal Systems Act (No. 32 of 2000):

> 16. (1) A municipality must develop a culture of municipal governance that complements formal representative government with a system of participatory governance, and must for this purpose –
>
> a. encourage, and create conditions for, the local community to participate in the affairs of the municipality, including in –
>
> i. the preparation, implementation and review of its integrated development plan in terms of Chapter 5;
>
> ii. the establishment, implementation and review of its performance management system in terms of Chapter 6;
>
> iii. the monitoring and review of its performance, including the outcomes and impact of such performance;
>
> iv. the preparation of its budget; and
>
> v. Strategic decision relating to the provision of municipal service in terms of Chapter 8;

Yet, despite this legislation and other policy guidelines, "meaningful and effective citizen participation is the exception. In reality participation is limited to symbolic and tokenistic attempts using consultative methods, reinforcing social exclusion and power disparities. Municipalities fail to create conditions, which enhance local abilities to effectively engage in development processes" (Khanya-aicdd, 2015).

Some of the reasons for the sorry state of public participation include the following (ibid):

- Role-players are not organised or in a position to participate meaningfully with local government.
- Local government does not have a clear vision of what effective public participation looks like or should be.
- Institutional support within municipalities is ineffective because of the lack of vision about which roles each department or staff member should play in supporting local government public participation processes.

COGTA is promoting a community-based planning (CBP) approach to address current shortcomings in public participation. CBP initiatives focus on (ibid):

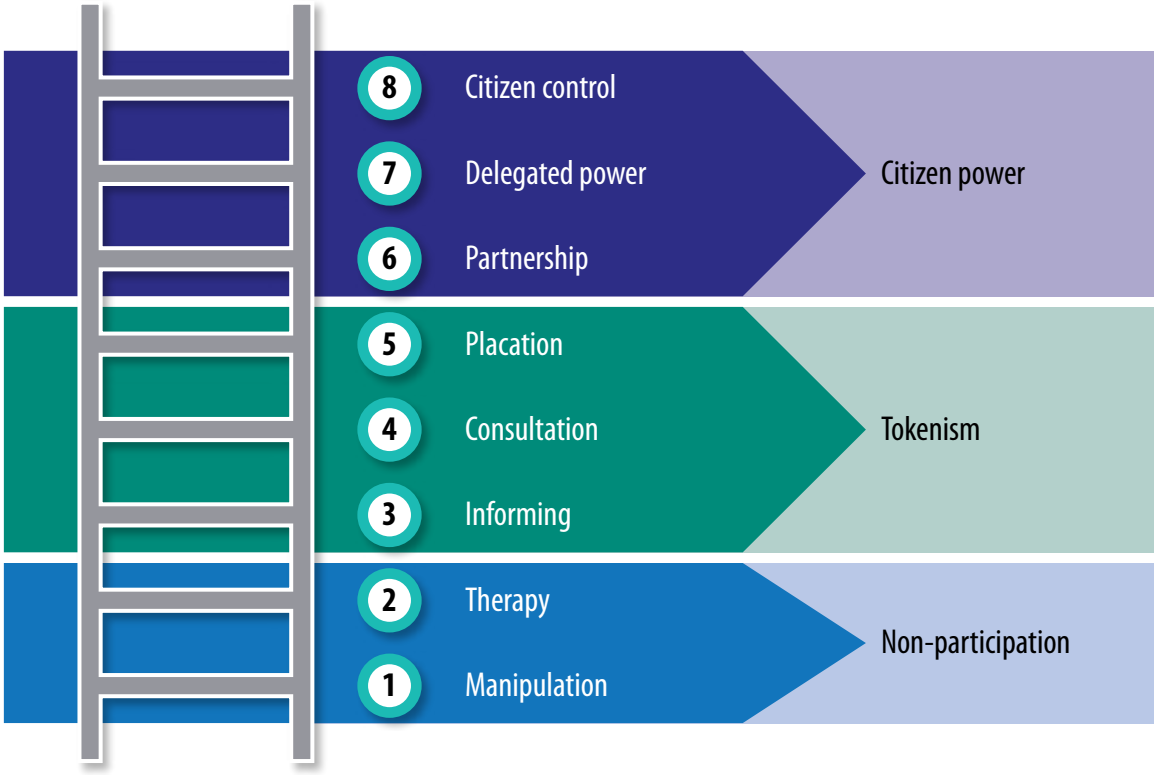
- Improving the quality of integrated development plans (and associated local strategies) by incorporating information and perspectives from local citizens and role-players.
- Realising sustainable livelihoods within communities.
- Improving service delivery by updating sector plans with input from local citizens and role-players.
- Promoting community action around specific interventions, with the support of the local government.
- Promoting community control over development within a given jurisdiction.

From available information (ibid) the CBP approach has experienced certain challenges, notably:

- The process does not empower communities.
- The approach does not adequately address the provision of sustainable livelihoods for the poor in a given community.
- The process does not include all community stakeholders, which dilutes the impact of projects and initiatives agreed to during the community-based planning process.

CBP centres on the premise that public participation occurs when the community involved takes control of the development process, as shown in Arnstein's Ladder of participation (Figure 8.4).

Figure 8.4: Arnstein's ladder of participation



Source: Arnstein (1969)

Effective local government-led public participation is time-intensive, confrontational, and requires advanced skills in mediation and the capacity to compromise. The expectations placed on officials are onerous, while public participation processes tend either to include all relevant municipal staff (which is a waste of resources) or to use only specialist public participation officials and associated consultants (which runs the risk of excluding critical officials). Good internal communication is needed in order to get the balance right for a given public participation initiative. CBP must allow for a differentiated approach to public participation, which recognises that different communities and different role-players require different interactions and outcomes from local government.

The implementation of CBP through the ward committees increases the risk of political interference in projects and related funding, and so clear guidelines need to be given to local government politicians about their mandate.

A PARTNERSHIP-DRIVEN APPROACH

In a partnership, the parties have a level of independence but also the expectations that they will perform their assigned roles. From a government perspective, a partnership approach dilutes the expectation that government is the driver of development; instead, government becomes one of role-players who, together with other role-players, will realise a development.

The Organisation for Economic Cooperation and Development (OECD) describes partnerships as (Cloete, 2015: 4):

> Systems of formalised co-operation, grounded in legally binding arrangements or informal understandings, co-operative working relationships, and mutually adopted plans among a number of institutions. They involve agreements on policy and programme objectives and the sharing of responsibility, resources, risks and benefits over a specified period of time.

This broad definition includes most of the examples cited in this chapter. In the South African context, the different types of partnerships include (Cloete, 2015):

- Transversal partnerships, across silos, disciplines, departments, industries and value chains.
- Intergovernmental partnerships, which relate to partnerships between different spheres of government.
- Cross-boundary partnerships, which concern facilitating spatial change.
- Cross-sector partnerships or chains that relate to partnerships created among different role-players (civil society, private sector, knowledge institutions and government).

Partnerships are commonly used in economic development and can take different forms, including public-private partnerships (PPPs) and multi-stakeholder partnership (MSPs). PPPs are most often used in the construction of large infrastructure projects, and are defined by strict technical parameters and contractual arrangements. In contrast, MSPs are more informal agreements between different parties and can facilitate outcomes beyond economic development, e.g. those relevant to particular communities or that define the procedures and intent of a particular relationship (ibid).

Table 8.2 provides an assessment of the different partnership, as described above.

Table 8.2: The different types of partnerships used in South Africa

Interface	Synergies /shared interest	Contestations / tensions	Examples
Transversal partnerships			
	Bring together a range of disparate activities within or between institutions	Complexity Objectivity = paramount Multiple possibilities for complex problem-solving Fear of compromise	
Intergovernmental partnerships			
	Build a more efficient, knowledgeable and effective public service	Trust Defence of mandates Duplication of mandates Partnership management	
Cross-boundary partnerships			
	Develop marginalised areas and communities Bring together different government, private sector and civil society role-players Provide integrated sector approach to development Promote economic and social development	Trust Differing priorities Scale Project management Programme monitoring, management and coordination	Southern Cape Partnership
Cross-sector partnerships			
Public-private	Economic growth and development / large-scale infrastructure provision	Private interest (profit) versus public good Trust	Area-based: CIDs Sector-based: Infrastructure Dialogues; Dube Trade Port
MSP: Civil society–public	Poverty alleviation Local economic development Provision of social goods Improving the quality of environment Job creation	Maintaining accountability Allocation of limited resources Maintaining trust Managing expectations	Warwick Triangle
MSP: Knowledge Institutions–public / civil society	Knowledge sharing Problem solving Innovation Defining alternative development interventions to growth paradigm	Keeping partnerships relevant and productive Keeping focuses Access to Information Defining and maintaining roles between stakeholders Trust	MILE UCT Knowledge Cooperative
MSP: Knowledge institutions–private sector	Economic growth Revenue generation Innovation New patents Education	Differing priorities Differing institutional structures Interactions insulated from other role-players Trust	
Private sector–civil society	Job creation Accessing new markets Social responsibility Access to financial resources	Trust Capacity of civil society organisations Differing business capabilities Managing expectations	MTN/GTZ – E-waste Project

Source: Based on Cloete (2015)

According to Cloete (2015) a partnership approach is useful when the following occurs:

- The development challenges are beyond the abilities of a single role-player.
- Different, possibly conflicting, skillsets and ways of working need to function in concert.
- Structured relationships are needed in order to build trust among role-players and ensure that actions are executed.
- Solutions need to be designed and owned by all role-players within a partnership.

Based on these definitions, partnerships are useful tools for directing the transformation of South African cities. However, a possible challenge with a partnership approach is dealing with a number of different partnerships which may have different outcomes, and may be in conflict with one another (e.g. the impact of a large-scale infrastructure project, such as a highway, on a cooperative small-scale farm operating on reclaimed industrial land).

The breadth and nature of potential partnerships means that expertise is needed to guide role-players in establishing, managing and monitoring partnership processes. As the idea of a partnership approach becomes progressively more popular, having a neutral party to coordinate partners that might otherwise be in conflict is becoming increasingly important. One such initiative is the Western Cape Economic Development Partnership (EDP), which is a "non-profit independent company funded by national, provincial and local government". Its purpose is to "build, monitor, teach and support partnerships in order to improve the performance of the Western Cape's economic development system and to foster a more competitive, inclusive and resilient regional economy".[8] The EDP's four focus areas are: building partnerships, monitoring and evaluating partnerships, teaching partnerships techniques and practices, and supporting partnerships. Strategies used to build partnerships are transversal, intergovernmental, cross-boundary and cross-sectoral. Projects include agriculture and rural development, Regional Communicators' Forum, South Cape Business Partnership, Regional Economic Performance (OneCapeData & Economic Intelligence Consortium), Coordination of Local Economic Development, Partnerships for Economic Opportunity (research), Economic of Regions Learning Network (ERLN), Paarl CBD Partnership and Open Streets.

Partnerships provide an opportunity for institutions to innovate and do things differently in order to realise better outcomes (Cloete, 2015). Partnerships can lead to innovation that transforms cities in a positive manner but are only one component, as cities are dynamic systems of innovation.

8 http://www.wcedp.co.za/introduction-to-the-edp

OUR CITIES AS DYNAMIC LOCAL SYSTEMS OF INNOVATION

The drive for innovation is much more than just the current "hype". In 1996, South Africa's White Paper on Science and Technology introduced the national system of innovation (NSI), as the enabling framework for South Africa's successful growth and development (DACST, 1996). Since then, the NSI has been a feature of South Africa's policy discourse, although mainly for those in the education, science and technology domains. The country has increasingly embraced a broader conceptualisation for the NSI, as shown in the Department of Science and Technology's 10-Year Innovation Plan 2008–2018 which refers to the "knowledge economy" and innovation-driven economic growth, and has an explicit focus area on human and social dynamics (DST, 2008). At the same time, innovation as the basis for socioeconomic advancement has been embraced globally. Cities that are driving growth and development need to be understood and positioned as strong local systems of innovation within this broader NSI.

"Cities are good at generating problems and the city fabric is problem rich. […] But cities are also good at solving this multitude of difficulties" (Johnson, 2008: 149, 153). The agglomeration of large numbers of diverse people brings together different ideas, cultures and classes, and therefore different ways of doing things. The creativity of these citizens can solve the problems facing cities and nations, build new dynamic enterprises, and thus drive growth and well-being. A local system that enables such innovation would seek to identify interventions, processes and mechanisms that nurture the joint creativity of *all* role-players to maximise a city's problem-solving and entrepreneurial capabilities.

The "system of innovation" approach as applied to urban systems requires muddling through the mess of city relationships, as well as planning carefully and understanding the city's socioeconomic realities and processes. It is not about achieving a single outcome, but about creating an environment that enables a diverse range of outcomes to be achieved in context-relevant ways. To use a soccer analogy, the tactics and training are sorted out in advance but then have to be effectively applied, adapted and coordinated by the various team players in real game situations, so that the team can score its goals. In the case of a city, the "goals" are achieving a city that is productive, inclusive, sustainable, and well-governed, with citizens who are proud of their city.

Certain common characteristics of an "innovative city" have been identified (Johnson, 2008):

- A **creative class** that drives innovation (i.e. the human capital).
- The **lifestyle features** to attract and keep the creative class in the city, e.g. access to quality public services, opportunities for recreation, diversity and potential for higher incomes.
- An understanding of the **processes of innovation** in a city.
- **Political will and policies** that support innovation.
- Appropriate **institutional capacity**.
- Developed **knowledge infrastructure** – knowledge institutions, and information technology hardware and software.

The chapters in this State of Cities Report have identified all of these characteristics as necessary for South Africa's cities to be effective drivers of growth and development. However, it is also important to recognise the reality of regional and global competition. Essentially, cities that are most effective at harnessing their innovation potential will be more successful and attractive for knowledge workers and certain types of investment than other cities within the same country or abroad. Therefore, each city needs to understand itself, its location and differentiation within the larger system of cities. In this regard, the literature offers some guidance, proposing two definitions for the "innovation system":

- A narrow (and more popular) definition, where the focus is on enhancing research and development (R&D) activity, and promoting industries that use cutting-edge technologies to boost economic growth (Edquist, 2010).
- A broader definition, which focuses on innovation as anchored in the everyday routines and processes of firms or organisations, including procurement, production, human relations and marketing (Johnson and Lundvall, 2000).

While the narrow definition is important, the broader one expands the potential of the city as a local system of innovation. It allows the inclusion of a wide range of opportunities for finding new and improved ways of doing things that could ultimately lead to urban transformation. It also goes beyond only economic productivity, permitting innovative practices to address other critical outcomes, such as resource sustainability, poverty alleviation, the provision of quality public goods and services, good governance and built environment transformation. This may be more complex than the more simplistic, narrow, technological definition (e.g. requiring multi-level, multi-actor, multi-interest interactions) but is far more relevant to our cities and their already-complex realities.

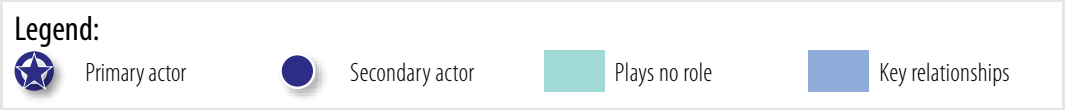
As South Africa's local systems of innovation, cities should include all major role-players and ensure that the broader sub-national (provincial and rural) and national systems benefit from the agglomeration of potential in cities, thereby providing the foundation for country-wide development.

AN URBAN INNOVATION FRAMEWORK: for South African cities

The conditions of the narrow definition (Edquist, 2010) were used to develop a proposed urban innovation framework for South Africa, showing the key role-players and their areas of responsibilities (Figure 8.5). The allocation of responsibilities was guided by the assessment of what is either preventing or enabling implementation. This allocation was nevertheless subjective and is open for debate.

As local government is the focus, national and provincial government functions are excluded. The private sector includes both the informal and formal sector, while the knowledge institutions include both national and city institutions, and civic organisations include all such bodies.

Figure 8.5: An urban innovation framework for South African cities



Conditions required within the city to foster innovation	Role-players				
	Local government	Private sector	Knowledge institutions	Civic organisations	Citizens
A creative class that drives innovation	●	●	★	●	★
Access to quality public services	★	★	●	●	●
Quality public spaces and opportunities for recreation	★	●	●	★	★
Diversity	★	●	●	●	★
Potential for higher incomes	●	★	●	●	●
Political will	★	●	●	★	●
Appropriate institutional capacity	★	★	★	★	
An understanding of the process of innovation in a city	★	★	★	●	●
Policy that supports innovation	★	★	★	●	
Develop knowledge infrastructure	●	★	★	★	★
Provision of funding and support to critical high value economic sectors	●	★	●	●	●
Competence building	★	★	★	★	
Formation of new products		★	★		
Articulation of quality requirements for products		●	★	●	
Networking through markets and other mechanisms	★	★	★	★	★
Incubating (nursing) innovative activities	★	★	★	●	

Achieving most of the conditions requires the coordination of role-players with significant responsibilities. For instance, "an understanding of the process of innovation in the city" will require the primary role-players, i.e., local government, the private sector and the knowledge institutions, to share knowledge and understanding, and cooperate and coordinate their actions. Figure 8.5 suggests that these three role-players can drive innovation and, by extension, city transformation.

OVERALL RECOMMENDATIONS

Urban spaces need to be productive, sustainable, well-governed and inclusive in order to spatially transform South Africa's cities. Such spaces have to be more compact and denser, with mixed-use and multi-nodal spaces, where most people prefer to use public and non-motorised transport than to use their private vehicles. The built environments must be equitable spaces of high quality, especially with regard to the public environments and streetscapes.

The built environment will require a strong productive city economy able to attract, retain and develop firms and entrepreneurs with a stable or rising market share. In addition to economic development, the city must grow economic participation, create employment and improve the quality of life of residents. Interventions need to focus on building on existing locational and business advantages, and creating new opportunities for excellence in formerly marginalised locations.

Existing socioeconomic relationships must be overhauled, and certain principles entrenched within the city in order to realise change in the built environment, the economy and in society. These include flexibility to: meet different socioeconomic needs, resist populism, enable the poor to develop pathways out of poverty, conserve natural resources (especially water and minerals), protect biodiversity, promote environmentally sensitive forms of development and view stakeholder engagement as a process. In addition, local government administrative processes need to be reformed.

The legacy of non-implementation of development strategies needs to be addressed. The causes of non-implementation are many and include: entrenched nature of poverty and inequality, high unemployment, low economic growth, the ideology that government will provide, and the perception that government, particularly local government, is failing to provide, which, in turn, has manifest in frustration and anger. As a result of these conditions, there has been a failure in public participation with city role-players that has either become too routine or is not taking place at all, or is the consequence of a breakdown in trust on ideological and/or practical grounds. In relation to constraints to economic growth, these include: restrictive labour laws, low levels of skills, length of time to register a business and undertake associated government processes such as planning, and increased levels of corruption. Two other major constraints are failures related to the provision of public services, particularly in relation to water and power, and the complexity inherent in the built environment.

The activation of all role-players will be necessary to address these constraints. Government cannot address the extent and nature of the urban challenge by itself. Increased responsibility needs to be given to other role-players, since spatial transformation requires coordination and the active intervention of government, the private sector, knowledge institutions and civil society. Generic actions and conditions that need to be realised by all parties include building trust, ensuring consistency in communication, developing the ability to compromise and fostering cooperative space for mutual engagement as well as the realisation of goals on time, to budget and to the expectations of all role-players.

Currently there are initiatives and policy intentions that seek to increase the impact of the interventions of each of the role-players in transforming cities for the better. Examples of enabling interventions are summarised in Table 8.3.

Table 8.3: Enabling interventions by role-player group

Civil society	Strategies need to be developed to involve civil society in public infrastructure provision, maintenance and operation.
	Civil-society organisations need to be far more strategic in their engagement with government, knowledge institutions and private sector role-players.
	The engagements should be of a range of different forms, from forming partnerships to improving the process by which bills are paid.
Private sector	Public private partnerships.
	Multi-stakeholder partnerships.
	Maximise the impact and reach of social responsibility initiatives.
	Consider the role of the private sector in addressing socioeconomic inequality in South Africa.
Knowledge institutions	Knowledge institutions need to continue driving innovation and research on a project-by-project basis, in collaboration with other role-players in the city, and to engage with critical issues facing cities.
	Funding of urban research for such initiatives is a major hurdle which needs to be overcome.
Government Interventions	Improve city government-led public participation.
	Institutional capacity to fulfil public participation mandate needs to be developed.
	The best possible quality public infrastructure and social facilities need to be provided to the poor, especially those living in informal settlements, so as to acknowledge residents' status as citizens of the city.
	City government needs to be given the powers and functions to undertake better engagement with other role-players and to ensure improved better service delivery.
	Local government needs to improve its relationships with state-owned entities, the province and national government in order to realise a better governance model.
	Local government fiscal management needs to be improved, especially in relation to combating corruption. Interventions include reforming SCM processes, sanctioning transgressors, providing support to accounting officers, and limiting political intrusion into financial decisions and administrative processes within local government.
Cooperation between role-players	All role-players need to build networks between other role-player groups in the city. Engagements must be informal, formal and frequent.
	Local government, the private sector, civil society and citizens need to develop tools and approaches for educating each other about how society should function (e.g. government needs to keep other role-players up-to-date on changes to administrative process and what this means for them).
	Social media platforms need to become an essential part of communication among the role-players.
	In order to improve economic growth, the cities need to raise exports, improve skills development, lower the cost of living for the poor, invest in competitive infrastructure, reduce the regulatory burden on small businesses, facilitate private investment and improve the performance of the labour market. A single group of role-players cannot achieve these goals by itself and needs the support and active interventions of other role-players in the city.
	There is a need to move from isolated examples of cooperation between role-players to a joined-up approach to interventions so as to maximise the impact of cooperation and to build trust between parties. Cooperation is a long-term game, and city society is complex.
	Different role-players have different strengths and weaknesses and different networks. This is true for the private sector, which would be more willing to engage if initiatives directly or directly benefited the firms concerned.
	Data collection, data analysis and distribution analysis are critical actions to aid implementation and coordination.

Ensuring city transformation through cooperation and coordination among role-players will require significant innovation and deviation from the status quo. The chapter recommends that in order to realise these outcomes cities need to develop and embed dynamic urban systems of innovations in the messy reality of urban life.

An urban system of innovation is defined as interventions, processes and mechanisms to nurture the joined-up creativity of role-players to maximise a city's problem-solving ability to realise economic, social and built environment transformation. In the South African context, an urban system of innovation cannot focus solely on economic growth and technological advancement; it also needs to consider innovation in relation to eradicating poverty and addressing inequality, governance, resource use, climate change and the myriad of challenges facing the cities. A dynamic system of innovation, while characterised by many different individual actions and projects, would need to be bedded down by an overarching common intent, which all role-players concerned would agree to. Associated to the intent would be a plan that would, in turn, drive the individual actions.

Roadmap to the city dashboards

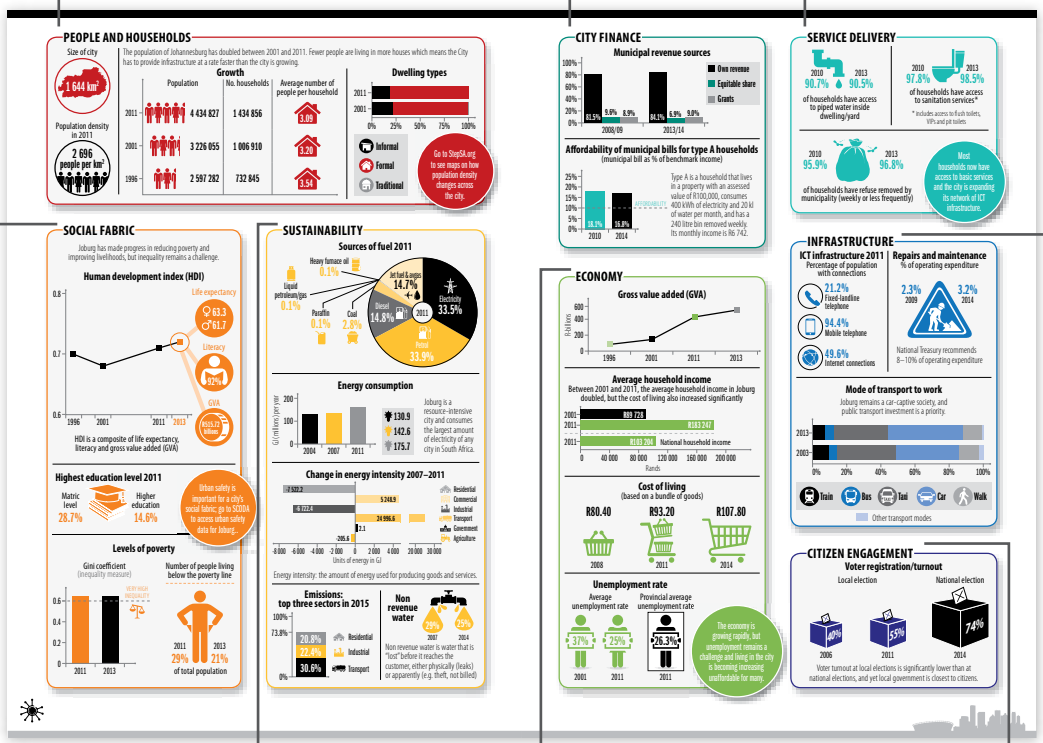
All the SoCR city data dashboards are structured in the same way. Using selected indicators from the State of Cities Open Data Almanac (SCODA), they present a thematic storyline about city performance. Indicators are a snapshot of selected trends or facts that are used to "indicate" the state or condition of something. Where data is available for more than one year, the indicators show how conditions are changing over time. They are, therefore, by no means a comprehensive assessment of the issues represented, but provide the ability to benchmark cities. The 2016 Data Almanac section of this report provides additional information and guidance on the methodology, indicator definitions, metadata, and data access. It also lists an expanded set of indicators available in SCODA. These profiles are intended to display comparative data and indicators in an easy-to-view format, which requires using uniform data sources. Therefore, while newer or additional data may be available for some cities, it was not used in order to retain comparability. And, in some cases, provincial averages are used as proxies (e.g. life expectancy). Improving on the ability to report consistently, credibly and comparatively on such indicators is the primary goal of SCODA.

PEOPLE AND HOUSEHOLDS
How is our city growing and changing?

CITY FINANCE
How financially secure are our cities?

SERVICE DELIVERY
Do urban residents have access to reliable basic services?

INFRASTRUCTURE
Are we responding to infrastructure needs and investing in building infrastructure for the future?



SOCIAL FABRIC
Are we transforming our cities into places that are creating a better life for all?

SUSTAINABILITY
Are we using resources responsibly?

ECONOMY
Is our economy growing and do people have economic access?

CITIZEN ENGAGEMENT
How are we engaging in governance?

CITY **PROFILES**

Individual city reports

BUFFALO CITY

@refinedrevolt

PEOPLE AND HOUSEHOLDS

Size of city

2 536 km²

Population density in 2011

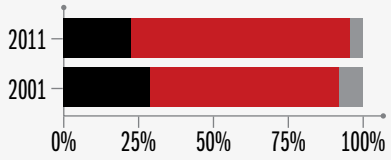
298 people per km²

Buffalo City has the second lowest population density (after Mangaung), and its population has grown more slowly than the other cities.

Growth

	Population	No. households	Average number of people per household
2011	755 200	223 568	3.38
2001	704 855	191 958	3.67
1996	685 727	161 167	4.25

Dwelling types



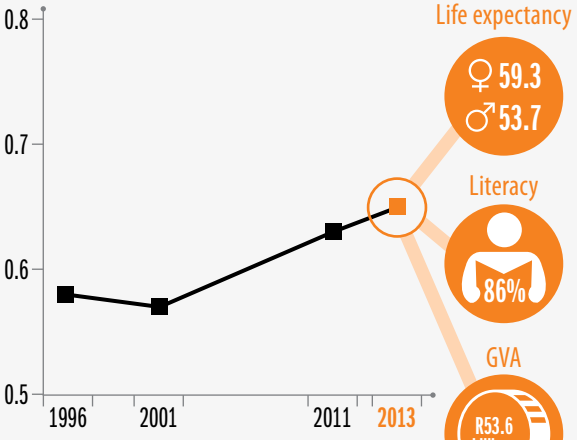
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Buffalo City has made good progress towards reducing poverty and improving livelihoods, but has the lowest matric level of the nine cities.

Human development index (HDI)



Life expectancy
♀ 59.3
♂ 53.7

Literacy
86%

GVA
R53.6 billions

HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

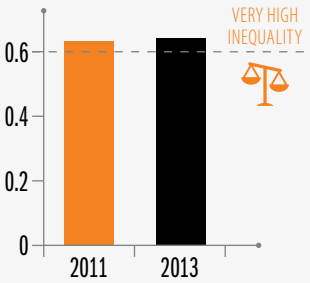
Matric level 16.9%

Higher education 7.7%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Buffalo City.

