# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>CITY CHALLENGE</td>
<td>3</td>
</tr>
<tr>
<td>PANEL DISCUSSION</td>
<td></td>
</tr>
<tr>
<td>The politics of transforming space</td>
<td>6</td>
</tr>
<tr>
<td>Learning from international experiences</td>
<td>9</td>
</tr>
<tr>
<td>Lessons for the local context</td>
<td>12</td>
</tr>
<tr>
<td>'HOW TO' WORKSHOPS</td>
<td></td>
</tr>
<tr>
<td>How does land policy and regulation enable spatial transformation?</td>
<td>15</td>
</tr>
<tr>
<td>How to leverage land for inclusion and efficiency</td>
<td></td>
</tr>
<tr>
<td>What do sustainable human settlements look like in the transformed city?</td>
<td>19</td>
</tr>
<tr>
<td>How to achieve liveable, mixed-use, high-density developments in an inclusive and sustainable city?</td>
<td>19</td>
</tr>
<tr>
<td>How does mobility support efficiency and inclusivity in the city?</td>
<td>22</td>
</tr>
<tr>
<td>HOW TO PRACTICALLY ACHIEVE AND LEVERAGE TOD</td>
<td></td>
</tr>
<tr>
<td>BREAKFAST SESSION</td>
<td></td>
</tr>
<tr>
<td>Informal city dialogue</td>
<td>26</td>
</tr>
<tr>
<td>Designing South Africa</td>
<td>27</td>
</tr>
<tr>
<td>South African Property Owners Association (SAPOA)</td>
<td>27</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>29</td>
</tr>
<tr>
<td>CONFERENCE BACKGROUND PAPER 1</td>
<td></td>
</tr>
<tr>
<td>CONFERENCE BACKGROUND PAPER 2</td>
<td></td>
</tr>
<tr>
<td>Settlement Planning and Urban Transformation</td>
<td>73</td>
</tr>
<tr>
<td>CONFERENCE BACKGROUND PAPER 3</td>
<td></td>
</tr>
<tr>
<td>Transit Oriented Development: An appropriate tool to drive improved mobility and accessibility in South African cities?</td>
<td>100</td>
</tr>
<tr>
<td>CONFERENCE BACKGROUND PAPER 4</td>
<td></td>
</tr>
<tr>
<td>An Approach to Spatial Targeting in Human Settlement Development</td>
<td>130</td>
</tr>
<tr>
<td>DOCUMENTARY: SPATIAL TRANSFORMATION</td>
<td>165</td>
</tr>
</tbody>
</table>
Acknowledgements

The organisers of the Spatial Transformation Conference would like to thank all contributors and participants for their participation in the Spatial Transformation of Cities Conference: Johannesburg as a laboratory.

Their valuable contributions were instrumental in ensuring the success of this event. It is hoped that the outputs will continue to be relevant and useful, and that this event has created opportunities for further collaboration and partnership around the issue of spatial transformation in our cities.

A special thank you to our speakers for their valuable and inspiring contributions, and to our sponsors for their support and encouragement.

As the South African Cities Network (SACN) and the Johannesburg Development Agency (JDA), representing the City of Joburg, we have benefitted greatly from this collaboration, and the insights gained will inform our work moving forward.

Conference project teams:
JDA: Sharon Lewis, Barbara Mbuli, Susan Monyai

SACN: Geci Karuri-Sebina, Stacey-Leigh Joseph, Geoffrey Bickford, Thoko Vukea, Sadhna Bhana, Khumo Sello

Publication production team: Kristina Davidson (Write to the Point), Ink Design

Photo credits: Masimba Sasa, Mobile Media Mob, George Herald

For more information on the spatial transformation conference and related work please visit www.sacities.net

ISBN: 978-0-620-62567-8
Partners
Introduction

To overcome the legacy of apartheid, cities in South Africa must spatially transform and restructure. The National Development Plan (NDP) outlines the principles: spatial justice, spatial sustainability, spatial resilience, spatial quality and spatial efficiency. But, what does this mean at the city level?

Spatial transformation of our cities is not only about public investment but also the dynamics of private developments. Mobility in the city is also important, as the ability of the urban population to navigate the city for work and social activities contributes towards overall growth and development.

While the key policies and strategies for space-economy transformation might be understood, what does transforming urban space mean in practical terms? The Spatial Transformation of Cities Conference: Johannesburg as a laboratory sought to answer that question, using the City of Joburg as a case study. The key urban spatial themes explored were:

- **Settlement planning**: How do we improve decision making for settlement location and investments by both the private and public sectors, to achieve a more rational, integrated, effective and inclusive urban spatial form and function?
- **Land**: How do we effectively steer and discipline land investments, and land ownership and development interventions that reflect a transformative and integrated city agenda?
- **Mobility and access**: How do we think of mobility and access in a more integral manner that recognises future social and environmental costs and constraints for urban residents, as well as the strategic role of public transport investment in urban spatial transformation?
- What are the **key enablers** for effective spatial literacy and decision making in the urban context that encourage the facilitation of spatial transformation as part of a longer-term time horizon of urban growth and change?
This report reflects the discussions and engagements at the conference around these themes. A first important discussion revolved around the high-level political context necessary for the kind of spatial transformation that would provide the support and buy-in for change in our urban context. This was followed by panels that engaged with the international and local contexts of urban spatial transformation. Finally, the second component of the conference looked at the practical implications, opportunities and challenges for the South African built environment.

The intent of the conference was to convene key roleplayers in the urban space economy to reflect on the following key issues, using Johannesburg as a laboratory/case study:

- **Showcase** and interrogate thinking and practical work undertaken by cities;
- **Gain** knowledge and **insight** at the city scale;
- Deepen **mutual understanding** and **learning** regarding challenges and strategies for spatial transformation;
- Build the **capacity** of learning institutions like built environment schools in the universities and thematic industry associations and learning networks;
- Contribute to **informing** national and local urban and spatial development policies and plans.

The intended outcomes were to:

- Improve understanding and awareness of spatial transformation, its role, how it should be thought of and implemented and who should be involved;
- Provide insights into and recommendations for what is required (strategies, actions, considerations, etc.) for the co-production of the city where various actors (public and private sector as well as private individuals) are actively involved in the transformation and making of the city;
- Provide lessons and insights into how policy is translated and implemented at the local level and what the challenges, complexities and opportunities are for spatial transformation.
City Challenge

INNER CITY ROUTES

On Day 1 of the Spatial Transformation Conference, the conference delegates (who included city planners, architects and government officials from South Africa and the world) took part in the City Challenge. The challenge was to make their way through the city using public transport. Participants were divided into 12 teams. Each team was allocated one of five routes and a ‘chaperone’ who was responsible for documenting the team’s progress and helping them navigate through the city. There were three inner city routes, one route to Diepsloot and one route to the southern suburbs. Teams were asked to make observations, to reflect on the urban character and activities, and to perform certain tasks along the route.

Route 1: Newtown to Wits via Yeoville

Start: Bus Factory, 3 President Street → Diagonal Street → Metro Mall (find out the cost of renting a stall) → Gandhi Square (take pics of urban upgrades) → Mabongeng precinct on Main Street (find out rental costs in area and access a trading space at the Arts on Main market) → Jeppe taxi rank → East Gate taxi rank → Yeoville → Braamfontein (Biccard Street) → Nelson Mandela Bridge → Wits University (take pics of Nelson Mandela bridge and the trains).

End: Origins Centre, Wits University, Enoch Satonga Avenue.
Route 2: Newtown to Wits via Fordsburg
Start: Bus Factory, 3 President Street → Oriental Plaza (look at new mall and social housing project and find out about available accommodation options) → Fordsburg (Albertina Sisulu Street) → Somalian quarter Mayfair behind the Shoprite (why has the Somali community chosen to settle here?) → University of Johannesburg/ Helen Joseph Hospital (find out the cost of student accommodation) → 44 Stanley in Milpark (find closest school and hospital) → Wits University. End: Origins Centre, Wits University, Enoch Satonga Avenue.

Route 3: Newtown to Wits via Alex
Start: Bus Factory, 3 President Street → MTN/Noord taxi rank (find out how to get from Metro taxi rank to MTN/Noord taxi rank) → Sandton (reflect on whether the design in this area considers pedestrian use) → Marlboro station (compare cost of Gautrain and taxi) → Pan Shopping Centre in Alex (find out the cost of property and rental in Alex) → Local library on cnr 3rd Street and Rooth Street → Pan Shopping Centre → Park Station → Braamfontein → Wits University. End: Origins Centre, Wits University, Enoch Satonga Avenue.
Route 4: Newtown to Wits via Diepsloot

Start: Bus Factory, 3 President Street → Fourways (find out what transport options are available to get there) → Diepsloot (note the area of Dainfern on your way through; find out the cost of various housing options in Diepsloot) → Core Shopping Centre in Sunninghill (find out options for housing and schools) → Randburg → Sunninghill/Sandton (find out the transport options and costs for a student at Wits) → Wits University.

End: Origins Centre, Wits University, Enoch Satonga Avenue.

Route 5: Newtown to Wits via Soweto

Start: Bus Factory, 3 President Street → Westgate Station precinct (enquire about the Fox Street upgrade on the way) → Vilakazi Street in Soweto (find out what the local population is) → Baragwanath Hospital and St John's Eye Hospital (take note of the hospital upgrade) → Baralink → (find out the cost of residential properties) → Wits University.

End: Origins Centre, Wits University, Enoch Satonga Avenue.
Panel Discussion

The politics of transforming space

The Mayor of Johannesburg, Park Tau presented Johannesburg’s spatial transformation vision of Corridors of Freedom, while the Deputy Minister for Cooperative Governance and Traditional Affairs, Andries Nel focused on the Integrated Urban Development Framework (IUDF). The panel discussion considered the following questions:

• What are the desirable spatial outcomes for South African cities?

• How do we conceptualise and encourage a different kind of future urban lifestyle?

• What does the inclusive, productive, and sustainable city look like?

Highlights

Major spatial disparities continue to exist in most cities. In Johannesburg, the Corridors of Freedom aim to stitch together the city through infrastructure investments that support public transport (including non-motorised transport). The corridors are envisioned to be incubators for urban innovation attracting private sector investment. The urban space economy will be transformed through higher densities, integrated development and increased accessibility to amenities previously beyond the reach of marginalised communities. The challenges include the increasing informal rental and settlement development (and urban poor).

The IUDF will be the national framework to guide the urban vision for South Africa. It takes forward the key concepts of the National Development Plan (NDP) and takes cognisance of the interdependence between rural and urban spaces, and the peripheral development over the past 20 years, which has reinforced the apartheid legacy of spatial disparities in our urban areas.
Points of Discussion

**Tension long term vs. short term:** A tension exists between investing in a long-term vision and current realities that require immediate action. Urban role-players (public and private sector) need a shared vision of urban development to encourage investment that contributes to that vision. City investments need to be redefined if the aim is to restructure/transform our urban spaces.

**Current structure of housing subsidies:** Funding is not flexible and assessing local government’s performance is difficult.

**Larger vs. small municipalities:** Larger cities are able to attract the necessary skills and capacities for managing flexible funding mechanisms effectively.

**Intergovernmental relations:** Policies are not always aligned across the three spheres, and municipalities are not always allowed to develop within their local context.

**Impact of safety issues:** The reality and perception of safety needs to be confronted, as gated and insular communities lead to further segregation.

**Public transport:** A mind shift is needed, so urban residents see public transport as a viable alternative and good for the environment.

---

Through the Corridors of Freedom we will reshape the city for its people. As much as South Africa is a story of triumph and hope, in the last 19 years we have to ask ourselves how far have we come? How much have we achieved to liberate our people? We are a democratic South Africa. We have fundamental rights enshrined in our Constitution.

Mayor Parks Tau, State of City Address, May 2013
Key Issues

- Spatial transformation does not exist in a vacuum. Therefore, the historical and current political and social contexts need to be considered.

- The resources, relationships and capacity required for spatial transformation, appropriate for specific municipalities.

- The role-players (national, provincial, local government and private sector) and defining their roles.

- The different political issues and focuses of national government and cities, and how they interact.

- The strengthening of relationships between public and private sectors, and of citizen participation.

IN BRIEF

The challenge is to balance the long-term urban vision of inclusive, liveable, sustainable and resilient cities with the short-term realities of urban spaces designed for segregation, migration and poverty. The need is for a shared vision and collaboration across government spheres, the private sector and citizens.
Panel Discussion

Learning from international experiences

Panellists: Frank Moulaert, Matias Echanove, Apiwat Ratanawaraha, Raphael Tuts, Michael Parkinson, Sithole Mbanga (Facilitator)

International experience shows that urbanisation issues are driving city transformation, planning and management. The panel discussion gave an international perspective of spatial transformation, focusing on land, human settlements, mobility/access and governance/institutional arrangements.

Highlights

The European experience: local empowerment and civil society are critical, e.g. collective contracts between civil society organisations and government, networks of socially innovative initiatives, and direct access to civil society initiatives. Critical success factors are innovation, diversity, human capital, connectivity, place quality and strategic governance capacity. The relationship between governance and economic performance needs to be understood, and that decentralising power and resources leads to higher performing economies. City-regions need longer-term strategic plans and to share experiences with each other.

The India experience: the ambition to be a world-class city has to be balanced with the reality of slums. In Mumbai, over 60% of residents live in slums and occupy 10% of the land, yet densification impetus is informed by the imperative to become a world-class
city. Some of the informal housing developments taking place are changing perceptions of what is possible in slums, including homes as economic spaces.

**Slow shift to sustainable transport:** inclusivity refers to both users and (largely poor) operators. What is needed is to return to basics (e.g. how does transport affect land and development potential), rethink the informal transport sector, have data that drives evidence-based policies and use technological advances.

**Expanding cities in Africa:** to balance population and economic growth, and rapid and sustainable urbanisation, the five essential principles are adequate space (for roads and open space), mixed land use, social mix, adequate density and limited land-use specialisation. What is needed is to improve spatial configuration, resource-efficient land use, living conditions and access to safe and affordable public transport, which will require enabling urban policies and conditions.

**Points of Discussion**

**Affordable housing:** this market only represents 10% of the value and needs to increase. The private sector can be encouraged to provide affordable housing, but zoning regulations are a problem.

**Powers of the market:** the poor do not control market access, e.g. in Soweto, the taxi market controls access, as 70% of Soweto residents commute (and spend a third of their salaries on transport). The poor are excluded from the market, while planning instruments can create only limited opportunity.

**Deregulation:** over the past decade, the trend is that the value of investment is skewed to the private sector rather than greater public value. Perhaps (financial and land) markets need to be more regulated.

**City-region policy:** what more needs to be done, beyond simply linking to Johannesburg as the laboratory.
Key Issues

- The decentralisation of power and resources leads to higher performing economies, but a single funding pot is problematic for cities.

- Regional coordination improves the efficiency and performance of the city’s tax base and optimises the city’s budget.

- Evidence-based policy is required to drive effective planning of cities.

- Transport feeder systems are essential for the functioning of transit-oriented developments (TOD), while proper coordination of land use and transport is important for economic growth.

- Land readjustment and phased-based plans are required to ensure value is created for stakeholders and to deal with the reality of African cities.

IN BRIEF

For cities to be planned and to function well, proper coordination (and understanding) among different government spheres is essential, as well as devolution and adequate resource allocation. The land use–transportation linkage should be driven by evidence-based policy.
Panel Discussion

Lessons for the local context

Panellists: Thandoxolo Mendrew, Richard Bennet, Francois Viruly, Mokena Makeke, Edgar Pieterse, Sithole Mbanga (Facilitator)

The panel discussion looked at the evolution of the City of Joburg’s Corridors of Freedom from a public, private and academic perspective, and reviewed planning processes in South Africa. In this, economic value, the property market, the built environment and, especially, the citizens are important.

Highlights

Public perspective: the focus of the Johannesburg Development Agency (JDA) has expanded, from inner-city generation to transit nodes and corridors. When creating nodes, what matters are precinct size, neighbourhood planning, community consultation, shifting perceptions and creating an identity for the area. Public infrastructure investment alone cannot shift public perceptions, and urban management partnerships are essential for regeneration. Challenges are land and infrastructure (e.g. unintended consequences of rising property values), financial incentives (tension between incentives and value capture) and regulatory reforms (e.g. what are the most effective land-management strategies).

Property market perspective: low-density residential areas are being replaced with new commercial and higher-density residential developments, as a result of infrastructure investment. The private sector has invested in developments that assist in breaking down spatial divisions, e.g. industrial developments around Johannesburg providing opportunities for entrepreneurs in Soweto. Investors are influenced by infrastructure investment (maximum use and minimum new), long-term sustainable development incentives, and crime and grime in an area.
**Economic perspective:** cities are inherently economic machines, and the built environment can be a catalyst for economic growth. The Housing Development Agency (HDA) has an important role to play, to unlock land that can drive development and spatial transformation. Individuals who invest in their state-given investments (e.g. RDP housing that has backyard units for rent and retail activities) are also part of the private sector. The formal private sector needs to reimagine the rules of the game, while the public sector needs to provide more certainty and confidence.

**Densification perspective:** infrastructure investment and densification can lead to desirable urban compaction (incl. urban agriculture, schools etc.). For sustainable densified cities, what is important is to consolidate and improve access to natural assets, establish an equitable pattern of access, promote accessible economic opportunities, define an integrated development path for new settlements and create new special places. Parastatal-owned land holds promise for redevelopment in South African cities.

**The IUDF perspective:** the IUDF takes its cue from the ‘urban futures’ vision set out in the NDP and makes a case for radically reprioritising routine urban investment to achieve greater transformation. Seven levers can address the structural drivers that promote the status quo: integrated transport, integrated human settlements, resource-efficient infrastructure network systems, effective land governance, economic diversification and inclusion, social transformation and deep governance reform.

**Points of Discussion**

**Relationship between private and public sectors:** communication and trust need to improve, to ensure a common understanding of the city vision and (e.g.) Corridors of Freedom relative to development opportunities. Cities need to provide incentives and reduce red tape and bureaucracy. The legal mandates of different government spheres and departments also need to be aligned and accountable.

**Private sector:** understands mixed use as mostly office and residential (could also include warehousing and social) but does not understand mixed-income developments. Office development is demand-driven, whereas most development is driven by infrastructure. To avoid more unintended walled communities, the sector needs to be imaginative in dealing with security and crime prevention in urban areas.
Social compact between citizens and the state: the state should be an enabler, but at the moment there is a mismatch between the roles of the state and citizens.

Transport and zoning: transport plans must include the housing perspective, while the design of multi-use transit interchanges should be based on how people use them.

Key Issues

• Public sector investment in the built environment has the potential to attract significant private sector investment. However, ‘private sector’ needs to be defined, as it involves various actors.

• Building trust between (and accountability across) the private and public sectors is central to galvanising a shift in urban growth and development.

• The role of the HDA and unlocking parastatal-owned land for development are vital for spatial transformation.

• The negative perceptions and practicalities of high-density living in urban areas need to be discussed.

• The response of cities to today’s challenges will determine the future urban environment. The IUDF makes the case for radical reprioritisation of routine urban investments to achieve transformation.

IN BRIEF

There is a disconnection between imagining and implementing spatial transformation in our cities. The public sector, private sector and civil society need to develop trust, understand their respective roles and collaborate to achieve the common vision of urban transformation.
‘How to’ Workshop

How does land policy and regulation enable spatial transformation? How to leverage land for inclusion and efficiency.

Panellists: Yondela Silimela, Sergio Veloso, Mark Napier, Rob McGaffin, Peter Ahmad, Helen Botes, Peter Christiel, Nellie Lester (Facilitator)

This session looked at how land policy and regulation enable spatial transformation, using the case studies of Johannesburg and Rio de Janeiro to answer the questions raised about leveraging land for inclusion and efficiency, and how land policy can enable spatial transformation.

Highlights

**City of Joburg:** the current urban spatial form contributes to the spatial distribution of deprivation, based on five indicators: income, employment, health, education and the living environment. The city is identifying appropriate locations that will have mixed use and functionality. The Corridors of Freedom are intended to drive development and growth. Factors being considered are land-use rights; infrastructure availability, demand and cost; smooth operational running; creating and responding to user demand; and access to land. Issues include who is shaping the agenda? Whose voices are listened to? Are the voices of the poor being heard? Who benefits from the investment?

**Rio de Janeiro:** Porto Maravilha is a private-public partnership (PPP) that is renovating the port zone in Rio and is an example of urban planning through privatisation of space. As cities are socially constructed places, the two pillars of transformation are spatial (better infrastructure, attractive sites for capital investment) and social (putting people first). Urbanism must be based on
people as humans, not as simply consumers in a market economy, which looks only at demand without considering the nature and diversity of people. Public consultation is important, as without it decisions are taken that negatively affect people. For example, in Rio the city destroyed the highway, which resulted in longer commuting times. The building of a new highway is being considered, as part of the need for improved mobility, in particular non-motorised transport.