Levels of poverty

Gini coefficient (inequality measure)

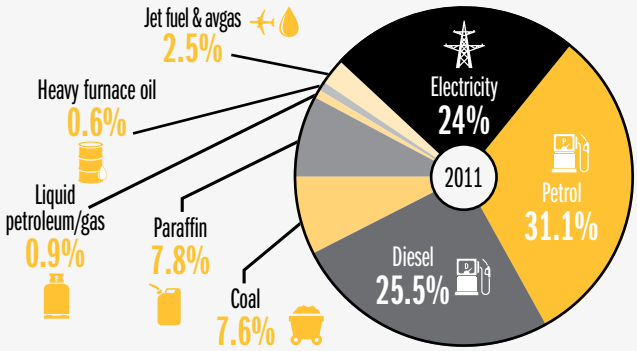


Number of people living below the poverty line

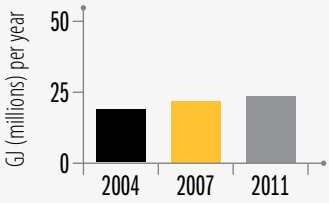
2001 53%
2011 32%
of total population

SUSTAINABILITY

Sources of fuel 2011

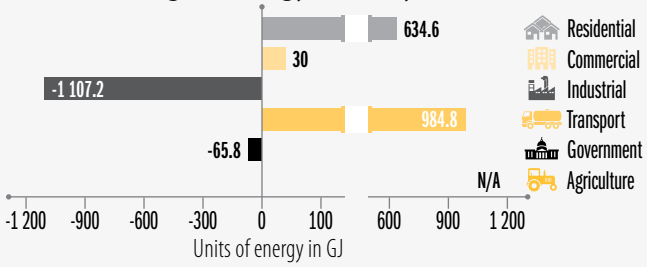


Energy consumption



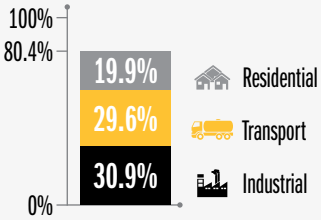
Petrol and diesel account for over half the energy used in Buffalo City. The industrial sector has decreased significantly in energy intensity, reflecting the downturn in manufacturing in the city.

Change in energy intensity 2007–2011

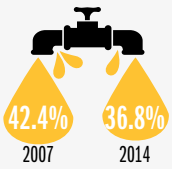


Energy intensity: measures the amount of energy used to produce goods and services

Emissions: top three sectors in 2015



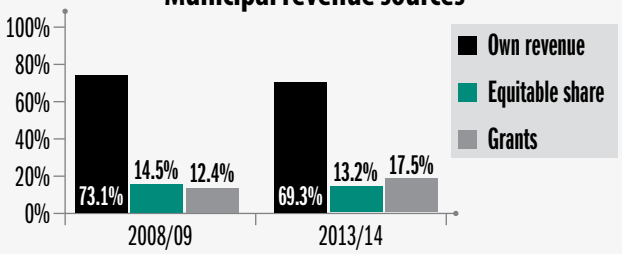
Non revenue water



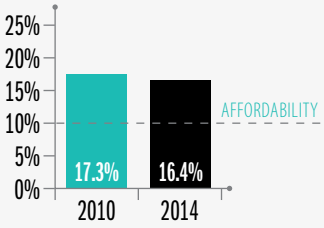
Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed).

CITY FINANCE

Municipal revenue sources



Affordability of municipal bills for type A households
(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100 000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

SERVICE DELIVERY

2010 **63.9%** 2013 **63.6%**

of households have access to piped water inside dwelling/yard

2010 **88.6%** 2013 **91.1%**

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 **68.4%** 2013 **70.1%**

of households have refuse removed by municipality (weekly or less frequently)

Buffalo City has improved access to sanitation, but access to piped water and waste services has not increased.

INFRASTRUCTURE

ICT infrastructure 2011
Percentage of population with connections

14.6% Fixed-landline telephone

86.4% Mobile telephone

32.9% Internet connections

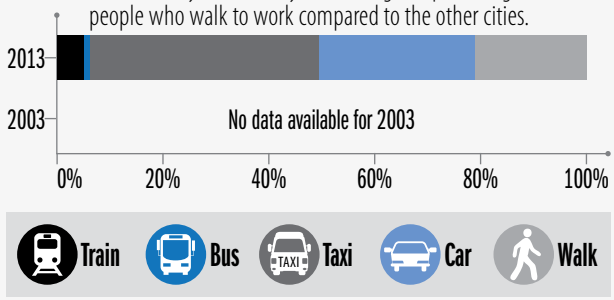
Repairs and maintenance
% of operating expenditure

6.0% 2009 — **7.5%** 2014

National Treasury recommends 8–10% of operating expenditure

Mode of transport to work

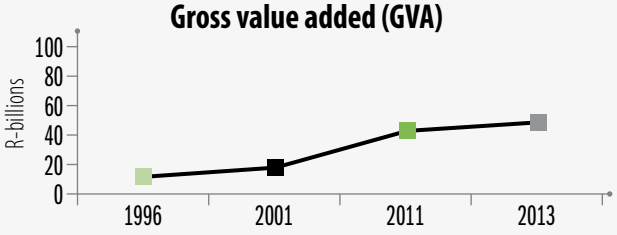
The majority of people use a taxi or private vehicle to move around the city. Buffalo City has the highest percentage of people who walk to work compared to the other cities.



"Other" transport modes are not included in the graph.

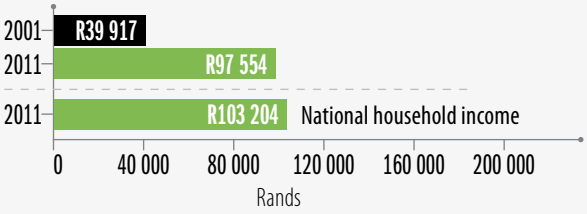
ECONOMY

Gross value added (GVA)



Average household income

Despite more than doubling between 2001 and 2011, the average household income in Buffalo City is lower than the other 9 cities.



Cost of living
(based on a bundle of goods)

R78.80 2008

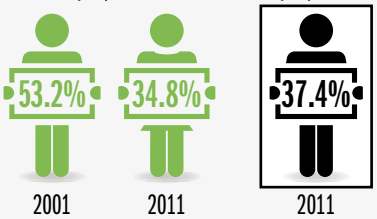
R92.00 2011

R110.20 2014

Unemployment rate

Average unemployment rate

Provincial average unemployment rate

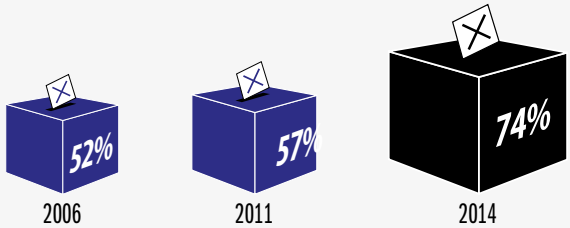


Buffalo City's economy is growing, but unemployment and the cost of living remain high.

CITIZEN ENGAGEMENT

Voter registration/turnout

Local election — National election



Between 2006 and 2011, voter turnout at local elections in Buffalo City increased by only 5%.

SLEEPER SITE DEVELOPMENT

Introduction

Municipalities are required to drive the spatial transformation of South Africa's urban areas but have difficulty accessing well-located land for development that will provide residential and other opportunities to the poor. In many municipalities, state-owned entities (SOEs) own well-located land parcels that could be used for this development. However, their insistence on market prices, bureaucracy and ongoing delays hamper the process of acquiring this land. The Sleeper Site in Buffalo City is an example of how, with the right long-term vision and determination, municipalities can acquire the land required to transform the urban space. It is a catalytic project that is now embedded in the municipality's long-term development plans.

Aerial photo: Buffalo City Metropolitan Municipality Sleeper Site

Source: SACN (2014)

The Sleeper Site falls with an area that includes the East London central business district (CBD) and the Quigney and Central Beachfront. Oxford Road, which is the main commercial corridor for East London, and the railway station/lines form the western edge of the Sleeper Site, while the highly trafficked Fleet Street runs along the southern edge of the site, separating the University of Fort Hare from the CBD (ULI, 2014).

Between 1994 and 2013, a number of discussions took place with Transnet to procure the land. In 2013, nine years after the initial submission in 2004 to Transnet, the Buffalo City Metropolitan Municipality finally purchased the site from Transnet for R16-million. A number of valuations were undertaken so that the municipality paid market-related prices. Originally comprised of four unregistered properties, totalling approximately 13 667 hectares, the site was consolidated into a single property under Erf 72868.

Overview of flagship programme

The Sleeper Site is located in a prime area in the central business district of East London, and is considered a strategy land parcel that "could play an important role in transforming the socio-spatial and economic functioning of the city centre" (BCMM, 2015a). Over the years, the Buffalo City Metropolitan Municipality has undertaken a number of studies to determine best usage of the land, including "East London Inner City Development and Central Business District Urban Design Framework" (1998) and the Beachfront Local Spatial Development Framework (2010). Other proposals put forward include developing the site as an administrative precinct for local government and as the heart of a "university city" concept.

In December 2014, the Urban Land Institute (ULI) Advisory Panel,[1] which was invited by National Treasury's City Support Programme to advise on the development of the site, highlighted the importance of the city's CBD for attracting and retaining new businesses, and noted that "the municipality's acquisition of the Sleeper Site represents one of the most important opportunities to rechart the course of the CBD" (ULI, 2014: 9).

The panel looked at:

- The catalytic projects that could best unlock investment in the area without privatising public assets?
- Practical suggestions for making connections between the Sleeper Site and its surroundings.
- Ways of strengthening BCMM's urban management within the greater CBD, Sleeper Site and central beachfront area.
- The costs/benefits and impacts (negative/positive) of developing a consolidated civic centre and/or an extended inner-city university campus on the site.

The panel noted that the municipality should recognise the development of the Sleeper Site as an opportunity to stimulate the Buffalo City economy, through "two sources that have successfully created thriving urban economies globally: a vibrant CBD and a quality university" (ULI, 2014: 10). Thus the Sleeper Site should be focused on the knowledge-based and creative economy.

> The municipality's acquisition of the Sleeper Site represents one of the most important opportunities to rechart the course of the CBD.
>
> *(ULI advisory Panel, 2014)*

The vision was that the area should become a live/work/learn/play precinct that would facilitate the expansion and diversity of the city's economic base. Key aspects identified included (ULI, 2014):

- Develop the University of Fort Hare as an economic engine for Buffalo City.
- Create more residential, employment, and leisure opportunities concentrated in the CBD.
- Reverse the brain-drain and attract new talent to central Buffalo City, as a result of the enhanced university and the creation of a highly attractive urban environment.
- Increase the number of people living in and around the central city, accommodating a mixture of income levels, in order to create the vibrant mixed-use environment required of a successful centre.
- Build a new public library and student housing in order to help create an active city centre population, further driving retail development.

1. The panel was made up of seven experienced professionals from the United States, United Kingdom, and South Africa (and staff from the World Bank, ULI, and the South Africa National Treasury).

- Add urban amenities that foster a dynamic and memorable sense of place, e.g. public open space, street landscaping, wide pavements and street furniture.
- Create an independent, business-oriented and self-financing entity to oversee the site's development and a commercial improvement district that can focus on crime, grime and maintenance in the area.

The Sleeper Site development forms a key component of the Buffalo City's plans, as a catalytic project in both its Built Environment Performance Plan (BEPP) and Integrated Development Plan (BCMM, 2015a; 2015b). The municipality has allocated R1-billion over the next three years to the project, which is managed by the Directorate of Development Planning.

The municipality's BEPP 2015/16 (BCMM, 2015a) identifies a range of strengths and weaknesses.

Strengths

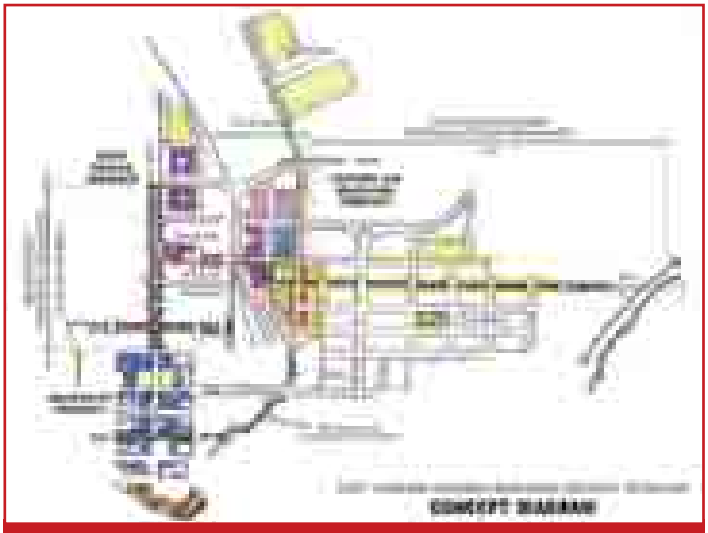
- Long-term attractiveness of centrally located CBDs, as private travel costs increase and the region's population grows.
- Planned expansion of the University of Fort Hare will require more student accommodation and teaching facilities.
- Municipal ownership of the site allows the municipality to leverage private sector investment through (e.g.) long leases, sub-divisions, rezoning etc.

Weaknesses

- Poor public sector governance and overall education system, which negatively affects investment attractiveness and confidence.
- Lack of a business retention and expansion (BRE) programme, which could result in lowing existing investment.
- No clear vision for the city's CBD and no agreement to establish a city improvement district, coupled with strong decentralisation of businesses from the CBD.

The BEPP also identifies various opportunities, including:

- The municipality's intention to build municipal offices and other government facilities on the site.
- Possible application of the urban development zone (UDZ) tax incentive to future Sleeper Site development.
- Enhanced retail interest in the area due to the planned increase in student numbers.
- Potential partnerships for building social and gap housing.



Concept diagram: East London Central Business District Strategy

Source: A Fish, BCMM

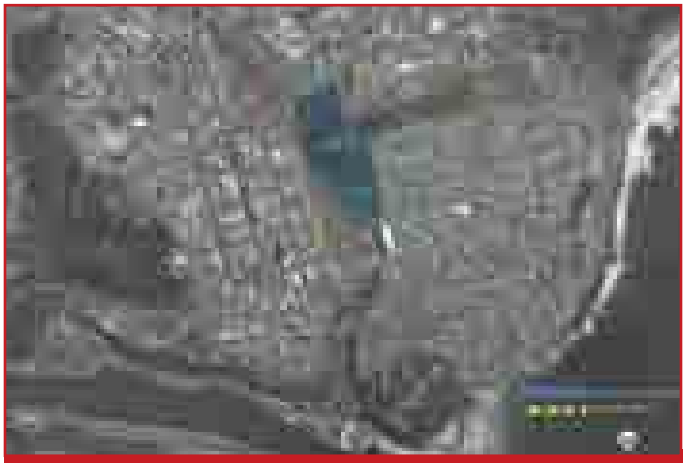
Stakeholders generally agree about the best uses of the site, i.e. that it should primarily be used for institutional purposes, with any commercial uses seen as ancillary or related to the primary uses. No stakeholders voiced a preference for the site to be wholly commercially developed

Reflections

While the development of the Sleeper Site is still underway, and only in recent years has the land been acquired, the case study provides some useful reflections:

- The concept of best-use planning has allowed the municipality to identify where development should be focused in the site and to clarify proposed initiatives, and thereby benefit from the site's key strategic location.
- A key challenge relates to the length of time it has taken to purchase the land. It took over 12 years to finalise, despite the site being recognised as crucial for the development of the city centre (SACN and HDA, 2014).

This problem, of acquiring state land needed for development that will transform cities, is found across municipalities. Individual municipalities are often unable to speed up the release of land and to hold other organs of state accountable for contributing to the transformation of urban areas. Therefore, the South African Local Government Association (SALGA), as well as the SACN and HDA, should assist municipalities in clearly communicating their transformation agenda to other spheres of government and in dealing with SOEs and the transfer of key land: "Until there is better planning and utilisation of well-located land and buildings belonging to the State, SoEs and municipalities, the ad hoc transformation of our urban areas will continue along with the challenges that this presents" (BCMM, 2015a).



Aerial photo: Buffalo City sleeper site

Source: A Fish, BCMM

Looking forward

The City's BEPP 2015/16 includes for a few Sleeper Site development scenarios to be tested using an agreed set of evaluation criteria and a multi-criteria decision-making tool. Scenarios will include the following components (BCMM, 2015a):

- Different road infrastructure options
- Different tenure arrangements (sale of land, long-term leases, lease to purchase, development lease, development lease to purchase)
- Public private partnership option for municipal offices
- Different public transport system options
- UDZ incentive (availability or non-availability)
- Different approaches to the bulk infrastructure development contribution policy
- Options for the availability or not of financial and non-financial municipal incentives

References

BCMM (Buffalo City Metropolitan Municipality). 2015a. 2015/16 Built Environment Performance Plan. Buffalo City: BCMM.

BCMM. 2014. 2015b. 2015/16 Integrated Development Plan

SACN (South African Cities Network) and HDA (Housing Development Agency). 2014. Case Studies on the Acquisition of Urban Land by Municipalities from State Owned Companies and Other Organs of State. Johannesburg: SACN and HDA.

ULI (Urban Land Institute). 2014. Highest and best use concept for the Sleeper Site in East London. Report from the Advisory Panel, 7–10 December.

CITY OF

CAPE TOWN

PEOPLE AND HOUSEHOLDS

Size of city

2 445 km²

Population density in 2011

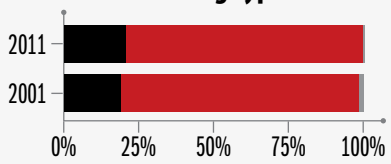
1 530 people per km²

Between 2001 and 2011, Cape Town's population grew substantially, and it is the only city where the proportion of people living in informal areas increased.

Growth

	Population	No. households	Average number of people per household
2011	3 740 026	1 068 573	3.50
2001	2 892 243	759 485	3.81
1996	2 534 877	651 755	3.89

Dwelling types



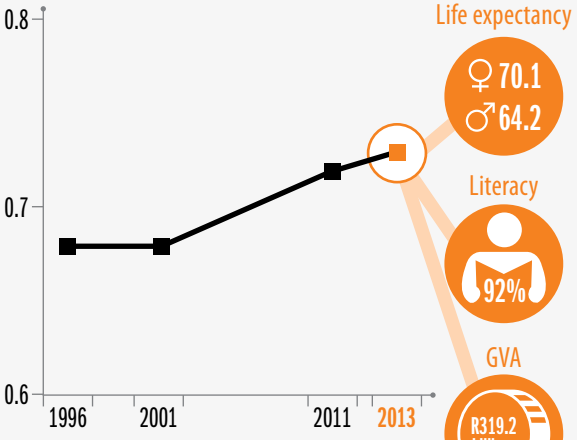
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Cape Town has made progress in reducing poverty and improving livelihoods, but inequality remains a challenge.

Human development index (HDI)



HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

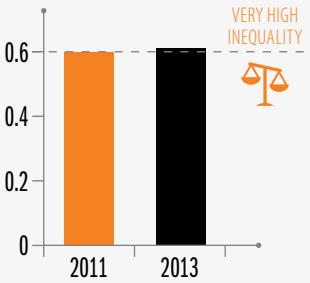
Matric level 19.9%

Higher education 9.9%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Cape Town.

Levels of poverty

Gini coefficient (inequality measure)

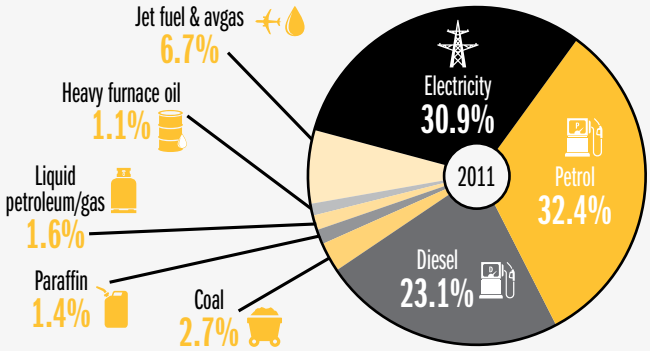


Number of people living below the poverty line

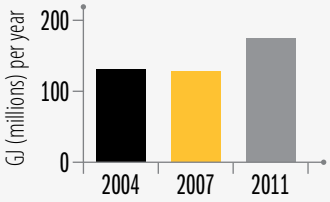
2001 28%
2011 19%
of total population

SUSTAINABILITY

Sources of fuel 2011

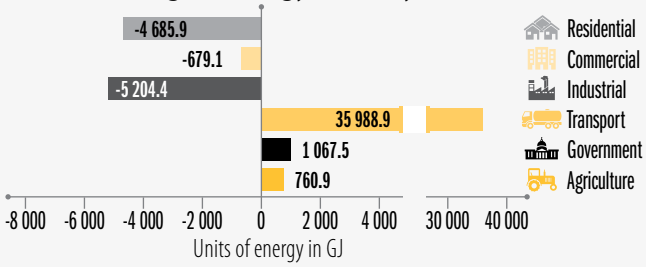


Energy consumption



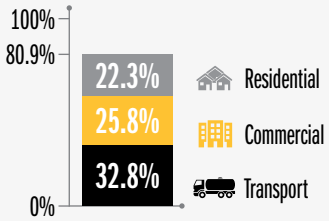
The transport sector has the largest increase in energy intensity and is the highest greenhouse gas emitter.

Change in energy intensity 2007–2011

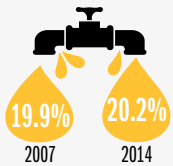


Energy intensity: measures the amount of energy used to produce goods and services

Emissions: top three sectors in 2015



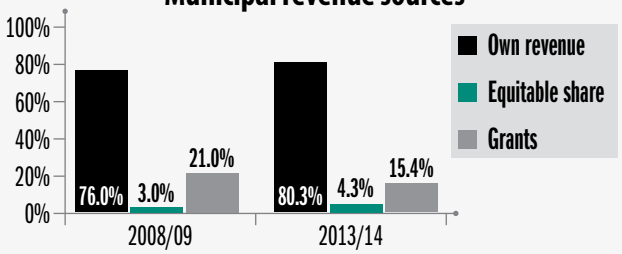
Non revenue water



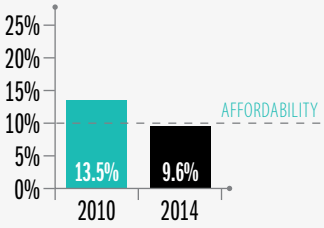
Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed).

CITY FINANCE

Municipal revenue sources



Affordability of municipal bills for type A households
(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100,000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

SERVICE DELIVERY

2010 **89.8%** 2013 **89.8%**

of households have access to piped water inside dwelling/yard

2010 **95.2%** 2013 **96.3%**

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 **94.2%** 2013 **93.6%**

of households have refuse removed by municipality (weekly or less frequently)

Cape Town has the second highest (after Joburg) percentage of households with access to piped water and refuse removal.

INFRASTRUCTURE

ICT infrastructure 2011
Percentage of population with connections

34.0% Fixed-landline telephone

91.3% Mobile telephone

49.3% Internet connections

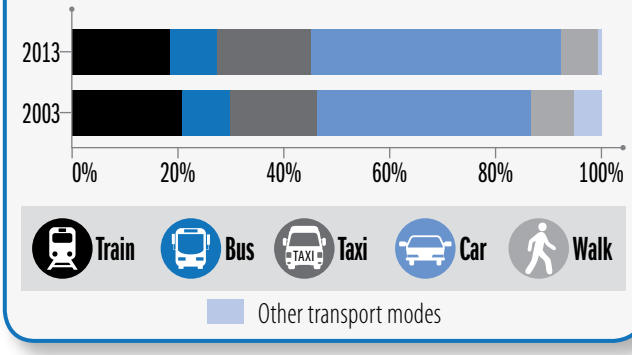
Repairs and maintenance
% of operating expenditure

5.4% 2009 — **No data** 2014

National Treasury recommends 8–10% of operating expenditure

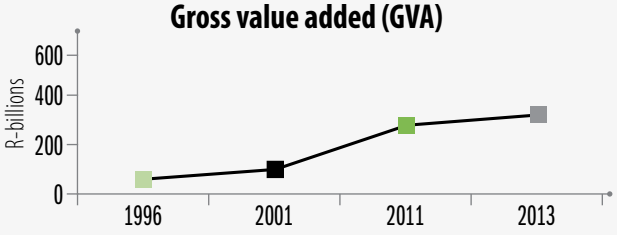
Mode of transport to work

Of all the cities, Cape Town has the highest percentage of people who use the train, but a large proportion of people still rely on private vehicles.



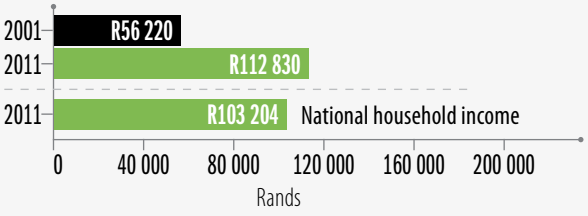
ECONOMY

Gross value added (GVA)



Average household income

Between 2001 and 2011 the average household income doubled in Cape Town, but the cost of living has also increased significantly.



Cost of living
(based on a bundle of goods)

R79.20 2008

R92.90 2011

R109.40 2014

Unemployment rate

Average unemployment rate: **29.2%** 2001, **23.9%** 2011

Provincial average unemployment rate: **21.6%** 2011

The economy is growing rapidly, but unemployment is high and living in the city is becoming increasing unaffordable for many.

CITIZEN ENGAGEMENT

Voter registration/turnout

Local election: **50%** 2006, **65%** 2011

National election: **74%** 2014

Voter turnout at local elections has increased but remains significantly lower than at national elections.

DESIGN CAPITAL

Introduction

Cities compete to host international events, such as sporting or cultural events, and conferences, because hosting such events raises the profile of the host city and can boost the its economy and result in urban regeneration. The World Design Capital (WDC) is an initiative of the International Council of Societies of Industrial Design (Icsid) that aims to promote and encourage the use of design to further the social, economic and cultural development of cities. Every two years, a city is awarded the honour of hosting the initiative. Past hosts include Turin, Italy (2008), Seoul, South Korea (2010) and Helsinki, Finland (2012).

In 2011, the City of Cape Town won the right to host the World Design Capital in 2014 (WCD2014). The city's vision was to "transform Cape Town, through design, into a sustainable, productive African city, bridging historic divides, and building social and economic inclusion" – the tag line for WDC2014 was "Live Design. Transform Life". Four themes were identified:

- African Innovation. Global Conversation - African ideas that speak to the world
- Bridging the Divide – Design that reconnects our city and reconciles our communities
- Today for Tomorrow – Sustainable solutions for people and planet
- Beautiful Spaces. Beautiful Things – Inspiring architecture, interiors, food, fashion, jewellery, craft, art and creativity

World Design Capital Cape Town 2014 logo

One of the objectives of the WDC2014 was to use participatory ways of working in ward allocations, for example in traffic calming initiatives, park upgrades, art and beautification of streets for residents. WDC2014 was intended to be a step in the process of changing how the city and its people approach development, using both design and innovative thinking. In initiating the discourse of design, the City defined design-led thinking as being user-centric, collaborative and a creative process.

World Design Capital Cape Town 2014 logo

Source: http://www.capetown.gov.za/en/WDC2014/Pages/Projects-intro.aspx

Artist's impression of WDC2014 projects

Source: http://www.capetown.gov.za/en/WDC2014/Pages/Projects-intro.aspx

Overview of flagship programme

As part of the contract signed with Icsid, the City of Cape Town was required to host seven World Design Capital (WDC) events, including a Design Policy Conference and Design Week. To manage WDC2014, the city established an independent not-for-profit implementing agency, Cape Town Design (CTD), which was funded through a three-year grant from the city and additional sponsorships raised by CTD.

Following a public call for submission, a year-long programme was developed that featured over 460 projects, activities and events. These were categorised into clusters, with each cluster having several sub-categories. The clusters included lifestyle (design that gives meaning through fashion, arts, culture, sports and recreation), business that builds (design that adds value to the economy through innovation, finance, systems and social entrepreneurship), sustainability solutions (design that focuses on efficiency and resilience related to food, energy, water and the natural environment), connections that unite (design that elevates communication, transportation and social cohesion), education that elevates (design that shares knowledge through schools, exhibitions and skills development), and community Improvement (design that improves health, wellness, housing and urban development).

Examples of projects	
Moya We Khaya Peace Gardens	A 10 000m^2 community food garden project in Khayelitsha, aiming to transform the lives of the community.
Cape Town Street Food Festival	This festival celebrated Cape Town's most-loved street food and supported culinary entrepreneurs.
Thula Baba Box	Mothers were provided with an essential care box with items needed to care for a new-born baby.
"Architecture of the Post Colony" symposium	Architects met under a post-colonial architectural theme.
"Your City Idea"	A ballot box was moved between public places and space, such as Cape Town International Airport, Cape Town train station, and asked the public to submit their written views on the future of the city.
Bicycle Cape Town	Acommunity campaign to promote bicycle culture in Cape Town and advocate a healthy, safe, cycling-friendly city for all.

The City of Cape Town also implemented a number of internal projects using a methodology designed to assess the application of design thinking. Almost 80 projects were identified and implemented, and included:

- *Access to basic services for backyard dwellers*: Provision of a tap, wash trough and enclosed flush toilet to backyard dwellers.
- *Anti-retroviral clubs*: Stable and responding HIV patients now spend only 30 minutes at clinics every few months, reducing crowding at the clinics.
- *Computerising the management of graces*: Cemetery booking system converted paper records to a uniform computerised SAP system.
- *City Men for Change*: A support group of male staff designed to help men examine their attitudes and behaviour around gender stereotypes.
- *Superstar 'green' building*: Manenberg Human Settlements Contact Centre promotes a "whole-building" approach through water saving, energy efficiency, the use of non-toxic building material, healthier indoor environmental quality and the promotion of social connectivity.
- *Langa Cultural Precinct*: The Guga S'thebe Arts and Culture Centre, the Old Pass Office Museum, the Old Post Office building and Mendi Park are in the precinct.

Manenberg Contact centre

Source: P. Duncan

The WDC2014 team undertook a service design intervention at the Ikhwezi Clinic, which faced challenges of inefficient system, lack of comfort for patients, etc. The intervention focused on flow and waiting time, cleanliness and privacy, process mapping and waiting time evaluation.

The ward-based projects involved 81 wards and leveraged more than R15-million in ward allocation spend. Of the 2500 people who took part, 1600 were residents and 475 were professional designers.

> We know that the span of creativity across platforms acts as an enabler for economic growth and a distinguishing factor for niche competition. And so we complemented the investment in WDC with practical investments in the tools that make creative enablers possible, such as becoming a truly digital city, one of the game-changers that will help unlock growth. (*City of Cape Town Executive Mayor*)

An independent evaluation of the impact of WDC2014 (Urban-Econ, 2015) indicated that the event had achieved its objectives. For every R1 of the city's budget spent on the WDC2014, R2.46 was generated in direct and indirect investment. The analysis was based on findings from the 220 recognised projects and feedback from other participants.

- 27 projects were started as a direct result of WDC2014 and received total capital investments of R17.4-million and operational investments of R3.1-million.
- The collaboration between WDC2014 and crowd-funding platform Thundafund helped 37 projects to generate R1.2-million.
- The #cocreateSA initiative, established by the Dutch government, resulted in R10.5-million investment into the city.

The overall goal was to use WDC2014 as an opportunity to embed design and design-led thinking into the city's administration. Following the conclusion of WDC2014, the City of Cape Town identified three broad legacy areas:

- **Organisational self-perception:** understanding strengths and capacities, and improving the city's use of the language of design.
- **Systems and processes:** reinventing selected systems and processes, making certain red tape redundant, and opening up the city to new opportunities. The Ikwezi Clinic intervention is one example.
- **Objects and infrastructure: developing** co-creation projects that are driven by design.

Reflections

The City of Cape Town's WDC2014 close-out report offers some reflections on the non-monetary impacts of the WDC2014:[1]

- Conversations about design became more deeply ingrained, particularly through the city's co-creation workshops, which brought together public servants, designers and community residents to use design thinking to address neighbourhood challenges.
- Design was a unifying focus that enabled international and local collaborations between the public and private sector. These included the Dutch Government's #cocreateSA initiative and African Centre for Cities, the Nordic trade delegation and Stellenbosch Innovation District/Shift Stellenbosch, a new collaboration between FNB and Bicycle Empowerment Network, and the Groote Schuur Innovation Challenge, involving academia, provincial government, multinational corporates and designers.

Not all impacts can be quantified, and the WDC2014 was a trigger for many projects to either start or accelerate their activities; for collaborations to be born; new networks to be developed; and for the public sector to adopt new ways of working.

Looking forward

The following are the recommendations made by the City of Cape Town's internal WDC department in order to help maintain the momentum created from 2014.

- Build an innovation platform to make the city innovation-friendly, and to facilitate new ways of working with citizens in efforts to co-create the city's future.
- Develop and adopt a clear strategy on design, to support the design and innovation ecosystems in strengthening ties with business, academia and communities.
- Adopt co-creation as a platform for citizen engagement, to optimise ward allocation budgets, develop citizen-centric services and build internal capacity.
- Adopt service design in social service structures, to help alleviate endemic problems and improve service for citizens accessing services in, for example, the health sector.
- Maintain the momentum of design thinking training to drive innovation and new outcomes into the public sector.
- Communicate the importance of creating value and honouring excellent throughout the city, with a focus on recognition and reward.

References

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Urban-Econ. 2015. Evaluation of the WDC2014. Cape Town: Urban Econ.
WDC2014 Design Policy Conference Concept Note
World Design Capital Cape Town 2014, http://www.wdccapetown2014.com/

1. http://www.ccdi.org.za/news/237987/The-impact-of-World-Design-Capital-2014.htm

CITY OF

EKURHULENI

@moography

PEOPLE AND HOUSEHOLDS

Size of city

1 975 km²

Population density in 2011

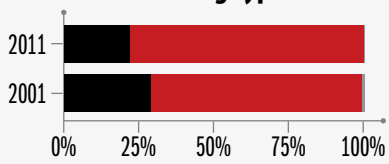
1 609 people per km²

The number of households grew faster than the population between 1996 and 2011. After Joburg, Ekurhuleni has the lowest average number of people per household.

Growth

	Population	No. households	Average number of people per household
2011	3 178 470	1 015 465	3.13
2001	2 481 762	745 576	3.33
1996	2 026 978	542 719	3.73

Dwelling types



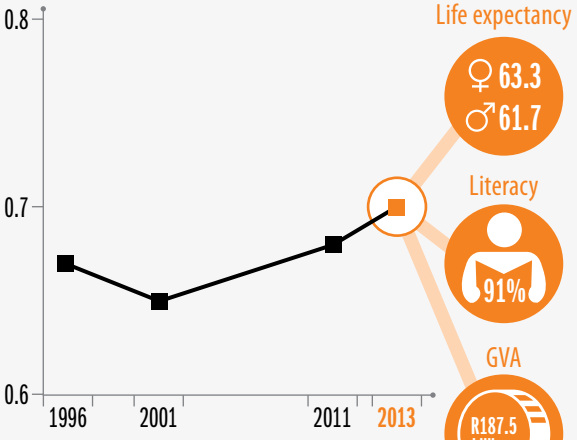
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Ekurhuleni has made progress towards reducing poverty and improving livelihoods; but inequality remains a challenge.

Human development index (HDI)



HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

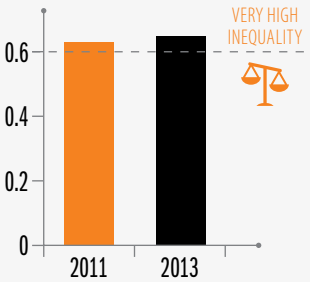
Matric level 24.3%

Higher education 8.6%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Ekurhuleni.

Levels of poverty

Gini coefficient (inequality measure)

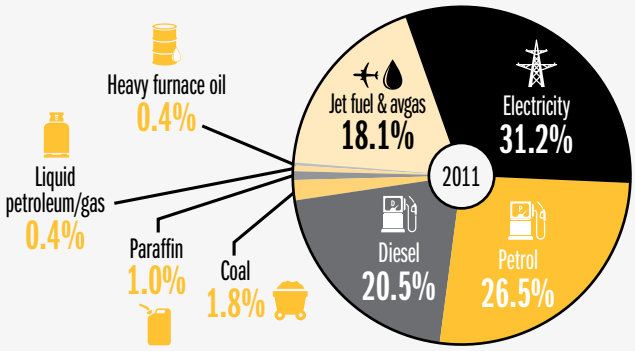


Number of people living below the poverty line

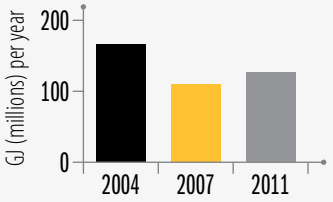
of total population

SUSTAINABILITY

Sources of fuel 2011

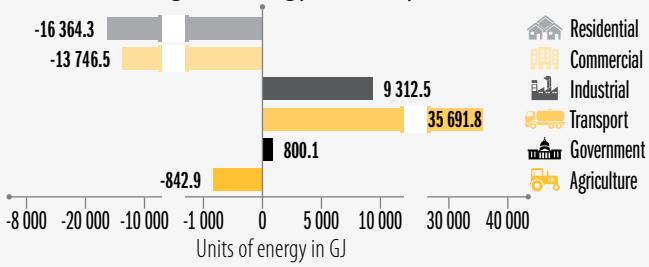


Energy consumption



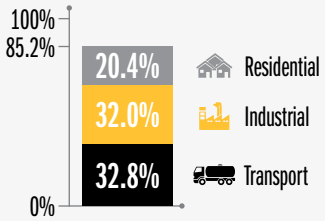
Petrol and diesel account for almost half of the energy used. The presence of OR Tambo International Airport explains the high jet fuel usage and the transport sector's large share of emissions.

Change in energy intensity 2007–2011

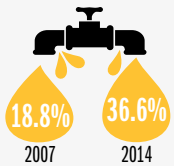


Energy intensity: measures the amount of energy used to produce goods and services

Emissions: top three sectors in 2015



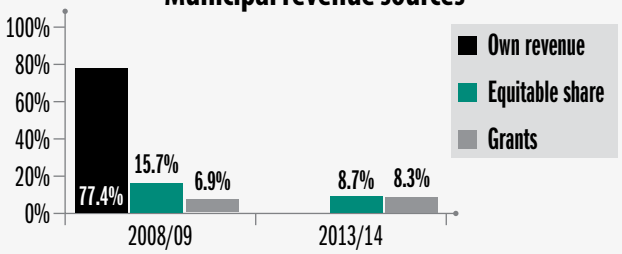
Non revenue water



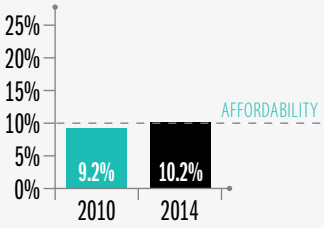
Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed).

CITY FINANCE

Municipal revenue sources



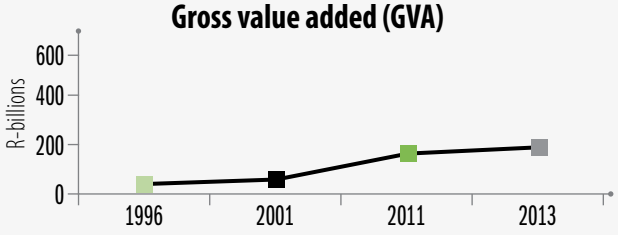
Affordability of municipal bills for type A households
(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100,000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

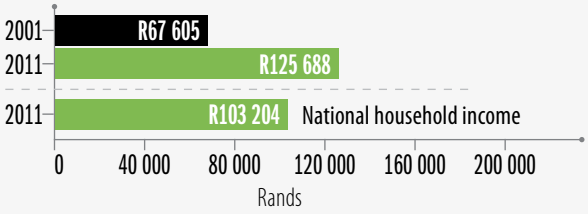
ECONOMY

Gross value added (GVA)



Average household income

Average household income grew more slowly in Ekurhuleni than in other cities, but the cost of living is at a similar level.



Cost of living
(based on a bundle of goods)

R78.20	R92.20	R109.30
2008	2011	2014

Unemployment rate

Average unemployment rate		Provincial average unemployment rate
40.4%	28.8%	26.3%
2001	2011	2011

Although unemployment levels have improved significantly, they remain above the provincial average.

SERVICE DELIVERY

2010 **86.9%** 2013 **86.3%**

of households have access to piped water inside dwelling/yard

2010 **97.1%** 2013 **98.2%**

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 **89.2%** 2013 **89.5%**

of households have refuse removed by municipality (weekly or less frequently)

After Joburg, Ekurhuleni has the highest access to sanitation. Of concern is the doubling of non revenue water levels between 2007 and 2014.

INFRASTRUCTURE

ICT infrastructure 2011
Percentage of population with connections

- **15.3%** Fixed-landline telephone
- **93.3%** Mobile telephone
- **42.6%** Internet connections

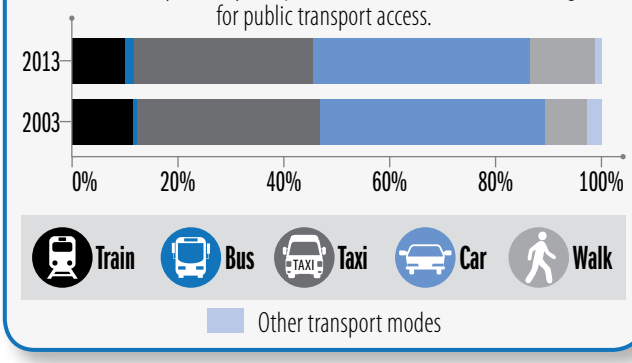
Repairs and maintenance
% of operating expenditure

9.1% 2009 — **6.7%** 2014

National Treasury recommends 8–10% of operating expenditure

Mode of transport to work

The majority of people in Ekurhuleni use taxis or private cars to move around the city. The city's dispersed urban nodes creates challenges for public transport access.



CITIZEN ENGAGEMENT

Voter registration/turnout

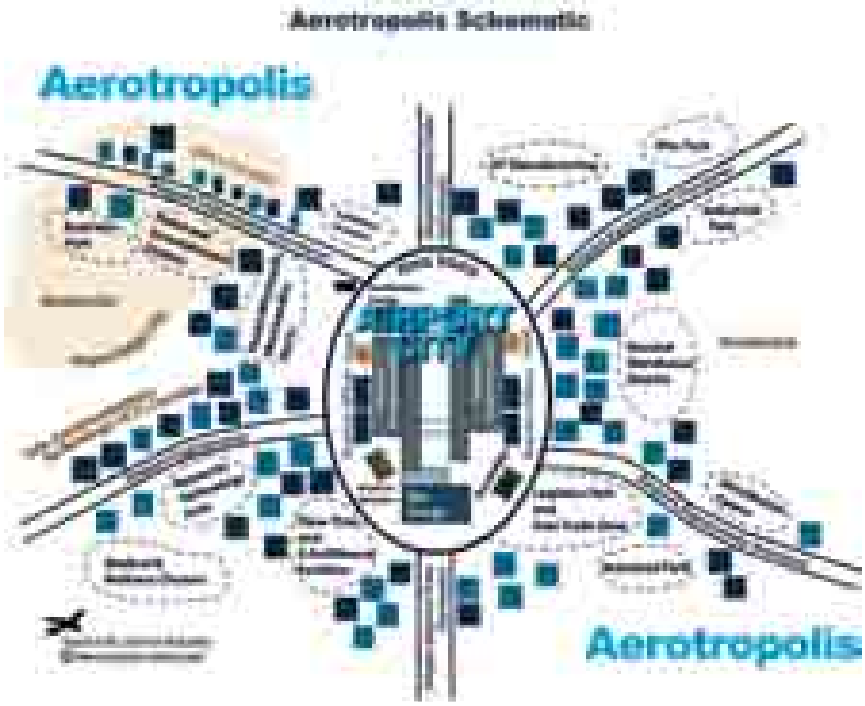
Local election		National election
43%	56%	74%
2006	2011	2014

Voter turnout at local elections is similar to that of the other Gauteng metros and is lower than for national elections.

AEROTROPLIS

Introduction

Airports have become major drivers of economic growth, competitiveness and urban form in cities across the world. An Aerotropolis is an economic development strategy designed to increase the competitiveness and connectivity of cities. In 2000, the director of the University of North Carolina's Kenan Institute of Private Enterprise put forward the Aerotropolis concept because "airports will shape business location and urban development in the twenty-first century as much as highways did in the twentieth century, railroads in the nineteenth and seaports in the eighteenth". An Aerotroplis is when a city is built around an airport, thereby connecting time-sensitive suppliers, manufacturers, distributors, and business people to distant customers, clients and marketplaces, and may extend in a radius of 30 km or more from the airport. Examples include Airport City, Manchester, Detroit Region Aerotropolis, Hubstart Paris, Richtenbacher Inland Port (Columbus, Ohio) and Atlanta Aerotropolis.



Source: http://www.aerotropolis.com/

The presence of OR Tambo International Airport makes Ekurhuleni well suited to become an Aerotropolis economy. In 2014, about 90% of the 360 thousand tonnes of air freight handled by South Africa passed through OR Tambo. Over 60% of the trade flow remains in Western Europe, followed by the Middle East (17%), North America (9%) and East Asia (6%), with airfreight to the rest of Africa, South America, Eastern Europe, and South-East Asia making up the remainder. Air cargo traffic through the airport is projected to reach 550 thousand tonnes by 2025.

The Aerotropolis project is one of the flagship projects of the Ekurhuleni Metropolitan Municipality (EMM), and aims to become the first Aerotropolis in Africa, with OR Tambo International Airport as the nucleus. The Premier of Gauteng has elevated the Aerotropolis to a Gauteng City-Region-wide initiative because of its transformative magnitude – it has been extended to cover Lanseria airport in Johannesburg and Wonderboom airport in Tshwane (GPG, 2015).

Overview of flagship programme

Situated in the heart of Gauteng, Ekurhuleni is home to three of South Africa's seven poorest townships and the hub of South Africa's ailing manufacturing sector. However, it also hosts the largest airport in Africa and effectively forms the gateway to the continent.

As the Aerotropolis grows and prospers, the citizens of Ekurhuleni will benefit from the creation of new jobs, the expansion of social infrastructure, resulting in an improvement in the standard of living for all (EMM, n.d.). However, to build the Africa Aerotropolis will require politicians and officials to think big, to think bold and to act decisively!

In 2012/13, the EMM set up an Aerotropolis Project Office that has various objectives.

- To develop the Ekurhuleni Aerotropolis Master Plan.
- To coordinate and streamline spatial planning and land use management instruments, such as the Municipal Spatial Development Framework (EMM, 2011) and Regional Spatial Development Framework.
- To align all other related master plans (i.e. those of other state entities such as Sanral, ACSA, IRPTN, CIPR, Aerotropolis).
- To mobilise and coordinate air and bulk cargo movements.
- To develop the Ekurhuleni Aerotropolis value proposition and brand positioning.
- To mobilise and engage with stakeholders.

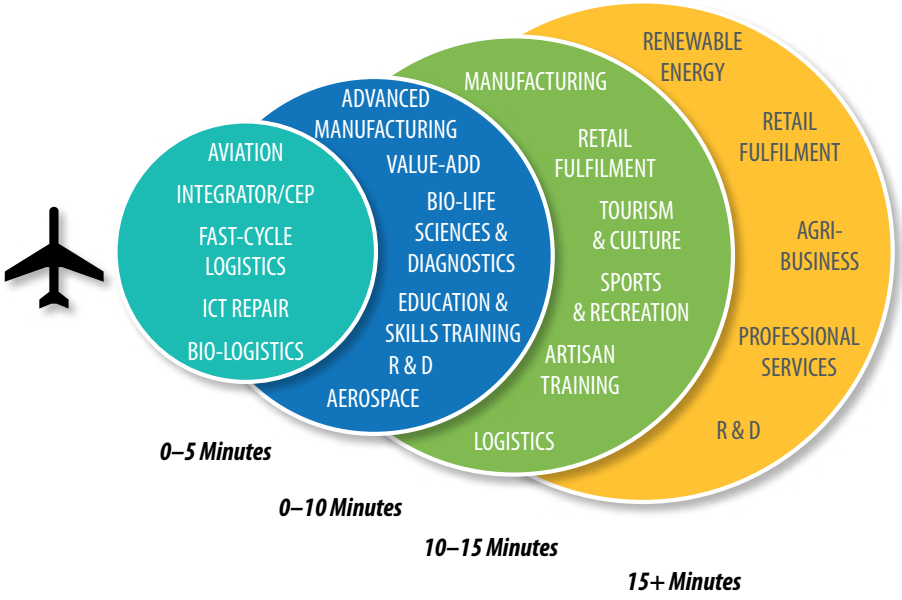
> There is no question that millions, which we do not have, will have to be spent to develop the Aerotropolis economy. The key, however, is to devise a bankable strategy that involves the public-private sector. We have to create conditions that attract investment and funding of development.
>
> *Executive Mayor of Ekurhuleni Metropolitan Municipality*

EMM appointed a consortium of five domestic and international companies, led by Aurecon, to help develop a five-year Ekurhuleni Aerotropolis Strategic Implementation Plan and ultimately the 30-year Master Plan. This multi-disciplinary consortium has extensive experience working on planning and infrastructure projects, both within the municipality and internationally, and includes urban and transport planners, economists, financial and logistics experts, environmental managers, market researchers and strategists. The Ekurhuleni Aerotropolis Strategic Implementation Plan was completed in 2014. The next phase looks at information gathering, analysis, scenario planning, evaluation and selection, defining economic clusters and identifying where new or substantial infrastructure is required. The criteria in finalising development scenarios include:

- demographics (will the planned development adequately address the poverty, skills development and unemployment objectives of the city?);
- proposed land-use (will this be efficient and create an attractive environment?);
- forecasted demand transport facilities (will this ensure the maximum efficiency of movement of people and freight in the region, and within each facility?);
- economic growth (will this ensure the economic wellbeing of Gauteng and Ekurhuleni's businesses and community – from the smallest informal trader to the largest multi-national corporation?);
- predicted CO_2 emissions (how much of an impact on the environment will it have?)

A key aspect of the programme is land-use planning and management, and a detailed time-distance analysis was undertaken in order to confirm and refine preferred spatial locations for targeted economic activity.

Time-distance analysis



Source: Aerotropolis 2015 Mayoral Report

This flagship programme is supported by various government industrial iniatives that are intended to revitalise manufacturing, aviation, transport and logistics industries linked to the OR Tambo International Airport. Catalyst projects have been identified, including an SA Post Office e-Commerce hub, Medical City Africa, Cargo Logistics Hub, Denel MegaCity Aviation and Aerospace Manufacturing Precinct, International Conference Centre, Auto-Mall of Africa and a super-regional destination outlet retail mall. These projects have the potential to attract massive foreign direct investment into the OR Tambo Industrial Development Zone and the Special Economic Zone (GPG, 2015).

Job creation is a core component of the Aerotropolis development, which could result in 266 000–761 000 new jobs (EMM, n.d.) across sectors, including:

- Logistics workers and warehouses: including packing and shipping, line and forklift operators, freight forwarders, customer fulfilment, telecommunications.
- Manufacturing jobs: including production operators, in-house shipping and logistics teams, design, management, procurement.
- Office and clerical jobs: including finance, accounting, engineering and design, legal, human resources, branding and marketing.
- Researchers: including advanced materials research, polymer testing, medical and diagnostic device research.
- Service workers: including food services, hoteliers, laundry, day-care, bus and shuttle operators.
- Educators: including Vo-Tec training, computer literacy, remedial skills training.
- Construction jobs: including masons, carpenters, roofers, glaziers, landscapers, construction supervisors, panel farm erectors.
- Agricultural and green industrial workers: including farmers, pickers, washers, packagers, truckers, energy managers, solar panel fabricators.

Given the magnitude of the programme, one consolidated funding strategy is not possible. Therefore, the approach will be to match the most appropriate funding strategy for each element of the programme. Emphasis will remain on supporting the vision of the Aerotropolis, but drivers that will affect possible funding include

the corporate structure and governance, nature of application of funds, timing and duration, funders and revenue sources

Reflections

Given the importance of air transport for both freight and people, it seems logical that an Aerotropolis can serve as a stimulus to economic development in areas around airports. Two key success factors are:

- Very efficient and effective transport links to the rest of the region and beyond, in order to maximise the locational benefits.
- Cooperation, integration and alignment of plans and implementation strategies across all three spheres of government, the key municipalities involved (e.g. Ekurhuleni, Johannesburg and Tshwane) and the various sector departments.

The cost of air transport for heavy or bulky items (which is considerably more expensive than rail, road and sea, and could increase further as oil prices rise or oil reserves decline) could limit the economic development potential of an Aerotropolis. However, this is offset by the need for fast travel for goods such as high tech electronic goods and agricultural products (flowers, fruit, vegetables and fish).

The planned eThekwini–Free State–Gauteng freight and logistics corridor (Strategic Infrastructure Project 2) is a national government project to improve the movement of goods between Durban and Gauteng. It will benefit both Ekurhuleni and eThekwini where the Aerotropolis KZN/Dube Tradeport is being built on a greenfields site around King Shaka International airport.

Looking forward

The next phase of the project (the 25-year Master Plan) will address four major challenges that were identified: capital, land, connectivity and partnerships. In arriving at this plan, the five-year implementation plan will undertake the following actions, grouped according to five principles:

- Community: create Aerotropolis gateways and coordinate province-wide bus/BRT services.
- Collaborate: clean and effective government administration that meaningfully spends allocated budgets each year.
- Concentrate: coordinate current municipal land use with the upcoming study and beautify the City of Ekurhuleni through improving natural resources and linkages for citizens.
- Connect: upgrade road linkages (PWV 13 and 15), reduce traffic congestion (100km of road improvements), improve road network (5km of new road construction and upgrades to 30 intersections) and Sentrarand (inland port freight hub), and integrate Johannesburg and Ekurhuleni's public transport systems.
- Compete: Identify and assemble 25 redevelopment sites and increased support targeted industrial sectors.

In addition, the Ekurhuleni Digital City initiative, which will provide citizens with widespread broadband infrastructure, will greatly benefit Aerotropolis development.

References

EMM (Ekurhuleni Metropolitan Municipality). 2011. Spatial Development Framework. Ekurhuleni: EMM.

EMM. [n.d.] Aerotropolis Concept Document. EMM

EMM. 2015. Five-year implementation report. Ekurhuleni: EMM.

GPG (Gauteng Provincial Government). 2015. State of the Province Address

CITY OF

ETHEKWINI

@jethrosnydersphotography

PEOPLE AND HOUSEHOLDS

Size of city

2 291 km²

Population density in 2011

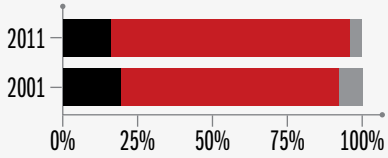
1 502 people per km²

Of all nine cities, eThekwini has the second highest average number of people per household (after Msunduzi) and a similar population density to that of Cape Town.

Growth

	Population	No. households	Average number of people per household
2011	3 442 361	956 713	3.60
2001	3 090 122	786 746	3.93
1996	2 718 180	646 345	4.21

Dwelling types



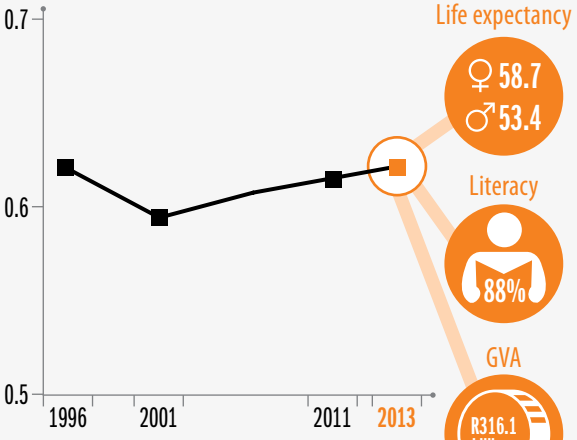
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

eThekwini is the only city apart from Msunduzi not to have improved its HDI between 1996 and 2013, and has the second lowest life expectancy (after Mangaung).

Human development index (HDI)



HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

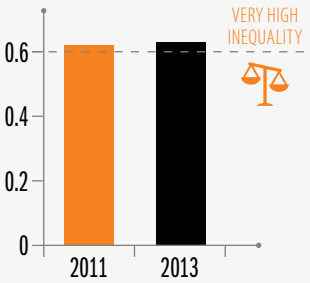
Matric level 24.1%

Higher education 7.2%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for eThekwini.

Levels of poverty

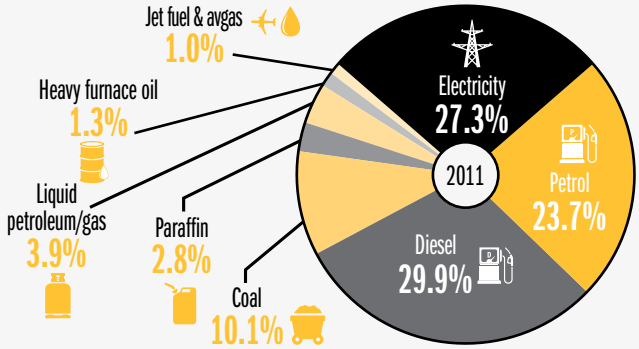
Gini coefficient (inequality measure)



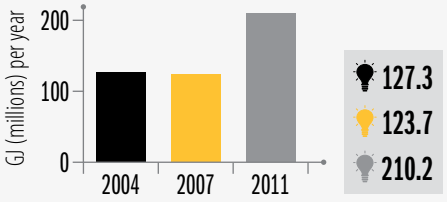
Number of people living below the poverty line

SUSTAINABILITY

Sources of fuel 2011

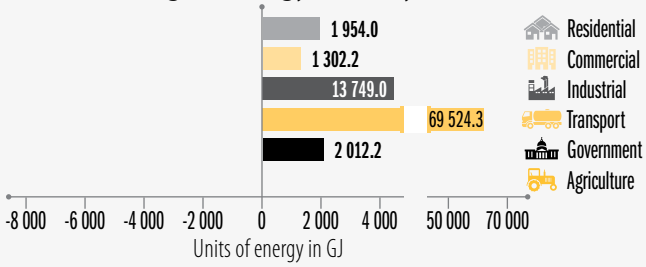


Energy consumption



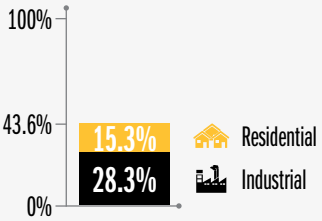
Energy consumption has increased significantly in recent years, mostly driven by the transport sector, which is also the largest contributor of greenhouse gases in the city.