**Land use rights:** in the City of Joburg different partnerships are being formed with property owners and developers, with the issue being how to deal with property owners and serve the public interest in a way that suits everyone. In Brazil, the PPP model needs to be revisited. Changes in land policy and regulation are governed by CEPAC (Certificate of Potential Additional Construction), which is a financing instrument approved in 2011. CEPAC has been used to encourage private investment (including pension funds) in urban areas but is difficult to sell or trade, resulting in financial losses for the cities.

**Access/availability of land:** the challenge for the City of Joburg include accessing property and land from the private sector for development, while government housing beneficiaries need to be educated in how to extract value from and grow their asset. In Brazil, some proposals to better use land include building social housing in the favelas and looking at densification in the city (which civil society is currently opposing). A misconception exists between the public’s understanding of the delivery of housing and the municipality’s delivery goals. Housing through a human settlements lens also covers social investment and mixed-use development. The land invasion process also needs to be managed.

**Leveraging land resources:** legislation and policy, effective land administration and land-use management are some of the levers that the state can use to create inclusive and integrated cities. The state can also invest directly, in improving infrastructure, public amenities and nodes, and in so doing stimulate other investments (by developers, residents and businesses). Disincentives and incentives can be used to address inherited spatial divisions and distorted land-use patterns. The Ecosystem Approach (ECAP) dashboard is a tool that can help in identifying appropriate locations for development, by understanding the economic demands of those spaces.
Points of Discussion

Balancing the social and financial: what does transformation in the local space mean? What kind of environments are we creating? Are we creating an environment that is pushing consumerism? There is a need to rethink the City of Joburg residents and how they relate to and shape the space.

Creating a real estate market, not just housing: there is a need to be wary of potential gentrification and pushing out those currently living in the city. The space being created must not penalise and marginalise those who cannot participate in the market economy, thereby entrenching social inequality. The state should also focus on providing interventions in the public space (e.g. social and affordable housing) and reduce its reliance on global and private capital investments.

Bringing in the private sector: the planning debate has always been more about unlocking market growth rather than changing the social space. Such a market-driven approach has consequences for city planning. Since 1994, the message has been to push for investment, but getting and accessing land is difficult because of always looking for the best bidder for that land. Can this continue, given that land is a commodity that is not increasing and is becoming unaffordable for many? The city’s land strategy has to be more aggressive in addressing the apartheid spatial form.

Understanding the market we are catering for: how do we engage with different kinds of housing markets (affordable rental and owned housing)? Where are the markets located? How much area can be developed and linked with different land uses (e.g. social housing, mixed-use development, etc.)? Are strategies in place for prioritising areas for investment where demand is high?

Transforming space: understanding the leverage and trade-offs for transforming space is essential. What happens in areas that are not prioritised for transformation development and how to connect to these areas? Planners have a poor understanding of economics and finance, which means that feasible projects are not considered. Creating productive cities is not just about providing social housing.
Key Issues

• The definition of spatial transformation needs to be discussed, in particular what transformation of cities means for city officials, the private sector and civil society.

• We are trying to solve a political question with technical and ideological solutions, rather than asking the people what the solution is. (Do people actually care about the Corridors of Freedom?)

• Incentives can encourage people to buy and invest in property, e.g. the pension fund from Brazil.

• We need to rethink our role as planners, to understand the context and to consider whether the solutions being offered are needed (or not) by the people/users.

• How to prioritise, so that what is being provided is put to the highest use. The city needs to find a way of creating certainty for its users and to be consistent in its actions and interventions.

IN BRIEF

Transformation of cities involves spatial and social transformation, and requires the collaboration and support of all role-players (public sector, private sector, business and residents). Politics is a governance issue, and space is contested. Solving the current land problems must also consider future spatial challenges and issues of sustainability.
‘How to’ Workshop

What do sustainable human settlements look like in the transformed city? How to achieve liveable, mixed-use, high-density developments in an inclusive and sustainable city?

Panellists: Zunaid Khan, Rahul Srivastava, Matias Echanove, Diane Arvanitakis, Richard Bennet, Amira Osman, Michael Parkinson, Ivan Turok (Facilitator)

This session looked at what human settlements means in principle and in practice, both currently and in the future, by exploring the cases of the City of Joburg and Mumbai, India. Demand is important and involves changing the willingness of people to live in different contexts, especially central city living, which links to achieving livable, mixed-use, high-density developments in an inclusive and sustainable city.

Highlights

City of Joburg: the demand for affordable rentals (i.e. for people who earn between R1500 and R3500 per month) far outstrips the supply, while informal settlements are increasing. Further complicating the situation is the inflow of people (from other cities, provinces and countries) into the city. To deal with this migration, the city’s 30-year urban settlements plan takes a precinct-based approach in line with the Corridors of Freedom spatial vision. The city’s housing vision is about changing course, continuity, and revenue optimisation to sustainably deliver human settlements in the future. Critics say that the city is not responding to short- and medium-term shelter needs, as shown by the time taken to establish townships (2 years) and to RDP settlements (8–10 years). The City’s view is that residents need to recognise that transformation (e.g. the Corridors of Freedom) is a long process. The challenges are to balance short-, medium- and long-term response to human settlements and to understand that transformation is about long-term gains and not just immediate returns.

Mumbai, India: in Mumbai, neighbourhood upgrade is done mostly by the community with assistance of NGOs and volunteers. The state considers
these upgrades as informal, despite them often being built with formal materials. The value of investments made by individuals and communities themselves (in low-income areas) amounts to approximately R20-million a year. The community focuses on mixed development, promoting housing rentals in the form of lofts at the top, social housing in the middle and businesses on the bottom floor. The needs of the people are reflected in what they build and invest in their areas. An over-regulated environment with strict penalties leaves little room for those who really require development.

**Townships:** a township problem cannot be solved in the township – the response has to be linked to the broader urban context. The problem with the current planning approach is that it looks at areas rather that at the bigger picture.

### Points of Discussion

**Shifting the delivery model:** the current spatial form and growth in peripheral communities is problematic and requires the expedient acquisition of well-located land. National government also needs to support a shift in funding models, to allow for more innovative interventions, especially rental subsidy to respond to the lack of rental accommodation. Trade-offs will be necessary in the human settlements and built environment sectors to achieve developmental goals.

**Incorporating an organic process similar to Mumbai:** the combination of working and living in the area works well in a neighbourhood that is well connected – this is integral to the economy of the city. Aspects to consider include the relationship between the communities and the state, minimum compliance standards and the regulatory system (including land tenure). The question is how to unlock processes for more opportunities in the City of Joburg, including the participation of urban residents in creating the city.

**Considering the politics of housing:** informal settlement networks are not necessarily homogenous and land-related issues can be complicated. Poor communities need to understand that city interventions are not free and are about development (not ‘removing an eyesore’). Other issues include discussing densification of suburbs and the effect of private sector inner-city regeneration leading to gentrification.

**Building capacity is necessary:** every municipality must have rental accommodation and must know who’s going to manage it. Communities also need to build capacity, so that they can participate in creating their city and understand the spatial and developmental transformation plans.
Following the money: cities are built as they are funded. The investment portfolio needs to transform, so more people are involved in the economy. Sustainable development requires the rates values of properties to grow. Supply mechanisms are needed in the space between individual households and the state. The reality is that many poor people will never be able to afford the kind of housing that is available. What measures by the state might spur the private sector to invest, thereby growing the market on the ‘wrong side of town’?

Key Issues

- Government needs to find a way of communicating its long-term plans with the public while also meeting short- and medium-term needs.

- The Corridors of Freedom must be a shared vision, backed by long-term political buy-in, and its implementation needs to be flexible enough to allow for reconfiguration to address challenges along the way.

- We need denser, mixed-income, good quality transit-oriented development that is not overly prescribed and is co-created with communities. Different parts of the city also need to have different solutions, and so nuances are important.

- The bureaucracy and regulatory system must change, which will involve considering the extent to which the government gets directly involved in housing and the required enabling conditions (and infrastructure).

- To transform sustainable human settlements, we need to look at connecting settlements, bringing jobs and opportunities to the people and offering affordable housing.

IN BRIEF

Transformation of cities is not only about the poor but includes people from many different economic levels. Inclusive and effective communication is vital not only to formulate but also to achieve plans. A clear vision of the long-term goals and long-term commitments from all role-players is needed.
How does mobility support efficiency and inclusivity in the city? How to practically achieve and leverage TOD.

Panellists: Lisa Seftel, Herman Pienaar, Vuyiswa Voyi, Apiwat Ratanawaraha, Erky Wood, David Schmidt, Raphael Tuts, Herman Pienaar, Yusuf Patel (Facilitator)

This session focused on how mobility can support the inclusive and efficient development of cities, and how to ensure that access and mobility is affordable and works for citizens. Insights into challenges and strategies were gained from the City of Joburg’s current approach to developing transit corridors and Bangkok’s modal-rich transport environment with unprecedented levels of investments in rail.

Highlights

City of Joburg: two components of the Corridors of Freedom are (1) the urban planning principles and thinking underpinning the logic behind the corridors, which involves transport and planning departments working closely together, (2) the latest BRT route development strategy (no by-pass lanes at stations, so less land has to be acquired, investment in feeder-route infrastructure and NMT infrastructure is a core component). The city’s challenges include how to avoid crowding out of the poor, how to proceed with land assembly along the corridors, and how to achieve stronger integration of transport planning and operations across modes and the region. Dunkeld district (Rosebank) highlights some of the issues and aspects that need considering: policy levers to ensure
that mixed-use development happens, traffic impact assessment, detailed precinct planning including the urban fabric the development will fit within, ring-fencing money to be reinvested into the public environment and the role of council officials (rather than consultants) in engaging with conflicting interests (e.g. residents looking to preserve the value of their land, property developers looking to maximise the value from possible change in land rights, and the city aiming to redevelop the precinct along TOD lines).

**Bangkok, Thailand:** motorcycles are a critical rung on the mobility ladder, with as many as 300,000 motorcycles in Bangkok. Over the last 12 years, the city has shifted from BRT to rail development, which is believed to be more effective. TOD is happening in Bangkok, as shown by condominium development outpacing suburban development over the past five years. Specific urban planning measures to promote TOD include abolishing (or reducing) minimum parking codes in certain areas, transferring development density rights to transit-rich locations, and skywalks connecting buildings directly to rail stations (funded by developers). Motorcycle taxis are an essential component of the feeder system that supplies the trunk network, but city policy often ignores the informal operators. Concerns around TOD include the crowding out of poorer people from transit-rich locations and the wealthier people (who move into these locations) not using public transport.

**Rethinking transport subsidies and modes:** South African cities have very low densities by international standards and some of the longest commute times. Densification opportunities exist along transport corridors but could also result in further inequalities. The subsidy system needs rethinking: large bus subsidies are provided on an annual basis to move people from the outskirts of the city to the economic core, when this money could rather be used to develop compact, affordable housing closer to the economic centre. Also, most investments have been on rail and BRT systems, which will not affect the network coverage significantly in the medium term, and very little on non-motorised transport (NMT). The taxi industry can play an important role: certain factions are starting to see themselves as shareholders not operators, the industry is starting to introduce fleet management technology but needs better regulation.
Points of Discussion

Overemphasising BRT over other modes of transport and other areas in the city: NMT is only being developed around BRT and the corridor areas. The city has allocated budget to priority areas which include areas of severe deprivation and public transport-rich locations, while NMT infrastructure is being developed in other areas of the city. The point was raised that cycling should be viewed as a mode to be used across the entire city, and not just as a feeder for BRT systems. The role of minibus taxis and the existing rail system also needs to be included strategically in the broader transport system.

Integrating transport systems across municipalities: the city is driving integration with (e.g.) Ekurhuleni. Small interventions are also of importance, such as improving pedestrian access to shops at Fourways and Auckland Park for public transport users.

Achieving mixed-income developments: infrastructure investments will undoubtedly increase the value in the corridor areas. The point was made that developers are more interested in developing commercial space around railway stations and housing in traditional residential areas. If the city cannot capture the land value created, the opportunity for social inclusion will be eroded. A concern raised was whether cities have the skills to deal with participatory processes and negotiations, as consultants cannot be sent to engage on behalf of the city.

Cross-subsidising public transport modes: this is about more than just transport systems (e.g. using Gautrain to subsidise other modes in the city) and includes leveraging off other areas that derive value from public transport investment.

Servicing apartheid settlement patterns with public transport: there are worrying signs of duplicated services i.e. rail and BRT lines running parallel. Inevitably land values will shift along transport corridors, and therefore, to a certain extent, inequality through gentrification is unavoidable and must be accepted.
Key Issues

• Real strategic interventions have to happen at an institutional and legal (not planning) level, in order to deal with fragmentation across government spheres, unfunded mandates and inequitable subsidy systems.

• We must ensure that redevelopment along corridors does not lead to crowding out of the poor. The city wants to purchase land along the corridors and drive mixed-income development, as the density bonus incentive was unsuccessful.

• The integration of all modes of transport is very important, as competing modes on a network are highly inefficient. A smartcard, which enables citizens to move freely, will go a long way to improving access but cannot be discussed in isolation of fare policy and system integration.

• Small, inexpensive interventions which can be made to improve the experience of public transport users in the city must be identified and acted on.

IN BRIEF

Public transport affects all other areas of development, and so an integrated and inclusive approach is essential. Collective action, supported by political will and leadership, combined with TOD and mixed-income developments, can produce an inclusive, efficient city.
Breakfast Session

Informal City Dialogue

Panellists: Paul Jenkins, Erika Kraemer-Mbula, Matias Echanove, Sergio Veloso, Patrick Adolwa, Geci Karuri-Sebina (facilitator)

This session was a dialogue about the role of informality in the spatial transformation of the city, looking at how various role-players can engage more effectively with the informal in the context of urban citizenship, development, management and governance.

Issues raised

• Local government needs to rethink the over-regulation of informality in the cities of the South and to make informality work by providing resources. Rather than adopt planning from the North, the South needs to adapt planning to the context and deconstruct for better responses. Formality and informality need to be understood as part of the same interactive socioeconomic fabric.

• With the help of civil society, local government must change their formalisation processes, which are perceived as being exclusive. If cities want inclusive and non-segregated societies, they must include informality because it is embedded in our culture (across the South).

• Civil society and the state must bridge the gap between the formal and informal through dialogues and conversations, especially at the local level. If we are to achieve spatial transformation, we need to find ways to accommodate the informal. There needs to be capacity building, within the state and the informal sector, in order to develop better responses and regulation that does not stifle informal activity.
Breakfast Session

Designing South Africa

Panellists: Mpho Matsipa, Thuresh Govender, Thomas Coggin, Eric Wright, Zahira Asmal (facilitator)

This session was a dialogue about how movement occurs, looks, feels and progresses throughout cities in South Africa. Movement can be psychological, social, political, economic, sensual, voluntary, forced, literal, figurative, expressive and emotive – it defines our cities.

Issues raised

• The value of difference and identity in making and defining our cities. What is the urban identity? How do we make all people welcome in the city?

• The credibility of plans, especially large urban plans, may be questionable. How cities are planned and designed often favours specific class groupings and excludes others. City planning should encourage integration, which will require all stakeholders to change their thinking and planning.

• Improved partnership and collaboration is needed. What roles are needed, and who should play them: cities, private sector, academics, designers and civil society?

• The quality of our public realm is vital for creating environments where people want to live and work. Urban spaces must respond to and serve the public’s needs, and increase the movement of people within the cities. This may involve redesigning streets, pathways, right of ways, parks, publicly accessible open spaces, and public and civic buildings and facilities.
Breakfast Session

South African Property Owners Association (SAPOA)

Panellists: Andrew Barker, Ravi Naidoo, Douglas Cohen

This session was a dialogue about the roles of the key stakeholders in bringing about spatial transformation.

Issues raised

• The public sector’s role is to establish an enabling environment, which will secure investment and foster development; to support stability, which will create certainty and catalyse relationships; and to manage assets, which will grow capital and maintain investment.

• The private sector’s role is to build urban realms, by developing land and buildings and managing property; and to propagate economic growth, which will create jobs, generate taxes and revenues and grow capital.

• Civil society’s role is to enjoy a life experience to live, work and play and use healthy environments.

• Collaboration among stakeholders can be achieved through participation programmes, which determine priorities and are allocated appropriate resources. E.g. the Joburg Business Forum (and others) can be used for this purpose.

• To achieve spatial transformation through collaboration ultimately requires: (i) cooperative behaviour, to build trust and mutually beneficial relationships between the public and private sectors; (ii) institutional and governance reform, with the state creating enabling environments (especially for social reform initiatives) to encourage private sector to respond to identified opportunities; (iii) a collaborative business-based approach to urban transformation founded on mutual responsibility, shared involvement and joint investment.
Conclusion

Professor Phillip Harrison

Using the City of Johannesburg’s spatial transformation vision of Corridors of Freedom, this conference has hopefully provided some useful insights, a laboratory of sorts to focus our interventions.

The transformation of our urban built environment is imperative to deal with both the legacy of apartheid and, sadly, some of the post-apartheid (public sector and market-led) developments in our cities. We need to determine how to get ahead of the game, by putting the right frameworks and regulators in place to plan and manage the system effectively.

The question is how do we make spatial transformation a reality? How do we create inclusive functional corridors that don’t turn into high-density slums or gentrified domains where the poor cling on to the margins? Experiences elsewhere have shared their challenges and lessons. For instance, in Bangkok the corridor approach has led to gentrification, and transport stations have become the focus of commercial development.

The Corridors of Freedom is a bold initiative with a lot riding on it, not just for Mayor Tau or the City of Joburg but for urban practice across South Africa. The success – or not – of the City of Joburg will directly inform our faith in the possibility of restructuring the post-apartheid city.
Reflecting on the Corridors of Freedom spatial transformation vision

Much depends on whether this is the overall spatial transformation initiative to which all resources will be committed, or one of many experiments in spatial restructuring. Therefore, we need to talk about the details and to be sufficiently grounded in the realities of what needs to be done to successfully implement the vision.

South Africa is currently in a wonderful moment. There is an emergent, coherent international consensus around spatial restructuring, which includes the vision laid out in the National Development Plan and the development of the Integrated Urban Development Framework (IUDF). Hopefully we are at a moment of sufficient consensus that provides a basis for collective action.

We need to speak more about delivery and institutional models and financial instruments. References have been made to these, but the devil is in the detail. We have the slogan and the vision, but those instruments need to be put in place quickly.

Emerging provocations

The conference has offered a quiet critique of some spatial development approaches as well as possible new ways of thinking that may lead to new practices in the future.

Multi-level governance: how do we manage the apparent divergence between focusing on empowering neighbourhoods and addressing issues at the city or city-region scale? Instead of focusing on one or the other, what has been proposed is a multi-level governance approach. In the South African context the pendulum may have swung too far in one direction, thereby suppressing opportunities for meaningful local action.
**Society building**: the Corridors of Freedom is a bold initiative at a city scale and should arguably be up-scaled to the city region to address the big questions of social integration, mobility, carbon emissions etc. Such initiatives can be used to empower and support neighbourhoods in a way that builds a sense of citizenship, diversity, bonds of solidarity, greater social cohesion and new forms of identity.

**Mobility**: we need to consider the livelihoods of operators in our modelling and to embrace informal transit. For instance, motor cycles are an important form of transport in many cities, but not in Johannesburg. Current imaginations of the Corridors of Freedom provide no sense of informal transit – how do we keep the transit-oriented development inclusive and avoid the Bangkok example?

**Economic place-making**: what we are doing in terms of economic place-making? We must continually work to ensure that the physical infrastructure provided connects deliberately to the building of territorial economies. Again this is something that cities struggle with and hasn’t received sufficient enough attention.

**Private sector**: this is an area where more dialogue is needed. The indications are that developers do want to move closer to the visions offered by the city, but they are hindered by regulatory regimes. The private sector can play a greater role by, for example, providing inclusionary housing and investments, but this will require sufficient confidence and a long-term vision that goes beyond political terms.

**Informality**: coming to terms with informality and its nuances is critical. Finding a regulatory regime that enhances the informal sector in supporting livelihoods, economy and accessibility to land will be essential. We need to
engage with reality and not with idealised notions of normality, as both informality and fighting informality are embedded in our culture and history.

**Cities as spatial constructs:** Cities are informed by complexity, different cultures, values and interaction. This is about more than getting the right spatial vision. It is also about social innovation. The innovation driving the world today happens in space and territories but also through modes of learning and engagement and connection between people. So the emphasis on social innovation also provokes thinking that moves beyond the spatial.