Change in energy intensity 2007–2011



Energy intensity: measures the amount of energy used to produce goods and services

Emissions: top two sectors in 2015



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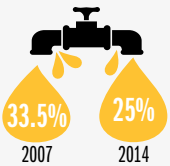

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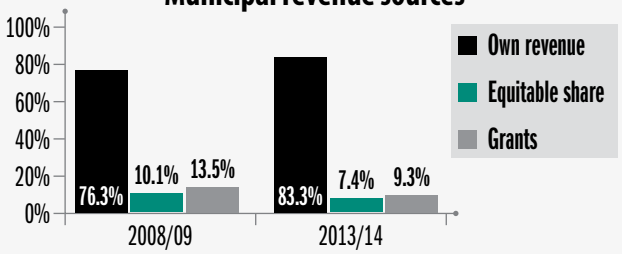
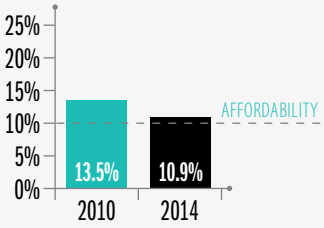
CITY OF ETHEKWINI – State of Cities Report 2016 Dashboard Indicators

CITY FINANCE

Municipal revenue sources



Affordability of municipal bills for type A households
(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100,000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

SERVICE DELIVERY

2010 **78.1%** 2013 **78.5%**

of households have access to piped water inside dwelling/yard

2010 **96.5%** 2013 **96.6%**

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 **87.9%** 2013 **88.2%**

of households have refuse removed by municipality (weekly or less frequently)

eThekwini has increased access to all basic services, but expanding access to water services in the rural outlying areas remains a challenge.

INFRASTRUCTURE

ICT infrastructure 2011
Percentage of population with connections

26.9% Fixed-landline telephone

90.7% Mobile telephone

41.2% Internet connections

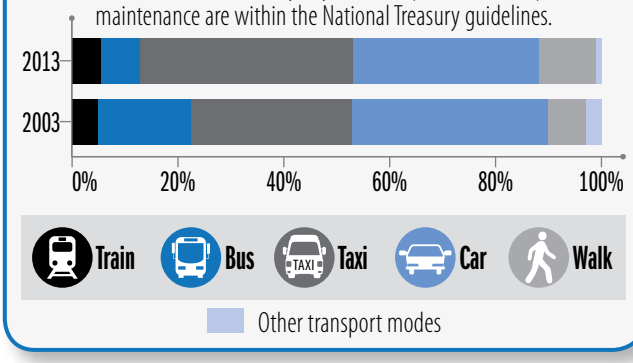
Repairs and maintenance
% of operating expenditure

11.7% 2009 — **9.2%** 2014

National Treasury recommends 8–10% of operating expenditure

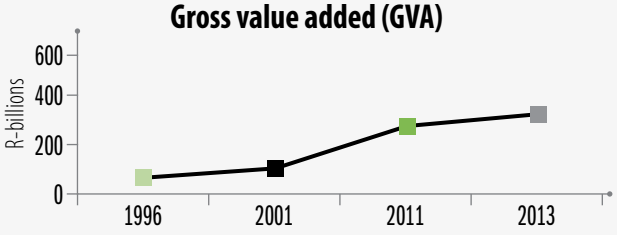
Mode of transport to work

Between 2003 and 2013, taxi usage increased but private car usage decreased. eThekwini is the only city whose expenditure on repairs and maintenance are within the National Treasury guidelines.



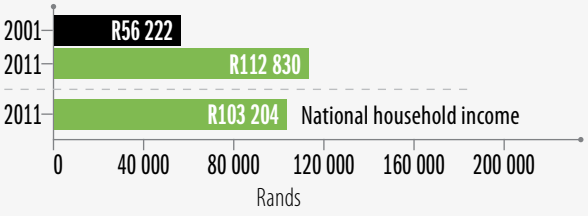
ECONOMY

Gross value added (GVA)



Average household income

Between 2001 and 2011, eThekwini's economy grew at a similar rate to that of Cape Town.



Cost of living
(based on a bundle of goods)

R80.10 2008

R92.40 2011

R109.60 2014

Unemployment rate

Average unemployment rate: **43%** 2001, **30.2%** 2011

Provincial average unemployment rate: **33%** 2011

In 2011, eThekwini's average unemployment rate was the highest of the five large metros but had decreased the most since 2001.

CITIZEN ENGAGEMENT

Voter registration/turnout

Local election: **44%** 2006, **59%** 2011

National election: **74%** 2014

Voter turnout at local elections has increased but remains significantly lower than at national elections.

GO!DURBAN

Introduction

Integrated public transport systems have been shown to be critical to spatially transforming urban spaces in cities such as Curitiba in Brazil. These systems may include underground, commuter rail systems, light rail, trams and bus rapid transit (BRT). Over 160 cities around the world have implemented bus rapid transit (BRT) or high-quality bus corridors, most of them since 2002 (Embarq, n.d.). Benefits of BRT include improved overall travel times, changes in vehicle operating costs (private vehicles and public transit), reduction in CO_2 emissions and exposure to local air pollutants, improved road safety benefits and changes in physical activity (ibid).

In 2008, Cabinet approved the Integrated Rapid Public Transport Network (IRPTN) policy to be rolled out in major cities in South Africa. This policy involved a major restructuring of public transport, with new infrastructure, vehicles, electronic ticketing and improved security. Several South African cities are implementing IRPTNs that include BRT systems, notably Rea Vaya in Johannesburg and MyCiTi in Cape Town. In eThekwini, Go!Durban is the brand name for the city's IRPTN. It is a collaboration between all three spheres of government: national government provides policy support and funding, provincial government supports the management of the project, and the eThekwini Municipality is responsible for planning and implementation. The programme is one of the key pillars integral to the stimulation of economic growth in the region.

People Mover bus stop

Source: F. Kitchin

Go!Durban aims to promote transport that is universally accessible to all of Durban's citizens. The objective is to provide seamless transfers across transport modes, creating ease of access at stations and precincts, using electronic ticketing and providing passenger safety and security. There will be 190 km of road-based corridors development. The first phase includes the development of high quality public transport linkages between Bridge City, Durban Central, Pinetown, Umlazi and Umhlanga.

Overview of flagship programme

The city of Durban is structured along two axes: the North–South corridor and the Western corridor, both of which meet in the city centre. Research into travel patterns in the city found that the northern corridor had the biggest increase in traffic volumes and the most congestion: between 2004 and 2013, traffic volumes on the M41 in Umhlanga increased five-fold, from 13.9% 80.3%. Therefore, Phase 1 of the Go!Durban project (which is expected to be completed by 2018) focuses on four corridors, including rail, and will replace all existing northern area contracted public transport services of the municipality. Phase 1 includes 62 kilometres of road construction, 45 new and improved bus stations as well as two terminal stations at Bridge City and Bram Fischer Road. The roads linking Bridge City to Warwick and Umhlanga, as well as a railway linking Bridge City to KwaMashu via Berea, Umlazi and Isipingo, are already under construction.

The Integrated Rapid Public Transport Network (IRPTN)

- **C1** – Bridge City to Durban Central Business District (CBD)
- **C2** – North-South Rail Line
- **C3** – Bridge City to Pinetown and New Germany via MR577
- **C4** – M25 to South Durban Basin along the N2 with a spur along the M7 to Rossburgh
- **C5** – Chatsworth Town Centre to CBD along Higginson Highway and South Coast Road
- **C6** – Mpumalanga to CBD along the N3 with a spur along the M13
- **C7** – Extension of C5 to Hillcrest
- **C8** – Tongaat to the CBD via Umhlanga along Dube West Arterial and Umhlanga Rocks Drive
- **C9** – Bridge City to Umhlanga via Cornubia along Phoenix highway and Cornubia Boulevard

Source: Chetty (2013)

Go!Durban will include new railways and a non-motorised transport network (cycling routes and walkways), which will drastically reduce the number of vehicles on the road. Stations will be areas of mixed-use developments (retail, businesses and residential) and will be supported by a non-motorised transport system, including cycling lanes and walkways. Go!Durban involves all modes of transport working together, as part of an integrated network, and along routes where they are best suited. For example, minibus taxis will provide contracted feeder services from the main road to bus and rail routes.

The Go!Durban project integrates a number of different modes of transport, and innovations. One aspect of this is the People Mover buses, which operate in the inner city and along the beachfront, and has been operational since 2007. Initially with two routes, the People Mover project was revamped in 2010 and now covers three routes, including about 60 stops and nine transfer points. The City Line runs from Warwick Junction through parts of the central city to the main transfer station on the beachfront at the end of Dr Pixley Ka Seme street; the Beach Line operates along the beachfront route from the Ushaka Marine World area to the Moses Mabhida Stadium precinct; while the Circle Line follows a circular route from Albert Park, past Victoria Market, Somtseu Road Courts, the ICC and then on Margaret Mncadi back to Albert Park. An average of 130 000 commuters use the buses every month, with higher numbers during the holidays. The buses are used by workers, scholars, shoppers, senior citizens and tourists, as well as delegates going from beachfront hotels to the ICC. The transport operates from 5am to 10pm and stops at stations every 15 minutes. The buses have wheelchair access, and security guards are stationed at selected bus stops.

In preparation for the Go!Durban system, the eThekwini Transport Authority introduced the Muvo card in 2012. The Muvo is the "first EMV-certified (Europay, MasterCard and Visa) and NDoT-certified (National Department of Transport) smartcards worldwide".[1] They can currently be used on the People Mover, Durban Transport and Mynah buses in Durban and, as the GO!Durban project develops, will be integrated into the various transport networks.

In 2014, the Go!Durban achieved a number of milestones.

- Five major construction tenders were awarded.
- A Memorandum of Agreement was signed with the leadership of the minibus taxi industry.
- The project's Empowerment Charter was unveiled, with the aim of accelerating empowerment. All contracts (engineering and construction; supply-only contracts, managing contracts and service contracts; and professional services contracts) will include criteria and clauses that set clearly defined targets for enterprise development, skills development, equity and corporate social investment initiatives.
- The city launched its non-motorised transport network.
- The cashless MUVO smartcard system was consolidated.

1. www.godurban.co.za

Reflections

A significant achievement in Durban has been the successful implementation of integrated ticketing through its cashless MUVO smartcard, which has two separate functionalities: to load specific trips onto the card, or to load cash. The card is easy to manage and use on existing public transport. Each card is assigned a secret pin and can also be used at stores displaying the signage "Muvo accepted here".

At the start of the project, there were some complaints from businesses and landowners, despite the consultation process followed, which included public meetings, advertisements in the media and hand delivered notices to each affected property (SA Property News, 2014). A stakeholder engagement plan has been developed, as stakeholder engagement and change management are recognised as an important part of the project. During project implementation, disruptions (such as road closures) are communicated through community newspapers, radio, website and social media. In addition, a traffic management plan is in place and is controlled by a Traffic Management Centre.

Looking forward

The city will continue to rollout the Go!Durban project. Phase 1 is expected to be completed by 2018, with additional phases being implemented up to 2030, when the entire system is expected to be in place. By 2030, the intention is that 85% of all residents will have access to safe, affordable and quality scheduled public transport throughout the day, as the system will run between 16 and 24 hours daily. Passengers will only wait between 5 and 10 minutes for a bus, during peak hours, and between 10 and 30 minutes during off-peak hours. Furthermore, all transportation will be equipped with full universal access to cater for passengers with special needs or wheelchairs.

Like other cities, eThekwini will have to grapple with issues such as:

- Ensuring that the poorest areas are served by Go!Durban.
- Extending the service to outer areas, when public transport is generally efficient only in concentrated (usually central) areas.
- Achieving a balance between the economic rationale and the social imperatives to improve access to all.
- Balancing short-term financial concerns against long-term sustainability issues.

References

Chetty R. 2013. Integrated Rapid Public Transport Network.

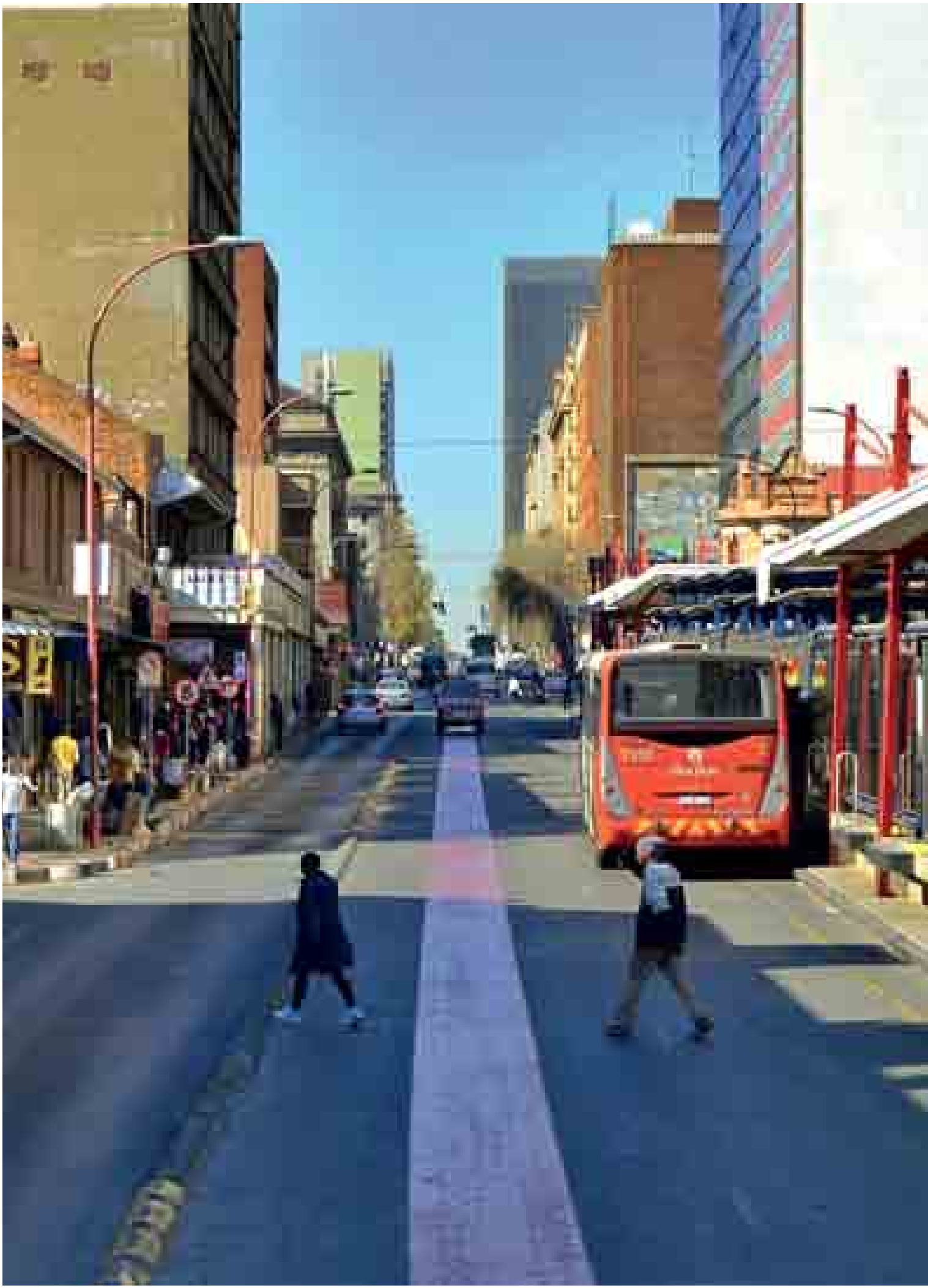
Embarq. [n.d.]. Social, environmental and economic impacts of BRT systems: Bus Rapid Transit Case Studies from Around the World, http://www.wricities.org/sites/default/files/Social-Environmental-Economic-Impacts-BRT-Bus-Rapid-Transit-EMBARQ.pdf

SA Commercial Prop News. 2014. R22bn Go Durban project forges ahead despite complaints, 28 May. http://www.sacommercialpropnews.co.za/south-africa-provincial-news/kwazulu-natal-commercial-property/6808-r22bn-go-durban-project-forges-ahead-despite-complaints.html

www.godurban.co.za

www.muvo.co.za

www.peoplemover.co.za



CITY OF

JOHANNESBURG

@jayjay_gregory

PEOPLE AND HOUSEHOLDS

Size of city

1 644 km²

Population density in 2011

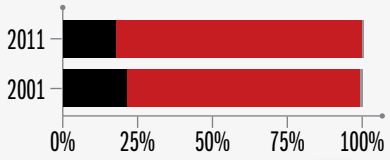
2 696 people per km²

The population of Johannesburg has doubled between 2001 and 2011. Fewer people are living in more houses which means the City has to provide infrastructure at a rate faster than the city is growing.

Growth

	Population	No. households	Average number of people per household
2011	4 434 827	1 434 856	3.09
2001	3 226 055	1 006 910	3.20
1996	2 597 282	732 845	3.54

Dwelling types



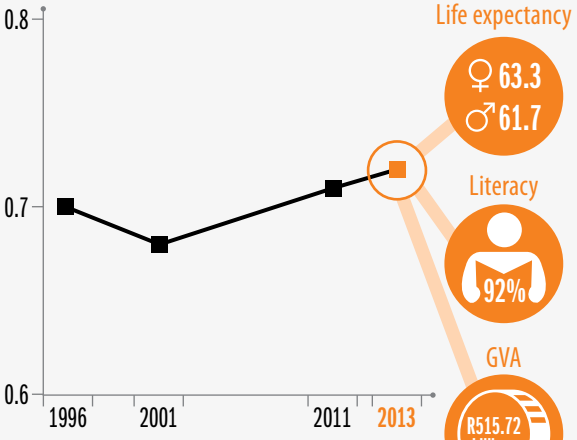
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Joburg has made progress in reducing poverty and improving livelihoods, but inequality remains a challenge.

Human development index (HDI)



HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

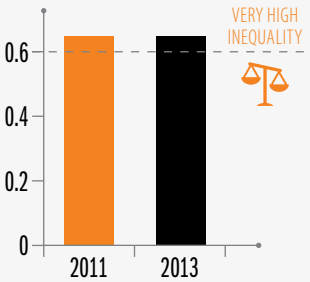
Matric level 28.7%

Higher education 14.6%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Joburg..

Levels of poverty

Gini coefficient (inequality measure)

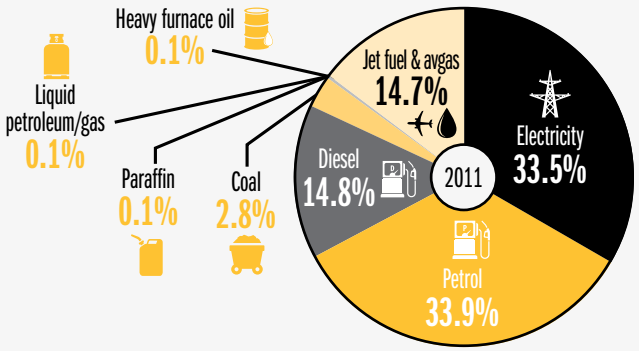


Number of people living below the poverty line

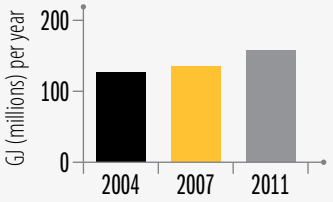
of total population

SUSTAINABILITY

Sources of fuel 2011

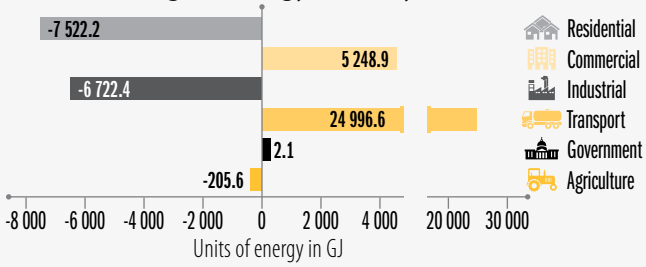


Energy consumption



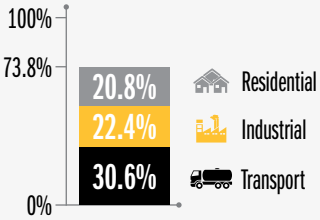
Joburg is a resource-intensive city and consumes the largest amount of electricity of any city in South Africa.

Change in energy intensity 2007–2011

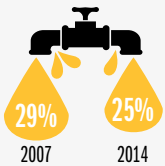


Energy intensity: the amount of energy used for producing goods and services.

Emissions: top three sectors in 2015



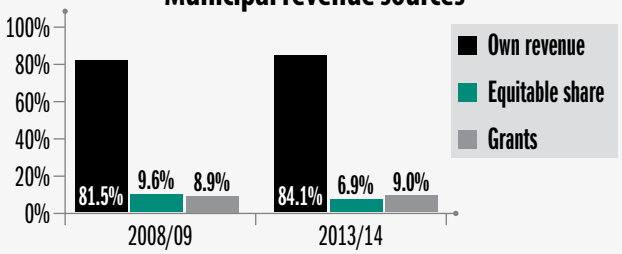
Non revenue water



Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed)

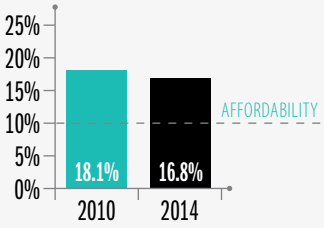
CITY FINANCE

Municipal revenue sources



Affordability of municipal bills for type A households

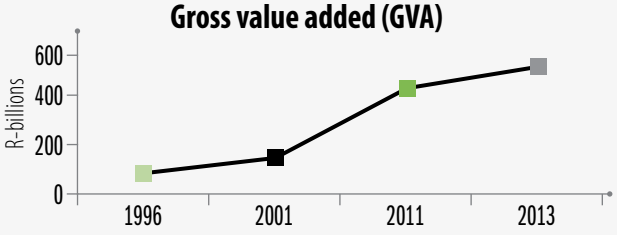
(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100,000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

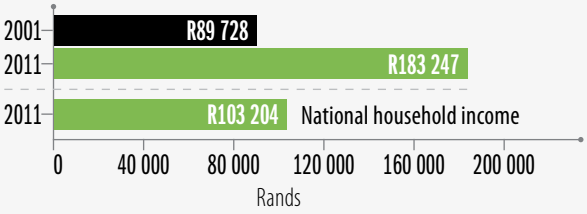
ECONOMY

Gross value added (GVA)



Average household income

Between 2001 and 2011, the average household income in Joburg doubled, but the cost of living also increased significantly

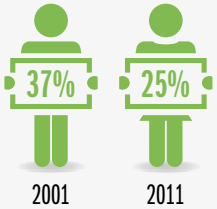


Cost of living

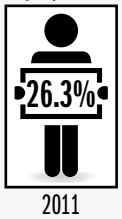
(based on a bundle of goods)

Unemployment rate

Average unemployment rate



Provincial average unemployment rate



The economy is growing rapidly, but unemployment remains a challenge and living in the city is becoming increasing unaffordable for many.

SERVICE DELIVERY

2010 **90.7%** 2013 **90.5%**

of households have access to piped water inside dwelling/yard

2010 **97.8%** 2013 **98.5%**

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 **95.9%** 2013 **96.8%**

of households have refuse removed by municipality (weekly or less frequently)

Most households now have access to basic services and the city is expanding its network of ICT infrastructure.

INFRASTRUCTURE

ICT infrastructure 2011

Percentage of population with connections

21.2% Fixed-landline telephone

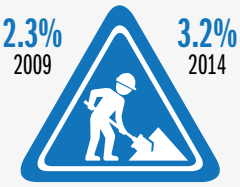
94.4% Mobile telephone

49.6% Internet connections

Repairs and maintenance

% of operating expenditure

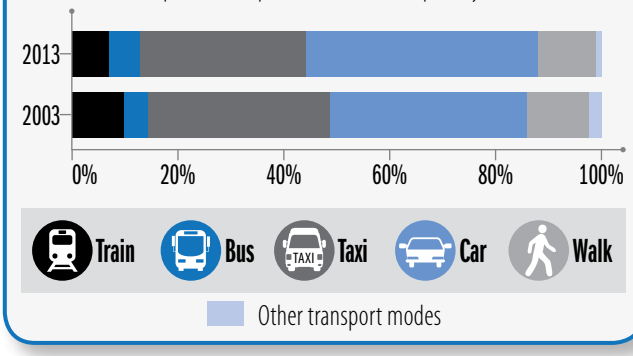
2.3% 2009 **3.2%** 2014



National Treasury recommends 8–10% of operating expenditure

Mode of transport to work

Joburg remains a car-captive society, and public transport investment is a priority.

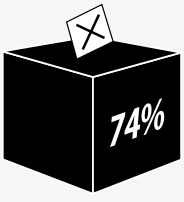


CITIZEN ENGAGEMENT

Voter registration/turnout

Local election

National election



Voter turnout at local elections is significantly lower than at national elections, and yet local government is closest to citizens.

CORRIDORS OF FREEDOM

Introduction

In South Africa, apartheid spatial design produced inefficient cities that suffer from sprawl and spatially entrenched segregation. Poorer communities live on the edge of the city, away from economic, social and educational opportunities, and therefore spend a disproportionately high share of their disposable income (and time) on transport (Urban LandMark, 2012). More than 1.3 million commuters spend over two hours a day travelling to and from their places of residence (Stats SA, 2013), and private car usage is high: if 10% of private car uses shifted to daily public transport, energy consumption in the city would reduce by 8% (CoJ, 2011).

The National Development Plan has recognised the burden that their inefficient spatial arrangements place on the poor and states that "new spatial arrangements could fundamentally transform job and livelihood prospects for the poor", thereby reducing poverty and inequality (NPC, 2011). The Corridors of Freedom programme, which emanates from the Joburg 2040: Growth and Development Strategy (CoJ, 2014), is the City of Joburg's spatial vision. Launched in 2013, the programme is intended to give the citizens of Johannesburg increased freedom of movement and economic freedom. It seeks to enable people to live closer to their place of work or learning (thereby reducing travel times and private car use), provide easier access to job opportunities for the unemployed and bring learners closer to their schools.

Artist's impression of the Corridors of Freedom

Source: Strydom (2014)

The Corridors of Freedom programme is based on corridor and transit-oriented developments that are planned along transport arteries and consist of high-density accommodation, office buildings and retail/leisure developments[1]. Its emphasis is on transforming (movement, social and economic activities) in order to improve liveability, urban efficiencies, social cohesion and economic inclusivity and sustainability.

1. Corridors of Freedom booklet, www.corridorsoffreedom.co.za

Overview of flagship programme

The Corridors of Freedom will have mixed-use developments (high density residential areas, office parks, schools, shops and leisure facilities), where all (rich and poor, black and white) live side by side and housing options available cover a range of types and prices including rental accommodation. The safe neighbourhoods will be designed for cycling and walking, have good public transport links and limited parking (to discourage the use of private transport). Catalytic economic development initiatives are planned in each of the corridors, based on node-specific economic characteristics and strengths (CoJ, 2014). A key aspect of the development of the corridors is the construction of public transport along the identified routes, and so the city is rolling out its Rea Vaya bus rapid transit (BRT) programme.

Following the launch of the Corridors of Freedom in 2013, the corridors identified were Soweto to CBD along Perth Empire; CBD to Alexandria; Alexandria to Sandton, the Turffontein node and the Mining Belt (medium term), and Sandton/Randburg to Diepsloot, and Alexandra to Ivory Park (longer term).

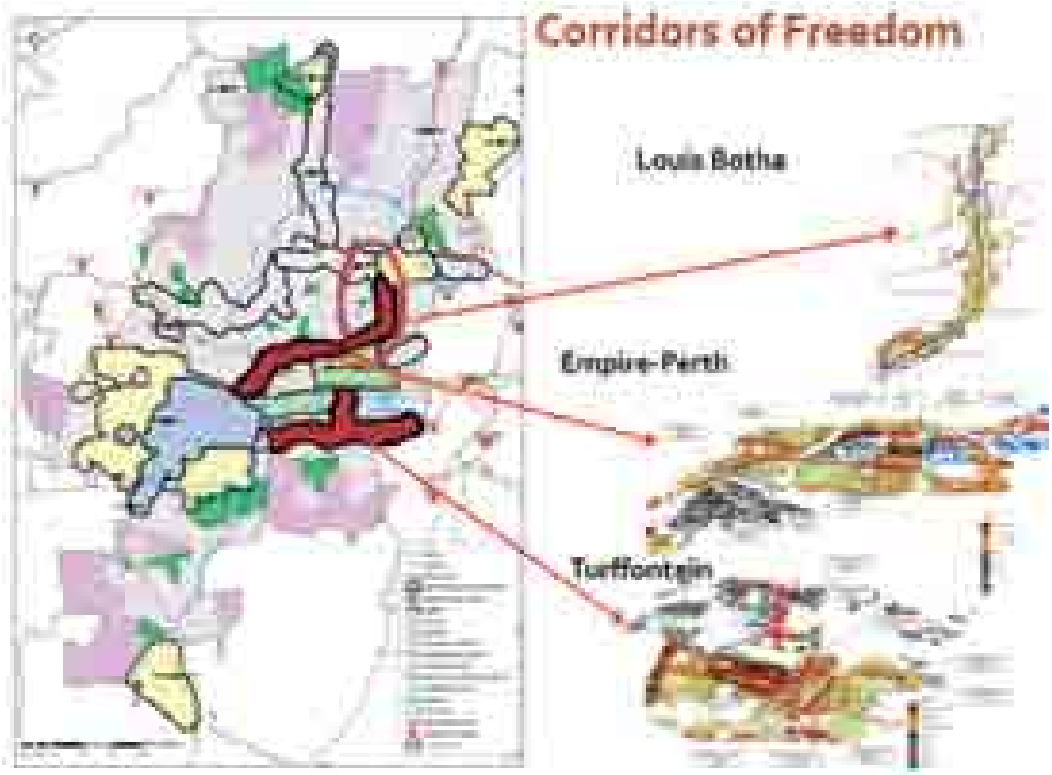
The Corridors of Freedom programme is championed by the Executive Mayor and coordinated by the Department of Development Planning. Other municipal sector departments and entities involved include: transport (roll-out of Rea Vaya BRT), housing, economic development, health and infrastructure (City Power, Joburg Water and Pikitup), community development (libraries, community centres), as well as JOSHCO (the city's social housing municipal entity), City Parks and the Johannesburg Development Agency. Intergovernmental cooperation is also critical, to ensure that provincial and national plans and developments are aligned to the Corridors of Freedom initiative. For example, services such as schools or clinics and policing need to be provided to serve the increased population demands (CoJ, 2014).

> The Corridors of Freedom are part of a deeper political agenda of transformation in the city i.e. rearrangement of the physical environment to transform the economic and social environment. There is a huge emphasis on the social component.
>
> *(CoJ Development Planning)*

Strategic Area Frameworks have been developed for the three primary focus areas of Empire-Perth (where BRT Phase 1B has been operational since October 2013), Louis Botha and Turffontein corridors. In formulating these frameworks, the city considered the (regional and local) links and connectivity of the area, economic development, residential densification, social clustering and innovation (i.e. the City's green agenda, integration and a smart city). The city undertook extensive public participation processes with stakeholders, to provide information and receive input on the corridor rollout. Residents raised concerns about crime[2], housing and general insecurity issues about current property ownership along the corridors.[3] In Orange Grove, the land acquisition processes did not proceed well, with opposition from low density and higher income communities, but there has been little opposition from the poor.

2. http://citizen.co.za/95543/corridors-of-freedom-raise-more-concerns/
3. http://www.iol.co.za/news/south-africa/gauteng/corridor-of-freedom-or-housing-nightmare-1.1712657#.VOMp7vmUeSo

Proposed interventions		
• Empire/Perth Corridor • Improve linkages with public transport facilities • Improve public facilities that support increased development and population density (libraries, clinics, parks, sports fields, multi-purpose, cycle ways and safer pedestrian crossings) • Develop a knowledge precinct in Auckland Park • Develop multi-purpose, mixed-use regional economic facilities • Develop new and upgrade existing rental stock	• Turffontein Corridor • Develop high-density housing, including affordable rentals to suit a variety of income groups (for first-time entrants to the city) and social housing (JOSHCO) • Develop non-motorised transport (NMT) infrastructure (cycle and walkways) • Develop recreational space with trading facilities • Upgrade parks	• Louis Botha Corridor • Provide Rea Vaya BRT infrastructure: dedicated lanes and stations. • Develop NMT infrastructure and inter-modal transport facilities. • Develop existing recreational facilities • Build higher-density housing and mixed-use precincts • Upgrade clinics and local parks • Build the "Great Walk" from Alexandra to Sandton, including new pedestrian bridge across the M1



Source: SACN conference: CoJ case study

In 2014/15, capital expenditure on the Corridors of Freedom amounted to over R550-million (R564,948,476), or 15% of the city's capital expenditure. Over a three-year period (2014/15–2016/17), the city will spend R2.6-billion on the construction of the BRT system along the Louis Botha corridor. This amount includes the construction of the dedicated bus route, associated interchanges, bus stations, associated pedestrian and cycle paths, and the buses (CoJ, 2014). Other major budget allocations include bulk infrastructure such as water, electricity and storm water drainage; general road upgrades and pedestrian and cycle-way construction; and the development of health and social amenities (clinics, libraries, sports facilities and community centres).

Reflections

In October 2014, the City of Joburg won the Excellence in Planning Award for its Corridors of Freedom programme at the Planning Africa Conference, which recognised the city's progressive planning department.[4]

4. http://citybuzz.co.za/20753/joburg-wins-award-for-its-corridors-of-freedom/

However, the success of the Corridors of Freedom programme will depend on its implementation. The experience since 2013 offers some valuable reflections:

- The basics must be in place: although pressure to build the corridors is high, the "footwork" needs to be done before the private sector can be brought in as partners.
- Major programmes of transformation require a complete re-think of how to do things, as well as very high capacity (which may not be available even in the large metros).

The plans for the corridors were done quickly, which created momentum but also meant that the broader community and other sectors (e.g. private developers and individual land owners) were not sufficiently engaged in all aspects of the programme. The city needs to look at how to generate a whole-of-society response to transforming areas of the city, while ensuring that it maximises the value captured from increased property values that result from this public investment. The success of the Corridors of Freedom rests on sufficient and well-managed infrastructure balanced with effective maintenance, as well as strong project management and partnerships with stakeholders. Extensive focus on community participation and consultation is critical in order to bring about behavioural change and acknowledgement of the role of the programme in bringing about improved mobility and social inclusivity in the city[5].

Looking forward

Although some projects are already underway or close to completion, the Corridors of Freedom is a medium- to long-term programme. The City of Joburg is actively pursuing the acquisition of land for the future, which can be released to the private sector, as well as developing:

- infrastructure master plans (Bulk and distribution network)
- a housing action plan to meet the target of 30% low income housing (affordable, social and low income users)
- a detailed spatial economic analysis and database
- important non-motorised transport linkages.

The city is also reviewing its rates policy to support implementation of the corridors and exploring funding and support agreements, and partnerships with property sector developer and investors.

An important component of large-scale public investment programmes such as the Corridors of Freedom is the concept of value capture, whereby the municipality can benefit from the increase in private land values that result from new public investment. Strategic state investment in new infrastructure (e.g. roads or the Gautrain) can encourage people and business to move to the area, which increases property values. South African municipalities have not adopted many value capture mechanisms apart from using development charges. Other mechanisms include additional property taxes or requiring an in-kind contribution, such as land or improvements. The additional revenue can be used to finance other infrastructure or for poverty alleviation programmes.

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CoJ (City of Johannesburg). 2011. Joburg 2040: Growth and Development Strategy. Johannesburg: CoJ.

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Stats SA (Statistics South Africa). 2013. National Household Travel Survey. Pretoria: Stats SA.

Strydom L, Corridors of Freedom, 12 Dec 2014

Urban LandMark, 2013 Improving access to the city through value capture: An overview of capturing and allocating value created through the development of transport infrastructure in South Africa

5. SACN Conference, How does mobility support inclusivity and efficiency in the city?

MANGAUNG

@thabz_wa_lepantsola

PEOPLE AND HOUSEHOLDS

Size of city

6 284 km²

Population density in 2011

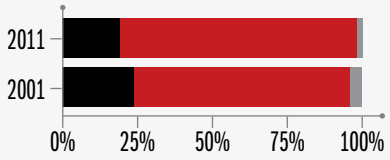
119 people per km²

Mangaung has a similar geographical size to Tshwane but the smallest population of all nine cities, resulting in a much lower population density.

Growth

	Population	No. households	Average number of people per household
2011	747 431	231 921	3.22
2001	645 440	185 013	3.49
1996	603 528	153 203	3.94

Dwelling types



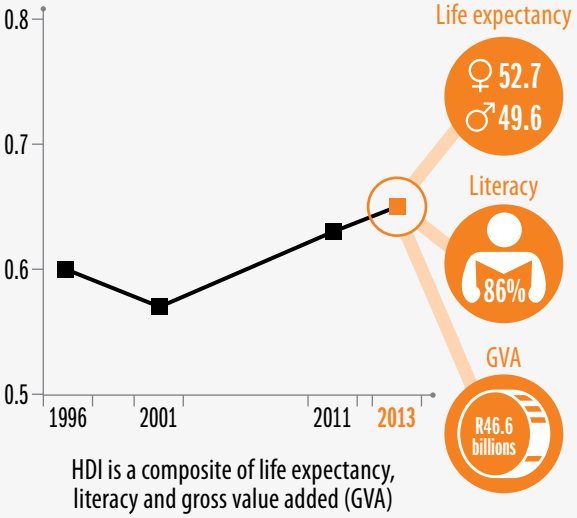
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Mangaung has the lowest life expectancy of all the cities, which may be a reflection of its large rural areas.

Human development index (HDI)



HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

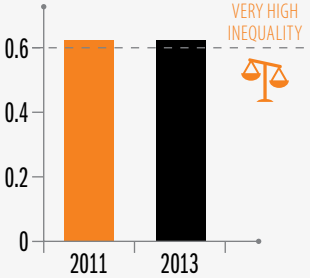
Matric level 18.4%

Higher education 7.7%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Mangaung.

Levels of poverty

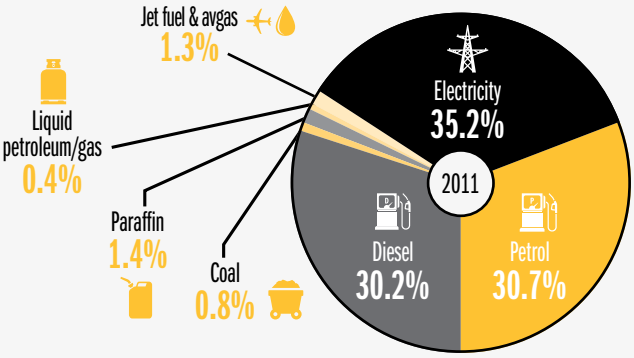
Gini coefficient (inequality measure)



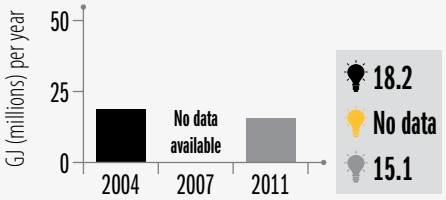
Number of people living below the poverty line

SUSTAINABILITY

Sources of fuel 2011



Energy consumption

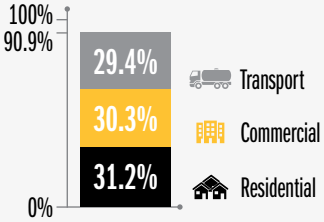


The largest energy source in Mangaung is electricity, which is the largest contributor to greenhouse gases, and non-revenue water levels are very high.

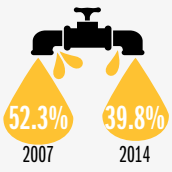
Change in energy intensity 2007–2011

As no data was available for 2007, the change in energy intensity between 2007 and 2011 is not included.

Emissions: top three sectors in 2015



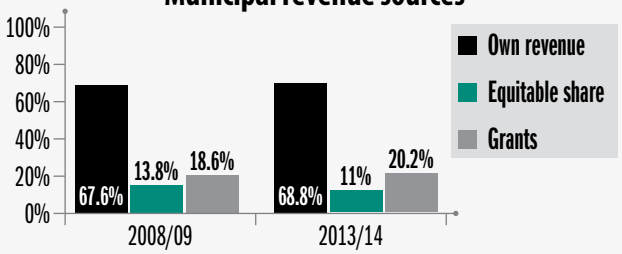
Non revenue water



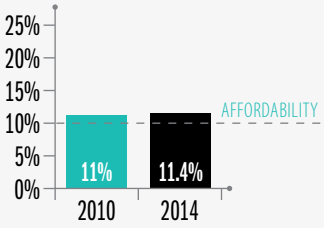
Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed).

CITY FINANCE

Municipal revenue sources



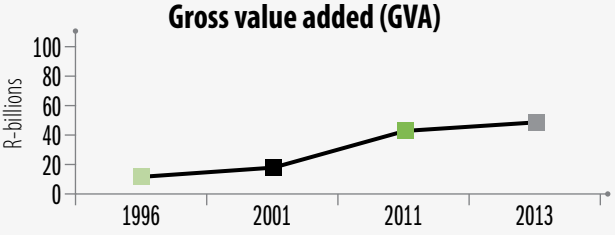
Affordability of municipal bills for type A households
(municipal bill as % of benchmark income)



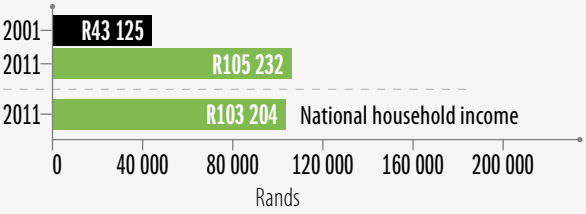
Type A is a household that lives in a property with an assessed value of R100 000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

ECONOMY

Gross value added (GVA)



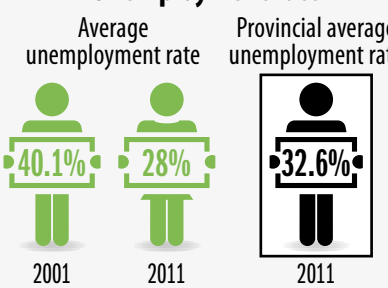
Average household income
Household income has more than doubled between 2001 and 2011, but the cost of living in the city remain high.



Cost of living
(based on a bundle of goods)

2008	2011	2014
R77.60	R92.30	R110.10

Unemployment rate



Between 2001 and 2011, economic growth in Mangaung (and Nelson Mandela Bay) was the slowest of all the cities.

SERVICE DELIVERY

2010 87.2% — 2013 88.3%

of households have access to piped water inside dwelling/yard

2010 92% — 2013 96%

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 83.2% — 2013 83.8%

of households have refuse removed by municipality (weekly or less frequently)

Mangaung has made progress with providing access to basic services, in particular access to sanitation services.

INFRASTRUCTURE

ICT infrastructure 2011
Percentage of population with connections

- 11.6% Fixed-landline telephone
- 89.5% Mobile telephone
- 38.1% Internet connections

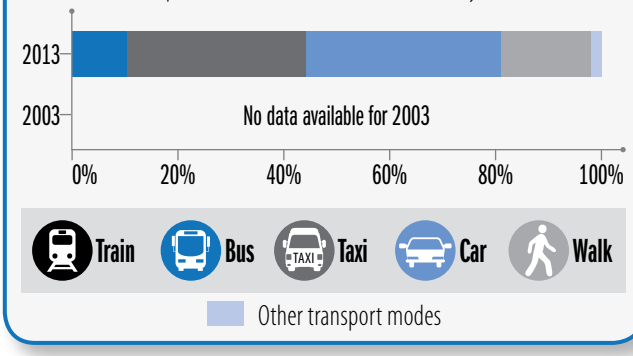
Repairs and maintenance
% of operating expenditure

7.4% 2009 — 6.2% 2014

National Treasury recommends 8–10% of operating expenditure

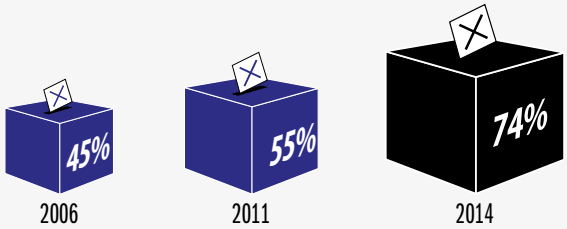
Mode of transport to work

In Mangaung, 7 out of 10 people use a taxi or a private vehicle to move around the city.



CITIZEN ENGAGEMENT

Voter registration/turnout



In 2011, Mangaung had the lowest voter turnout at local elections of all the nine cities.

NAVAL HILL

Introduction

Heritage is a public good and is important for national identity, employment generation, and education (Chiruke, 2013). Naval Hill is a prominent natural landmark in Mangaung, located within the Franklin Game Reserve (which was established in 1930). Features include: the Lamont-Hussey Observatory, two British naval guns and various remnants from the Anglo-Boer War (on the summit), and a White Horse on the eastern slopes (the only feature of this kind outside of the United Kingdom).

In 2011, the Manguang Metropolitan Municipality took a decision to redevelop Naval Hill in order to maximise its economic, aesthetic, recreational and ecological value, as the site had lost its iconic status within the city and was losing visitors. In 2012, a detailed masterplan was developed for the area, to serve as a framework for future long-term development of the site. The masterplan noted a number of challenges, include deterioration of facilities, structures and vegetation (because of overgazing by gams), illegal dumping and vagrancy.

White Horse on the eastern slopes of Naval Hill

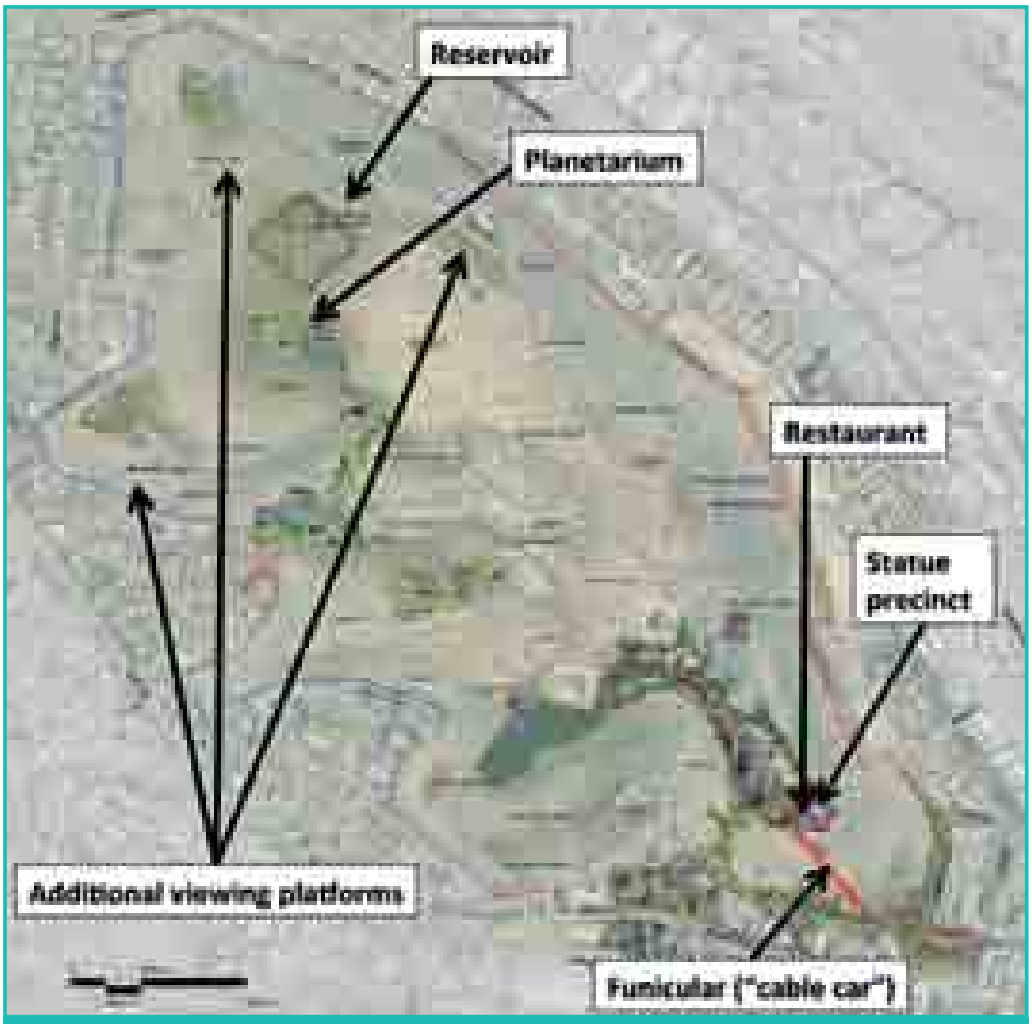
Source: MMM (2012)

The masterplan was done on "multiple scales, ranging from urban, landscape and architecture - studying various development opportunities and activities appropriate for Naval Hill which include engineering, environmental and planning considerations" (MMM, 2012).

Overview of flagship programme

- The redevelopment of the area will be based on four design principles (MMM, 2012).
- Improving security in the area, with lighting as a key component used to provide both an aesthetic quality and security, and the separation of vehicular and pedestrian movement.
- Activation of the site through activities that will stimulate and enhance future development, while also looking at improving the accessibility options of the site for all potential users including disabled and elderly people.
- Integration with the urban environment and creating a series of visual and physical links between Naval Hill and the city.
- Maintaining and improving conservation areas (for wildlife on the hill) and green open space (for people wanting to escape city life for the outdoors)

Given the diversity of the landscape and the number of activities proposed for the site, Naval Hill is divided into three zones (MMM, 2012): the **active zone** (the southern point, where the mountain meets the city); the **intermediate zone** (above Naval Hill including Hangmanskloof valley, which is a threshold zone between various spaces on the mountain); and the **passive zone** (the northern edge of Naval Hill that is reinstated as a natural/wildlife conservation area, with the planetarium as an important node within that zone).



Naval Hill redevelopment masterplan

Source: MMM (2012)

In December 2012, the redevelopment of Naval Hill as a flagship tourist attraction began with the erection of an 8-metre tall statue of Nelson Mandela (the tallest statue of the former president in the world) that faces the Waaihoek Wesleyan Church, the birthplace of the ANC[1]. Following the unveiling of the statue, there was a dramatic increase in visitors to the site. In 2013, the redevelopment continued, with the building and opening of a digital planetarium, the first of its kind in sub-Saharan Africa, as Naval Hill is a prime spot for star gazing. The city, in partnership with the Free State Department of Economic Development, Tourism and Environmental Affairs (DETEA), the University of the Free State (UFS) and the National Department of Science and Technology (DST), launched the digital planetarium featuring a "3D experience of the universe [...] enabling the audience to 'fly through' the universe, visit planets, explore the secrets of the oceans and even organs of the human body" (ibid). The planetarium is the first phase of a proposed Centre for Earth and Space at Naval Hill, a multi-purpose facility to promote science communication and preservation, as well as the arts.

> The redevelopment of Naval Hill 'will contribute positively towards inner city rejuvenation ... We are going to transform the hill from a rundown facility to a world class recreational area.'
>
> *Executive Mayor*

The masterplan identifies a number of key recommendations for development of the site (MMM, 2012). The development forms part of a greater vision of Naval Hill, which is an iconic landmark within Mangaung, and so any interventions must respect and enhance the cultural, historic, environmental and social aspects. Careful planning and guidelines must be put in place to reduce the encroachment of private residential erven on Naval Hill. Naval Hill needs to be able to sustain itself, provide job opportunities and potentially generate revenue for the Mangaung Metropolitan Municipality. At the same time, the development must accommodate the diversity of the international and national visitors to Naval Hill, which attracts multiple races, age groups and income groups.

During 2014, a new viewing platform was built, the Edge restaurant was completed, as were a pedestrian walkway, the entrance gatehouse, electrical and security work. In addition, the toilet block was upgraded and a kiosk constructed. (MMM, 2014b). In 2013/14, over R5-million was spent on the Naval Hill water reservoir, including supply and delivery lines. The upgrading of the parking area and development of a tourism incubator are still in progress, and the design for the cable car will start in 2015/16.

The concept and detailed design of Naval Hill Phase 2 totalled expenditure of R5.1-million in the 2013/14 financial year, and a further R23.5-million is budgeted for over the medium term expenditure framework. The second phase includes the construction of a destination resort to complement the planetarium, as well as a state-of-the-art eco-park recreational area and a boutique hotel.

Reflections

Naval Hill provides a large open space and recreation area on the city's doorstep, and an important heritage site. Like similar sites, the challenge lies in balancing heritage conservation with development, and requires compromises to allow for controlled development to coexist alongside heritage (and environmental) protection (Chiruke, 2013). Overall, extensive consultation with a broad range of stakeholders at all phases of the project, in both planning and management, is critical, and saves time and money. The local community needs to be

1. http://mg.co.za/article/2013-10-11-00-enhancing-the-bloem-skyline

involved to prevent them from becoming mere spectators in the protection of their own heritage. Although "the rights of host communities are increasingly becoming more recognised, local communities are still not widely involved in heritage conservation endeavours" (Chiruke, 2013). Involvement means more than just employing local labour on heritage sites. Local communities and NGOs can play a valuable role in informing authorities of cultural issues, identifying problem areas, providing input on desired conditions at the site, assisting in developing strategies to attract tourists, and serving an ongoing liaison role in management.

UNESCO (2003) has developed a practical manual for managing world heritage sites that raises pertinent issues for sites such as Naval Hill. Of importance is to set goals and objectives that give direction to site management, define the experiences to be offered to visitors and determine the limits of tourism development.

Looking forward

Phase 2 of the redevelopment of Naval Hill includes the construction of a cable car – design will start in 2015/16. The development of a cable car is expected to be one of the most important (direct and indirect) revenue generators for the whole project (MMM, 2012). Phase 3 of the project will be implemented from 2015 and includes:

- A guard house / control centre
- Parking areas and pedestrian routes
- Park furniture, benches, rubbish bins, etc.
- Tourist promenade and gathering space.

Optional areas that could be developed are detailed in the masterplan and include items such as a primary vehicular access route; safari park and extreme adventure centre, including overnight facilities; an Exploratorium; and a multi-purpose cultural arena.

References

Chiruke S. 2013. Heritage conservation in Africa: The good, the bad and the challenges, *South African Journal of Science*, Vol. 109(1/2).

MMM (Mangaung Metropolitan Municipality). 2012. Naval Hill Masterplan. Mangaung: MMM.

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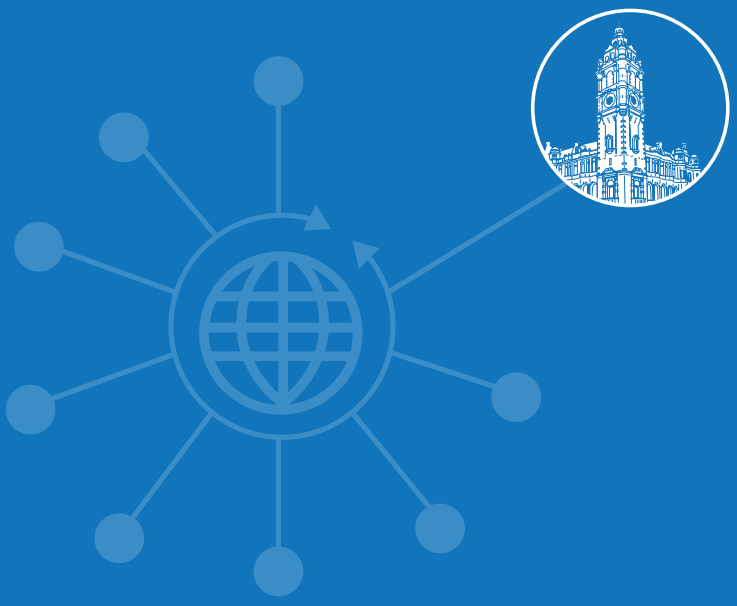
UNESCO, 2002 UNEP World Heritage Manuals, Managing Tourism at World Heritage Sites: a Practical Manual for World Heritage Site Managers, by Arthur Pedersen, 2002 UNESCO World Heritage Centre (http://whc.unesco.org/uploads/activities/documents/activity-113-2.pdf)

MSUNDUZI



@natesvw

PEOPLE AND HOUSEHOLDS

Size of city

634 km²

Population density in 2011

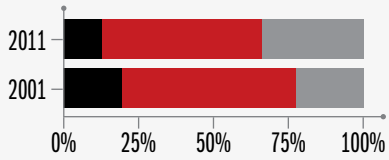
976 people per km²

Of all nine cities, Msunduzi has the highest average number of people per household and the highest percentage of traditional dwellings.

Growth

	Population	No. households	Average number of people per household
2011	618 536	163 993	3.77
2001	552 837	130 292	4.24
1996	518 640	117 149	4.43

Dwelling types



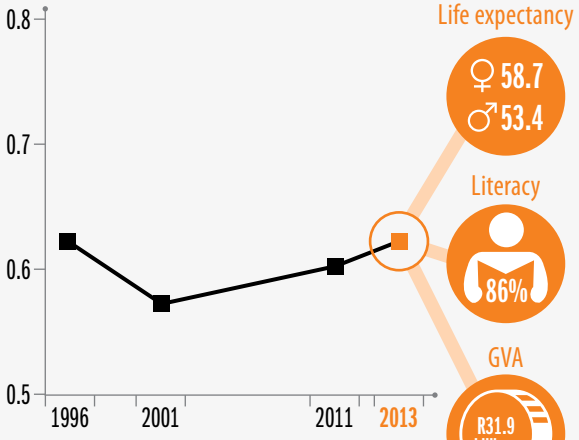
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Msunduzi has the highest levels of poverty of all the cities.

Human development index (HDI)



Life expectancy
♀ 58.7
♂ 53.4

Literacy
86%

GVA
R31.9 billions

HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

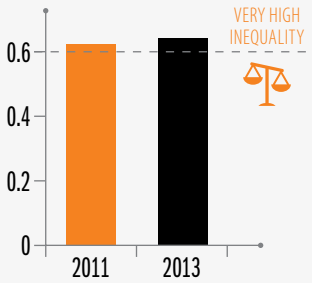
Matric level **20.9%**

Higher education **7.2%**

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Msunduzi.