As we consolidate and implement our vision of spatial transformation, and find the detail to make those visions a reality, we need to develop a more complex and connected view of transforming our cities. Somewhere in all of this are the beginnings of new forms of discourse that in 5, 10, or 15 years might reshape our policy and practice.

In 10 years’ time, perhaps we will look back at this moment, at what we may have (or not) achieved. There may be disappointments and unintended consequences but, if we take the cues from this conference, we can certainly expect things will turn out better than they would have without this initiative.
Book launch and exhibition

Trading Places

The book looks at urban land markets in African cities. It explores how local practices, land governance and markets interact to shape the ways in which people on society’s margins access land to build their livelihoods. The authors make the case for more equal access to urban land markets, not only for ethical reasons, but because it makes economic sense for growing cities and towns. Trading Places highlights the land practices of those living on city peripheries, and explores the nature and character of their participation in the urban land market.

Exhibitions
Partners were invited to host exhibitions that focus on their work. Exhibitors included:

A documentary was commissioned to provide a glimpse into the possible urban lifestyles and space economy of the future South African city. The documentary was screened at the start of the conference. To access the range of film products (the introductory video, the full feature and short clips) please visit www.sacities.net. The documentary was sponsored by:
These papers have been prepared as background papers for a conference on spatial transformation hosted by the City of Johannesburg and the South African Cities Network. They are intended to provide a series of questions to stimulate discussions during the conference.

1. **Spatial Transformation and Urban Restructuring:** Lessons for the 20-year old post-apartheid South African city?
   
   Professor Mark Oranje – University of Pretoria

2. **Settlement Planning and Urban Transformation**
   
   Professor Ivan Turok, HSRC

3. **Transit-Oriented Development:** An appropriate tool to drive improved mobility and accessibility in South African cities?
   
   Geoffrey Bickford – South African Cities Network

4. **An Approach to Spatial Targeting in Human Settlement Development**
   
   Johan Minnie and Hadley Remas – Housing Development Agency
Spatial Transformation and Urban Restructuring: Lessons for the 20-year old post-apartheid South African city?

Professor Mark Oranje – University of Pretoria

Contents

1. INTRODUCTION .................................................................................. 36

2. CONTEXTUALISATION ....................................................................... 37

3. THE EXAMPLES/CASES .................................................................... 40

3.1 The industrial cities of England ......................................................... 40

3.2 The City of Curitiba, Brazil ................................................................. 43

3.3 The USA’s Urban Empowerment Zones Programme ....................... 45

3.4 Hangzhou, China .............................................................................. 47

3.5 Baku, Azerbaijan .............................................................................. 48

3.6 Transit-oriented development (TOD) ................................................ 50

3.7 Seoul, South Korea ........................................................................... 52

3.8 The British Urban Development Corporations (UDCs) ................... 53

3.9 Medellin, Colombia ......................................................................... 55

3.10 Berlin, Germany ............................................................................. 57

4. DISCUSSION ..................................................................................... 59

4.1 Why and how are these interventions introduced (by the elites/powerful)? ......................................................... 59

4.2 What was done, for how long, by whom and with what effect/impact? ............................................................................. 61

4.3 What can we learn from these cases? .............................................. 63

5. SUMMARY AND CONCLUSION .......................................................... 65

6. REFERENCES ................................................................................... 66
1 Introduction

Attempts to intervene in urban space originate in the late nineteenth century in an uncommon coming together of reason and spirit. Key to this fusion is a realisation of the inequalities of the then industrial city, a real wish to change these conditions for the better, and a firm belief that it is possible to do so by the application of rationality and hard work. Out of this progressive singularity emerges what has since been recognised by some as ‘the early modern Town Planning movement’, and which has since, in many ways and places, lost this progressive zeal and by and large become a rule-based bureaucratic activity (Mabin and Oranje, 2014; Rydin, 2013). The desire to change the existing urban order, and replace it with something more fair, does, however not disappear; it rises and sinks over time and place as and when the four basic ingredients of (1) a realisation of the injustice, (2) the belief that it can be addressed/overcome, (3) the willingness to do what it takes, and (4) the ability (human/technical and financial) to get it done, come together (Rydin, 2013).

The post-apartheid transformation of South Africa’s cities has been a topic of serious debate and focus of research since at least the 1970s (see inter alia Mabin, 1991; Mabin and Smit, 1992; Muller, 1980; 1981). Post-1994, it also been a focus in political manifestos, and of legislation and policy attention. Despite this barrage of attention, South African cities, two decades after democracy still bear, in most ways, the core apartheid features of:

- quality living and accessibility to economic opportunities, schools and retail and entertainment facilities in formalised residential areas in which property has value, for the few;
- a sniff of some of these attributes for some; and
- very little to none of these, for the many.

While this inability to break the back of this twisted spatial inheritance and everything that goes with it has led to much soul-searching, it has also given rise to a growing sense of defeatism, a sense that this is the way things will be, and that the best one can do is manage the fall-out. For those being born into and arriving in this reality, the key driver has in most cases not been to ‘end this injustice and transform this space’, but to do everything to stay in, or get into the more desired parts of the city, and to, likewise, stay out of the impoverished, low quality and informal ones. This focus on the ‘I’ (the self), and sometimes also the ‘we’ – relatives and friends, has not only removed the gaze from the ‘us’ – the collective and the public, but also assisted in further entrenching and reproducing the existing schisms and creating new kinds of socio-spatial differentiation and exclusion.

There is, however, still hope (whether it is ‘belief’ and ‘reasoned opinion’ is another question) that something can be done, a wish to do it and a willingness to invest time, effort and financial resources to explore ways in which it can be done, which this paper is an outcome of. This paper, commissioned by the SACN as a background paper to a conference that seeks to engage the issue of the spatial transformation and urban restructuring of the South African city (with
a specific emphasis on the iconic city of Johannesburg) seeks to explore diverse international examples of attempts at spatial transformation and urban restructuring, and to extract from these cases lessons for consideration, deliberation and (hopefully, as and where useful) application in the local setting.

In terms of content, the paper has four more sections:

- **Part Two: Contextualisation**, in which the uniqueness of the South African case and the usefulness of (international) theoretical frameworks in mapping a way forward is briefly engaged with;
- **Part Three: The Examples/Cases**, in which a series of cases useful in deliberating the South African situation are provided;
- **Part Four: Discussion**, in which the international examples/cases are used to engage with the South African case; and
- **Part Five: Summary and Conclusion**, in which the key themes for discussion at the conference are raised and the paper concluded.

Running throughout the paper are three key questions:

- **One**: Why were (1) the interventions in pursuit of transformation and urban restructuring put forward and (2) introduced (by the powerful)?
- **Two**: What was done (in which areas, sectors and/or systems), for how long and by whom and with what effect/impact (immediate and more lasting)?
- **Three**: What can we learn from these cases and ‘their answers’ to the two previous questions in and for South Africa – do these lessons speak to us (today) and in what ways?

## 2 Contextualisation

Academic engagement with the South African city has been stronger on description, analysis and interpretation of what exists, than on large scale intervention. At the same time, these writings have found linkages to international work dealing with issues and aspects of (global) spatial (in)justice, ‘the just city’ and globalisation of neo-liberal, greed-driven spatial transformation and urban restructuring in accordance with the wishes of multi-national powerful elites and their local extensions. In many of these writings one or more of the following is described/captured:

- The continuing inequality and injustice, the building of more and higher walls and gated enclaves, and the postmodern landscapes of outlandish architecture and secluded retail and entertainment fantasies, fetishes and elitist desires, including in some cases the infiltration of townships by these destructive creatures in the form of malls and imagined/dreamed-for ‘station precincts’, often in great and grandiose schadenfreude-ish detail – the worse the greed-fuelled injustice, the greater the ‘academic merit’ of the academic offering.
• The attempts by the state, often defined as feeble and as having fallen for the neo-liberal gods and goddesses, and which are often vilified as ill-informed, misplaced and ‘not enough’, without offering much else in terms of ‘ok, but then what?’ – the story simply goes: the evil continues/grows and those (the millions of extras in this epic academic tale) continue their suffering in its wake and absentee-elite-gaze – paper published, credits gained and problem of publication pressure solved (for a while at least).

• The startling discovery/realisation of the existence of an urban life beyond that in which most middle class academics and their public policy consultant/government-and-foreign-donor-funding service-providing colleagues, live – the informal, the unrecorded, the in-your-face struggles of the masses in-between, underneath, deeply immersed in, but also far beyond the world as recognised, responded to and serviced by the city.

• The small victories and seemingly never-ending battles the multitudes fought, and often only temporarily won (which also means they keep on giving/providing academics with examples to study and record), in the informalised, pro-claimed pockets of the city, with those fighting for their right to the city cast as heroes in a bitter battle pitted against ‘the fallen/absent state’ and/or its insidious agents of global capital, providing many a researcher with a story to tell and a paper and/or postgraduate degree to earn.

• A series of pieces on celebratory cases of ‘great prospect’, often commissioned through foreign funding, that would suggest that piecemeal, local-economic-development-type actions aimed at working with and through neo-liberal forces ‘can work’, and that changing or adapting small fragments of the twisted monster called the Apartheid City, are in fact achieving success(es) and provide a reason for celebration.

What is, however, starkly absent are papers considering and plotting a way forward on the scale that the challenge posed by the gigantic Apartheid City requires, deserves and justifies; not just a case of tinkering at the margins here and there. Even in cases where larger-scale interventions and changes are envisaged, the modes of intervention are limited to localised interventions in one or two pilot precincts and small/’intimate’ inner city spaces in an otherwise vastly unequal macro-space, and/or in the form of much hailed activity/transport corridors in which rapid busses move people away from places with little economic activity to places with a lot. Absent from the academic discourse are the large questions about the macro-picture of the city to be transformed/rebuilt and the future of two of its most visible unequal constituent parts – the townships and the suburbs, and the question of making a life in this new city: where, doing what, for whom and by whom, and for how long?

A reason for this lack of engagement may be that transformation of the Apartheid City does not provide the kind of canvas that classic research requires/wants – ‘what is or was’, i.e. something that either has happened or is happening, so it can be subjected to empirical or
archival research, recorded and put into print. Excluded from this pursuit of science is ‘what could’ and ‘what should be’, that which is not yet born, that which still needs to be made, and is dependent on actions not yet thought of. This is the domain of vision, scenario and narrative. At best, ‘science’ or scientific/academic engagement would allow/suggest studying examples of spatial transformation and urban restructuring in other (non-South African) settings, recording and extensively publishing on it, and then leaving it to those in practice to extract lessons from this and pondering application/s in the South African urban setting. And, given the absence of examples of major urban restructuring successes in South Africa, there is not much to report on from the side of academics and researchers. Our stories are not stories of significant success because we do not have cases/incidents of such success to narrate.

Contributing to the absence of scientific engagement with what should and could be is the absence of such writing in the international academic arena. While there are the equal masses of contributions on the neo-liberal demons and their global spatial and urban manipulations and outcomes, there is not a body of knowledge which provides roads out of these tragedies at scale (Sager, 2009; Tasan-Kok, 2012; Waterhout et al., 2013). At best there are those that decry the poverty of progressive academics in taking on this task. The last attempts at engaging and taking on the city at this scale date back to the work of what are now referred to as the ‘utopians’ of the period from roughly 1890 to 1940, when Ebenezer Howard and Le Corbusier and their followers produced a series of blueprints for ‘very different forms of urban living’ to the cities of the day (Anthony, 1966; Buder, 1969; Hall, 2002; Ward, 2004). While there are definitely other urban areas/cities with conditions (inequality, poverty, exclusion and marginalisation) not unlike those in South Africa, there are very few cases where there is a real commitment to change these conditions at scale, as there seems to be, on paper (in the shape of legal provisions, policy statements and strategies) in South Africa.

In most cases, material that deals with ‘spatial transformation’ and ‘urban restructuring’, which in the international literature does not have the same meaning as in South Africa, refers to changes to the spatial structure of cities under ‘the neo-liberal onslaught’, and covers much smaller interventions and changes (Allmendinger and Haughton, 2013; Peck et al., 2009; Waterhout et al., 2013). The reality is simply that the scale of the problem/challenge in South Africa is much larger than in especially ‘the wealthy/ier nations’ where attempts at doing something about injustice is often more a case of fixing a ‘minority issue/challenge’ in a few (minority) inner city areas/streets (Oranje, 2012). ‘Spatial targeting’ in such cases means a very different thing in South Africa where large tracts of urban space require intervention. Stated crudely, in contrast to overseas models, where systems are generally working and some ‘distressed’ places and their inhabitants often just need a quick jolt to bring them back to life, the South African city requires far more than just a smart, acupunctural, targeted investment in the system – it needs a major overhaul.
And so, there is no attempt in this paper to extract from its particular (international) setting a body of academic writing and drag it over to our shores, and massage and manipulate it to fulfil the wish for some or other ‘theoretical framework’ to guide (and regulate and confine and restrict) the engagement at the conference whose aim is *transforming and restructuring the (Post) Apartheid South African City*. While we may briefly look at and consider international case studies, in the next section, we are *in many ways on our own – we will have to make it up as we go along*, granted of course that *we are going along*, at least. As such, and to put matters in a context of some sorts, we have to engineer a massive societal (and spatial) transformation and restructuring:

- in a time (post-modern, neo-liberal) that is not in the slightest conducive to it, i.e. one in which the interests of international and local elites matter *full-stop*;
- that will imply major adjustments to the country – its society, its economy, its spatial form and its internal and external networks and connections; and
- that implies a major recalibration of the population that we have to plan, service and provide for – up from an apartheid-minority of not more than eight million beneficiaries and 30 million outsiders, to 80 million citizens (and cities of four million citizens, not just 400 000 beneficiaries), which includes (1) providing for hugely different levels of participation in the economy, (2) ensuring far greater levels of equality in the enjoyment to be derived from such participation, and (3) actively pursuing the development and maintenance of spaces and municipal and other public services that make this economic participation possible and enjoyment from its benefits worthwhile and meaningful.

It is not only crucial that this be done, it is also long overdue.

### 3 The examples/cases

Given the purpose of the paper, to elicit and support debate, these cases were chosen with the objective of showcasing *diverse* examples of attempts at spatial transformation and urban restructuring from different *times* and *places*. There surely are others, and another author would not necessarily have come up with these same cases. Nothing prevents further exploration, should the discussion at the conference suggest such a need. For now, here are the selected examples.

#### 3.1 The industrial cities of England

First out of the blocks in terms of capitalising on the opportunities the new steam-driven machine age offered, England had, by the end of the eighteenth century, spawned a number of ‘industrial cities’ (notably London, Birmingham, Manchester, Liverpool, Leeds and Sheffield) marked by huge population concentrations, high levels of production, pollution, profit and poverty, and enormous concentrations of wealth in the hands of a few (Cullingworth, 2006;
Not uncommon to urban areas of earlier times, a small elite class of powerful and rich industrialists, and associated professionals, lived ‘the good life’ in multi-servant-serviced mansions, while workers lived in absolute squalor – multi-family-crammed, rat-and-disease infested rooms with no sunlight, reliant on rudimentary and unhealthy water and sewerage services, and with crime a daily threat in the unlit streets (Butterworth, 2010; Hall, 2002; Ward, 2004).

Production was all-important, and being part of it was the lifeblood and the reason for being (there). Becoming wealthy from this produce was, as always seems to be the case in any non-domestic wealth-producing economic endeavour, reserved for ‘a/the few’. And, as so often happens in such unbalanced conditions, innate laws of economic motion stepped in and started to challenge this concentration of wealth in the shadow of the suffering masses (Ward, 2004). This resulted in regular/frequent social upheavals, protests about working and living conditions, wages and the use of child labour, and the emergence of a range of socialisms, anarchist movements and workers’ formations (Butterworth, 2010). In some cases, these raging upheavals (violent and fuelled by deep-seated frustration and anger) resulted in loss of life and the temporary setting up of workers’ communes (Butterworth, 2010). Short-lived as they usually were, these communes were a cause of great concern for the rich in the newly-emerging European nation-states. In addition, the revolts (and the weakened condition of many workers) started eating into productivity and output of the factories, on which the rich were dependent. At the same time, a growing lobby of social reformers, some of them humanists, some driven by faith, began to raise their voices about the unfairness and unChristian-ness of the conditions (Butterworth, 2010; Oranje, 1998). Some translated their concerns into utopian proposals for new settlements, a few even built them or contributed to their construction, in most cases these company-town type settlements offering a house on a stand, but with limited freedoms and in most cases high levels of stratification in terms of class and income (Hall, 2002).

Out of this stew of previously unknown levels of production, squalor, volatility and calls for social reform and revolution, a number of interventions emerged (Cullingworth, 2006; Hall, 2002). On the more physical, infrastructural level, laws were passed (1) compelling municipalities to provide water and install sewerage services and streetlights, and (2) introducing building lines, which reduced cramming. In the area of social and economic rights, working hours were introduced, child labour was abolished and the right to vote was introduced and would eventually lead to the enfranchisement of all citizens (Ward, 2004). Over time, and cross-fertilised by similar such developments in other north western European countries (notably Germany, the Netherlands and Sweden) these small, but high impact, victories for the poor gained traction through more comprehensive city planning regulations, building plan codes, the provision of public housing and the introduction of a broad range of social and economic
reforms (Hall, 2002; Rydin, 1993). Many years later, with the major structural post-industrial economic downturn in the 1970s and early 1980s, when the New Right clamped down on hard-won reforms, and the Great Recession of the last seven years hit the poor, the majority of urban residents are not excluded from the economic, social and cultural life of these cities, as they were in the Industrial Age (Allmendinger and Thomas, 2002; Cullingworth, 2006; Rydin, 2013; Taylor, 1998; Ward, 2004). While there are still many differences in the lives, access to opportunities and the quality of life between the rich and the poor, and while these have intensified over the last three decades due to the erosion of the welfare state and the social contract on which it was based, these still are far less stark and insurmountable than they were back in the Industrial Era. Even immigrants to these cities, often arriving with very limited means, are able to find a foothold in these spaces and to make a life. All in all, the combination of focused legal and policy reform in these cities, the actual physical investment in, and maintenance of, adequate municipal services, the provision and maintenance of state-funded housing, coupled with broader interventions in social and economic conditions, (1) providing a safety-net for difficult times, and (2) allowing for universal access to education, which in turn enabled access to decent jobs and the ability to generate wealth (often through ownership of a house), has had a cumulative and lasting positive effect.

Reflecting on the reasons/drivers for the interventions that broke the back of the ‘original sins’ of inequality, exploitation and squalor, three sets, not unrelated to the ideological position of the observer, have been offered:

• The reformers truly/really meant it – they were driven by their (1) beliefs, (2) deep sense of ‘right and wrong’ (tested to the hilt by the dreadful conditions in the industrial cities), and (3) the undeniable reality that the means and technology existed to intervene, to actually do something, and they did so, in some cases using their positions/influence, access to power and own means in the process;

• The powerful and the industrialists, blinded by greed and the shine of gold, were jolted back to reality by the rising tide of worker upheaval and revolt and the loss of life that often went with it (the guillotine of the French Revolution leaving a bloody imprint), and intervened in the conditions of the poor purely to save themselves, and not for humanitarian reasons; and

• The industrialists were not only rich, they were expedient too, and saw that workers who were not well-fed, well-housed and content were not as productive as those who were, and hence the introduction of provisions that would increase productivity. Fuelling this was the other great fear keeping the industrialists awake at night – that they would be out-produced or subsumed by a stronger, larger fellow industrialist and find themselves amongst the destitute and the poor in the dreadful city streets of the time – a life they were ill-prepared for, petrified of and disgusted by. The introduction of measures to enhance ‘the living conditions for the poor’ were, similar to the second set above, not about rescuing the poor, but more about saving the rich (Cullingworth, 2006; Oranje, 1998; Ward, 2004).
As for the reasons why governments introduced the measures put forward by the reformers and industrialists, it has been argued that the growing competition and unease between nations in Europe in the latter half of the 19th century and the first decade of the 20th century, in their pursuit of wealth in colonial areas, notably the rise of Germany as a new superpower, played a large part (Hall, 2002; Ward, 2004). With war becoming increasingly likely, worker/domestic unrest in their key cities was a major threat; it was in fact postulated as a key ingredient together with ‘a war on the nation’s borders’ (in some strains of Marxism) as the ideal time to overthrow the state, a growing fear for many of these governments (Butterworth, 2010). In addition, going into battle with soldiers unfit for war due to miserable living conditions ‘back home in the city’ and susceptible to infection from injuries (often a greater killer than direct hits in combat), was not a recipe for success (Ward, 2004). Finally, the embarrassingly weak performance of the British soldiers in the Great South African War (1899–1902), most of the casualties dying from wounds and disease, and not from direct battle-hits, convinced their parliament that intervening in living conditions in industrial cities through land-use planning and regulation, as the Germans had already being doing for a number of decades, was ‘the way to go’ (Ward, 2004).