Levels of poverty

Gini coefficient (inequality measure)

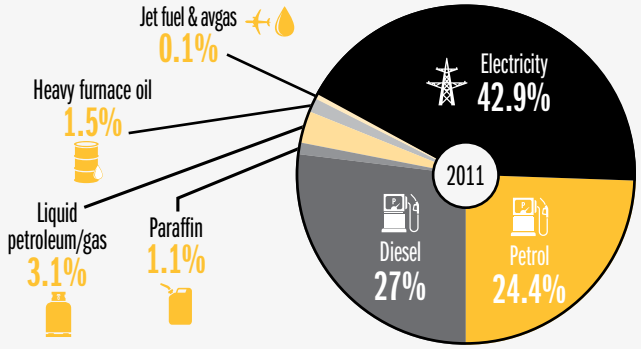


Number of people living below the poverty line

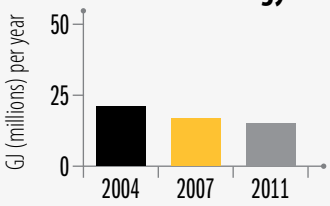
2001 **48%** 2011 **34%**
of total population

SUSTAINABILITY

Sources of fuel 2011

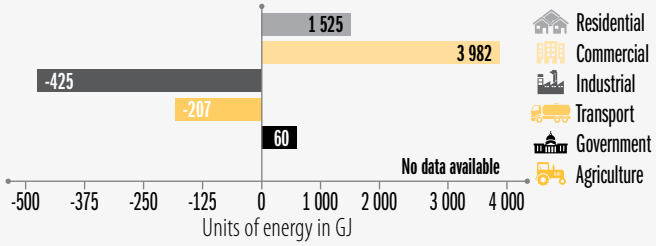


Energy consumption



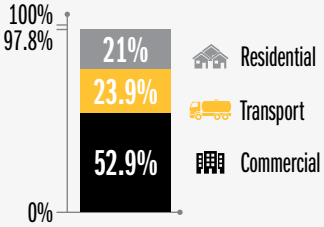
Msunduzi energy data excludes coal, which may have a substantial impact because coal represented as much as 50% of total energy in 2004.

Change in energy intensity 2007–2011



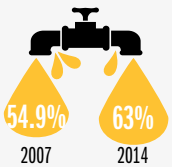
Energy intensity: measures the amount of energy used to produce goods and services

Emissions: top three sectors in 2015



Commercial values would be far higher if coal were included.

Non revenue water

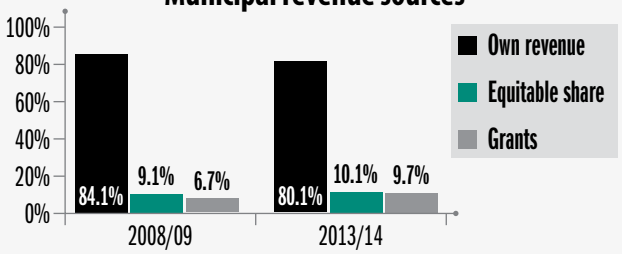


Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed)

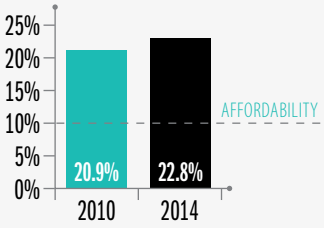
Non-revenue water levels are the highest of all the cities, which is very concerning.

CITY FINANCE

Municipal revenue sources



Affordability of municipal bills for type A households
(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100 000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

SERVICE DELIVERY

2010 **84.1%** 2013 **84.9%**

of households have access to piped water inside dwelling/yard

2010 **97.6%** 2013 **98.1%**

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 **56.8%** 2013 **54.6%**

of households have refuse removed by municipality (weekly or less frequently)

Msunduzi's low access to refuse services reflects the city's high levels of informal and traditional housing.

INFRASTRUCTURE

ICT infrastructure 2011
Percentage of population with connections

21.8% Fixed-landline telephone

89.3% Mobile telephone

38.2% Internet connections

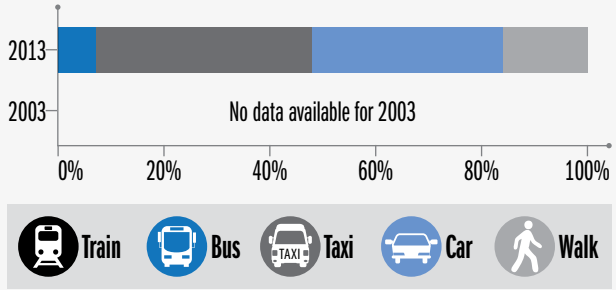
Repairs and maintenance
% of operating expenditure

4.0% 2009 **4.5%** 2014

National Treasury recommends 8–10% of operating expenditure

Mode of transport to work

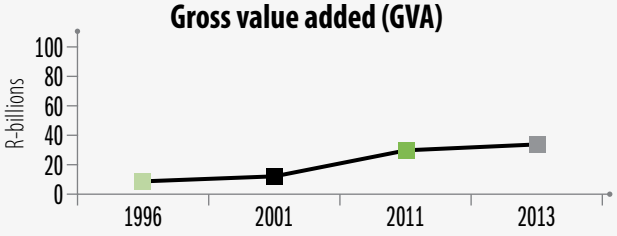
In Msunduzi, 8 out of 10 people use a taxi or a private vehicle to move around the city.



"Other" transport modes are not included in the graph.

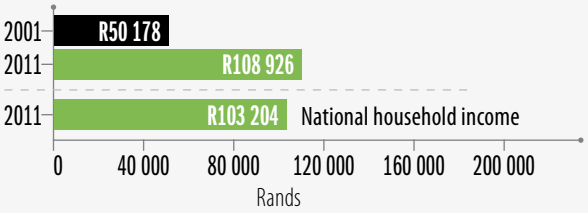
ECONOMY

Gross value added (GVA)



Average household income

Average household income has increased in Msunduzi, but municipal bills for Type A households are the least affordable of all nine cities.



Cost of living
(based on a bundle of goods)

R78.60 2008

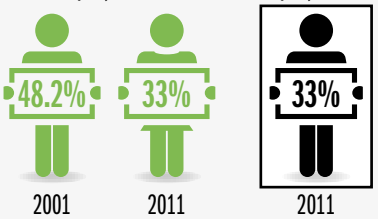
R92.20 2011

R110.10 2014

Unemployment rate

Average unemployment rate

Provincial average unemployment rate



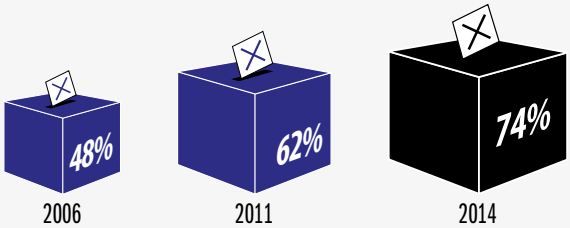
The economy is growing, but unemployment is extremely high and the cost of living has increased significantly.

CITIZEN ENGAGEMENT

Voter registration/turnout

Local election

National election



Between 2006 and 2011, Msunduzi had the highest increase in voter turnout at local elections of all the cities.

PIETERMARITZBURG URBAN RENEWAL PROGRAMME

Introduction

Culture, which includes heritage, is increasingly recognised as being a significant factor in the sustainable development of cities. Many cities have used their heritage resources as a catalyst for regenerating and revitalising decaying areas, particularly in the inner city. Msunduzi, housing the capital of KwaZulu-Natal (KZN), Pietermaritzburg, is of historic, political and economic significance to the region.

On 11 April 2013, the Pietermaritzburg Urban Renewal Programme (PURP) was launched as part of the city's 175th birthday celebrations. It is a Mayoral project that seeks to lay a foundation for the municipality's future development, "making it attractive to use by its citizens, tourists and investors" (MM, 2013a). The PURP was initiated following negative publicity related to service delivery challenges in the area, such as poor waste management, non-working street lights, poor roads and a lack of city beautification. Specific attention is on ensuring that the inner city areas are clean and safe, with public lighting at night, and well maintained (ibid).

City Hall

Source: http://www.engineeringnews.co.za/print-version/pietermaritzburg-receives-regeneration-plan-2014-08-01

The programme is being implemented in phases, starting with the city centre. The objectives of PURP include creating an attractive and conducive environment, upgrading infrastructure, improving safety and energy efficiency, creating jobs, transforming the face and image of the city and enhancing the rates revenue. In 2013/14, a budget of R6-million was allocated to the PURP, increasing to R8-million in 2014/15 (MM, 2014). In addition, the KZN Department of Cooperative Governance and Traditional Affairs (COGTA) is a strategic partner and has provided funding of R14.5-million.

Overview of key flagship programme

Pietermaritzburg's central business district (CBD) is located close to the N3 corridor and has a rich, historical character. It is associated with names such as Gandhi, Harry Gwala, Peter Kerchoff and Jabu Ndlovu in the decades-long efforts to bring the apartheid government to its knees. However, despite these associations and

important tourist sites, there have not been an equal number of visitors and related investment (Royal Haskoning DHV, 2013). The CBD has a complex mix of land uses and is home to (ibid):

- The parliamentary complex for the KZN Provincial Government and most of the offices of the KZN Provincial Government departments.
- Various noteworthy formal retail hubs, such as along Church Street and sections of Chief Albert Luthuli (formerly Commercial) and Victoria Roads, and at the Liberty Mall retail node.
- Significant informal trade in the lower and upper sections of Church Street and around Retief Street.
- Freedom Square Park (previously known as Market Square), which is at the heart of the area and of great historical significance (Ndaba and Landman, 2014).
- A medical services precinct.
- A cluster of legal businesses.
- Medium density housing clusters.
- A range of educational establishments, from crèches to primary and high schools, colleges and a university campus.
- Some light industrial stock and a diversified automotive sales and services sector.

The municipal Spatial Development Framework (SDF) prioritises the "recycling/upgrading and reinventing" of the CBD and encouraging investment into the area (MM, 2015). A limit line has been developed to consolidate the CBD, although the planning boundary currently extends beyond this limit and is therefore now viewed as the future growth boundary. The PURP forms part of the SDF and has a specific local area plan covering the central area of Pietermaritzburg. In addition to the PURP, the municipality's other initiatives include a new public transport system and improvement of the public environment, all of which are intended to increase investment in 'and economic development of' the city.

Source: F. Kitchin

Ongoing maintenance and cleanliness

Source: F. Kitchin

The PURP is based in the office of the Municipal Manager and coordinates a number of activities performed by different departments within the municipality. During the planning stage, the project was divided into 14 zones and then further divided for construction. Urban design guidelines were prepared and a palette of street typologies was developed (MM, 2013b). Two areas were identified for making "a grand statement or a symbolic treatment": at the entrance of Alan Paton Road, within the island carriageway, and directly in front of the City Hall building. An important component is public art, specifically in the area around the city hall, and included a proposed sculpture that would explore the elements of movement, strength, a caring society, justice and freedom.

PURP project	Progress
Outdoor advertising management	Now properly regulated and has resulted in increased revenue for the municipality.
Energy efficient street lighting	The first phase of solar street lights has been completed and replacement of faulty fittings has been done through the street lighting implementation programme.
Informal trade management	The launch of the Informal Trade Chamber.
City beautification	The main precinct (Albert Luthuli, Church and Langalibalele Streets) has been paved with red paving stones to match the red brick of the surrounding buildings and landscaped with trees and flowers, street furniture and special public art features.
Street parking management	A regulated parking management system has been put in place, and 40 additional traffic wardens have been employed.
Environmental management	150 Expanded Public Works Programme workers have been employed to improve waste management, and pedestrian walkways have been upgraded.
Road traffic signage and signals	A pothole replacement programme is underway, which includes regular road marking

In addition, the PURP includes the rehabilitation of existing roads infrastructure, enforcement of municipal by-law, transportation planning, urban planning and management, and safety and security

Msunduzi has made use of its cultural and heritage resources to support inner city revitalisation, through (for example) extending the library, building the tourism hub and taxi rank, and integrating these with museums and public spaces in the central parts of the city.

Reflections

The regeneration of historic cities such as Msunduzi provides an opportunity for upgrading the built environment, improving access to basic services for the urban poor, preserving key cultural heritage assets, implementing labour-intensive public works programmes, supporting social development and enhancing the institutional framework.

The PURP has achieved stunning aesthetics and "dramatically enhanced the streetscape around the majestic City Hall and surrounding historical buildings, increasing property value and rendering the CBD a more pleasant place to visit" (Mothilal and Bradley, 2014). The PURP has created additional revenue for the municipality from metered parking and advertising on billboards, and traffic management has improved. Yet there is a surprising lack of branding and visibility of the PURP in the area. Improved branding and more effective communication of any partnerships with the private sector associated with the PURP may help to generate momentum among more residents and users of the central city.

The PURP in Msunduzi has required balancing the need for public access to public space against the need for safety and security in order to provide "public open spaces that are socially inclusive, economically viable and economically sustainable" (Ndaba and Landman, 2014). The spaces with limited access in central Pietermaritzburg – e.g. the library, the park and the taxi rank – are "the most pleasant and receive positive feedback from users and managers", while spaces with free access at all times have become derelict, vandalised and (in some cases) have had to close, e.g. Carbineers Memorial Garden. An important consideration is, therefore, to what extent public space should be regulated and controlled, and how this either facilitates or restricts public access (ibid).

Looking forward

The urban renewal programme is intended to lay the foundation for the municipality's future development. Following the implementation of the PURP in the CBD, the municipality intends rolling out the programme to outlying areas. The local area plan includes enhancing the capacity and responsiveness of local government to manage the urban environment, of which one aspect is the extension of city beautification projects such as the PURP.

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NELSON MANDELA BAY

@mlungisibusakwe

PEOPLE AND HOUSEHOLDS

Size of city

1 959 km²

Population density in 2011

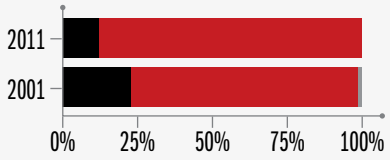
588 people per km²

Nelson Mandela Bay has the lowest proportion of informal households compared to the other cities, having significantly reduced numbers between 2001 and 2011.

Growth

	Population	No. households	Average number of people per household
2011	1 152 116	324 292	3.55
2001	1 005 779	260 779	3.86
1996	959 299	225 677	4.25

Dwelling types



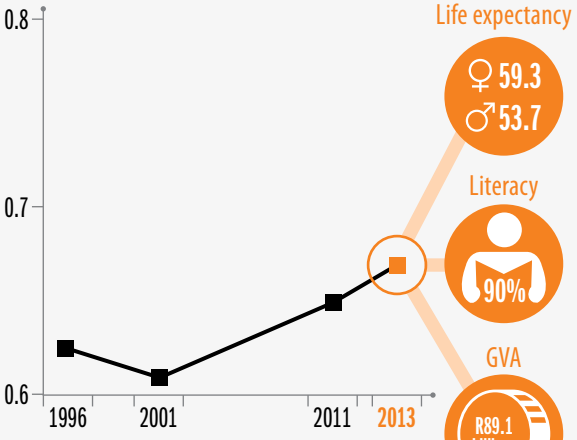
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Nelson Mandela Bay's literacy level is comparable to the big metros. Life expectancy levels are the same as for Buffalo City.

Human development index (HDI)



Life expectancy
♀ 59.3
♂ 53.7

Literacy
90%

GVA
R89.1 billions

HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

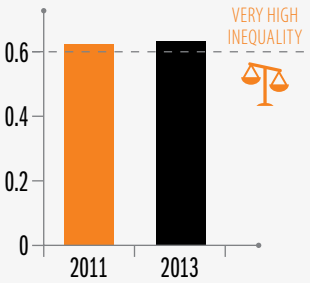
Matric level 19.7%

Higher education 6.8%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Nelson Mandela Bay.

Levels of poverty

Gini coefficient (inequality measure)

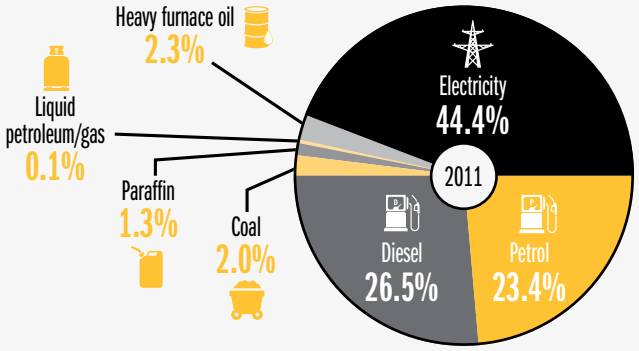


Number of people living below the poverty line

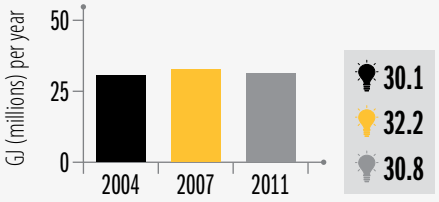
2001 46%
2011 29%
of total population

SUSTAINABILITY

Sources of fuel 2011

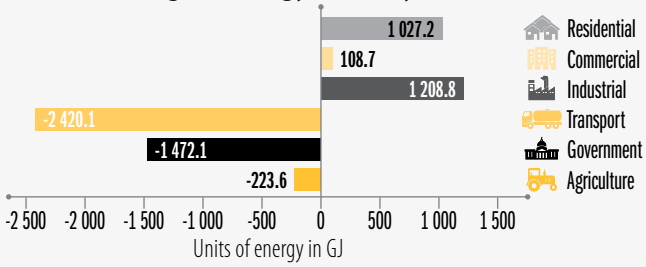


Energy consumption



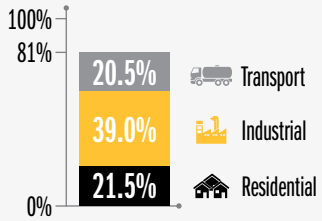
Electricity accounts for almost 45% of the energy used in the city, and the industrial sector is the largest contributor to greenhouse gas emissions.

Change in energy intensity 2007–2011

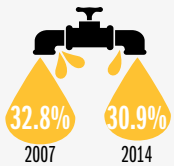


Energy intensity: measures the amount of energy used to produce goods and services

Emissions: top three sectors in 2015



Non revenue water

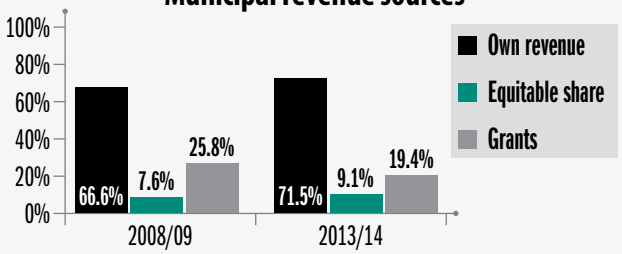


Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed).

NELSON MANDELA BAY – State of Cities Report 2016 Dashboard Indicators

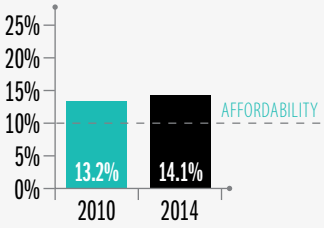
CITY FINANCE

Municipal revenue sources



Affordability of municipal bills for type A households

(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100 000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

SERVICE DELIVERY

2010 **86.6%** 2013 **86.9%**

of households have access to piped water inside dwelling/yard

2010 **92.4%** 2013 **94.2%**

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 **91.5%** 2013 **91.6%**

of households have refuse removed by municipality (weekly or less frequently)

Nelson Mandela Bay has increased access to basic services, especially access to sanitation and waste removal.

INFRASTRUCTURE

ICT infrastructure 2011

Percentage of population with connections

23.5% Fixed-landline telephone

85.5% Mobile telephone

34.8% Internet connections

Repairs and maintenance

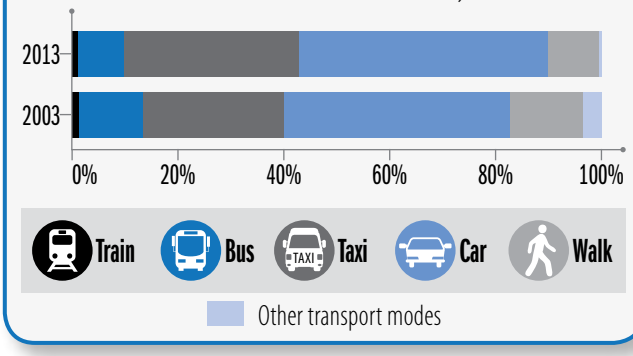
% of operating expenditure

10% 2009 — **7.6%** 2014

National Treasury recommends 8–10% of operating expenditure

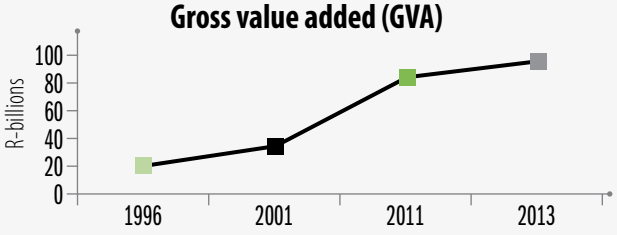
Mode of transport to work

In Nelson Mandela Bay, 8 out of 10 people use either a car or taxi to move around the city.



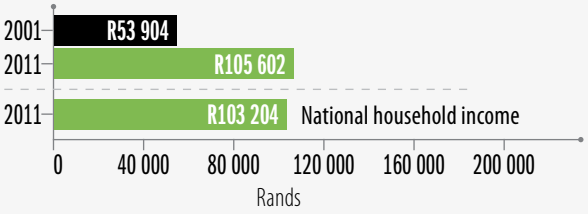
ECONOMY

Gross value added (GVA)



Average household income

Nelson Mandela Bay's average household income and cost of living are comparable to eThekwini, but its economy is much smaller.



Cost of living

(based on a bundle of goods)

R78.60 2008

R92.50 2011

R109.30 2014

Unemployment rate

Average unemployment rate

46.4% 2001

36.6% 2011

Provincial average unemployment rate

37.4% 2011

Between 2001 and 2011, Nelson Mandela Bay's economy and average household incomes grew slower than any of the other cities.

CITIZEN ENGAGEMENT

Voter registration/turnout

Local election

56% 2006

65% 2011

National election

74% 2014

Together with Cape Town, Nelson Mandela Bay had the highest voter turnout at local elections in 2011 (65%).

SAFETY AND PEACE THROUGH URBAN UPGRADING

Introduction

Urban regeneration aims to reverse the economic, social and physical decay of an area. Research has found it is important to consider not only the physical but also the social and economic regeneration of the area (Kitchin and Ovens, 2008). Partnerships between the public and private sector, community and civil society organisations, and involving the affected community leadership are critical to successful regeneration. In most countries, regeneration focuses on declining inner city areas. However, in South Africa, disadvantaged areas are usually on the city's periphery.

In 2003, the Nelson Mandela Bay Municipality established the Mandela Bay Development Agency (MBDA) as a special purpose development company responsible for urban regeneration in the metro. In 2007, the MBDA extended its focus beyond the inner city to include areas such as New Brighton, Uitenhage and Helenvale. Situated in the northern suburbs of Port Elizabeth, Helenvale is a township established in the 1950s as a result of the Group Areas Act. It is home to approximately 21 000 people and has high levels of density and informality, and a poor quality of life. Over half of the population is unemployed (MBDA, 2014a) and nearly 70% (69.6%) of people living in the area are under the age of 35, of which 40% are unemployed.

Map of Helenvale

Source: SPUU Helenvale: Inception Report and Master Plan

In 2006, Helenvale was declared an urban renewal area and became part of the National Urban Renewal Programme. In 2011, the Helenvale Urban Regeneration Programme (HURP) was moved to the MBDA, following approval of R70-million funding from the German Development Bank (KfW) for the Safety and Peace through Urban Upgrading (SPUU) programme. This programme's interventions are aimed at creating a safer Helenvale through implementing both physical and social infrastructure.

Overview of flagship programme

The urban upgrading in Helenvale consists of various projects. The first HURP project focused on upgrading and improving the Helenvale Precinct (widening streets, constructing sidewalks, improving storm water drainage, and installing street furniture such as benches and trees). Two community parks were also constructed. National Treasury funded the project through the Neighbourhood Development Programme Grant (NDPG), for a total cost of R21.5-million. Local labour and small businesses were employed on the project (MBDA, 2014b). However, the upgrades do not appear to have reduced conflict, with the vandalism of street lighting of concern because it renders passive surveillance impossible (SPUU Helenvale).

The Helenvale Resource Centre was the single biggest investment (almost R43-million, funded by national government) in the area in 50 years and involved demolishing the original centre and replacing it with a state-of-the-art one-stop facility (MBDA, 2013). In 2013, the centre was awarded the Eastern Cape Institute of Architects Award for Architecture (ibid). The MBDA operates the centre.

Helenvale resource centre

Source: SPUU Helenvale: Inception Report and Master Plan

The SPUU programme's objective is to contribute to increased safety and a better quality of life in Helenvale. It focuses on five components:[1]

- Improved safety of public spaces and community facilities
- Safer schools, in partnership with the community
- Prevention of domestic violence
- Improved housing (in consultation with the municipality)
- Improved employment opportunities for youth.

The programme commenced on 3 February 2014 and is expected to end on 31 January 2018. Prioritised projects include pedestrian walkways and public sports fields, refurbishment of school facilities and sports grounds, and "soft" measures for peace and safety promotion in schools, reduction of domestic violence and victim care, and the establishment of youth employment projects.

A housing strategy for Helenvale has been completed in order to address the current housing challenges. This includes rectification of existing 1994 small units, de-densification of approximately 450 families from overcrowded units, preferably to sites within Helenvale and surrounds (some on state-owned land in Algoa Park and/or Parsonsvlei and Westering), as well as the in-situ upgrading of approximately 200 informal settlements integrated with the Helenvale SPUU Programme (NMBM, 2014). The proposed Helenvale project, which has been approved by Council, will yield approximately 4200 units at a total cost of R885-million. The SPUU programme also includes a pilot housing project, which aims to demonstrate practical, scalable solutions that can be scaled up and to provide skills training and employment in the process (SPUU Helenvale).

1. http://www.saferspaces.org.za/be-inspired/entry/safety-and-peace-through-urban-upgrading

A number of other projects have taken place in Helenvale, including training people in business skills, life skills and issues relating to HIV/AIDS, a street soccer programme (in collaboration with the SAPS), a training programme for 20 child and youth workers, and a youth training camp for leaders. The Helenvale Cleaning Cooperative (HEMCO), which is fully Helenvale-owned, was awarded a tender to clean out all the illegal dumping sites in Helenvale, to be followed by weekly servicing of the sites for a further two months. This created employment for approximately 150 people, and the MBDA also entered into discussions with the Northern Areas People's Development Initiative (NAPDI) on their Helenvale Recycling Initiative (HERI).

> **If we can provide people with skills at the same time so that they are able to find employment afterwards that will be a significant achievement and mean that the renewal project will have a lasting legacy. We want to avoid implementing a renewal project that still leaves the majority of people living in poverty and unemployed.**
>
> *(MBDA CEO)*

The MBDA engages with communities using a "C2C" approach (from concept to completion). A Programme Advisory Committee, elected by the community, was set up as a non-partisan entity to work with the MBDA. This committee consists of five people from each of the four voting districts in Helenvale (i.e. 20 community members), as well as the councillor, officials from MBDA and GIZ (German development agency) and two ward committee members. The community members forming the core component of this committee have been capacitated through formal training in community leadership, project management and specific themes. The committee meets twice a month and the chair is rotated monthly i.e. co-leadership. The MBDA also established a process of "dialogues" consisting of youth and women caucuses (SPUU Helenvale).

An economic impact assessment of the MBDA investment projects found that the redevelopment generated the following benefits (MBDA, 2014a):

- R170.3-million in new business sales (constant 2011 prices)
- 312 new job opportunities
- R 55.8-million in additional regional gross domestic product

In addition, in 2012, the South African Police Service (SAPS) indicated that crime had massively reduced in the Helenvale area since the advent of the various HURP programmes.

Reflections

Various strategies have been developed in different South African cities since 1994 to develop townships and integrate them more effectively into the economic and social fabric of the city, trying to undo apartheid's strategies of spatial marginalisation. The MBDA's work in Helenvale provides some lessons for township renewal:

- Community involvement and engagement must go beyond merely informing to ensuring ongoing "feedback loops" with the community, involving them as equal participants. In this way, communities become owners of both the process and the infrastructure. However, communities have seldom taken ownership as hoped.
- Party politics must not become bigger voices than those of the community. This links to the quality of leadership that communities have to depend on and the need to build better structures in communities.
- Such projects provide an opportunity to empower youth at a community level, which is desperately needed.

The experience of MBDA and SPUU in linking urban upgrading and safety and peace is one that should be of interest to most cities and towns in South Africa.

Looking forward

Within Helenvale, the SPUU programme's various projects and programmes are being rolled out with the support of the community. Helenvale Precinct Phase 3 is underway, focusing on the "Gaat" area of Helenvale. In addition, the housing programme will be implemented once the municipality has obtaining housing accreditation. The KfW has appointed a consultant to assist the municipality to extend the SPUU project in Helenvale into the next phase, i.e. from 2018 onwards.

The MBDA will continue rolling out its urban regeneration programmes, focusing both on the inner city and residential suburbs outside of the CBD. The success of the Helenvale project has led to the development of a masterplan for Schaderville Korsten, a residential area that faces similar challenges to those of Helenvale, i.e. high levels of drugs, crime and unemployment. Areas of focus include precinct and housing development, a multipurpose sport centre and a community centre (MBDA, 2015).

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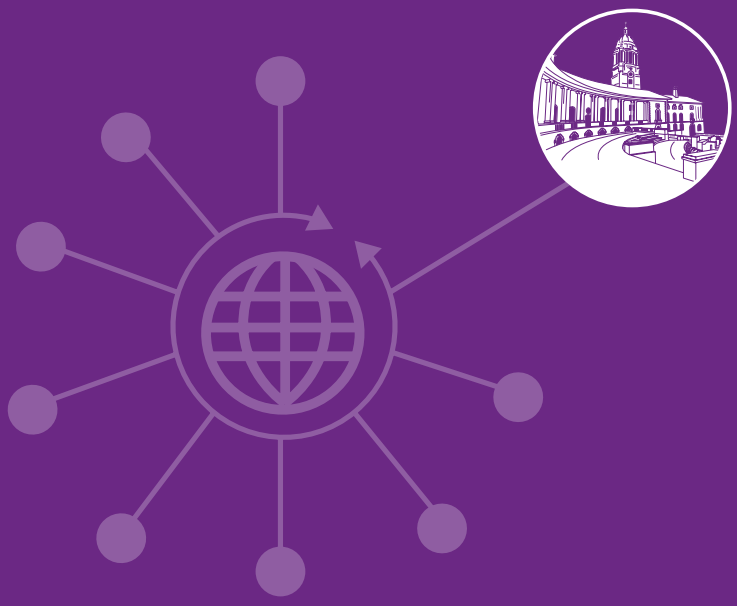
www.mbda.co.za

CITY OF

TSHWANE



@drae_savvides

PEOPLE AND HOUSEHOLDS

Size of city

6 298 km²

Population density in 2011

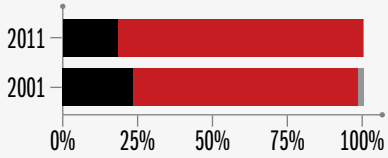
464 people per km²

Since 2011 Tshwane's geographical area has tripled and now includes large rural areas. As a result, the city's population density dropped from 908 persons/km².

Growth

	Population	No. households	Average number of people per household
2011	2 921 488	911 536	3.21
2001	2 142 322	606 025	3.54
1996	1 770 330	459 122	3.86

Dwelling types



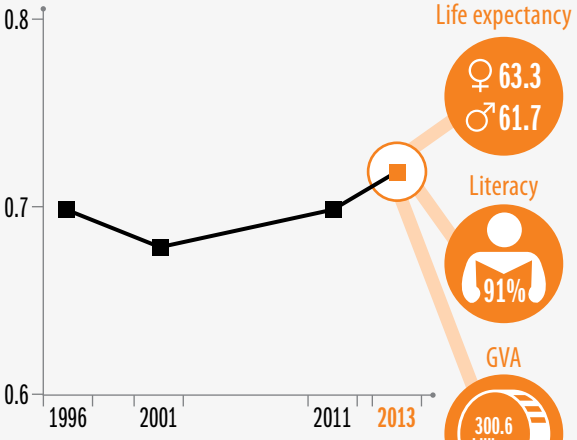
Informal
Formal
Traditional

Go to StepSA.org to see maps on how population density changes across the city.

SOCIAL FABRIC

Tshwane has made progress in reducing poverty and improving livelihoods, but inequality remains a challenge.

Human development index (HDI)



HDI is a composite of life expectancy, literacy and gross value added (GVA)

Highest education level 2011

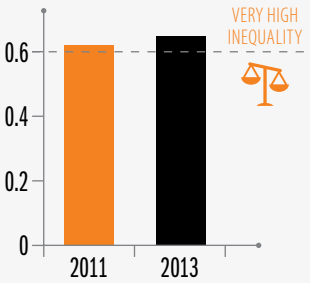
Matric level 23.8%

Higher education 14.8%

Urban safety is important for a city's social fabric; go to SCODA to access urban safety data for Tshwane.

Levels of poverty

Gini coefficient (inequality measure)

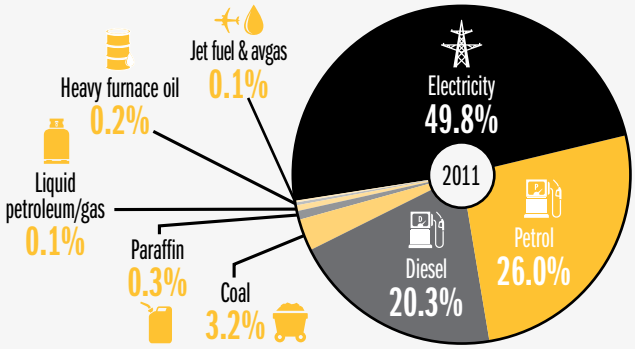


Number of people living below the poverty line

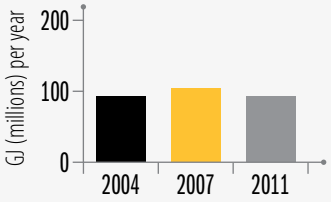
2001 29%
2011 20%
of total population

SUSTAINABILITY

Sources of fuel 2011



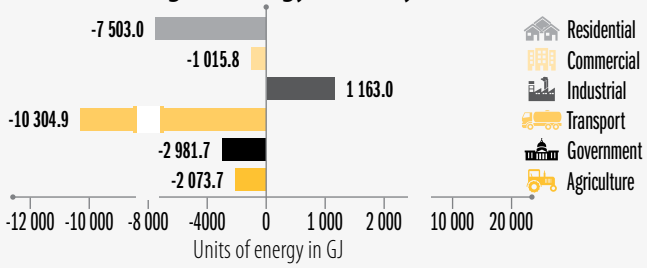
Energy consumption



92.3
104.5
92.6

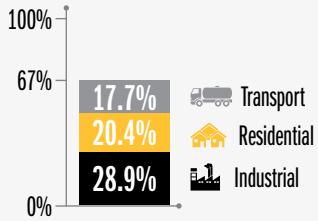
The industrial sector is the largest contributor of greenhouse gas emissions in the city.

Change in energy intensity 2007–2011

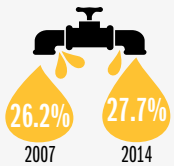


Energy intensity: measures the amount of energy used to produce goods and services

Emissions: top three sectors in 2015



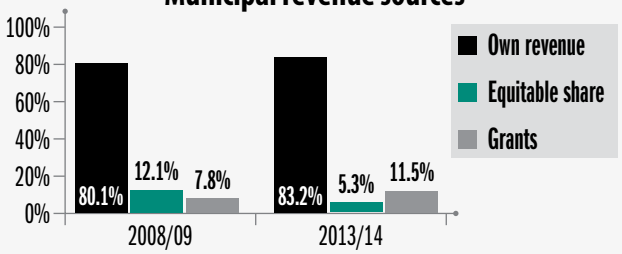
Non revenue water



Non revenue water is water that is "lost" before it reaches the customer, either physically (leaks) or apparently (e.g. theft, not billed).

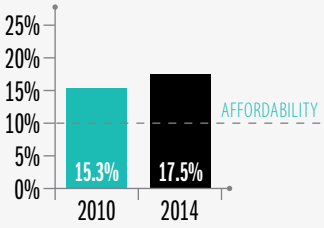
CITY FINANCE

Municipal revenue sources



Affordability of municipal bills for type A households

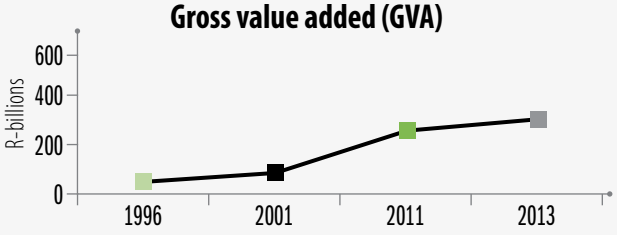
(municipal bill as % of benchmark income)



Type A is a household that lives in a property with an assessed value of R100,000, consumes 400 kWh of electricity and 20 kl of water per month, and has a 240 litre bin removed weekly. Its monthly income is R6 742.

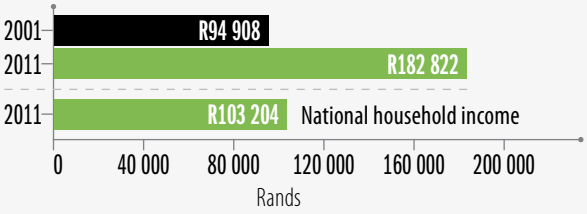
ECONOMY

Gross value added (GVA)



Average household income

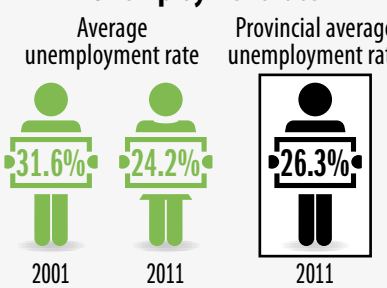
Tshwane has the highest per capita income of all the cities.



Cost of living

(based on a bundle of goods)

Unemployment rate



The economy is growing rapidly and unemployment is below the provincial average, but living in the city is becoming increasingly unaffordable for many.

SERVICE DELIVERY

2010 87.4% 2013 88.7%

of households have access to piped water inside dwelling/yard

2010 97.6% 2013 98.1%

of households have access to sanitation services*

* includes access to flush toilets, VIPs and pit toilets

2010 81.9% 2013 83.2%

of households have refuse removed by municipality (weekly or less frequently)

Most households now have access to sanitation services, but further roll-out of water and waste services is needed.

INFRASTRUCTURE

ICT infrastructure 2011

Percentage of population with connections

- 18.9% Fixed-landline telephone
- 95.0% Mobile telephone
- 51.4% Internet connections

Repairs and maintenance

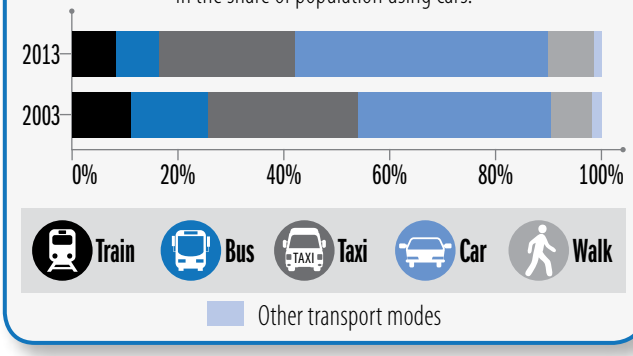
% of operating expenditure

11.1% 2009 — 6.5% 2014

National Treasury recommends 8–10% of operating expenditure

Mode of transport to work

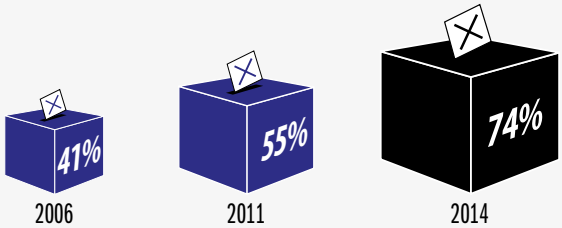
Between 2003 and 2013, Tshwane had the biggest increase (+11.2%) in the share of population using cars.



CITIZEN ENGAGEMENT

Voter registration/turnout

Local election — National election



Voter turnout at local elections has increased but remains significantly lower than at national elections.

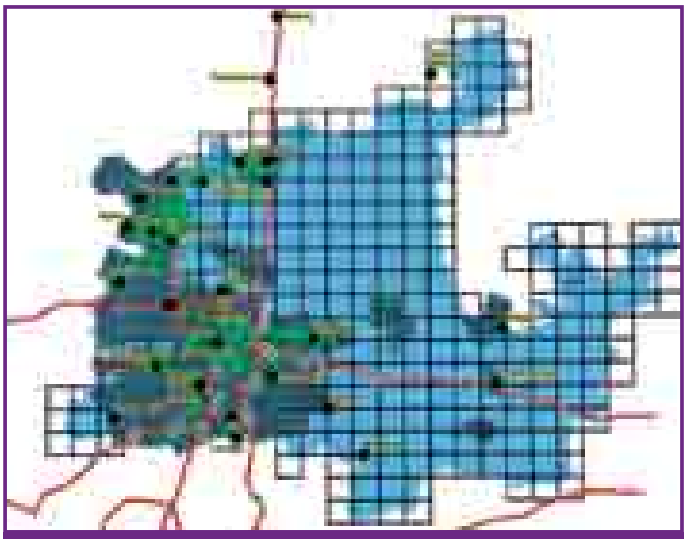
WI-FI PROJECT

Introduction

City-wide broadband initiatives are being implemented throughout the world because a connected city is assumed to be more competitive and attractive to businesses and residents. A World Bank study (2009) found that for every 10% increase in mobile penetration, there is a corresponding 1.28% increase in gross domestic product (GDP) and 0.28% increase in a country's employment. In many instances, these initiatives involve partnerships, with the municipality being seen as the enabler, while a private sector contractor delivers the service (Balancing Act, 2014).

The City of Tshwane has partnered with Project Isizwe to provide free Wi-Fi across the city. Project Isizwe is a non-profit organisation that believes every South African citizen has a right to access good quality, affordable internet. Wi-Fi was identified as the most appropriate medium for rolling out access to networks because of the high number of Wi-Fi compatible devices in South Africa. The objective is for Tshwane to be the e-capital of excellence and a driver of education in the country, aligned to the creation of a smart city and a knowledge economy.

In November 2013, Phase 1 of the project rolled out free internet zones to Soshanguve, Hatfield, Church Square, Tshwane North College and Mamelodi Community Centre. In July 2014, Phase 2 added an additional 213 schools in Atteridgeville, Soshanguve and Mamelodi with the capacity for one million users and Phase 3, which is currently being implemented, will add a further 400 sites and capacity for a further two million users (CoT, 2015). The second phase made Tshwane the largest provider of free Wi-Fi in the country.



Map: 600 free Wi-Fi sites

Source: Tshwane free Wi-Fi presentation

Overview of flagship programme

In the partnership between the City of Tshwane and Project Isizwe, the city provides grant funding, access to power supply, high sites, street poles, fibre transmission and other related requirements in order to enable the service. Project Isizwe provides technical expertise, network solutions and architecture, network design specification and equipment, network implementation, backhaul and breakout solutions, core network infrastructure, network monitoring systems and tools, network security systems and tools, 24/7 monitoring and support, remote management solutions, physical site maintenance and professional and project management services (Project Isizwe, 2014).

During the first phase of the project, one access point was provided every 14 weeks. Average speeds were 7MBs, and users were able to login on any Wi-Fi enabled device e.g. mobile phones, tablets, computers and laptops. By Phase 2, one access point was being provided every two days, seven times faster than in Phase 1. Data is limited to 250MB per device per day, with an average speed of 1Mb/s download and 256kbps upload. However, unlimited usage is provided for on-net content that does not require a breakout to the internet.

> Wi-Fi is a significant enabler that bridges economic and social divides, which connects citizens to knowledge, education, opportunities for personal development, health care services and social networks. It supports a range of human rights, which must be given effect to by the state. Wi-Fi access has a significant impact on economic growth and the reduction of poverty, which is what is at the core of the NDP. There is thus a solid policy basis as well as international support for increasing access to the internet, in particular mobile access through Wi-Fi.
>
> *(Prof. Dirk Brand)*

The project is implemented through a number of partnerships with various private sector organisations. These include a free internet zone (FIZ) partnership with Neotel, equipment partnerships (Scoop distribution and MIRO), hardware partnerships with companies such as Huawei and Ruckus Wireless, jobs, legal and insurance partnerships (e.g. Gumtree South Africa, Couzyns Incorporated and HUG Insure), Immarsat and news/media partnerships with CNBA Africa, CNBC Africa, Primedia, e-TV, SABC, DSTV and Ster Kinekor. Finally, there are research and information partners including World Wide Worx and Dalberg, and a general partnership with Hurley.

In December 2014, the city launched "Bus Wi-Fi" for commuters on board the city's bus rapid transit system, A Re Yeng. All 30 buses are equipped with connections allowing users to access 250MB of data free each day, using the Radwin Mobility Solution – a combination of fibre optic cable and a mobile unit on board the bus itself. The project was rolled out six weeks ahead of schedule and is the first of its kind in Africa. In January 2015, there were an average of 73 000 sessions per day.

In December 2014, Wi-Fi TV was added to the project, with the launch of ConnectUp Tshwane. This new video-on-demand offers residents in Mamelodi, Soshanguve, Atteridgeville and Pretoria CBD access to four free TV channels. Local crews produce content covering topics that include music, current affairs, entrepreneurship, religion, sports and more.

Since the launch of the programme, over 12.5 million sessions have been logged and over 40 000 unique users log in every day. The most popular sites are education, Wi-Fi TV and job searches. A 2014 survey of 106 users found that the majority of them are young, unemployed and looking for jobs: 66% of users were aged between 20 and 29. One of the benefits of the programme is reduced friction in funding and applying for jobs, and the survey estimated that access to internet could have created 122 direct jobs. User testimonials highlight how the free Wi-Fi has helped with:

- children's homework
- varsity work and research for assignments
- communicating with people I cannot reach in terms of distance
- preparing for sermons to be used in church
- doing work without worrying about airtime
- reading the news
- looking and applying for jobs
- enhancing knowledge.

One entrepreneur in Soshanguve reported an 80% increase in revenue since the free Wi-Fi went live thanks to students choosing to sit at her stall and buy food whilst surfing the net. The City's project budget to date has been R1-million for Phase 1, R60-million for Phase 2, R114-million for Phase 3 and a R31-million for Phase 4.

Tshwane free Wi-Fi statistics

Source: www.projectisizwe.org

Reflections

Critics of the project argue that security is often lacking, and the systems do not protect children from harmful content. However, access at FIZs in Tshwane is designed to limit abuse and does not allow users access to harmful content such as pornography and alcohol (Alfreds, 2013).

Initiatives such as this "may be the start of something big if municipalities outside of South Africa can demonstrate that they have both the ambition and the competence to carry through private-public developments of this kind". However there are some areas for caution. International evidence on the success or not of municipal or city-wide Wi-Fi is not clear. In many cities in the US such initiatives have either proved extremely expensive or been deemed to be a failure. Examples include Portland, where the city had to pay to remove abandoned antennas left by its partner. Dubbed the "city-wide Wi-Fi implosion" by the Economist in 2013, only three large scale ventures emerged, the largest being in Minneapolis, where the city signed a 10-year, $12.5m contract with a private firm, USI Wireless that started being paid out at 10% each year long before the city could use the network's services. In Seattle, Wi-Fi was provided in 2005 and stopped in 2012 when authorities concluded that Wi-Fi was not necessarily a workable and cheaper way to get more people online as much of the network had to be replaces every 5–7 years. In addition, technical issues and geography created problems for city-wide Wi-Fi. Other challenges have included interference issues, network abusers, security and competition.

Challenges have been experienced internationally around payment for Wi-Fi such as this in that, while it might be free to the individual user, the city collectively usually has to pay, meaning higher taxes in some form. However, in New York City the proposed project will cost about $200 million, although officials said that this involves a consortium of companies sharing advertising revenue with the city, and that no taxpayer money would be used for construction. Some cities in the United States such as Philadelphia and San Francisco announced PPPs, giving the right to a private company to build a wireless network, and charge for access, often thereby relinquishing control over costs to a private company.

Critics of Tshwane's initiative maintain that the funds would be better spent on infrastructure and services like roads, water and electricity, and that in the long run this will not prove to be free, but will require all residents to pay. However, the question to be asked is whether we can afford to wait until all basic services are addressed before providing such a service? It does not need to be an either/or situation – either basic services or technological advancement. The Mayor of Tshwane has suggested that "access to connectivity must be viewed as a basic human right, analogous to the provision of basic services such as water and electricity. We have made tremendous progress in closing the digital divide and expanding internet connectivity." This is in line with the "commitment to build a people-centred, inclusive and development-oriented Information Society" under the auspices of the UN expressed at the World Summit on the Information Society.

Other concerns include the list of priorities for the Municipality, with some arguing that internet access should be further down on this list, after issues such as access to water and electricity. However, the project argues that free Wi-Fi is more critical for the development of the residents of Tshwane, noting that the network costs R1/GB, 1000 times cheaper than 3G from one of the country's major mobile network providers.

Looking forward

> Our perspective is that access to connectivity must be viewed as a basic human right, analogous to the provision of basic services such as water and electricity. We have made tremendous progress in closing the digital divide and expanding internet connectivity.
>
> *(Executive Mayor, City of Tshwane).*

The coverage map below shows the planned distribution of sites across the city, at the end of Phase 3. This includes 608 sites and capacity for a total of three million users (CoT, 2015).

Tshwane free Wi-Fi – coverage map

Source: CoT Regional Distribution Report

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SOCR 2016
DATA ALMANAC

Introducing SCODA –
The State of Cities Open Data Almanac

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INTRODUCTION

A key part of the development of the State of South African Cities Report (SoCR) is the need for evidence-based reporting which provides the information, experience and best practices on urban development and city management. The SoCR uses a large amount of data, statistics and indicators in a variety of formats to support the arguments made. However, the chapters themselves cannot carry all this evidence that is important to understand the cities. This underlying data needs to be shared through an almanac that details how our cities are performing in becoming more productive, inclusive, sustainable, well governed.

BACKGROUND

The Data Almanac has a history as long as the State of South African Cities Reports, and a number of different approaches have been employed to use and share data over time. The 2006 SoCR contained a data almanac attached as an annexure to the report. There were significant data gaps in the 2004 SoCR, and the 2006 indicator set was based on data availability, resulting in an arbitrary collection of indicators that was overly reliant on a few limited sources. Criticism of the 2011 SoCR noted the absence of a published almanac, a decision that was made due to the incompleteness of available datasets. This 2016 almanac is in response to the call for the data to be published, as well as for a more systematic approach to realise an evidence-based report.

The Data Almanac project builds upon an initiative that began in 2008 through a cities' Urban Indicators Reference Group, which was trying to take a systematic approach to addressing data challenges in cities.

In compiling the list of indicators for the SoCR , the SACN used available outcome indicators and data that were already being collected through its own projects, as well as linking with existing data and indicator projects and programmes (such as the Stats SA, CSIR (StepSA), National Treasury and the World Council for City Data). This project has again highlighted that data collection to monitor important city development indicators remains a significant challenge. Leading up to the publication of SoCR, considerable time and effort were put in to defining, compiling and populating the agreed set of indicators to provide the evidence base for city benchmarking. An indicator project run during 2015 populated the Almanac with data and made inquiries to determine:

- The correct or relevant department (custodian) of the data
- The availability of, and ease of access, to the data
- The frequency with which the data is updated
- The reliability of the data (through a data quality rating system indicating whether the information was as good as it gets, inconclusive with some data, inconclusive with no data, incomprehensible or that no data was available)
- The location or access point to the data

IMPROVING ACCESS TO CITY DATA

Cities require a broad range of data and information to enable city planning and management. The cities also face a significant reporting burden. On an annual basis, they use their own data, national data sources (such as Stats SA) and data from private vendors and projects to report on outcome indicators, which are required for monitoring and evaluation needs of a number of national departments, agencies and regulators. Many of these requirements are legislated and required for compliance. Over and above the reporting burden, a lack of capacity and adequate data management systems makes it difficult for many cities to provide data readily. In addition, cities require sub-metro level data from across their departments and entities for their own planning and management purposes. This data is often not available to them at the level and form needed. The SACN is interested not only in addressing these shortcomings but also developing a set of indictors that provides the evidence base for city performance and reporting, which allows cities to benchmark and learn from one another.

The State of Cities Open Data Almanac (SCODA) has been initiated by SACN, with its partners, as a city-centric approach to addressing the planning, management, monitoring and reporting needs of cities — and to realise more efficient and effective data systems and processes. The benefit for future urban research (including SoCR reporting) is that the data and indicators will become more readily and consistently available.

METHOD

The following method was used to compile the data almanac:

An indicator selection process was used to narrow down an extensive list of city-level indicators to a short list that provides a perspective on the state of cities. The following list of indicators was used as a starting point:

- Indicators from the 2006 and 2011 SoCR almanacs
- Review of existing key sector specific reporting requirements (for example current state of environment indicators, National Development Plan Outcomes indicators, etc.)
- Analysis of data and indicators required for local government reporting (SACN, 2013)
- Data included in State of the Cities Report 2016, which includes data accessed from the Centre for Scientific and Industrial Research's (CSIR) StepSA initiative *(http://stepsa.org)*
- Global City Indicator Facility (GCIF) indicators (*http://www.cityindicators.org/*)
- The World Council for City Data (WCCD), ISO 37120 Standard on City Indicators (*http://www.dataforcities.org/*)

These indicators were evaluated on the basis of :

- Relevance to the cities themselves
- Informing planning and management of cities
- Ability to inform decision making for cities
- Usefulness as local and international benchmarks
- Enablement of learning within and across cities
- Data availability and transparency
- Comparability of data across the cities

The data collection process focused on populating as many of the core indicators as possible, and then the longer list of secondary or supporting indicators. Where the data for core indicators does not exist, a suitable alternative data source was sought. Where possible, time series data was collected and the frequency of data collection recorded, so that the indicator database becomes a living and expanding resource base.

Data population in the Almanac was completed during 2016 in the lead up to publishing the SoCR. Any additional data that was collected during the development of the chapters has been included in the Almanac.

THE ALMANAC CONTENTS

This section lists the consolidated list of indicators in the data almanac. A short-list of core indicators covers the main SACN thematic areas (Inclusive, Productive, Governance, and Sustainable Cities, and basic Demography) and totals 103 indicators. The expanded list of secondary indicators covers a more comprehensive set of city indicators, bringing the cumulative total to 217 indicators. Additional city-level data that was collected in support of the chapters of the SoCR is also integrated into the almanac (for example additional economic and urban safety indicators).

The longer list of indicators includes the consolidated list of indicators across municipalities, SACN indicators, GCIF and WCCD indicators. This list is a more comprehensive municipal “dashboard” and urban governance indicator set, as well as meeting SoCR benchmarking needs.

The indicators are organised according to the thematic areas. In addition, a selected set of these indicators has been included in the SoCR City Profiles, depicted graphically. The data can also be accessed per city profile. The full data set can also be sorted and filtered per user preference.

The indicator table for download includes a detailed **Indicators Specification** (metadata) which informs the indicators and includes the following fields which are populated with available information:

1. Indicator name
2. Indicator definition

3. SACN theme (inclusive, productive, sustainable, well-governed)
4. SACN sub-theme (e.g. access and mobility, planning and design, sustainable transport)
5. SACN programme (e.g. human settlements, public transport, economy, water)
6. Core / secondary indicator
7. Data source and website link (where available)
8. Contact details
9. Date of collection
10. Date data available
11. Links
12. Resolution of data (province, city, ward, suburb, enumerator area, etc)
13. Frequency of collection (3–5 yearly, annual, quarterly, monthly, when available)
14. Spatial (e.g. location, distribution, GIS data availability)
15. Form (e.g. total, ratio to total & national average, short term & long term trends, sector)
16. Unit of analysis
17. Relevant legislation
18. Notes

WHERE TO FIND THE ALMANAC

The full almanac database is available for download from the SACN Website *(www.sacities.net)*, via the SoCR 2016 page. The almanac can be downloaded in the following formats:

- Full Almanac (as an Excel spreadsheet)
- Download per theme:
  - Demographic data
  - Inclusive cities
  - Productive cities
  - Well-governed cities
  - Sustainable cities
- City profile data per city (9 cities)
- Indicators specification (metadata)

WAY FORWARD: SCODA BEYOND 2016

Beyond the SoCR 2016, the vision is to create SCODA as on online living resource and database for cities. The project will move beyond a simple data catalogue to a full interactive data portal that can also serve as an ISO-certified city system for data and indicators, which ultimately feeds directly into cities' reporting requirements.

SCODA is a partnership between cities, SACN, SALGA, Stats SA and other interested partners. It is also supported through a strategic partnership with the WCCD, certifiers of the ISO 37120 Standard on City Indicators which is considered to be an important means of ensuring that SCODA is locally and internationally relevant for city development assessment and reporting.

Over the next phase of development, SCODA will focus on three key objectives:

1. Digitising the necessary data and metadata into an open online Almanac;
2. Improving ease of access to current and comparable indicators about cities; and
3. Easing the burden on cities of intergovernmental reporting and compliance by pre-populating known national and provincial or sector reporting requirements.

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INDICATOR SUMMARY TABLE

This section lists the core and secondary indicators in the Almanac, and their short definitions. Full metadata can be found in the downloadable **Indicators Specification.** The highlighted indicators are the core indicators, which are the initial focus for populating the SCODA database.