3.2 The City of Curitiba, Brazil

This example is probably one of the best-known, most-seen and most-often quoted examples of a city that managed to realise a number of social, economic and environmental objectives through an innovative integrated land-use-public transport intervention (Herbst, 1992; Moore, 2007; Smith and Raemaekers, 1998; Soltani and Sharifi, 2012). The major breakthrough was made in the mid-1960s with the preparation and adoption of a radical new ‘corridor-based’ plan – an outcome of a competition lobbied for by a group of young architects and engineers who opposed an earlier Master Plan that would see the destruction of a series of old buildings in the Central Business District (CBD) to make way for traffic/cars (Barret, 1994: 30; Goodman et al., 2005: 75; Guilen, 1993: 86; Herbst, 1992: 24). The new plan (initially known as the ‘Preliminary Urban Plan’ and later as ‘Curitiba’s Master Plan’) with its rapid-bus-based corridors was seen as a better proposal by being able to save the CBD by (1) allowing for the pedestrianisation and decongestion of the CBD, (2) enhancing access to economic activities for all, by ‘forcing’ the location of high density and intensity developments into the five corridors, and (3) using innovative zoning provisions such as the ‘transfer of development/building rights’ and powers of ‘compulsory purchase’ to allow the state access to land (and power) in the corridors (Barret, 1994: 30; Goldman and Gorham, 2006: 264; Goodman et al., 1995; Guilen, 1993: 86; Herbst, 1992: 24; Smith and Raemaekers, 1998: 237; Vallicelli, 2008). The model itself was simple:

- Corridors with dedicated bus-lanes and innovative bus-stops that provide rapid access and exit to the buses, which were connected via feeder routes to areas in the city not directly on the corridor and to more outlying areas, would be developed;
• The buses would be owned and operated by private sector companies under a licence system, which would mean no additional operation expenses for the city administration beyond maintenance and upgrading once the capital outlay had been made;

• High-density housing and high intensities of non-residential land-uses on the corridors would provide the necessary multiple-direction ridership to make the bus-system viable, and in turn enable the higher densities and support the higher intensity concentrations of non-residential land uses in the corridors; and

• Strict and uncomplicated zoning regulations coupled with the provision of strong land-use and budgetary planning and coordination functions by an agency separate from the city, but directly accountable to the mayor, would provide guidance and certainty to developers and prevent the collapse of the basic premises on which the model was built (Goldman and Gorham, 2006; Goodman et al., 2005: 75–76; Kannenberg, 1995: 4; Smith and Raemaekers, 1998: 233–237; Rabinovitch, 1996: 56).

Radical as it was, the model stood little chance of being implemented, and in fact was not for first five years. The major breakthrough to its implementation would come with the appointment of Jamie Lerner – one of the young architects who called for the original competition – as mayor in 1971 by the military dictatorship (Kannenberg, 1995: 4; Soltani and Sharifi, 2012: 124). Under the military dictatorship, Lerner had wide-ranging powers and was able to implement the plan and establish the semi-autonomous Institute for Research and Urban Planning of Curitiba, with a multi-disciplinary staff, consisting of urban planners, architects, engineers, sociologists and economists (Kannenberg, 1995: 4).

Over the last four decades, the model seems to have served the city well and to have lived up to many of its expectations (Soltani and Sharifi, 2012: 124; Vallicelli, 2008). New development has been channelled into the corridors, bus stations have been provided every 400 metres, more than 70% of commuters use the bus system, private motor-vehicle movement into the CBD has been restricted and speculation in land has been avoided by making information on all future projects available on the municipal website way before their implementation (Brugmann, 1992: 82; Goodman et al., 2005; Koerner, 1998: 32; Moore; 2007; Vallicelli, 2008). The success that the plan has had also emboldened the city government and bought it the trust of its citizens, which led to further innovative projects, such as:

1. constructing a sizeable bicycle path-network;
2. introducing a waste recycling system (known as ‘the garbage/trash that is not garbage/trash’-programme) with associated job-creation and a system by which garbage is exchanged for public transport vouchers;
3. large-scale greening of the city, which includes the redevelopment of fall-out sites into green areas and parks;
4. turning old city buses into mobile classrooms for vocational training;
5. creating a 24-hour activity street in the CBD in partnership with local traders;
6. introducing a user-friendly e-government services and information-portal; and
7. (7) establishing a highly participatory planning model involving capacity building, respect for
   and use of local knowledge, and a connection between local plans and the overall Master

The corridor plan, notably its rapid bus system, has become globally known and has been
exported to many other countries and cities, including of course South Africa.

On the negative side, (1) the city was initially unable to provide high-density housing for low-
income households in the corridors, which it overcame through the use of compulsory purchase
and (2) the high concentrations of activity and transport in the corridors led to concentrations
of pollution, which was addressed by lowering the permissible densities in the corridors (Smith

3.3 The USA's Urban Empowerment Zones Programme

This programme was initiated by President Clinton and Deputy-President Al Gore in December
1994, and was initially intended to run for a period of ten years (Berger, 1997; Department of
Housing and Urban Development, 1998; Hyman, 1998; United States Accountability Office,
2010). It has, however, been extended a number of times, under different guises. The last word
was that it would finish on 31 of December 2013 (Joint Committee on Taxation, 2013). The
purpose of the initiative was to create jobs and open up business opportunities in the most
economically distressed areas of inner cities. As such, the key areas of focus were: (1) to
revitalise neighbourhoods with the aim of drawing middle class residents back to these
neighbourhoods, which would in itself create a market for goods and services and hence jobs;
(2) to provide support for entrepreneurs with the establishment of businesses; (3) to grant tax
credits for the employment of residents, especially low skilled persons; (4) to improve schools;
and (5) increase the supply of affordable housing (Berger, 1997; City of Chicago, 2009; Ham et
al., 2010; Hyman, 1998; Smith, 1997; Unites States Accountability Office, 2006; 2010).

Twenty-three such Empowerment Zones (EZs) were designated by 2000 (United States
Accountability Office, 2010: 6; Department of Housing and Urban Development, 2001). A key
component of the programme was that the communities themselves were the key drivers,
and not just passengers or uninvolved beneficiaries (Hyman, 1998). They decided what
objectives were to be pursued in their neighbourhoods, and what the federal EZ grants were
to be used for (Department of Housing and Urban Development, 1998). In order to ensure
well-considered expenditure, communities were required to prepare an integrated Strategic
Plan setting out (1) how and where the funds would be used, and (2) how the multiple programme objectives of job creation, education, health, and community safety would be pursued in an integrated way and realised (United States Accountability Office, 2010; Department of Housing and Urban Development, 1998; 1999). As long as communities were able to demonstrate how their plans and proposals pursued the key objectives of the programme, funding could be used for a broad range of activities, such as community policing, health care, neighbourhood development, brownfield clean-up, job training, workforce preparation, education, repayment of debt financed by municipal bonds, co-financing of capital projects, economic development projects, childcare and transportation (Department of Housing and Urban Development, 1998; United States Accountability Office, 2010). Partnerships were also recommended and supported and a specific emphasis was placed on assisting minority groups in job creation programmes (Department of Housing and Urban Development, 2001). In addition to the $100 million that each zone received, very generous tax credits for: (1) job creation, especially for youth (persons between the ages of 18 and 24), persons with limited skills, and persons from minority groups, and (2) capital investment, were offered in the EZs (Department of Housing and Urban Development, 1998; Department of the Treasury Internal Revenue Service, 2013; Hyman, 1998; United States Accountability Office, 2010). Further tax benefits included exclusion from capital gains tax under certain conditions and the option of a low flat tax rate for businesses, while funding was also made available for deductions on costs incurred in brownfield rehabilitation and the upgrading of schools. In addition to this, it was legislated that government agencies in such EZs had to buy goods and source services from businesses in the zones (City of Chicago, 2009; Department of Housing and Urban Development, 2009; Department of the Treasury Internal Revenue Service, 2013).

Commentators writing on the EZs in the late 1990s indicated that (1) the programme took far longer to get off the ground than had originally been envisaged, (2) plans were far harder to prepare than had been foreseen, and (3) turf wars and politicking frustrated the implementation of the programme (Berger, 1997; Department of Housing and Urban Development, 2001; Hyman, 1998). A federal audit conducted in late-1995 also found that the process of zone-selection was flawed and in some cases open to favouritism (Citizens Research Council of Michigan, 1995). In addition to this, unrealistic expectations about what the programme would achieve resulted in disappointment for some communities (Hyman, 1998). Strong local leadership was found to be a crucial necessity in managing such expectations, and in keeping the programme on track (Berger, 1997; Hyman, 1998).

Subsequent analyses, audits and reviews by government agencies, conducted in the first decade of the 2000s, were in most cases either (1) undecided (because of an inability to causally connect/attribute gains in neighbourhoods to the programme and to make definitive statements about the exact value of the gains attributable to EZ input), or (2) positive about the
impacts of the programme (Busso and Kline, 2007; Busso et al., 2013; Department of Housing and Urban Development, 2001; Ham et al., 2010; United States Accountability Office, 2006; 2010). In none of the sourced reviews was the programme described as a failure or a waste of money. Most authors found that the neighbourhoods that were part of the programme experienced an increase in economic activity, job creation and the employment of residents (Busso and Kline, 2007; Ham et al., 2010; Krupka and Noonan, 2008). A number of studies also revealed that home prices had risen in the EZs, but again it was not possible to isolate the EZ interventions as variables, and clearly demonstrate a causal link to the programme (Busso and Kline, 2007; Busso et al., 2013; Ham et al., 2010; Krupka and Noonan, 2008; United States Accountability Office, 2010).

3.4 Hangzhou, China
The incredible economic transformation in China over the last four decades has not only been achieved in a string of coastal metropolises, but has also resulted in major changes in these metropolises (Wei, 2012). With the central state providing the overarching developmental framework for this transition, it has been up to local city administrations to focus on their spatial and economic development, and to guide private sector investment within the national parameters, and in accordance with their local economic and spatial objectives. This has, among other outcomes, resulted in uneven development competition within and between cities (He et al., 2005:1).

Hangzhou, the capital of the dynamic Zhejiang province, has, like many other coastal metropoles, undergone dramatic growth and restructuring since the 1980s (Wei, 2012: 398). Known as one of the country’s most prosperous commercial cities in the Yuan, Ming and early Qing dynasties, the city has in the last 150 or so years been replaced by Shanghai as the economic centre of the Yangtze River Delta, and as the major city of China (Wei, 2012: 398). Since the opening-up of the country to the global economy, Hangzhou has been relentlessly searching for ways to compete with Shanghai for investment and to regain some of its lost status (Wei, 2012: 398). This it has done by planning for and undertaking major spatial transformation and urban restructuring projects and programmes, notably the following:

- Investing in its natural features, attractive urban landscapes and its rich cultural history to transform Hangzhou into a ‘world-class tourism city’ (Wei, 2012: 399). In this pursuit the city has developed shopping streets, upgraded historic sites and temples, and opened museums;
- Establishing a series of ‘enterprise/development zones’ to attract domestic and foreign investment, notably high-tech industries, and to use the local higher education sector as a driver and feeder in the creation of these zones (Wei, 2012: 400). Because Shanghai and Beijing are ahead of Hangzhou in the high-tech industry, this has not been an easy endeavour;
• Rescaling its administrative powers and geographical boundaries outward to gain control of development in the wider region, get access to land in the adjacent suburban counties, and use planned suburbanisation as part of its economic growth process (Wei, 2012: 401);
• Developing ‘a new CBD’ in order to provide more space and a more suitable setting for attracting businesses (Wei, 2012: 402). The new CBD also went along with the provision of an area similar to Shanghai’s ‘Pudong’ district (business/trade coupled with tourism). Relocation of the CBD has, however, not been as easy endeavour; and
• Transforming the city from a single urban core, like most other Chinese cities, into a multi-nodal city by creating a series of new, connected activity nodes (Wei, 2012: 402). In distributing economic activity over a wider area, the city was not only trying to enhance access to jobs, but also to reduce congestion and pollution. While the development of the model has been regarded as a success, the traditional city core is still regarded as the strongest node (Wei, 2012: 402).

These interventions have had their challenges, but they have, by and large, gone according to plan. Yet, as in many other Chinese cities in which pollution is becoming a real problem, Hangzhou is facing challenges with regard to sustainability and liveability (Wei, 2012). At the same time, the cost of competing for investment with other Chinese and international metropolitan complexes remains high. This wasteful expenditure, it has been argued, could be avoided by better coordination and less competition between cities in China, which would release funds for enhancing the quality of life in these cities (Wei, 2012: 404). It is said that Hangzhou itself is at a crossroad, whether to (1) continue with the competition for lost status and power and the pursuit of greater investment and more growth, or (2) focus more on solving growing environmental and associated quality of life problems (Wei, 2012).

3.5 Baku, Azerbaijan

Baku, the capital city of Azerbaijan, has over the last decade undergone one of the largest urban restructuring projects in the world (Flyn, 2013). It was reported that, in 2010 alone, 5000 new buildings and construction projects were completed in the city (Yesdani, 2011). As noted by Flyn, ‘In Baku, whole districts have been bulldozed to make way for shining glass skyscrapers’ (Flyn, 2013: 2), and by Khanlou in 2005, high-rise buildings in the city ‘have sprung up like mushrooms after rain’ (Khanlou, 2005: 32, as quoted in Sadri and Zeybekoglu Sadri, 2009). Fuelled by enormous oil income, the city has seen thousands of its former drab Soviet-style buildings replaced by parks, offices and shopping malls; many of these buildings with ultra-novel designs, even a triad of new massive glass buildings in the form of three flames (a business centre, a hotel and luxury residences) – the national symbol of Azerbaijan (Flyn, 2013; Yesdani, 2011). In the process, large parts of its former industrial zones have been replaced by waterfront developments, shopping malls and office blocks that cater almost exclusively for
the ‘growing wealthy and upper classes – far too expensive for most foreigners’ (Flyn, 2013: 2; Sadri and Zeybekoglu Sadri, 2009; Yesdani, 2011). Once labelled the ‘Paris of the East’, the city has also embarked on a massive tourism drive, making huge investments to attract a slice of the lucrative global tourism market, and received almost one million tourists in 2010 (up from 420 000 in 2001), which grew to 1.95 million in 2012, and gained it a ranking in the Lonely Planet’s 2009 Guide as one of the ‘world’s top ten party towns’ (Anon, 2009; Yesdani, 2011).

All of this restructuring is happening without an overarching plan and against the backdrop of a country in which unemployment is massive, inequality is high and corruption is seen as a huge problem (European Bank, 2013; Ivanov, 2005: 234; Sadri and Zeybekoglu Sadri, 2009). Given that the oil industry employs a meagre 1% of the workforce and that there is little else in terms of economic activity, many of the existing jobs have been artificially created by the state (Ivanov, 2005: 234). For its part, the state has attempted to create ‘real’ jobs through a ‘Regional Development Programme’ in the non-oil sector, notably in agriculture, food processing and services, which had by 2013 resulted in some growth in the non-oil sector, notably in construction and services (European Bank, 2013; Ivanov, 2005: 235). More recently it also embarked on a programme to transform its natural resources into human capital, a venture which it has called ‘turning black gold into human capital’ (Demirel, 2013; European Bank, 2013; Yesdani, 2011). In a recent initiative, the government is focusing on creating high-tech and industrial parks and attracting investors with rates, taxes and land-related incentives (European Bank, 2013). However, as noted in a 2013 European Bank report, ‘the non-oil sector’s ability to generate self-sustaining growth without sizeable government support remains untested’ and ‘foreign investment in the non-oil sector is very limited’.

Rather than assisting in bringing about a more equal society, the spatial transformation and urban restructuring of the city is further entrenching and cementing social polarisation in an already dual city (Ivanov, 2005: 235; Sadri and Zeybekoglu Sadri, 2009). While the latest architectural styles and building technologies are attracting global capital interests, the masses who lost their jobs and social security after the collapse of the Soviet Union, and those who came to the city to escape the continuing conflict between Armenia and Azerbaijan, are struggling to survive (Sadri and Zeybekoglu Sadri, 2009). Some old buildings are made to look slightly better by changing the façade, but not the interior, and nor is the structure strengthened. As observed by Flyn (2013: 2), ‘Soviet-style apartment blocks have been simply concealed under glossy veneers, like bad teeth.’ As concluded by Sadri and Zeybekoglu Sadri (2009), ‘it is possible to see the two faces of the city at the same time: the glorious face of the global city and the catastrophic face of deprivation and poverty.’ Another area of rupture between the former Soviet Era and the current boom period is that of private home ownership. In terms of new building regulations, developers only need to complete the outside shell of an apartment block – private buyers complete ‘the rest’ on the inside. As this has meant that apartments can
be sold at much lower rates, it has fuelled an ‘apartment-buying-and-construction-frenzy’ (Flyn, 2013). At the same time, it has resulted in the establishment of clearly visible inequalities in the same apartment building, as buyers finish off their apartments not only in different styles but in accordance with their means (Sadri and Zeybekoglu Sadri, 2009). Together with the oil boom is a meteoric rise in car ownership, which has, due to lack of road-upgrading and maintenance, resulted in dreadful traffic conditions in the older parts, which has been worsened by no new investment in public transport since the end of the Soviet Era (Sadri and Zeybekoglu Sadri, 2009). This has created ‘a buffer’ with some outlying areas effectively being cut off from the rest of the city due to congestion and the bad quality of the roads (Sadri and Zeybekoglu Sadri, 2009). It has been observed that the iron curtain may have been destroyed, but in Baku it is ‘being reconstructed again as perceivable borders among people’ which run primarily along economic and class lines (Flyn, 2013; Sadri and Zeybekoglu Sadri, 2009: 6).

3.6 Transit-oriented development (TOD)

This concept refers to a utilisation of an age-old phenomenon of urban development in terms of which more intensive non-residential and higher-density residential development concentrates at public transport (notably train and later on light-rail) stations (Boarnet and Crane, 1997; Connecticut Department of Transportation et al., 2010; Peters and Novy, 2012). In broad terms, TOD entails government or a government agency (1) introducing or redeveloping a railway line in an urban area, (2) (re)developing station precincts along the line in an urban area (by developing key public sector investments), and (3) providing additional incentives for higher density/intensity development in these precincts (Bertolini and Spit, 1998; Boarnet and Compin, 1999; Connecticut Department of Transportation et al., 2010; Peters and Novy, 2012). The intention with the cramming in of public investment is to provide a setting for the attraction/’leveraging-in’ of private investment into the nodes (Boarnet and Crane, 1997: 191). The benefits of such TODs are legion, and include (1) alleviating the use of private motor cars for daily commuting, (2) creating vibrant (often 24-hour retail and entertainment urban spaces), and (3) providing the city with a relatively stable form or rates and taxes. In some cases, such TODs connect older urban areas to new developments, high-tech/office precincts/parks and/or airports and associated aerotropolis-type nodes.

In its mature form, the TOD model of public transport and property development functions in a symbiotic way: the railway system provides a high-capacity conduit for commuters/transit users, while the high-density/intensity development provides the high-volume transit users/ridership the rail network requires to function profitably (Boarnet and Crane, 1997: 191).

After achieving some success in a number of North American and Australian cities during the 1990s, notably in the area of:
1. creating pearl-type mixed use nodes on public transport-fuelled corridors;
2. resuscitating declining entertainment areas;
3. providing the necessary ridership for metro-wide public transport systems;
4. creating significant numbers of construction and service sector jobs; and
5. broadening the housing market (but also forcing/cramming/pricing out lower rental-type housing).

This model became a commonly used term for those wishing to cut the carbon footprints of cities by reducing car dependency and creating walkable station areas/precincts, as well as those in the New Urbanist camp wishing to re-urbanise suburbanised cities that have lost their inner city residents and accompanying vibrancy, nightlife and accompanying economies (Ahlfeldt; 2012; Boarnet and Crane, 1998; Newman and Kenworthy, 1995: 1; Peters and Novy, 2012).

In South Africa, the model, together with a broader interest in the activity/development corridor concept, attracted significant interest. While this may partially have been due to the euphoria surrounding the concept in urban design circles, it was primarily as a result of the opportunities it was seen as offering in (1) connecting townships to central business districts and suburban nodes, (2) increasing densities in nodes serviced by public transport, and (3) physically and tangibly restructuring the highly inefficient sprawled-out South African city (Cameron, 1997; 1998; Oranje, 1999). Despite the hype associated with it, its use in South Africa in its pure form has been limited – the Gautrain being most probably the best example. And, while it is still early days, and the Great Recession in 2007/8 had a large hand in this, the highly anticipated station precinct transformation/(re)development is still to materialise at most of the Gautrain stations.

The successful examples have indicated that, in order to achieve the desired outcomes of such TODs, the key success factors are:

- A pre-existence of economic viability in the area in which the stations are to be developed and a promise of a return on investment that outweighs other competing sites in the metropolitan area.
- A shared focus and coordinated, integrated approach by all government actors in the area to ensure the realisation of the TOD by investing in infrastructure in accordance with the TOD plan and only allowing new rights in TOD-station-precinct areas.
- Implementation of the TOD plan within the agreed timeframes to ensure the success of the model, and to secure and retain the confidence of the property investors.
- An efficient feeder system to provide the necessary thresholds to ensure the viability of the public transport system while the precincts are being developed.
- Access to land or floors in buildings for residential development in the precincts, to prevent them from suffering the same fate, of after-hour-lifelessness, as the central business districts that had been deserted by the middle classes.
- The buy-in and sustained support of the model by the political leadership in the cities in which it was introduced (Atash, 1995; Boarnet and Compin, 1999; Boarnet and Crane, 1998; Cameron, 1998; Connecticut Department of Transportation et al., 2010; Kraay, 1996; Oranje, 1999).
3.7 Seoul, South Korea

The case of Seoul is one of highly effective state-led, high-density, private sector built, urban restructuring fueled by a rapidly growing economy, but bringing with it significant displacement of low-income households (Kyung, 2011: 1). Here urban restructuring and urban renewal have been pursued by the developmental state as part of its broader project of rapidly expanding the economy and providing quality-housing for the middle and upper-middle income households who were not only key components of this drive, but also products of the resulting economic success. High-density housing was also seen as a (rational) way of effectively and efficiently addressing a housing shortage and the aspirations of an expanding urban-based middle class (Kyung, 2011: 2).

Urban redevelopment projects are generally undertaken through a ‘joint redevelopment scheme’, a concept dating back to the mid-1980s, which involves the formation of a voluntary compact/contract between property owners, residents, and developers with full recognition of property rights. The roles in this scheme are clear cut: (1) the state designates clearance areas and creates a favourable financial and infrastructural framework for the private sector to invest; (2) the private property development companies obtain government approval for construction and build the apartment blocks for purchase; and (3) each member of the association is provided with the right to purchase a unit upon completion of construction (Kyung, 2011: 10). This initiative is regarded as having overcome a key hurdle of ‘lack of government funds’ which slowed down previous projects in Seoul and allowed stable and predictable progress in redevelopment (Lee, 2003).

While it has been observed that citizen participation and other stakeholder involvement in urban planning and urban redevelopment is valued and takes place, it does seem to be an elite project (regime theory) in which economic growth and the interests of those who power the machine are paramount (Lee, 2003: 72). It would seem that the model enjoys support from planners who view the higher densities as a way to create more sustainable cities (Kyung, 2011:7). It is also viewed as a major improvement on the earlier days of the Korean economic miracle when rapid urbanisation, coupled with limited state spending on housing due to it being regarded as a low priority had created huge squatter settlements, especially in the inner city, which were seen as denting the image of the country as an Asian Tiger (Kyung, 2011: 8). In some cases, a significant component of the new development was retail establishments, which were seen by some as forcing out the poor by the ever-present global consumer of urban spaces for the poor – consumerism (Kyung, 2011: 9). It has also been observed that the needs of the erstwhile, often lower-income, residents are not the key drivers in the redevelopment projects (Kyung, 2011: 11; Lee, 2003: 84). In its earlier stages, the loss of rental units hurt the vulnerable and sparked numerous protests. This was largely addressed over time by the provision of relocation compensation and the development of rental units in the redevelopment areas (Kyung, 2011: 11).
All in all the introduction of the joint redevelopment programme/scheme has brought significant improvements in both the quality and quantity of housing in Seoul (Kyung, 2011). Due to the transformation of squatter settlements into formal residential areas, the housing redevelopment programmes have, since the second half of 2010, been about the creation of ‘quality residential environments’ and no longer about ‘slum clearance’ (Kyung, 2011: 10). It is not clear, however, whether this new form of high-density housing will prove to have provided a longer-term, (more) lasting answer to addressing the needs of a growing economy and expanding middle class.

3.8 The British Urban Development Corporations (UDCs)

These bodies were established in the 1980s in the United Kingdom by the Thatcher government through the Local Government, Planning and Land Act, 1980 (Rydin, 1993: 262). The UDCs were conceived as short-term bodies, i.e. with a lifespan of between seven and ten years, each with a: (1) clearly delineated area of jurisdiction; (2) board appointed by the Secretary of State for the Environment, which typically consisted of members of the local authorities in whose area the UDC fell, private and voluntary sector interests and representatives from the regional development agency; and (3) staff component to assist it in its actions (Brindley et al., 1989). The primary goal of the corporations was to ensure rapid, massive, holistic, well-planned and managed urban regeneration in partnership with the private sector in clearly demarcated areas to ‘create environments in which people could live and work and enjoy good quality lives’ (Greenhalgh and Gudgeon, 2004; Stoker, 1989). Ways in which this was to be done was by:

1. ensuring the rapid release of land for development;
2. making it more attractive for the private sector to invest in these areas;
3. providing cash grants, free advice and practical help to businesses wanting/willing to set up firms in the area;
4. improving business confidence and investor perceptions of investment in such areas; and
5. facilitating infrastructure investment of the desired scale, at the right time and in the right place in such localities (Greenhalgh and Gudgeon, 2004; Stoker, 1989).

In order to achieve these objectives, notably that of speed, the corporations were given extensive planning powers, and were allowed to sidestep the local land-use planning system, in effect creating a ‘dual planning system’ in the cities in which they were established (Jones and Wright, 2010; Rydin, 1993). A reason for establishing the UDCs was to ‘fix’ the gaps, or ameliorate the (perceived) ineffectiveness and inflexibility of the British planning system and work around the (perceived) tendency in local authorities in the UK to discuss rather than facilitate development (Stoker, 1989). For many on the Left, and in local government at that time, these bodies were perceived as ‘central government intervening to benefit private profit making at the expense of local working class people’ (Rydin, 1993: 262).
The key instrument of the UDCs was the power to purchase and rapidly transfer land in the designated area, this was greatly facilitated by special procedures to purchase land held by other public bodies (Brindley, 1989). In order to give substance to this power, the Treasury made available plenty of funding (Greenhalgh and Gudgeon, 2004). The bodies also had powers for land assembly/consolidation, reclamation, servicing and disposal (Greenhalgh and Gudgeon, 2004). UDCs also held all development control powers in their designated areas and their plans were the de facto local plans for these areas (Rydin, 1993: 263). As these schemes were viewed as corporate planning documents they were not open to the public in the same way as local authority’s plans were.

While their powers were significant, the UDCs did not have powers to approve development applications and had to submit their proposals to the Secretary of State for the Environment, who could enter into consultation with the local authorities in the area, approve the proposals with or without modifications, or, of course, turn them down (Greenhalgh and Gudgeon, 2004). These approvals would then provide the template in terms of which planning permission could be granted through a special development order for all developments in the area that conform to the plan (Greenhalgh and Gudgeon, 2004).

Despite their ideological baggage, and strong initial criticisms (of their (1) lack of accountability, (2) lack of community engagement and (3) disregard for social outcomes) the UDCs survived, albeit with some amendments, as active participants in a number of British cities (Greenhalgh and Gudgeon, 2004; Jones and Wright, 2010). A key reason for this was that the UDCs radically altered their approach, and began to enter into agreements with the local authorities who also benefited from the regeneration, and to work closely with local communities in social development programmes (Greenhalgh and Gudgeon, 2004; Thurrock UDC, 2003). Over time, negotiation, liaison and consultation between the UDCs, local authorities and communities became the norm. In some cases, the local authorities in the UDCs areas started performing functions for the corporations on an agency basis or through a partnership agreement (Office of the Deputy Prime Minister, 2004). In addition, the later UDCs were demarcated in areas where local authorities had already adopted leverage styles of planning, and where the UDCs by and large supplemented these initiatives (Stoker, 1989). The UDCs were generally also very successful in their aim of attracting private sector investment – a 1998 study into the effectiveness of eight UDCs for instance showed that for every £1 of public sector invested, £3.45 of private sector investment was leveraged (Jones and Wright, 2010). It was, however, argued that UDCs ‘cherry-picked’ projects that would attract the most investment and produce the greatest outputs, and that many of the jobs created by the UDCs were in fact just a result of relocation of an existing operation to a UDC area (Greenhalgh and Gudgeon, 2004; Jones and Wright, 2010).
In 2010, the Conservative-Liberal coalition government introduced Regional Development Strategies, which signalled their death knell of the UDCs (West Northamptonshire Development Corporation, 2014). Those UDCs that existed at that time were merged with the boroughs in which they were located (Department for Communities and Local Government, 2013). Currently there is still one such body in operation, the West Northamptonshire Development Corporation, which was established in 2004, which is set to wind up its operations at the end of March 2014 (West Northamptonshire Development Corporation, 2014). The Mayor of London recently also created a body ‘modelled on existing UDCs’ to take charge of the development of the Olympic Park area (Mayor of London, 2012).

3.9 Medellin, Colombia

Medellin, the second biggest city in Colombia, with a population of around 2.5 million people, has over the last few years emerged as a stellar example of social integration, winning more than 40 international prizes over the last five years and recently being named by the Urban Land Institute as ‘The Most Innovative City in the World’ (Sotomayor, 2013). Between the 1950s to 1970s, the city’s economy grew rapidly on the basis of manufacturing (notably textiles), property speculation and financial services (Gutierrez Zuluaga, 2010). From the 1970s onwards, the city experienced a rapid in-migration from rural areas, partially as a result of violence (internal displacement), and partially due to a lack of opportunities in these areas, with which it was unable to cope (Davila, 2013; Gutierrez Zuluaga, 2010). This resulted, amongst others things, in unplanned settlement in the hills around the city (Davila, 2013; Gutierrez Zuluaga, 2010). The accompanying joblessness, marginalisation, deep inequality and despair saw the city become an extremely violent place during the 1980s, which was worsened by the arrival of drug cartels in the area (Gutierrez Zuluaga, 2010). The result of this was that the city had the highest murder rate in the world in the late 1980s and early 1990s, and that the areas inhabited by the poorest of the poor became no-go zones for the police (Davila, 2013; Sotomayor, 2013; Gutierrez Zuluaga, 2010). Many of the poor also suffered from immobility, which constrained their participation in urban life, and their access to the benefits of urban living, which meant that, as so often happens, ‘geographical marginalization led to deeper levels of social exclusion’ (Davila, 2013). A distinct aspect of the city’s poverty was that a high percentage of those living in poverty fell in the elderly age bracket. At the same time, 29 000 families were living in high-risk zones (Gutierrez Zuluaga, 2010). The city did, up to the early-2000s, not intend to integrate these areas into the city and its economy (Davila, 2013). It has since become known as one that ‘promotes solidarity and competitiveness’ (Gutierrez Zuluaga, 2010).

Around the mid-2000s, the city embarked on a different journey and took a conscious decision to provide ‘the best of the city for everyone’, a strategy they called ‘social urbanism’, targeting the poorest citizens, the elderly, and persons with disabilities in particular (Gutierrez Zuluaga, 2010). The primary intention was to integrate the city’s informal areas into the formal urban
The city’s attempts at urban intervention composed of four interrelated parts: (1) build physical and social infrastructure; (2) improve service delivery (with an emphasis on early childhood and schooling); (3) increase mobility to and from underserviced neighbourhoods; and (4) provide public spaces in these areas, and reassert the role of the government in the public domain (Sotomayor, 2013; Gutierrez Zuluaga, 2010). The interventions that emanated from this endeavour entailed:

- harnessing culture, education and art to elicit, enhance and deepen social interaction;
- building new and upgrading existing housing;
- developing ‘library parks’, an ‘Explora Park’, i.e. a science and technology theme park, a botanical garden and attractive open spaces;
- providing free entry to museums;
- upgrading and maintain sidewalks and walkways; and
- facilitating mobility though the development of an integrated transport system, a metro-aerial cable car system that transports people up and down the hills, a metro-rail system, elevators and stairs in hilly terrain, and a bicycle path system (Davila, 2013; Gutierrez Zuluaga, 2010).

In all of these endeavours, special provision was made to ensure inclusion of ‘the elderly’ through providing stairs and ramps where required, and benches and rails in public spaces; adapting metro stations to serve elderly persons and persons with physical disability; and making discounts available to elderly persons for travel (Gutierrez Zuluaga, 2010).

Between 2002 and 2010, the city developed 18 new parks, in so doing increasing open space from 0.65 to 1.48 square metres per inhabitant (Davila, 2013). The increased access offered by the cable system also led to an increase in local businesses from 700 to 1000 between 2002 and 2010 (Davila, 2013). In addition to this, the interventions created a steady flow of tourists (pilgrims) to the city (Davila, 2013). Between 2008 and 2012, the Gini coefficient fell from 0.54 to 0.50, while the murder rate per 100 000 inhabitants fell from 433 in 1991 to 52 in 2012 (Sotomayor, 2013).

The lessons provided by Medellin for achieving success with urban restructuring are:

- The importance and value of using engagement, participation and negotiation to develop broad-based consensus on the importance of strengthening social cohesion, and in collectively reducing crime and violence;
- The need for the development of a synergistic relationship between society and the local state;
- The role of progressive political imagination, innovation and boldness in the development of metro-cables, the escalators into the hills and the BRT;
- The strength of neighbourhood groups, social movements, academics and NGO representatives when struggling together for the right to the city of all citizens;
- The value of powerful, efficient, publicly-owned institutions in pursuing progressive ends;
• The importance of ‘making poverty visible’ to all for it to be attended to;
• The need to re-insert the state, including its services, infrastructure and funds into all parts of
the city, including the poorest and the most marginal settlements;
• The necessity for strong leadership, of a mayor not shrinking challenges and listening to and
testing novel ideas;
• The need to ensure good local/city tax collection to enhance the funds required to bring about
the planned innovations; and
• The value of a simple, easily understood urban project that is carried over from one
government to another (Davila, 2013; Sotomayor, 2013).

While much has been achieved, a lot still needs to be done. And while poverty, unemployment
and crime have been reduced, they still remain high (Sotomayor, 2013). Crucial areas for further
action include the need to (1) close the wide gap for affordable housing; (2) create local
economies that are able to compete with and win against the allure of criminal enterprises;
and (3) improve governance coordination with neighbouring municipalities (Sotomayor, 2013).
In order to do so, the partnership between the city administration and civil society needs to
hold, the energy has to be sustained and the commitment to socio-spatial justice has to be
retained (Sotomayor, 2013).

3.10 Berlin, Germany
In contrast to what may have been expected after the tumultuous tearing down of the Berlin
Wall nearly 25 years ago, and the ingrained picture of a once-deeply divided city, ‘Berlin does
not have and has not had since its reunification a single and comprehensive document that
determines its most important government goals and measures concerning spatial
development’ (ESPON, 2013: 197). What it has got in terms of ‘urban development policy’ is a
set of strategic concepts and documents that are ‘more or less integrated and binding’ and
that consist of:
• a set of long-term forecasts and strategic concepts for what are regarded as the most
pressing urban development issues, which enables and facilitates publication, discussion and
establishment of guiding principles on ways in which these issues can and should be attended
to/dealt with;
• a set of sectoral and spatial long-term development plans dealing with housing, industrial
development, transport, climate, utilities, etc., which includes a series of more detailed spatial
development plans for inner-city residential areas; and
• a set of plans for high-priority urban areas, which includes urban development, urban
restructuring, urban regeneration and social development areas, and which is developed
around a series of specific spatial action concepts for each of these areas (ESPON, 2013: 197;
and see Schreiner, 2013).
In addition to this, the city adopted a series of ‘Government Policy Guidelines 2006–2011’ in 2006, in terms of which the city government committed itself to a series of guiding principles that emphasised the promotion of tolerance, diversity, integration and equal opportunities in economic development, labour, education and social security in all government activities (ESPON, 2013: 197). Earlier, in 2004, after what is reported to have been an intensive public engagement process, the ‘Urban Development Concept for 2020’, which consisted of a series of pilot projects in strategic locations in the city, was implemented (ESPON, 2013: 197; and see Bodenschatz et al., 2004). The planning horizon of the ‘plan’ has since been extended to 2030, and it is envisaged that it will: (1) ‘serve as the outline for Berlin’s city-wide development strategies’ and, ‘as a guide for future development’; and (2) outline the city’s ‘goals and designating strategies and spatial focal points to achieve these goals’ (ESPON, 2013; State Department for Urban Development and the Environment, 2013). In what has been described as a ‘pragmatic, incrementalist planning philosophy’, the city administration also entered into a collaborative arrangement with the Federal State of Brandenburg in which it is located, and through which agreement a ‘Joint Spatial Planning Department’ was created by the state and the city, which in turn prepared a ‘common State Development Plan’ in 2009 (Drews, 2013; ESPON, 2013: 197). It is, however, reported that the state and the city have not been able to agree on a joint policy to curb urban sprawl around Berlin with each entity retaining its own land use and regional development plan (Drews, 2013; ESPON, 2013: 197).

While there does not seem to be a sense of official unease around the absence of a major city-wide restructuring plan, this view is not shared by all, according to Sheffi (2011). In a highly critical analysis on the role of ‘architecture and planning as a mending tool’ in Berlin, she argues that the planning authorities, instead of adopting a comprehensive urban restructuring plan, sought to heal what was regarded as the epicentre/heart of the fracture – the urban core, directing the bulk of their efforts ‘at the inner city and not the city as a whole’ (Sheffi, 2011: 17). She notes that, ‘Unlike the heated and intense debate that waged over the future development of the historic core, the development of the rest of the city was not the subject of any real discussion’ and that community engagement processes were structured in such a way that any focus on city-wide issues was prevented (Sheffi, 2011: 17; 27). This ‘heart’, with the help of a series of mega-celebrity architects, has since been transformed into a ‘wholly new, global city’ consisting of four mega-sized inner-city redevelopment zones, leading her to ask, ‘Was the aim to unite the two Berlins or to unite Berlin with London, New York and Tokyo?’, and noting that, ‘In many senses, the new core of Berlin is more appealing to foreign investors and international tourists than to its own residents, becoming a global enclave of tourists and international firms devoid of the unique characteristics of Berlin’ (Sheffi, 2011: 19; and see Peters and Novy, 2012: 8). She furthermore suggests that the ‘Berlin experiment can teach a number of valuable lessons on the power of planning mechanisms to remove social and economic partitions’ (Sheffi, 2011: 26), of which the following are extracts:
‘planning policies cannot stand on their own, but are part of a larger formation of spatial policies ... It is not my assertion that land policies should serve planning policies ..., but that the two, along with other spatial policies, should be enacted in tandem so as to achieve the desired social space.’

‘communities are not mended solely by removal of partitions but also by the further uniting of the two parts into one whole. Attention must therefore be drawn not only to the area where the barrier is understood to stand but to the entire space to be united.’

‘From the experience of Berlin we should learn that social and economic partitions do not simply disappear, but shift. The role of the planning authorities, therefore, is not only to identify existing social/economic partitions, but also to decide where to move them.’ (Sheffi, 2011: 26–28)

In addition to the concerns voiced, and the lessons offered by Sheffi (2011), it has also been argued that the envisaged TOD-type regeneration spin-offs to be gained from some station redevelopment projects in Berlin, notably its new Central Station (Hauptbahnhof), have as yet not materialised, with the new station building ‘continuing to sit a bit like a “glass palace in a desert”, with the surrounding brownfield sites still waiting for development years after all design contests and master plans have been completed’ (Peters and Novy, 2012: 25; and see Ahlfeldt; 2012).

4 Discussion
In this section the three guiding questions raised at the outset are considered under separate sections.

4.1 Why and how are these interventions introduced (by the elites/powerful)?
The case studies suggest that for the conditions that the poor have to endure in urban areas to change, those in power have to introduce enabling legislation and launch policies and programmes. This raises the question: Why did those in power do so in the cases studied and how did they get it done?

The cases suggest that there are four reasons why elites would embark on such reformist projects and ‘stay with them’:

• **Ideological**: Progressive interventions in this case stem from leaders coming from a leftist, ecological, a humanist and/or a religious background in which caring, compassion and concern for human beings and the environment matters. Falling into this group also are leaders who have a utopian vision for a city and who will go to some lengths to see it through.
• **Fear**: Into this group fall leaders who realise that the imbalances are untenable and will erupt sooner or later. They are driven by fear – not just of revolt, but also of losing support at the polls, investor-migration and of a broader economic collapse as those with money both within and outside the country in which the city is located, show signs of having seen the writing on the wall. They do not wish to address the situation, but are forced to. Had they really been concerned, the situation would not have come about in the first place, or would at least have been improved, if they had not made, but inherited, it.