	Indicator	Definition
	DEMOGRAPHIC	
1	Population size	Total population in metro
2	Population density	Total population per square kilometer by area type
3	Households	Total households by type
4	Population growth rate	Percentage increase or decrease in the population
5	Population projections	Population projections are estimates of total size or composition of populations in the future.
6	Female population	Total female population in metro
7	Male population	Total male population in metro
8	Sex ratio	Total number of males per 100 females
9	Dependency ratio (age & economic)	Total number of people aged 0-14 years and aged 65 years and older as a portion of the population aged 15–64 years per 100 population
10	Child population	Total population under 14 years of age
11	Youth population	Total population 15–24 years of age
12	Adult population	Total population 25–64 years of age
13	Elderly population	Total population aged 66 years and older
14	Net migration rate	Difference between in-migrations and out-migrations over a period of time
15	International immigrants rate	Total number of international immigrants over a period of time per 1 000 population
16	Indigent	Number of registered indigent households
17	Poverty rate	Number of people living below the national poverty line
18	Gini coefficient	A measure of inequality in income or wealth
19	Life expectancy	The average number of years that a newborn could expect to live, if he or she were subject to the age-specific mortality rates of a given period.
	PRODUCTIVE CITIES	
20	Gross value add (GVA)	Total value (Rands) of goods and services produced
21	Exports	Value of all goods and services exported
22	Imports	Value of all goods and services imported
23	Labour productivity	Ratio of volume measure of output (GDP/GVA) to a measure of input use (the total number of hours worked or total employment)
24	Household Income	Total income from different sources for all household and by dwelling type
25	Cost of living	The amount of money needed to sustain a certain level of living, including basic expenses such as housing, food, taxes, and healthcare
26	Economically active population (EAP)	Total population employed and seeking employment within the 15–66 year age group
27	Employment absorption rate (EAR)	Proportion of the total working-age population / EAP that is employed.
28	Employment	Total (formal & informal), disaggregated by sector
29	Unemployment rate	Number of unemployed workers as a proportion of the total labour force
30	Vulnerable population unemployment	Women, youth, disabled proportion of unemployed
31	Skills supply	Number of higher education degrees and diplomas
32	Skills demand	Ratio of unemployed population with higher education degrees and diplomas to employed population with higher education degrees and diplomas
33	Human development index (HDI)	The HDI combines three dimensions: A long and healthy life: life expectancy at birth; education index: mean years of schooling and expected years of schooling; a decent standard of living: GNI per capita (PPP US$)
34	Fixed capital productivity	
35	Registered businesses	Number of registered corporations (private, formal sector companies with limited liability)
36	Company survival rates	Percentage of registered companies still registered
37	Private sector employment	Percentage people employed in the private sector
38	Patents	Number of new patents issued
39	Debtor servicing	Average number of days to pay service providers (30 day payment target)
40	Building plan value	Value of all building plan applications and approvals
41	Residential building plans	Number and value of residential building applications and approvals
42	Industrial building plans	Number and value of industrial building applications and approvals

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Indicator		Definition
PRODUCTIVE CITIES		
43	Commercial building plans	Number and value of commercial building applications and approvals
44	House prices	Average price of residential housing
45	Business start-up	Number of days to register business
46	Construction permits	Number of days for construction permit to be issued
47	Electricity connection	Number of days for electricity to be connected
48	Property registration	Number of days for property to be registered
49	Airline destinations	Number of registered domestic and international airlines arriving and departing from airports in metro
50	Passenger arrivals	Number of domestic and international passengers arriving and departing from airports in metro
51	Cargo (air & ports)	Tonnage of incoming and outgoing cargo being handled by airports and ports
52	Number of fixed-landline telephone connections	Total population with access to the fixed-landline telephone / 100 000
53	Number of mobile telephone connections	Total population with access to the mobile-cellular telephone / 100 000
54	Number of internet connections	Total population with access to the Internet / 100 000
INCLUSIVE CITIES		
55	Police stations – SAPS	Number of police stations
56	Crime – violent crimes	Number of violent crimes
57	Crime – property crimes	Number of property related crimes
58	Crime – Social fabric crimes	Number of social fabric crimes
59	Crime – commercial crimes	Number of commercial crimes
60	Learner enrolment- primary	Total number of learners by gender enrolled in primary school
61	Learner enrolment- secondary	Total number of learners by gender enrolled in secondary school
62	Learner-educator ratio	Total number of learners to educators
63	Learner-classroom ratio	Total number of learners to classrooms
64	Completion rate – primary school	Proportion of pupils starting grade 1 who reach last grade of primary school
65	Completion rate – secondary school	Proportion of pupils starting grade 7 who reach last grade of secondary school
66	Literacy rates	Total population aged 15–24 years who are literate (can read and write) by age group, the result is then multiplied by 100
67	Matric pass rate	Matric pass rate
68	Ratio of tertiary qualifications	Number of higher degrees (tertiary) qualifications per 100 000 people
69	ARV clinics – metro	Number of clinics dispensing ARVs
70	Hospitals – provincial	Number of provincial hospitals
71	Hospital beds – provincial	Number of hospital beds per 100 000 population
72	Mortality – infant	Number of infant deaths under 1 years of age per 1 000 live births
73	Mortality – under 5 years	Number of children deaths under 5 years of age per 1 000 live births
74	Mortality – maternal	Number of maternal deaths under 1 years of age per 1 000 live births
75	Multiple deprivation index	Number of people deprived of income, housing, health care, education, employment, housing, services, crime free and suitable living environment
76	Dwelling type	Number of dwellings by type and location
77	Informal shelter growth	Percentage increase/decrease in number of informal shelter by location
78	New housing delivery	Number of new shelter opportunities by type and location per year
79	Household growth	Estimated growth of households per year
80	Dwelling tenure	Number of households by tenure type and dwelling type with location
81	Evictions and forced relocations	Total number of evictions and forced relocations
82	Repossessed houses	Number of repossessed houses in different residential areas
83	Affordability index	Ratio average house price to the average employee remuneration
84	Household cost	Percentage of household income spent on housing
85	Service account arrears	Number of households that have arrears on their service accounts
86	Mortgage bonds – banks	Number and value of mortgage bonds approved by financial institutions
87	Housing market	Value of the housing stock and sales by sector

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Indicator		Definition
INCLUSIVE CITIES		
88	Private sector investments	Financial investments by the private sector in new housing developments by location and type
89	Accredited municipalities	Assignment status per metro
90	Accreditation capacity	Total staff and funding allocated for accreditation responsibilities
91	Social facilities	Number of social facilities by type (i.e. community halls, homes for children & aged, creches & child care, performing arts, museums, libraries, cemetery, sports facilities, swimming pools, parks)
92	Sustainable human settlement (SHS) land	Land purchased for SHS
93	Passenger travel costs	Percentage of household income spent on transport
94	Parking	Number of parking spaces by type of provision (e.g. street, buildings, office, transport)
95	Commuter information systems	Value of investments in commuter information systems and support
96	Public transport rezoning	Number of rezoning applications for public transport
97	Public transport building plans	Number of building plan applications for public transport
98	Transportation spend	Value of spent on transport by mode
99	Transport passenger trips	Number of trips taken by type of public transportation (e.g. bus, BRT, rail)
100	Transport passengers	Number of transport passengers by mode (i.e. private car, taxi, metrobus, rail, BRT, cyclists and pedestrians)
101	Private transport	Number of kilometres travelled by private car
102	Public transport vehicles	Number of public transport vehicles by type (i.e. buses, taxis, train seats)
103	Growth in motor vehicle ownership	Number of cars registered to private owners over time
104	Transport operating costs	Average cost for transport trips by mode (i.e. private car, taxi, metrobus, rail, BRT)
105	Travel time to work	Average travel time to work by mode of transport (i.e. private car, taxi, metrobus, rail, BRT) & area type
106	Passenger waiting times	Average time waiting for public transport by mode of transport
107	Travel distance	Average travel distance to work by mode
108	Public transport land value	Change in land use and value around public transport nodes
109	Safety of transport systems (road fatalities)	Number of road fatalities per accident type (pedestrian, public/private transport)
SUSTAINABLE CITIES		
110	Water availability	Amount of water available in the catchment per capita
111	Water consumption	Total amount of water used per capita
112	Water losses	The amount of water lost to use or no income derived from
113	Blue drop score	Blue drop rating – state of potable water – water quality
114	Green drop score	Green drop rating – state of waste water treatment – water quality
115	River and wetland health	State of freshwater resources (quantity, quality and value)
116	Reservoir water availability	Volume of water available in reservoirs (m^3) per person
117	Energy supply	Total energy supplied/purchased by service provider by fuel type
118	Energy generation	Total energy generated by metro by fuel type
119	Energy consumption	Total electricity sales (GWh/year)
120	Energy intensity	Energy consumption per unit of output by sector (e.g. manufacture, transport, service, residential, agriculture)
121	Green energy	Total investment in green energy projects
122	Renewable energy	Total renewable energy generated by municipality (GWh/year)
123	Alternative energy use	Total households that use alternative energy sources
124	Energy losses	The amount of energy lost to use or no income derived from
125	Greenhouse gas (GHG) emissions (carbon footprint)	Total volume of greenhouse gases (CO^2, CH^4, N^2O, SF^6, HFCs and PFCs) released into the atmosphere over a specified area and period of time
126	Temperature	Average annual temperature change
127	Rainfall	Average annual rainfall change
128	Waste generation	Volumes of waste generated by type (household, industrial, commercial, hazardous, medical, radioactive)
129	Waste disposal	Volume of waste disposal by method (e.g. compacting, landfill, incineration)
130	Landfill availability	Total available airspace in years
131	Waste disposal facilities	Number of existing and proposed licensed sites

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Indicator		Definition
SUSTAINABLE CITIES		
132	Waste collection	Number of waste receptacles
133	Waste recycling	Waste diverted for recycling
134	Waste recycling schemes	Number of recycling schemes
135	Waste to energy	Number of waste to energy projects by type of output
136	Ambient air quality	Ambient concentrations of air pollutants by type and source
137	Residential fuel combustion	Percentage of households using coal and wood fuel for heating and cooking
138	Transport air pollutants	Ambient concentrations of air pollutants by vehicle type
139	Respiratory disease	Number of deaths from lower respiratory disease
140	Tuberculosis	Number of deaths from tuberculosis
141	HIV/Aids	Number of deaths from HIV/AIDS
142	Land transformation	Percentage change in land cover types
143	Coastal land transformation	Percentage change in coastal land cover types
144	Open space	Proportion of metro set aside for open space / natural areas
145	Food security	Hunger – measured from GHS
WELL-GOVERNED CITIES		
146	Municipal management vacancies	Number of vacancies at senior management level
147	Municipal posts	Number of staff posts by type
148	Performance management	Value of performance management practices implemented in the municipality
149	Municipal staff vacancies	Number of vacant posts
150	Municipal skills shortage	Rate at which vacant posts are filled by level
151	Woman employment	% woman employed within Local municipality
152	Electricity interruptions	Total number of reported electricity interruptions
153	Duration electricity interruptions	Average length of electricity interruptions
154	Water interruptions	Total number of reported water interruptions
155	Duration water interruptions	Average length of water interruptions
156	Voter registration – national & local	Number of voters registered to vote in the local and national elections
157	Voter turnout – national & local	Number of registered voters voted in the local and national elections. Voter participation is the best existing means of measuring civic and political engagement for several reasons (high quality data, broad cross-country comparability) (OECD)
158	Consultation on rule-making	Transparency in communication and open access to regulations promotes government accountability, a business-friendly environment and public trust in government institutions. indicator describes the extent to which formal consultation processes are built-in to the regulatory law-making process. The indicator is based on a composite index comprised of various information on the openness and transparency of the consultation process. It refers to the existence of institutional practices but does not, however, gauge whether these procedures are in fact effective
159	*Batho Pele* principles	Extent to which *Batho Pele* principles are being implemented
160	Citizen satisfaction	Percentage of people satisfied or very satisfied with municipal performance
161	Access to free basic services to all qualifying people in the municipality	Free basic services include electricity, water, sanitation and refuse removal (see indicators below)
162	Access to water	Number of households who have access to water by type (i.e. none, RDP, piped, backlog)
163	Access to sanitation	Percentage households who have access to sanitation by type (i.e. none, mainline, backlog)
164	Access to electricity	Percentage households who have access to electricity
165	Access to refuse removal – weekly	Percentage households who have access to refuse removal by type (i.e. none, weekly, less often)
166	Community halls	Number of community halls
167	Libraries	Number of libraries
168	Fire stations	Number of fire stations
169	Fire protection personnel – metro	Number of people employed in fire protection services
170	Police personnel – SAPS	Number of police personnel employed by the SAPS
171	Police personnel – metro	Number of police personnel employed by the metro
172	Fire protection services expenditure	Amount of expenditure on fire protection services

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Indicator		Definition
WELL-GOVERNED CITIES		
173	Schools	Total number of primary and secondary schools
174	Primary health Care clinics – provincial	Number of primary health care clinics operated by provincial government
175	Clinics – provincial	Number of clinics operated by provincial government
176	Health and ambulance expenditure – provincial	Amount of expenditure on health and ambulance services by the province
177	Health and ambulance expenditure – metro	Amount of expenditure on health and ambulance services by the metro
178	Health workers – metro	Number of health workers employed by the metro
179	Health workers – provincial	Number of health workers employed by the metro
180	Private practitioners	Number of health workers employed by the metro
181	ARV clinics – provincial	Number of clinics dispensing ARVs
182	Clinics – metro	Number of clinics operated by metro
183	Primary health care clinics – metro	Number of primary health care clinics operated by metro
184	Waste management staff	Total number of employees in solid waste management (fulltime, part time, vacant)
185	Waste management assets	Expenditure on construction of sewerage and sanitation facilities
186	Waste facility maintenance & repair	Expenditure on repairs and maintenance of refuse removal, sewerage and sanitation facilities
187	IWMP reporting	Status of IWMP report
188	Wastewater	Household access to wastewater treatment by type
189	% allocated and spent of capital and maintenance budgets	% spent of the allocated budgets for capital development and maintenance of infrastructure. As a measure of commitment to IDP and SDBIP goals
190	Capital and maintenance budgets	% of budget allocated to maintenance and operations, versus new capital development
191	External audit	Status of audit findings
192	Internal audit	Status of internal audit
193	Informal settlements	Ratio of informal settlement area to total area
194	Urbanisation policy	Status of urbanisation
195	Land development	Size of land been given approval for development
196	Revenue profile	Amount of revenue by source
197	Residential rates	Rand value of rates paid by residences and businesses
198	Business rates	Rand value of rates paid by residences and businesses
199	Services levy	Rand value of rates paid by residences and businesses for services
200	Grants	Total value of grants to metro
201	Property rates	Rand value paid as property rates
202	Capital grants & transfers	Value of grants and transfers for capital expenditure
203	Spending profile	Metro expenditure by type (e.g. public transport, residential housing, roads)
204	Capital expenditure	Funding for capital projects by source
205	Operating surplus	
206	Debt collection	Amount of bad debt recovered
207	Debtors	Money owed to metro
208	Bad debt	Amount of owed to metros by the creditors that cannot be collected (i.e. loss) and all reasonable efforts to collect it have been exhausted.
209	Remuneration costs	Total cost of staff salaries
210	Liabilities	Funds borrowed to fund capital expenditure
211	Cash position	Cash available
212	Acid test ratio	Current assets minus inventory divided by the current liabilities
213	Debt to income ratio	Total liabilities of municipalities compared with their total revenue
214	Current ratio	Current assets provide cover to meet current liabilities
215	Debt ratio	Proportion of debt municipalities have relative to their assets and provides an indication as to how much municipalities rely on debt to finance their assets
216	Budget funding	Value of shortfall between budget and income
217	Wasteful expenditure	Value of wasteful expenditure

2016 STATE OF CITIES REPORT SPATIAL DATA SUPPLEMENT

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Spatial and Temporal Evidence for Planning in South Africa (stepSA) is a collaborative initiative aimed at building the capability and evidence base to support investment decisions in SA's cities, towns and settlements. Understanding of the spatial implication of growth trends and population movement, and profiling of the growth dynamics in settlements and towns clearly enables much more targeted and co-ordinated infrastructure investment. To assess the progress made by South African cities in the last 20 years in relation to development outcomes as well as to identify strategic problems and opportunities facing cities, the South African Cities Network has produced the latest State of the Cities Report. To provide evidence-based input for this report, a number of spatial indicators and or indices have being compiled by CSIR towards the SoCR 2016, each illustrating a specific component of change or transformation.

Three sets of indicators are profiled each dealing with its own component of change, it includes the following:

Three-dimensional spatial change – reflecting demographic and economic information (including change over time)

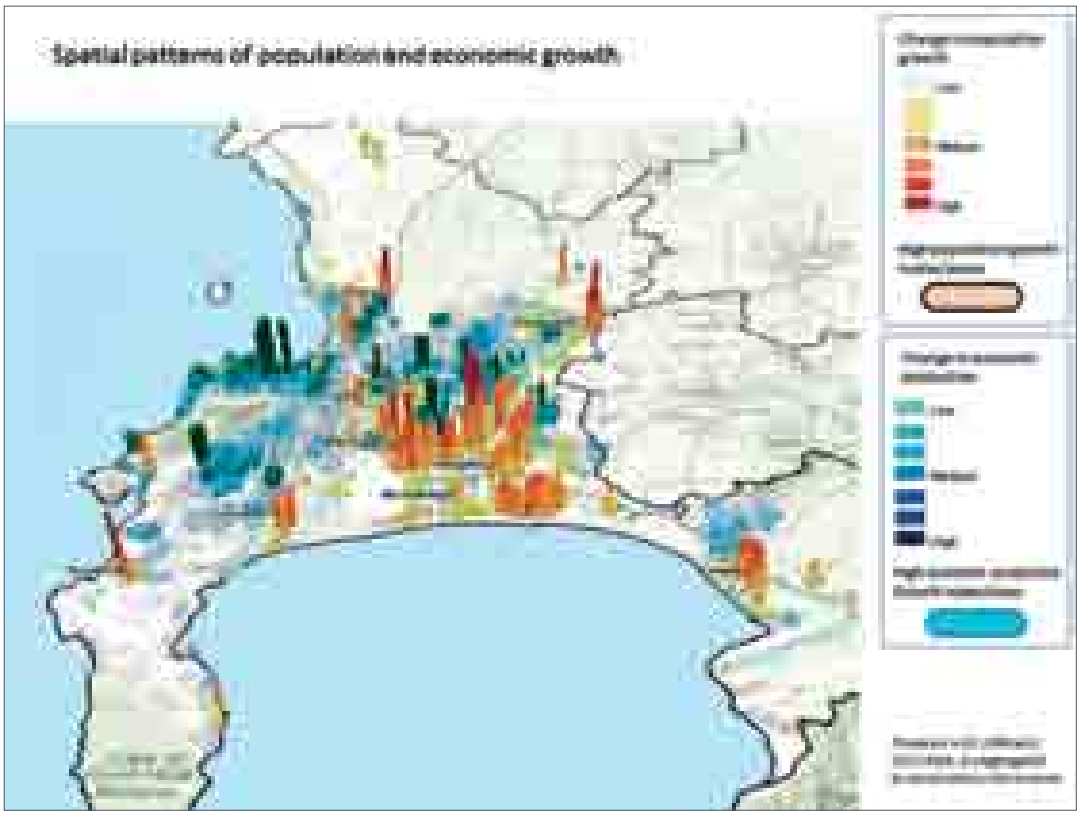
Place-based comparison within cities of performance and population dynamics which includes the following:

PLACE BASED (ward)	Change in percentage households living in poverty
	Change in percentage unemployment
	Change in settlement density
	Reflecting the youth as a percentage of the population
POPULATION DYNAMICS (ward)	Change in population per hectare 1996 – 2011
	Number of households in 1996, 2001, 2011
	Number of poor people in 1996, 2001, 2011
	Population change between 1996 and 2011
	Population in 1996, 2001, 2011
	Population per hectare 1006, 2011

Other indicators including the following:

SUB-CITY	Employment change for 1996 – 2011
	The percentage of the population with more than a matric qualification
	Energy poverty
	Racial diversity

Example: Three dimensional spatial change



Example: Place-based comparisons

These items are available on the StepSA portal:

http://stepsa.org/sacn_SoCR.html

ACRONYMS

ACSA	Airports Company South Africa
AGSA	Auditor-General of South Africa
ANC	African National Congress
APDP	Automotive Production Development Programme
BCMM	Buffalo City Metropolitan Municipality
BEPP	Built Environment Performance Plan
BNG	Breaking New Ground
BRE	Business Retention and Expansion
BRICS	Brazil, Russia, India, China & South Africa
BRT	Bus Rapid Transit
C40	Cities Climate Leadership Group
CABRI	Collaborative African Budget Reform Initiative
CBD	Central Business District
CBO	Community-based Organisation
CBP	Community-based Planning
CEO	Chief Executive Officer
CESTII	Centre for Science, Technology and Innovation Indicators
CFO	Chief Financial Officer
CID	City Improvement District
CIDB	Construction Industry Development Board
CLC	Community Law Centre
CNG	Compressed Natural Gas
COGTA	Department of Cooperative Governance and Traditional Affairs
CoJ	City of Johannesburg
CPI	Corruption Perceptions Index
CSR	Corporate Social Responsibility
CWP	Community Works Programme
DACST	Department of Arts, Culture, Science and Technology
DEA	Department of Environmental Affairs
DEADP	Department of Environmental Affairs and Development Planning
DHS	Department of Human Settlements
DIFD	UK Department of International Development
DiMP	Disaster Mitigation for Sustainable Livelihoods Programme
DoE	Department of Energy
DoH	Department of Housing
DPME	Department of Planning, Monitoring and Evaluation
DST	Department of Science and Technology
dti	Department of Trade and Industry
DWS	Department of Water and Sanitation
EDP	Economic Development Partnership
EEDSM	Energy Efficiency Demand Side Management
EMM	Ekurhuleni Metropolitan Municipality
EPWP	Expanded Public Works Programme
ERLN	Economies of Regions Learning Network
FAO	Food and Agricultural Organisation
FBS	Free Basic Services
FET	Further Education and Training
FFC	Financial and Fiscal Commission
FIZ	Free Internet Zone
GCRO	Gauteng City Region Observatory
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
GFCF	Gross Fixed Capital Formation
GGLN	Good Governance Learning Network
GHG	Greenhouse Gas
GIZ	Gesellschaft für Internationale Zusammenarbeit
GTAC	Government Technical Advisory Centre
GVA	Gross Value Added
HDI	Human Development Index
HSRC	Human Sciences Research Council
ICLEI	International Council for Local Environmental Initiatives
Icsid	International Council of Societies of Industrial Design
ICT	Information and Communication Technologies
IDP	Integrated Development Plan
IEC	Independent Electoral Commission
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IGR	Intergovernmental Relations
IGT	Intergovernmental Transfer
IPTS	Integrated Public Transport System
ISPPIA	International Standards for the Professional Practice of Internal Auditing
IUDF	Integrated Urban Development Framework
IWMP	Integrated Waste Management Plan
KPI	Key Performance Indicator
KWh	Kilowatt/hour

KZN	KwaZulu-Natal
LGMIM	Local Government Management Improvement Model
LUMS	Land-use Management Systems
M&E	Monitoring & Evaluation
MCEP	Manufacturing Competitiveness Enhancement Programme
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
MILE	Municipal Institute of Learning
MinMecs	Ministers' and MECs' Forum
MM	Municipal Manager
MSP	Multi-stakeholder Partnership
MTSF	Medium Term Strategic Framework
NBI	National Business Institute
NDP	National Development Plan
NEMA	National Environmental Management Act
NGO	Non-Governmental Organisation
NGP	New Growth Path
NLTA	National Land Transport Act
NMT	Non-Motorised Transport
NPC	National Planning Commission
NSDF	National Spatial Development Perspective
NSI	National System of Innovation
NSSD	National Strategy for Sustainable Development
NWAC	Net Wage After Commute
NWMS	National Waste Management Strategy
NWRS	National Water Resources Strategy
OCA	Operation Clean Audit
OECD	Organisation for Economic Co-operation and Development
PARI	Public Affairs Research Institute
PAYT	Pay-As-You-Throw
PCA	Principal Component Analyses
PDG	Palmer Development Group
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PPP	Public-Private Partnership
PRASA	Passenger Rail Agency of South Africa
PURP	Pietermaritzburg Urban Renewal Programme
PV	Photovoltaic
R&D	Research and Development
RDP	Reconstruction and Development Programme
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SAA	South African Airways
SACN	South African Cities Network
SAIRR	South African Institute of Race Relations
SALGA	South African Local Government Association
SANRAL	South African National Roads Agency
SAP	Systems, Applications, Products
SCM	Supply Chain Management
SDBIP	Service Delivery and Budget Implementation Plan
SDF	Spatial Development Framework
SDGs	Sustainable Development Goals
SDI	Shack Dwellers International
SEA	Sustainable Energy Africa
SECO	Swiss State Secretariat for Economic Affairs
SHS	Sustainable Human Settlements
SLA	Sustainable Livelihoods Approach
SMME	Small and Medium and Micro Enterprise
SoCR	State of the Cities Report
SOEs	State-owned Entities
SPLUMA	Spatial Planning and Land Use Management Act
Stats SA	Statistics South Africa
StepSA	Spatial and Temporal Evidence Platform for South Africa
TOD	Transit-oriented Development
TUHF	Trust for Urban Housing Finance
UCLG	United Cities and Local Governments
UCT	University of Cape Town
UDZ	Urban Development Zone
ULMG	Urban LandMark
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework on Climate Change
VAT	Value-added Tax
VPUU	Violence Prevention through Urban Upgrading
WDC	World Design Capital
WHO	World Health Organisation
WMA	Water Management Area
WRC	Water Research Council
WSA	Water Service Authority
WSP	Water Service Provider
WWF	World Wildlife Fund

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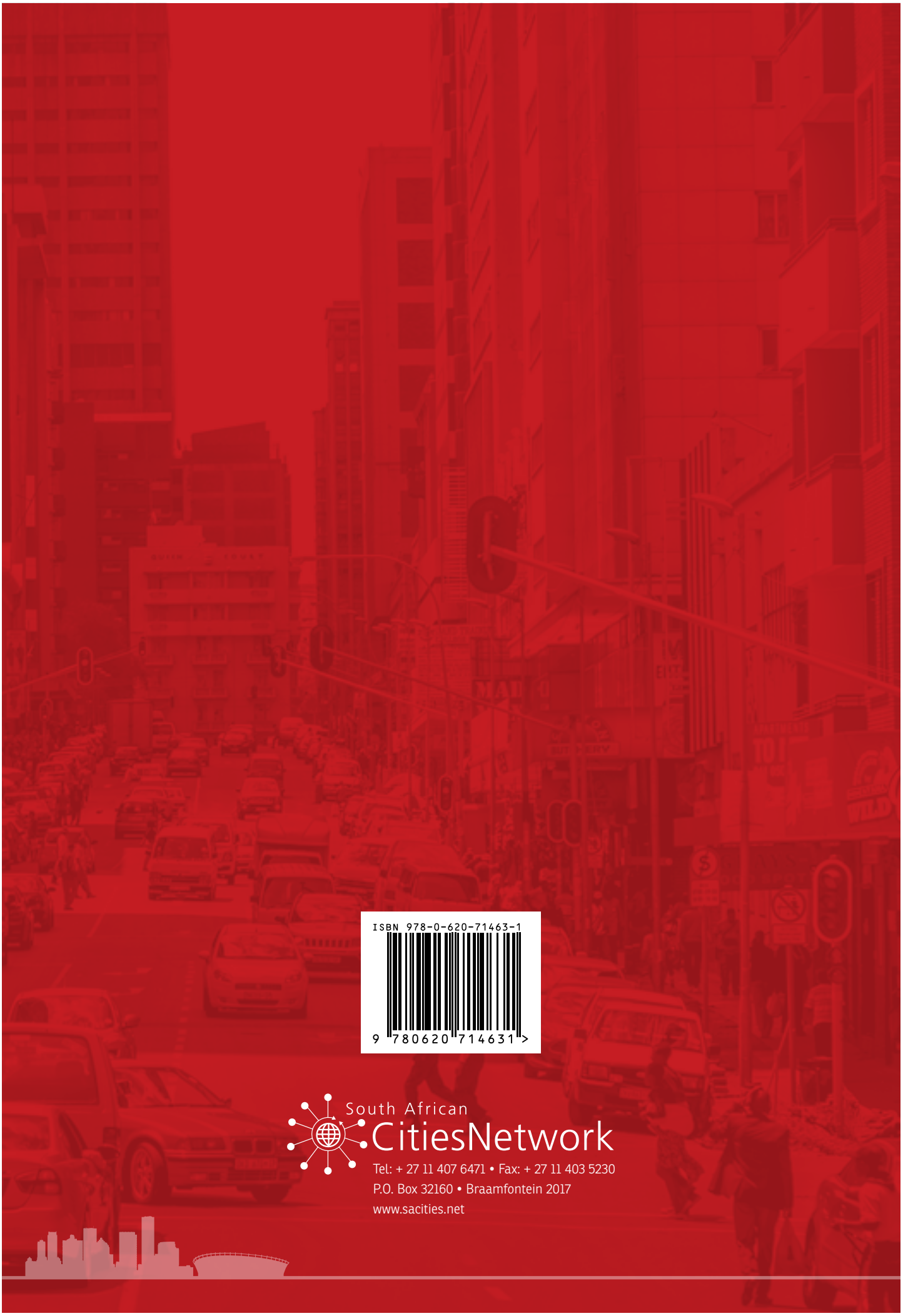

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