• **Expedience**: Elites in this group are also not keen to spend money and time on altering the status quo in the city, but do so because they realise that they will benefit from a more stable city in which there is less tension, crime, disease and malnutrition. It is the price that has to be paid to continue their lives unaffected by the inequalities in the city. Yet, given their expedient way of engaging with the issue, such elites may carefully assess the severity of the imbalances and challenges, and depending on this assessment, use delaying techniques or small-scale appeasements for as long as possible, until they are finally forced to make more significant investments and pursue larger-scale change.

• **Pragmatism**: In this group fall those, often technocrats, who through their training and experience ‘know’ or have come to realise that cities work better if they are more equal and if the poor are treated fairly and with dignity and given ‘a chance in life’. Sometimes they are drawn to urban inequities for the challenge they hold and the joy to be had from fixing them, and not so much the actual transformation and improvements in the quality of life, dignity and respect that they bring.

Often elites with different reasons for pursuing such transformation and restructuring come together, and collectively engage with the problem, but with different objectives in mind. Often a strong visionary leader will draw in other elites who see in the leader someone who can make a success of the transformation. In other cases, elites will wait for ‘other elites’ to make the first move, test the waters and/or pay as much of the price as possible before they join in.

In most of the cases, support is required from a broad segment of the powerful elite to see through the reforms. This requires a deep enough understanding that without the transformation and associated reforms they risk losing more than what the reforms will cost them.

In government, and notably amongst its elites, the introduction of such reforms requires a number of relationships to be in place, and functional and stable. These are the following relationships:
• between the political and technical leadership within the city administration/municipality;
• between the different technical departments/units in the city administration/municipality;
• between different levels/tiers/spheres of government, especially as in most cases such transformations are dependent on multiple funding sources and interventions in a range of areas and from a series of sectors; and
• between community and stakeholder structures/groupings and government.
Not only are these working relationships often hard to set up, they are equally hard to sustain, and can easily disappear when a dynamic, visionary politician’s term ends, or an official departs.

4.2 What was done, for how long, by whom and with what effect/impact?

In terms of what was done, the case studies revealed seven types of interventions that were used:

- **Regulation**: This measure was often used in conjunction, or in support and includes laws aimed at forcing the private sector or state actors to undertake certain actions in terms of what, where and when it invested and where it sourced its goods and services from. So new retail investment would only be allowed in certain areas that the city government would want to see grow, or housing had to be provided at a specified density and/or in clearly specified areas.

- **Incentives**: The flipside of regulation, this measure seeks to ensure investment in certain areas through a reward system. Often used in conjunction with regulatory measures, it represents a softer, more cooperative face of government. It can, however, imply huge costs and result in the state paying for items that the private sector would in any case have paid for. It is also a measure which can easily be abused in pursuit of particular agendas and is open to corruption.

- **Housing**: This represents a direct intervention in the immediate living conditions of the deprived, and takes the form of better housing in the area where those in need are located. Often this takes place in the form of medium to higher-density housing, which also seeks to support public transport provision. In some cases, the provision of housing in new localities, far away from where the new residents came from, resulted in loss of identity and community.

- **Transport**: This intervention in most cases includes some or other form of large investment in public transport, often in the form of a corridor, by which the poor are connected to, or brought closer to, spaces of opportunity. In some ways the public transport system also has an equalising impact, ‘making everybody the same’ in their common use of one mode of transport.

- **Partnerships**: A strong theme running through many of the cases is some or other form of collaboration, joint venture or partnership, which can either be highly formalised or exist in a less formal way. Such compacts require, and tend to produce, high levels of social cohesion. At their core they entail a broad-based, collaborative spirit, and a synergistic approach and modus operandi – the state (national and/or local) fulfils certain framing functions (economic, stability and regulatory), the private sector, or semi/quasi-private sector responds (construction) and the community purchases, uses and/or consumes. In addition to this, these compacts are dependent on the state having enough legitimacy to initiate major interventions, and the ability to plan, mobilise resources, organise actions and actors, and execute projects and programmes. This in turn requires trust, respect and a shared pursuit of certain objectives, and sharing of risks and rewards, otherwise it will not endure. Such arrangements can of course entail high levels of co-option or regime formation in which only some segments of society gain and ‘others’ get bought/tied into a model that they dare not challenge, or in which
they have decided that, while not perfect, it does provide some components of ‘the good life’ or at least a better life than what they had.

- **Special purpose vehicles**: In this group falls the creation of bodies/structures whose distinct focus is addressing urban redevelopment or regeneration, and that often deploy one or more of the other interventions in this list. These bodies are often controversial, as they are often seen as sidestepping elected (local) representatives and decision-makers.

- **Broader social and economic transformation**: In terms of this, state programmes seek to ensure that the economic condition of those living in poverty improves. Measures include better education, improved health-care, job training and support for local businesses. In some cases, the result is that, those who can, leave their impoverished neighbourhoods and settle in better areas (often the suburbs), leaving behind those who cannot, without leaders (who have moved away).

Some of the interventions deployed work with the market, others against it. In some cases the measures do not necessarily work against the market, but seek to steer it into new/other spaces. Whatever the relationship with the market, most of the urban transformation models are dependent on the market to ensure the desired transformation – i.e. there has to be private sector energy (growth) for the state to steer. Without this energy, structural change in the city is highly unlikely. Even if the city administration commits to doing most of the rebuilding and restructuring itself, it still needs tax income from the market to fuel these efforts. This means that in times of austerity with a lacklustre private sector in general, and property development sector in particular, such as the present, city administrations will face a very difficult task in getting transformation done. At the same time, the need to retain the levels of market interest also limits the manoeuvring space of city administrations, places limits on how much steering can be done, and on how extreme and how far the detour from ‘set market-paths’ can be.

In terms of **scale and spatial location of intervention**, the case studies provide a mixed bag of responses, ranging from full-scale, complete city make-overs to limited small-scale, carefully targeted interventions in parts of cities or neighbourhoods that were in urgent need of intervention. Where whole cities were the target of interventions visions and master plans were typically used, which had an impact on all the planning, budgeting and work of the city administration. It was similar to a country at war, and required a similar resolve to see the plan through. As such, it required a social contract in which not just every politician and official in the city administration knows what is expected of him/her in terms of roles and responsibilities, but also every citizen and stakeholder. In cases where parts of cities were targeted, these interventions obviously did not require the levels of buy-in of the whole city-programmes, and did not have the same macro-impact on the rest of the city administration’s activities and operations.
With regard to the *duration of the programmes*, the case studies by and large revealed that these are not short-term interventions. They in fact require long periods of time, and often also have a long lobbying, buy-in and inception stage, which means that single political terms are not conducive to such transformations. Even if the same party stays in power, the new mayor or president may very likely want to leave his/her own legacy and does not simply want to be seen as completing ‘another leader’s visions and plans’.

In terms of *implementing agent*, the case studies revealed legislation was often passed in the national sphere, while the actual work of planning and implementation of the transformation programme was done at the local level. In some cases, programmes were introduced by city administrations where they were run from the mayor’s office. In such cases, dedicated units were established to pursue and ensure the success of the transformation programme.

With regards to *impact/effect*, in most cases there was a positive result, even if it was not necessarily of the magnitude that the originators had hoped for. In some cases, reviews of the interventions could not clearly attribute the positive developments in an area to the programme. In a number of cases though, it was clearly demonstrated that it is possible to achieve the desired results through *good planning, dedication and hard work*.

### 4.3 What can we learn from these cases?

As noted at the start of this paper, in comparison with most of the case studies, the scale of the problem and challenge in South Africa is generally much larger than in the wealthier nations especially, where small interventions can have a significant impact. The South African city needs large-scale transformation. As such, the South African situation is most similar to conditions in the industrial cities of England, with their spaces of privilege and their enormous areas of deprivation and requires a similar series of radical, transformative measures. While the South African government has passed legislation and introduced policies to reverse decades of exploitation, exclusion and segregation, these measures have been (far too) slow in changing the apartheid city form. Legislation and policies have been far more successful in lifting people out of poverty than in lifting whole townships into the realm of what could be regarded as decent living areas. As positive as this is, it does create a new frustration, with people (especially a new generation of educated youth) finding themselves as trapped as their parents were in surroundings that may have undergone some cosmetic improvements, but in which jobs and a brighter future are still a distant prospect. While grants and small-scale measures aimed at boosting youth employment may provide some reprieve, they will not quell the yearning for ‘more and better’ that the close proximity to, say, the affluence in the northern suburbs of Johannesburg creates. As long as there are still youngsters getting a foothold in middle class urban South Africa, the sense of hope will be retained, but as soon as this becomes less common, things could change very fast. Frustration at having gone through school and an
expensive (and maybe a tedious) university education only to learn that this was ‘not a ticket out of poverty’ will in such a case become a very strong driver for urban-based revolt.

With regard to specific interventions, public transport proposals, coupled with corridor development, can be a highly effective model for ensuring large-scale urban transformation, but only if these are pursued as an integrated package with land-use regulations and proposals for concentration of housing in such corridors, or in nodes along the corridor (the TOD model) and restricting and even preventing these uses in ‘non-corridor areas’. While the introduction of the Gautrain can still be regarded as ‘recent’, the lack of significant residential and higher-intensity non-residential office, retail and entertainment development in and around station areas is not a good sign. It may be that it will follow once the train becomes a regular part of city life and that property development, which has dwindled in most parts of the country as a result of the continuing impact of the global recession, returns to pre-2008 levels. Still, if compared to the images that were held up for some of the stations prior to construction, the results thus far are far from promising.

As for BRT systems, whether these systems will have a similar effect in South African cities as these have had in a city like Curitiba is an open question. They may definitely attract commuters, but it is far less clear that they will have any additional impact on massive spatial transformation and urban restructuring. Whether they may do so if combined with a far more comprehensive set of interventions is an equally open question. Bad past experience with intra-governmental integration in city administrations’ efforts and budgets, let alone anything beyond city boundaries (i.e. province-city) does not bode well. The same can be said around inter-governmental alignment with provincial governments and national departments. Considering the drivers that have pushed/forced those with power (i.e. politicians and government officials in this case) into action and collaboration, loss of power to more radical orators or fear of ‘service-protest’-turned-full-scale-revolution may do it, given that the other drivers seem not to have elicited the urgently required response.

On the issue of steering and guiding private sector investment, as some of the cases suggest the states were able to do in the respective countries, the downturn in the South African economy, the signs of capital flight and the inability to attract sizeable amounts of real foreign investment (not just capital flows through the JSE) paint a very bleak picture. On the one hand, it limits the investment that is available to redirect to desired locations in accordance with restructuring plans. On the other, it means that government has to be very careful in terms of how hard it pushes, as for some investors the reasons to not invest, or to invest elsewhere, or in other sectors, and not tie funds down in land/property in South Africa, are plenty. With no clear end in sight to the current dynamics holding back the local economy, there is very little which suggests that it would be possible to achieve significant urban restructuring in the
country’s major urban areas for the foreseeable future. And, in a twisted chicken-and-egg way, without such restructuring, the chance of a major economic resurgence is equally less likely. In the absence of any significant restructuring, what city administrations will hopefully not do is embark on small-scale tinkering that will just add to the frustration of those waiting for major restructuring, and (further) erode the trust in government as institution. Such an event will, when a more radical form or economic restructuring is eventually proposed, leave government with little credibility and very little enthusiastic buy-in.

5 Summary and conclusion

While the international examples of urban interventions with transformative intent may make for interesting reading ‘the answer’ in the case of South Africa very likely lies less in deploying instruments in the city than in radically transforming the nature of and participation levels in the economy. While this would result in changes to the city, it would in itself also require changes in the city to enable the move from the current economic model to another. This would entail (require) changes to how cities are seen and treated in terms of the contribution they make, and can make, in the national economy, and who participates in these economies and shares meaningfully in the benefits they produce, which would require far higher levels of connectivity, use of certain spaces and higher densities of settlement. This in turn would necessitate good plans, strong leadership, intra- and intergovernmental integration, fair (but uncompromising) regulation and rapid implementation. Time for this kind of (planned) intervention is, however, fast running out. Failing which, there is a strong likelihood that those barely holding on to life in the South African city will introduce their own model, outside the state, and with a very limited chance of realising the broader transformative aims that are still achievable now. City administrations and their partners should act now to prevent the situation from getting to that point.
6 References


Department of Housing and Urban Development. 1998. Press release: Cuomo tells conference that Empowerment Zones succeed in sparking $4 billion in investment
and the creation of about 20,000 jobs. Available online at: http://www.hud.gov/pressrel/pr98-291.html.


Flyn C. 2013. The Azerbaijan that you are allowed to see, New Statesman 5 December 2013.


Soltani A and Sharifi E. 2012. A case study of sustainable urban planning principles in Curitiba (Brazil) and their applicability in Shraz (Iran), International Journal of Development and Sustainability 1:2 120–134.


Settlement Planning and Urban Transformation

Professor Ivan Turok, HSRC

Contents

1. INTRODUCTION ................................................................. 74

2. WHAT DOES SPATIAL TRANSFORMATION MEAN? .................. 74
   2.1 Social integration and racial mixing ................................. 74
   2.2 Urban structure ......................................................... 75
   2.3 Local texture ............................................................ 76

3. DRIVERS AND CONSTRAINTS FACING SPATIAL TRANSFORMATION .... 81
   3.1 Physical and institutional inertia ...................................... 81
   3.2 Economic forces ....................................................... 84
   3.3 Shortcomings in spatial management ................................. 86
   3.4 Potential drivers of transformation ................................. 84

4. DEVOLVING BUILT ENVIRONMENT FUNCTIONS TO THE CITIES .... 89

5. ACTUAL AND POTENTIAL TOOLS AND MECHANISMS ............. 91
   5.1 Long-term spatial plans and settlement strategies ............... 91
   5.2 Strategic infrastructure investment and catalytic projects ...... 92
   5.3 Regulatory instruments ............................................. 93
   5.4 Fiscal instruments and spatial targeting ........................... 93
   5.5 Area-based management ............................................ 94

6. INSTITUTIONAL CAPACITY FOR SPATIAL TRANSFORMATION .... 95

7. TARGETS, INDICATORS AND MONITORING SYSTEMS ............. 96

8. SELECTED QUESTIONS ....................................................... 96

9. REFERENCES ............................................................... 98
1 Introduction

This paper on settlement planning and urban transformation was written in response to a request by the Johannesburg Development Agency and the South African Cities Network (SACN) for background papers to inform the Johannesburg spatial transformation conference being held in March 2014. The purpose is to provide an overview of the relevant literature and state of practice, and outline key concepts, analytical perspectives and questions to inform deliberations at the conference. The style is selective and argumentative rather than comprehensive and fully referenced because of the time constraints under which it was written.

The fundamental question addressed is how decision-making for settlement location and investment by the public and private sectors could be improved in order to achieve a more integrated and functional urban form. In essence, the background paper suggests tentatively that the answer has something to do with the following issues:

- more clarity about what spatial transformation means and what the objectives are
- a better understanding of the obstacles and drivers of transformative urban change
- improved knowledge of key policy instruments and mechanisms to promote change;
- stronger institutional capabilities to plan and implement transformative projects
- clear targets, timescales and monitoring systems.

2 What does spatial transformation mean?

‘Spatial transformation’ is a broad term used very loosely in public policy, academic research and popular writing. The notion is not confined to South Africa, but is widely employed internationally. The simplest commonsense meaning of the term is *major urban change or restructuring*. Many books and papers have been published using the phrase spatial transformation as a simple descriptive term to encapsulate the idea that cities have changed greatly over time (Beauregard, 1989; Dowall and Treffeisen, 1991). This is clearly a very general definition that offers no particular insight into what form that change has taken, and whether it is broadly positive or negative in soci-economic or ecological terms. Beyond this loose terminology, the concept has several different dimensions and interpretations in the South African context, some of which are more insightful than others. There are three aspects that seem most significant.

2.1 Social integration and racial mixing

The first aspect of spatial transformation that is distinctive to South Africa is social mixing or integration. In particular, the concept can mean greater inclusion of different racial groups to overcome the highly segregated cities inherited from apartheid. De-racialisation is another word for it, essentially implying that the black population has an increasing presence in the
former white suburbs. This usage is consistent with one of the most common interpretations of the term ‘transformation’ in South African society more generally. In this fairly simple sense, transformation implies making the main institutions of government, the economy and civil society representative of the demographic make-up of the country. This is central to the Black Economic Empowerment agenda.

Racial inclusion is clearly an important outcome to strive for within cities as well as in other spheres of society. It is important on the grounds of redress, equity, diversity and social justice (Fainstein, 2012.). Preliminary research (as yet unpublished) on the 2011 Census of Population carried out in preparing the Integrated Urban Development Framework (IUDF) suggests that there has been some progress since 1996 in de-racialising selected neighbourhoods across all cities, although progress has been generally rather slow. Unsurprisingly, there has been more change apparent in lower-middle income suburbs than in higher income suburbs. The reasons for the slow progress are bound to include persistent income inequalities between racial groups, which are also very apparent from the 2011 Census. Secondary factors, such as the role of estate agents, homeowners associations, financial institutions and other gatekeepers and intermediaries, may also be relevant, although there appears to be little hard evidence to confirm this.

Yet, considering the profound challenges facing South African cities, racial mixing is not a sufficient indicator of fundamental urban changes. Spatial transformation must relate in some way to the extensive poverty, social problems, economic stagnation or environmental degradation occurring in urban areas. If a small minority of (newly middle class) black households manage to buy into former white suburbs, this is not very significant in the broader scheme of things. Spatial transformation must mean much more than this, both in terms of the scale of change and its qualitative character. The concept arguably relates at least to some of the underlying determinants of urban problems and progress, which affect socioeconomic and environmental conditions. In short, spatial transformation necessarily goes beyond distributional concerns to some of the structural features of the city, notably its physical form.

2.2 Urban structure

There are arguably two dimensions of spatial transformation that are most important. One is concerned with the city-wide scale and the other relates more to the neighbourhood scale within cities. The former constitutes the overall structure or form of the metropolitan area, and the latter refers to the texture of the urban fabric. Both attributes of the city have an important bearing on its functional efficiency, economic productivity, citizens’ life chances, and the city’s impact on the environment and consumption of natural resources. Both features are particularly significant in South Africa because of the legacy of urban fragmentation, low density sprawl and

---

1. A loosely-related type of phenomenon may be an increase in the access of informal traders to the spending power of middle income consumers in city centres and suburban shopping malls, instead of being historically confined to poorer townships.
separate land-uses, which require high levels of movement. The importance of texture partly reflects the history of township neglect and deliberate underdevelopment as dormitory areas. The structure of a city is essentially made up of four pillars. These form a functional system of fixed points and flows of people and resources, the coherence of which varies greatly from city to city. The four main pillars of the urban structure are:

1. Sites of economic development, paid work and income generation (e.g. business districts and industrial estates).
2. Sites of housing development and associated facilities (residential neighbourhoods).

These structuring elements are necessary to ensure viable communities within internally-connected and resilient cities. They are best understood in relation to each other and, ideally, planned together within particular territories to manage the trade-offs, to realise the synergies of coordination and agglomeration, and to avoid haphazard, dysfunctional outcomes. All cities are vulnerable to tendencies towards urban sprawl, decentralisation and fragmentation, as developers seek to economise on the costs of well-located urban land and externalise these costs onto households, firms and the government as a provider of infrastructure. Government housing agencies also come under pressure to save on the land costs by building low-income housing on cheap peripheral land, far from economic opportunities.

This is not to suggest that all development on the physical margins of the city is detrimental. A policy, which involves the blanket prevention of all urban expansion beyond the existing built-up area, may be particularly inappropriate in cities with fast-growing populations and rising average income, because it will tend to constrain the supply of land for new housing and therefore inflate the price of housing. This may make the housing stock unaffordable to low- and middle-income groups and force people into increasingly dense informal settlements, backyard shacks and illegal occupation of derelict buildings. Similarly, all the jobs do not have to be located in a single economic centre at the heart of the city, because, as cities expand, they tend to develop a more polycentric structure (including secondary centres and suburban nodes) that prevents excessive central city congestion.

Nevertheless, two important, related principles of urban transformation in South Africa are:
1. to limit excessive and uncontrolled peripheral expansion of cities while strengthening the urban core and established economic centres, and
2. to enhance the functional integration of the city and constrain further physical fragmentation and dissipation of development.
Coordinated urban planning is best carried out at the city level, where the costs and consequences of different development patterns are best understood and internalised. Support from other government spheres and agencies responsible for delivering related services and infrastructure is also required to avoid contradictory decisions being taken. Unfortunately urban municipalities have had limited influence over many functions in the recent past because policies have been determined largely by national government within separate silos. This has been one of the complicating factors inhibiting the formulation and implementation of coherent spatial transformation policies.

The dispersed form of South African cities has been inherited from colonial and apartheid policies of racial segregation and land-use separation. This fractured built environment has wide-ranging consequences (Howley et al., 2009; Jenks et al., 1996; NPC, 2012; Newton, 2008; Ng, 2010; Willis, 2008; World Bank, 2009). It means unequal access to jobs, amenities and public services, with sizeable poverty traps on the urban periphery. It demands long journeys to and from work and requires large public transport subsidies from government. High levels of daily movement contribute to high carbon emissions, and reduce city productivity because of the relatively high transport and transaction cost (such as job search and matching supply and demand in the housing market).

Sprawling suburbs and townships also undermine the financial viability of municipalities because of the high installation costs of bulk infrastructure. This is exacerbated by the ongoing expense of maintaining extensive water, energy and other infrastructure networks spread over long distances. South African cities seem to under-perform in national and international comparisons, although further research is needed (SACN, 2011; Msulwa and Turok, 2012). A modelling exercise for the Financial and Fiscal Commission found that ‘over 10 years, a sprawling city will cost R57 billion more than a compact city, equal to 1.4% of projected GDP’ (FFC, 2011: 3) In other words, South Africa’s fragmented cities are bad for economic efficiency and growth.

Spatial transformation in the sense of restructuring the physical form of the city and strengthening the core is therefore an important concept for settlement planning. Cities that do not actively plan for urban consolidation, and that do not anticipate future population and economic growth, are more vulnerable to overloaded basic services, overcrowded townships and informal settlements, congested transport networks, conflict over unoccupied land, environmental degradation and disasters, and strained municipal finances. Similarly, cities that operate on the basis of business as usual can get locked into fixed infrastructure networks (roads, drainage systems, energy supply), which dictate inefficient patterns of land use, high carbon emissions, excessive water and energy consumption, and wasteful use of other natural
resources. These problems can ‘bit- back’ if fuel and electricity prices rise disproportionately, water resources become scarcer, or environmental taxes are introduced. It is exceptionally costly to reconfigure and retrofit large-scale urban infrastructure networks to reshape the resource flows through cities.

The National Development Plan (NDP) advocated ‘a national focus on spatial transformation’ (NPC, 2012: 47) Chapter 8 was specifically called ‘Transforming Human Settlements’. The NDP introduced five broad normative principles to guide the formulation of a national spatial framework, to inform urban and rural development policies, to strengthen spatial planning instruments, and to help build institutional capabilities for spatial governance at local, provincial and national levels. The principles are:

1. **Spatial justice**, as opposed to segregation and ghettisation.
2. **Spatial sustainability**, rather than environmentally destructive development.
3. **Spatial resilience**, rather than development that increases vulnerability and risk.
4. **Spatial quality**, i.e. liveable, vibrant and valued places rather than dysfunctional ones.
5. **Spatial efficiency**, i.e. productive places with efficient circulation of people, goods and other resources.

These are valuable concepts to inform spatial policies, although they clearly require more detailed specification to draw out their practical implications. The tensions and trade-offs between them are also unexplained. Beyond the broad principles, the NDP understood the spatial transformation of cities in terms of three of the elements of urban structure referred to in this section – jobs, housing and transport. It suggested that there were five ways in which these elements could be used to promote urban restructuring:

1. to reduce travel costs and distances,
2. to prevent further development of housing in marginal places,
3. to increase urban densities to reduce sprawl,
4. to improve public transport and the coordination between transport modes, and
5. to shift jobs and investment towards dense peripheral townships.

### 2.3 Local texture

Texture covers a range of finer-grained, qualitative features of the built environment that affect the everyday lived experience of households and the operating environment of firms. These attributes of urban design can make places more functional, supportive and appealing to households, and more productive and valuable for investors and entrepreneurs. The following list is not exclusive, but the key features include:
• the density of population, houses and jobs within the locality,
• the diversity of economic and social activity within the locality,
• proximity and access to public services and other facilities,
• the quality of public spaces and opportunities for social interaction,
• the level of human safety (risk of fires, flooding and other hazards), and
• the connectedness of the place to other localities.

South African cities face particular challenges because of the historic separation of land-uses associated both with ‘modernist’ town planning ideas and, of course, with apartheid ideology. Over the years, rising household incomes and increasing car ownership have reinforced the fragmented, generally low density, character of the urban environment, and worsened the quality of the public realm. Each locality across the city tends to have a fairly uniform and often monotonous character because of the rigid zoning of different areas for different purposes. Many areas are sterilised by the lack of ancillary activities – office districts are quiet in the evenings and weekends, and residential areas are quiet during the day. This arrangement tends to limit the social vitality and economic dynamism of cities, and necessitates high volumes of daily personal movement. Additional movement is necessitated by deficient public facilities in the townships (everything from hospitals to colleges, recreational centres and libraries) and widespread dissatisfaction with the education system. This prompts extensive daily movement of learners to schools higher on the ladder of parental aspiration, which are often located in neighbouring suburbs.

The generally inefficient, exclusionary and unappealing character of the urban environment has been reproduced by recent developments. For example, the fractured form of the city is being reinforced by dormitory RDP settlements being built on the urban edge. This is matched by the proliferation of gated residential complexes for upmarket housing, and similar tendencies in the provision of secure business parks, office precincts and shopping malls. These privatised spaces tend to make inefficient use of land and create barriers to the flows of people, information and resources around the city (Landman, 2004; Landman and Badenhorst, 2012). This is likely to reduce economic efficiency, reinforce social marginalisation, weaken the civic life of the city, undermine its general liveability, and add to the environmental costs. The preference of the property industry to create fashionable developments in new areas also means that older industrial estates, former industrial sites, and old industrial and commercial buildings tend to get neglected. Of course there are extra costs and risks involved in redeveloping, renewing and retrofitting older property, especially where potential business occupants also prefer newer buildings in the suburbs. Although living and working in dense, mixed-use precincts with convenient access to amenities is becoming more popular among middle and high income groups, especially for the younger generation, it seems to be taking off slower here than in European or North American cities.
In addition, the distribution of the population between suburbs, townships and informal settlements is very imbalanced (Turok, 2013: 168–187). There are extremely high densities in some areas and low densities in others. This poses major challenges for urban management and social cohesion, especially as many neighbourhoods are also separated by physical barriers. The segmented city is inefficient because it obstructs the workings of the labour and housing markets and complicates the provision of mass transit systems and other infrastructure networks. It is also a source of injustice because it makes it difficult to distribute public services such as schools, libraries and recreational amenities fairly across the city. High densities also pose risks of fire, flooding and the spread of disease. The excessive densities in some settlements need to be reduced, while higher densities need to be encouraged in well-located suburbs to make more efficient use of the land, public transport system and other infrastructure.

Altering conditions at the local level in a way that is relevant and durable requires extensive involvement of local residents and firms, to benefit from their knowledge and insight, and to address their aspirations and fears. Neighbourhood transformation needs to go beyond a top-down model of delivering traditional public services separately and in a prescribed manner, to a more participatory and engaged approach, particularly in areas that are poor and historically under-serviced. People need to be consulted about their needs and closely involved in implementing solutions to ensure they ‘stick’.

Marginalised communities may need at least as much investment in the ‘softer’ features of human and social development (skills and capabilities, early childhood development, youth programmes, adult education, public health, community safety, and preventing crime and drug and alcohol abuse) as in ‘hard’ physical infrastructure. The popular energy of community-based organisations and social movements needs to be mobilised to complement, extend and strengthen the capabilities of government. Mechanisms also need to be created to allow for dialogue and negotiation within, and between, communities to resolve conflicts of interest and to build greater consensus on the future character of their areas.

Spatial transformation will clearly mean different things in different local contexts, depending on the socioeconomic composition and physical characteristics of the area. Nevertheless, several general principles of urban design seem relevant to most situations:

- Mixed-use development instead of mono-functional settlements
- Mixed-income residential schemes rather than exclusive housing schemes
- Public transport-oriented projects rather than private car-oriented projects
- Improved public spaces and opportunities for walking rather than private car use
- Higher density developments rather than low density sprawl
- Brownfield (re)development (renewal and retrofitting of old buildings) rather than new greenfield development
• An emphasis on building affordable housing in well-located areas, i.e. in and around transport nodes and corridors
• Public consultation and popular involvement in area-based planning to ensure a more people-based perspective, and a less prescriptive, top-down approach

3 Drivers and constraints facing spatial transformation

Many policy frameworks, departmental programmes and institutional reforms were approved during the 1990s relevant to urban transformation, culminating in the creation of six large metropolitan authorities in 2000. These unique, single-tier municipalities were intended to help overcome the legacy of urban segregation, exclusion and deconcentration, and set cities onto a new and improved trajectory. The goal was to bring fundamental improvements to people’s lives and to the urban physical and social fabric. Nearly 14 years on, there is general agreement that considerably less has been achieved than anticipated in terms of urban restructuring (National Treasury, 2011; NPC, 2012). Quantitative changes have been more significant than qualitative improvements. In particular, basic services have been extended to poor communities on a large scale, but progress in creating integrated human settlements and transformed cities has been much more limited.

The full explanation for the continuing polarisation and fragmentation of urban development is complex, and the relative importance of different causes differs between cities. At the risk of oversimplification, there are three fundamental reasons for the lack of positive change since 1994: historical inertia, economic forces and shortcomings in spatial management.

3.1 Physical and institutional inertia

Altering a city’s physical trajectory is a slow process, unless economic growth is rapid and there is a change in the way the city is managed. Inertia reflects inherent characteristics of the built environment, including the durability of fixed investment and the high cost of property transactions. It takes decades for infrastructure and buildings to become obsolete and to warrant expensive redevelopment. Assembling fragmented land parcels and organising property development through market mechanisms are also long, drawn-out processes. This is especially evident in societies with strong private property rights and legal mechanisms for landowners, neighbours and other vested interests to contest development proposals going through statutory planning and environmental regulation systems.

One of the distinctive outcomes of South Africa’s negotiated political transition was the constitutional commitment to safeguard private property rights by limiting the state’s ability to restrict how landowners can use or develop their land. This has proved controversial because
current landownership patterns reflect the history of dispossession and segregation. Land was confiscated from black people, while the value of white-owned land was enhanced over time by the state confirming use and development rights.

This constitutional protection has important urban consequences which reinforce the status quo (Berrisford, 2011: 247–263) First, it is difficult for public bodies to develop land for low income housing in well-located areas because neighbouring owners object that this limits their use and enjoyment of their land through reduced amenity, increased crime, polluted rivers, etc. Bremner describes the frustrations experienced when Gauteng tried this in the late-1990s (Bremner, 2000) Berrisford and others describe similar obstacles in Ethembelethu (Berrisford, et al., 2008) The experience in Cape Town and other cities suggests that vigorous resistance can arise from existing working class neighbourhoods as well as middle income suburbs. There is also a widespread anxiety about high-rise, multi-storey building on the grounds that they foster unsafe, slum-like conditions, reflecting recent experience in selected inner city districts. Building RDP housing on peripheral greenfield sites is far less contentious, since no established communities are directly affected. Second, municipalities are inhibited from using restrictions on private development in well-off areas to steer investment towards poor areas because property owners can demand compensation for the loss of their development rights (Berrisford, 2011) Third, the strong rights of established (urban) property owners effectively override the rights to the city for poor people. Their attempts to occupy undeveloped land in and around the city are generally met with heavy-handed evictions.

Continuity also stems from land-use planning being governed by a raft of pre democracy laws designed for social control rather than integration: ‘The same laws that were used to implement apartheid’s grand plan of segregation and inequality remain the tools used by planners across the country’ (Berrisford, 2011: 248). Planning legislation has accumulated over decades and was not streamlined until the Spatial Planning and Management of Land-Use Act (SPLUMA) was approved at national level in 2013. Provincial and local planning laws remain very open to legal challenge and ill-suited to reshaping urban structures. It has taken many years to update local planning frameworks to endorse densification and mixed-use development. Planning remains a reactive system that responds to development proposals site-by-site. It is poor at considering the cumulative effects of such decisions (e.g. in reproducing historic patterns) and generally ineffective at redirecting development trajectories (Harrison et al., 2003). ‘[S]patial planning has tended to follow patterns set up by private-sector investment … [rather than pursuing] the long-term public interest’ (NPC, 2012: 275)

Most of the RDP housing built since 1994 has been on land originally bought or zoned by the apartheid government for township development, or located adjacent to or beyond existing townships (Khan and Thring, 2003; Todes, 2003; Van Donk et al., 2008). The land was available
and could be developed more quickly than starting from scratch. The RDP housing model is also structured in a similar way to the one-off capital subsidy used previously to provide serviced sites in planned townships. Building individual houses requires lots of land, which tends to mean lower cost peripheral sites, but inhospitable living environments. The RDP subsidy has not afforded the flexibility to establish more liveable, higher quality settlements in inner city locations. The lack of affordable rental housing has been a particular problem for young, mobile populations with insecure positions in urban labour markets.

Private property developers and investors have conservative location preferences and building practices. Most remain wedded to greenfield sites and struggle with the creative challenges required of higher density, mixed-use and mixed-income projects (Swilling, 2010). There has not been a concerted attempt to trigger a shift in the dominant paradigm of development whereby urban designers, architects, engineers, financiers and developers revise their methods to suit integrated schemes on brownfield sites. The idea of green buildings promoted by the Green Buildings Council has gained some traction among developers in recent years. Many seemed keen to install energy saving lighting, water conservation devices, double glazing and sometimes recycled building materials in their new projects, on the basis that the initial cost premium is offset by the ongoing savings and marketing value of the green standard. However, the wider issues of sustainable urban design and inclusive development hardly feature on their radar. Recent interviews undertaken by the author suggest that most are reluctant to experiment with lower car parking standards, higher density, mixed-use projects and inclusionary housing. Similarly, there have been no government incentives or industry-led educational campaigns to encourage households to favour more socially integrated and compact neighbourhoods. Household aspirations for car ownership and off-road parking are clear obstacles to densification, and many municipalities have contradictory policies towards car parking.

Within government transport policy, there has been no real challenge as yet to private cars (Van Ryneveld, 2010). Road building has continued unabated and public transport has suffered from under-investment for many years. Gautrain and the Bus Rapid Transit schemes are of course exceptions to this (see below). Inefficient bus subsidies and large scale commuter rail subsidies continue to support poor people living vast distances from their workplaces. It would probably be more cost-effective in the long-term if some of these subsidies could be invested in well-located housing. Only now, after many years of inactivity, are there any signs of progress in reorganising fragmented public transport systems. Strategies to align transport and land-use policies to raise residential densities in well-located areas are still some way off.

In summary, cities remain locked in to their established spatial trajectories for a variety of reasons. Municipalities lack many of the regulatory powers and responsibilities (over land,
housing and transport) required to break out. Inefficient and distorted development patterns persist in the absence of overarching strategies to change direction.

3.2 Economic forces
Spatial change is unlikely without commensurate economic and social change. The absence of urban transformation partly reflects tepid employment growth, wide income disparities and skewed private investor preferences, all of which originate in the polarised structure of the South African economy. There has been limited economic dynamism over the last two decades: ‘our growth has been largely pedestrian. The structure of our economy has not changed significantly in a hundred years’ (The Presidency, 2008: 6). Growth has proved fragile, having been driven by consumption and personal debt rather than investment in production. Consequently, unemployment, poverty and inequality are exceptional by international standards (NPC, 2012). Furthermore, South African cities are probably the most unequal in the world, with an average Gini coefficient estimated at 0.76 (UN-Habitat, 2010).

Income inequality is translated into spatial segregation through the ‘sorting’ process of the housing market. This has replaced the political and administrative processes of racial separation under apartheid. People now tend to live in places according to their ability to pay (i.e. their effective demand) for the quality of the location and its amenities, resulting in a highly segmented housing market. Put simply, poor households cannot afford to buy or rent property in well-located areas, except perhaps through some informal arrangement. The situation is somewhat different in selected inner city areas, particularly in Johannesburg, where there has been substantial reoccupation of older property and derelict buildings at the cost of overcrowding and poor services. Otherwise most poor people are forced to the outer areas of the city as a result of their weak labour market status, which restricts their position in the land market.

Inequality and unemployment are also reflected in the behaviour of property developers and financial institutions, who naturally prefer to supply households with steady jobs and higher incomes because this is more secure and profitable. As a result, areas of the city with higher average incomes (and therefore higher levels of demand) are favoured for investment, whereas low income areas struggle to attract resources. This has implications for the quantity and quality of the housing stock in poorer communities. There is a persistent shortage of housing supply for the one in five households who earn too much to access a RDP housing subsidy, but too little to afford the cheapest new house (CAHF, 2012). Neither the private sector nor the government have shown the creativity required to provide ‘affordable’ housing for this market gap, including rental or shared ownership. The places that would probably benefit most are in and around older inner city neighbourhoods and transport corridors where people would have reasonable access to jobs.
The segmentation of the city by income is also reflected in the location decisions of many industrial and commercial property developers. New business parks and commercial developments tend to locate in and around high income suburbs, reflecting risk considerations and herd instinct behaviour (City of Johannesburg, 2009; SACN, 2011; Turok, 2001; Sinclair-Smith and Turok, 2012). Another explanation offered by developers for this pattern is the need of employers to offer proximity to their professional, technical and managerial workers, who are in the strongest position to dictate the firm’s location decisions. Meanwhile, many inner city areas have been written off by mainstream investors, reinforcing a spiral of decline and decay. Some blame the uncertain operating environment for business, especially concerns about crime and grime. Johannesburg is rather unusual in having experienced a come-back after years of sustained effort and investment by organisations such as the Johannesburg Development Agency. Cape Town has managed to sustain business confidence in the central city – partly through active management of public spaces through an improvement district and a wider partnership with property owners, occupiers and private investors.

The townships have generally not attracted much private sector investment, even from industrial firms which would benefit from proximity to a manual workforce. On average residents have low disposable incomes and modest qualifications. Perceptions of insecurity reinforce doubts about these places as locations for commercial development. The potential contributions of informal enterprises and township economic development have not received much government attention. A Neighbourhood Development Partnership Grant was introduced in 2006 to support community infrastructure and services in the townships, in partnership with the private sector. However, take-up has been slow, with substantial under-spending (National Treasury, 2011a). Unless private perceptions are challenged, there must be a danger of townships being trapped in a kind of low level equilibrium with little dynamism.

It can be argued that the negative township reputation is exaggerated and their underlying economic potential is significant. It might be possible to counteract the adverse image and fear of the unknown through state leadership and concerted investment. Steady population growth means rising consumer spending power (the ‘black Rand’), a growing labour supply and the capacity to pay municipal taxes. Although residents cannot afford as much as in affluent areas, on aggregate they can pay enough to sustain better public and private services. Better housing and more liveable environments would help to retain the skills and purchasing power of upwardly mobile households. High quality support for the informal economy and the relaxation of inappropriate regulations and bureaucratic constraints could also presumably help to spur dynamic indigenous enterprises and small business growth.

To sum up, deep-seated inequalities and constraints on upward mobility inhibit the spatial transformation of South African cities. Poor households cannot afford to live in better-located
areas, and private investment patterns tend to follow affluence. Institutions are locked into exclusionary practices by their ingrained social attitudes and unwillingness to develop new approaches.

### 3.3 Shortcomings in spatial management

It was argued above that the national housing programme contributes to the continuing splintering of South African cities. Most transport initiatives also fail to promote integration, since they do not complement each other and do not support residential densification. Another weakness has been a failure to develop stable city leadership capable of pursuing a long-term transformative vision and taking on vested interests, including engaging closely and patiently with existing communities to persuade them of the importance of higher density and mixed income developments. Having high rise buildings does not mean slum conditions follow automatically.

Overlapping responsibilities between government spheres and interference from above have confused lines of accountability. National suspicion of municipal competence has brought in train more stringent procedures to regulate their affairs, thereby limiting local discretion on many matters. A growing culture of auditing, scrutiny and compliance has encouraged backward-looking, risk-averse behaviour and inhibited the creativity required to confront complicated spatial problems. The provinces have prime responsibilities for housing, transport and environmental regulation, but municipalities have to bear the costs of poor location decisions in extended infrastructure (National Treasury, 2011a). Government bodies and state entities that own well-located vacant land have generally been reluctant to make it available for housing or other public purposes, preferring to keep it on their balance sheets as a valuable commercial asset.

A culture of departmentalism and working in silos within all spheres of government has meant a proliferation of priority areas for special attention, resulting in confusion and dispersed efforts rather than focus via coordinated spatial targeting. Political factionalism and nepotism have compounded friction between government spheres and destabilised many municipalities, within the cities and elsewhere (DCoG, 2009, 2010). The turnover among senior politicians has undermined continuity and institutional memory. Instability weakens appetites for structural change and deep engagement with property interests in favour of short-term initiatives. It has hampered the development of trusting relationships with external stakeholders and a shared agenda for spatial restructuring. Political volatility has also diverted municipal efforts from engaging communities in settlement upgrading and channelling their energies in constructive directions (SACN, 2011).

City governments have also suffered from constrained administrative capacity and shortages of skilled professionals (DCoG, 2010; SAPRU, 2009). The metros were formed in 2000 from complex amalgamations of separate local administrations and incorporated territories with no
essential services. Their new mandate stretched their capabilities to the limit, while organisational restructuring and affirmative action resulted in the loss of expertise in engineering, finance, planning and management. Political changes were often followed by the replacement of senior officials, which raises concerns about nepotism and excessive interference in technical decisions. Resulting operational problems and ‘fire-fighting’ have distracted attention from the structural challenges. Almost all the cities experience severe shortages of the skills required for positive planning to make things happen on the ground, such as negotiating fair deals with private investors and developers, and working with communities to revitalise townships and informal settlements. Conventional ways of providing public services (top-down and in silos) have proved inadequate for urban regeneration and transformation. AAn area-based approach is much more important in these situations, involving intensive urban management through coordination and focus of public investment and service provision and working closely with the community.

Municipal financial constraints are another problem, given the competing spending demands to: (i) upgrade services to existing household ratepayers, (ii) provide and sustain infrastructure to business ratepayers and inward investors, and (iii) extend services to the townships and informal settlements, where there are major backlogs but rate payments are lower. The first two categories are expected to be self-financing by charging for services and levying property rates (National Treasury, 2011b). The government accepts the need for special support for free basic services for poor households, through a national ‘equitable share’ allocation based on population adjusted for poverty. However, as this support is set at a modest level and has not made sufficient allowance for population growth in the cities, it has reinforced the misconception that urbanisation worsens poverty, and so is to be discouraged by neglecting shack areas.

Understandable political pressures to extend services to address backlogs can crowd out support for economic growth and threaten municipal viability (National Treasury, 2011a). The increase in national grants can also reduce municipal efforts to collect revenues from local ratepayers (SACN, 2013). National Treasury has pursued a difficult balancing act between supporting and controlling municipal spending. With a few exceptions (such as transport), the financial environment has been increasingly tight, especially with the recession restricting municipal revenues since 2008 and the debts incurred with the World Cup in 2010. Basically, there have been few discretionary resources available to launch bold experiments in urban restructuring. Despite experiencing financial constraints, municipal capital budgets have been consistently under spent by between 20–30% over the last six years (National Treasury, 2011b). The cities attribute this to greater procedural complexity in planning, contracting and executing capital projects, making it more cumbersome for them to invest.
There are connections between these reasons for the failure to disrupt historic patterns of development. Inertia partly reflects the lack of government focus and coordination at the city level, and government weakness is partly a function of its reluctance to interfere with powerful economic forces. Economic inequality has been compounded by under-resourced city governments lacking the political will and strategic capability to intervene in the built environment. Cities have been caught in something of a vicious circle which has been difficult to break out of.

### 3.4 Potential drivers of transformation

The situation is beginning to change in several respects. It is too soon to say whether this shift is decisive, but there are certainly grounds for anticipating different outcomes in the future. For instance, one of the changes in the real economy that favours progress towards urban integration is rising energy prices (especially petrol), which means higher transport costs. Over time this will tend to encourage those people who have a choice to live closer to their places of work. One would expect developers to respond to rising demand and higher house prices in well-located areas by increasing the supply of property. Of course this trend may be counteracted to some extent by rising household incomes and higher car ownership.

Another relevant factor is the general rise in land prices. This may also encourage developers to make more efficient and intense use of urban land, and therefore build at higher densities, as long as they believe they can sell such properties. The strong growth of suburban townhouses (aimed at middle and upper-income households) in recent years is already evidence of this phenomenon. A series of separate, but potentially related, changes concern the growth of rental housing in various forms, from backyard shacks to central city apartments. These can also be seen as evidence of the household demand to live closer to economic opportunities and for residential options other than home ownership. More rental and higher density housing is consistent with, and supportive of, urban integration.

In the environmental field, shifting attitudes towards ecological resources and the natural environment also tend to favour the protection of biodiversity and ecosystems. This may encourage municipalities to strive harder to maintain the urban edge and to contain urban sprawl and open green spaces. All municipalities struggle to strike an appropriate balance between environmental conservation, brownfield redevelopment and the provision of sufficient serviced land to sustain the supply of affordable housing.

Meanwhile, there have been several sympathetic developments in government policy. First, the NDP raised the profile of spatial issues and made a strong case for devoting more concerted attention to urban integration. It advocated a wider range of housing interventions (including rental) and called for spatial targeting of development in response to need and potential. Various government departments are beginning to respond to these messages. In addition,
technical work is in progress to prepare an IUDF for submission to Cabinet during 2014. This was announced in President Zuma’s State of the Nation Address in February 2013 and is being led by the Department of Cooperative Governance and Traditional Affairs.

One of policy themes that has emerged in recent years, as a way of promoting spatial transformation and managing urban growth more effectively, has been for greater devolution of built environment responsibilities to municipalities. It stems from a growing recognition that formulating laudable national policies, approving progressive laws, and creating city-wide municipalities has not done enough to spur the growth of more compact and coherent settlements. We consider this in the next section.

4 Devolving built environment functions to the cities

Within the last few years there have been several policy initiatives that could assist city governments to manage urban growth more effectively in the future. The central idea has been to focus built environment functions on the municipal sphere of government. A core objective is to better integrate different sectoral policies and planning functions in order to improve city-level coordination. Devolving additional powers to the cities could make it easier to start reshaping the urban landscape through strategic interventions in transport, housing and land (National Treasury, 2011a: 227):

As housing and transport play such a vital role in land use patterns, the consolidation of these functions at the local level will provide both the leverage to change spatial patterns as well as improve accountability at the level of deliver

In the housing field, a commitment has been made to speed up the accreditation of metro municipalities to plan and manage state housing programmes without needing provincial approval. This should give them greater control over the location of new projects, and help to embed housing within broader spatial planning and urban design processes. These are likely to give greater consideration to settlement viability, sustainability and the availability of land and infrastructure. The metros would also have flexibility to support more varied forms of housing, such as rental, in order to meet different household needs and local circumstances.

The Urban Settlements Development Grant (USDG) has also been created which funds municipalities to acquire, service and release land for low income housing. This is beginning to encourage a shift in focus from providing complete houses in peripheral areas towards upgrading informal settlements in better locations. One of the factors that influences which sites will receive support is access to economic opportunities. Many metros will need new skills to work hand-in-hand with communities and NGOs to agree priorities and implement incrementalschemes to
improve the infrastructure and living conditions in these areas. The National Upgrading Support Programme is a parallel initiative specifically designed to achieve this.

There is also a commitment to devolve the planning, regulation and management of public transport services to the metros through the 2009 National Land Transport Act. This will give municipal control over the level, quality and geographical extent of bus and taxi services and passenger fares. The metros should be able to negotiate more efficient arrangements with bus operators, and influence taxi services by controlling their licensing. They will also be given a say in the operation of commuter rail services currently run by PRASA. A public transport authority under metro control is being set up in each city to negotiate progressive transfer of responsibilities from the existing transport agencies. Devolution should help to coordinate and integrate different modes of public transport, and to resolve conflicts between the sectors. It should also make it easier to connect transport decisions to housing investment and land-use decisions, and thereby promote more coherent spatial patterns through densification and mixed-use development along public transport routes.

In spatial planning, there have been long-running disputes between municipalities and provinces over who determines the use and development of land. These disputes cause duplication and confusion. A Constitutional Court judgement in 2010 established that municipalities have principal responsibility for land-use planning and management. The SPLUMA passed in 2013 reinforced this judgment by strengthening the role of municipal spatial planning. There is no doubt now that municipalities are primarily responsible for regulating the development of land within their areas, which should avoid inconsistent provincial policies and decisions. This also enhances the prospect of aligning land-use planning with housing and transport in pursuit of more integrated and sustainable urban development.

The SPLUMA is also an example of the renewed effort to promote spatial change by aligning land-use planning with the provisions of the Constitution. One of its aims is to ensure that the system of spatial planning and land-use management promotes social and economic inclusion and redress for past imbalances and inequalities. For example, it insists that municipal spatial development frameworks (SDFs) are consistent with their zoning schemes and other detailed land-use schemes to ensure that SDF commitments to spatial transformation are not just lip service. Municipalities are required to adopt a single land-use planning scheme for their jurisdiction, to be reviewed every five years, in line with the municipal Integrated Development Plan (IDP). This is intended to promote the sustainable and efficient use of land, and encourage more equitable land management practices. Municipal leadership, creative thinking and support for spatial transformation will still be vital in the face of NIMBY (not in my backyard) opposition to new development (particularly low income housing) and resistance from developers to new practices.
A new Cities Support Programme (CSP), involving several government departments and led by National Treasury, was initiated in 2012 to strengthen the metros’ capacity to manage the built environment more efficiently and equitably. It incorporates elements of evidence gathering, peer review, technical assistance, coaching and learning from international good practice. It begins with a detailed needs analysis of the technical competencies of each metro, together with a baseline review of their property market dynamics and a formulation of indicators of spatial transformation. Subsequent support will seek to strengthen the strategic leadership and professional capabilities of the metros to implement transformative projects. The CSP is also linked to a new Integrated City Development Grant that seeks to change the way resources are transferred to municipalities to reward positive performance (National Treasury, 2011a).

Many uncertainties surround the financial implications of devolution. These could affect the success or failure of devolution. The metros are concerned that an unreasonable burden, for upgrading and maintaining public transport and housing, will be placed on local ratepayers. Their fiscal capacity is already severely strained (SACN, 2013). National Treasury documents suggest that substantial government support will continue. However, the local burden is expected to increase substantially: ‘Most funding for infrastructure investment must ultimately come from within city administration’ (National Treasury, 2011a: 228). Metro officials have doubts because of their investment backlogs, popular resistance to higher local taxes, and the fact that in other countries central government incurs a larger share of the cost of local services. The positive scenario is that national economic growth recovers, generating additional funds for National Treasury, which municipalities can access if they make a compelling case for specific new projects. Yet it is also clear that municipalities will need to be more innovative about pursuing new financial instruments for leveraging infrastructure investment, such as land value capture.

5 Actual and potential tools and mechanisms

This section outlines the key policy instruments and mechanisms for promoting transformation. These are arguably the main strategies, tools and actions that need to be strengthened if devolution is to be effective in transforming urban space. There is insufficient evidence available to assess their current effectiveness in detail. However, some observations on the basis of partial evidence and logical reasoning are made in this regard.

5.1 Long-term spatial plans and settlement strategies

It is probably impossible to achieve transformation in a way that is intended without a long-term spatial plan that incorporates a clear vision of what is to be achieved. Municipal decisions that simply react to events and opportunities will generate incremental change and marginal improvements, without advancing in a consistent direction towards the ultimate goal of urban integration. The long-term spatial plan needs to set out the aspirations of the municipality and
other stakeholders for the future of their city. It should be strategic rather than comprehensive, by focusing on the four structural pillars identified in section 2.2 above. To be credible it also needs to draw upon a sound base of evidence and understanding of demographic, economic and property market dynamics. It needs to go through a process of extensive public consultation and stakeholder participation to ensure accountability, address objections, remove flaws and build support.

The long-term spatial plan needs to be backed by high-level political will and institutional commitment to avoid being diverted off course by contradictory decisions and pressures. All too often the promise of new investment and jobs by a developer is used to override the policies of the approved spatial plan. Hence the plan needs to be implemented in a predetermined way, following targets and milestones specified at the outset. Different municipal departments need to align their policies, actions and resources accordingly. Yet there may still be a degree of flexibility and responsiveness built into the plan through a regular review mechanism. This will help adapt to unavoidable changes and shifting circumstances, rather than sticking to a rigid master plan or blueprint (Watson, 2009). It is important that this is a systematic, rather than an ad hoc or opportunistic, process.

The spatial plan needs to be linked to a strategy for implementation, which would include instruments for land-use management and agreements with other departments and spheres of government who have roles to play in supporting urban restructuring. Implementation also requires strengthening municipal capabilities so that their actions are consistent with, and designed to expedite, the spatial plan.

5.2 Strategic infrastructure investment and catalytic projects

Spatial transformation requires careful coordination of different infrastructure investments to maximise the leverage effect or influence of government actions. Targeted infrastructure investment can be a powerful means of shaping places and steering private investment, especially if it is accompanied by the provision of serviced land to accommodate new development. The effect can be enhanced by ‘softer’ service provision that helps to shift perceptions of a place and improve the quality of the built environment through landscaping and complementary facilities. Linking spatial planning and infrastructure is crucial to the idea of transit-oriented development and smart growth. Densification obviously depends on increasing the capacity of infrastructure networks to absorb larger populations.

The City of Johannesburg has for several years actively sought to align its spatial plans with existing infrastructure capacity and new investment decisions in order to compensate for major infrastructure deficiencies and to guide property development in desired directions.
This has been a complex process of consultation and negotiation, and very demanding in terms of technical capacity and commitment. It has also required an understanding of development pressures and trends, and the factors and forces shaping the spatial patterns of contemporary urban growth. Sound databases and information systems, and tools such as GIS-based decision-support systems, have also been important. Above all, it has required close engagement with stakeholders inside and outside the municipality and astute political understanding, in order to negotiate effectively and build a common spatial vision and narrative about the future development of the city. Johannesburg’s experience has also encountered the limits of policy in directing private sector investment, even where planning and infrastructure are carefully linked.

The idea of catalytic projects may be one mechanism to secure additional private investment. Such projects do not simply provide the infrastructure in anticipation of private development. They involve negotiation and deal-making to obtain commitments to such investment in advance. Of course they are complicated to negotiate and require specialist skills and knowledge to achieve fair outcomes where the public sector does not bear the burden of all the risk or compromise on essential principles related to the public good.

### 5.3 Regulatory instruments

Another set of tools available to municipalities and other public entities are the standards and regulations that they control. These are inherently reactive, but can still be influential, especially if combined with a wider package of measures. These include land-use planning controls, building regulations, environmental regulations and various licensing systems (such as gambling and liquor). Municipalities can alter these regulations in order to achieve different outcomes. Zoning schemes can be amended to encourage mixed-use developments and more intense use of land. They can alter car parking requirements to discourage their provision in favour of public transport use. Density regulations can be changed in order to encourage multi-storey building. Municipalities can also simplify, streamline or relax certain regulations in order to reduce the bureaucratic burden, allow for greater flexibility, and promote creativity and experimentation among developers, investors and other producers and users of the built environment.

### 5.4 Fiscal instruments and spatial targeting

Fiscal instruments include the levying of taxes and the provision of financial incentives to attract private investment and stimulate entrepreneurial activity. The incentives can be structured in different ways, depending on what makes sense to that type of project: a loan or grant, tax relief, rent relief or a rates holiday. The specific purpose may be to bring forward investment decisions that might not have happened for several years; to enlarge the scale of investment decisions that might have happened anyway; to alter the character or composition
of such investments; or to steer them towards particular locations that might otherwise have been neglected. For example, some municipalities offer lower rent and rates on industrial premises in areas designated for priority attention, such as unemployment hotspots.

For spatial transformation, it often makes sense to designate specific areas for special treatment given the difficulties of city-wide restructuring. Shining the spotlight on a particular place adds to the profile and visibility of the incentives for public relations and marketing purposes. It can also increase the spillovers for other properties in the area and thereby raise the general level of confidence and investment in the place. The public sector may retain some rights over the land in the area in order to share in the financial gains from the general increase in property values as the level of interest among investors grows. Land value capture has been neglected in South Africa, but it is an important mechanism for funding additional infrastructure in many other countries.

5.5 Area-based management

Area management can be an effective means of transforming a hitherto neglected area by focusing attention and resources on it in order to address immediate practical constraints and to support longer-term reconstruction and development. It is analogous to spatial targeting in that a specific area is designated for priority attention, although from a more ‘bottom-up’, hands-on, managerial perspective. Effective area management requires a sound evidence base and an understanding of conditions and trends affecting the locality, together with a good sense of its long-term potential. An area’s potential is typically influenced by factors such as its physical location, land availability, infrastructure capacity, surrounding assets and amenities, and the composition of the surrounding population. Some of these factors are more amenable to change than others.

Transformation requires repositioning the area through a variety of local interventions, including infrastructure enhancements, environmental improvements, security upgrades and place marketing. The City of Cape Town’s Economic Areas Management Programme (ECAMP) is specifically designed to monitor changing conditions in 70 business districts across the city with a view to guiding appropriate policy interventions depending on the area’s trajectory. Some districts require additional capacity to accommodate growth while others require measures to slow decline or to reconfigure them to secure new opportunities.

The institutional mechanisms for area management take different forms from an internal municipal arrangement to coordinate different departments and give them a visible presence in the area (the ‘one stop shop’ idea), to a wider partnership structure that involves the main role-players in the locality cooperating to share their resources and energy to help upgrade the area. There may be a special-purpose vehicle established in the locality to employ dedicated
staff, to design and manage new projects, to provide special services and to get involved in brokering deals to encourage investment and development. Social compacts (or agreements) between different stakeholders may be vital ingredients for effective progress. The notion of transformation tends to imply the need for focus and a concerted effort across a range of interventions, rather than a ‘light touch’, reactive approach.

6 Institutional capacity for spatial transformation

This section addresses a new theme that has been hardly been considered in South Africa. There are distinctive skill-sets and competences required to promote urban transformation that go beyond the conventional technical skills and professional disciplines necessary for municipal service delivery and public administration. Spatial restructuring requires capable institutions that employ people with specific abilities to work across conventional disciplines and functional divisions. These attributes include creative thinking, stakeholder negotiation and community engagement.

These novel, broader abilities are necessary precisely because spatial transformation involves doing things differently. It means a broader and more holistic approach to development, taking into account the linked environmental, social and economic dimensions of urban change. This is illustrated by the greater complexity and higher risks surrounding brownfield rather than greenfield development. Transformation also challenges the ethos of professionals working in separate silos who know what is best for local communities. Instead, experts must be responsive and sympathetic to other views and interests. Officials are also expected to play a more constructive role in identifying development opportunities, solving problems and enabling change, and not simply in regulating the activities of civil society. In other words, officials need to be involved in making things happen, i.e. in implementation.

The new skill-sets required for spatial transformation include:

1. Strategic capabilities to anticipate changing conditions and sustain long-term commitments to reshaping particular places, including leadership skills to develop a shared vision, to take the initiative, experiment with pilot projects, encourage lateral thinking, show insight and exercise judgement when tough choices exist.

2. Cross-cutting information systems, management processes and human capabilities that enable change to occur and drive it forward when necessary, including skills of communication, negotiation, persuasion and partnership working, and attributes such as adaptability, flexibility, empathy and understanding.
3. A series of generic practical competencies to deliver and sustain change, including project planning, feasibility analysis, project management, budgeting, procurement, programme administration, monitoring and reporting.

The NDP called for a major national effort to strengthen the spatial planning capabilities of municipalities and other relevant government agencies. This included enhancing institutional structures and processes, and building the knowledge, skills, leadership and capacity for innovation of professional planners, urban designers, engineers and other spatial professionals within government, the private sector and civil society. It was also important to boost spatial training and research in higher education institutions and to raise the awareness of spatial issues in society more generally.

7 Targets, indicators and monitoring systems

Identifying suitable indicators, setting targets and monitoring progress over time can be a valuable discipline to clarify objectives, sustain support and reward success for the long-term task of spatial transformation. Many urban policy frameworks and plans have been too high-level and vague about the ‘what, when and where’ to bring about urban integration. In order to mainstream the principle of spatial transformation, a suite of indicators and targets will need to be embedded in municipal IDPs and budgets. This is one of the necessary requirements to counteract ad hoc, short-term decision-making, recognising that spatial transformation is a long-term process rather than an event.

The City Support Programme is in the process of developing indicators of urban transformation covering progress towards more inclusive, productive, sustainable and well-governed cities. It covers issues such as residential densities, travel times, mixed land-uses and housing diversity. A parallel programme of work on indicators of spatial transformation is being developed by the Department of Rural Development and Land Reform, under SPLUMA.

8 Selected questions

This section concludes the paper by identifying a range of questions that will stimulate discussion and debate among conference participants.

1. **Vision**: What do we really want our cities to be like? Which elements outlined in section 2 of this paper are most important? What needs to be done to make this vision real?

2. **Urban structure 1**: Under what circumstances could spatial transformation happen spontaneously, i.e. without government intervention in land and housing markets? What is the role of private developers and investors in spatial transformation – are they leaders or
followers? What are the risks of government intervention in pursuit of spatial transformation? (Think about the potential unintended consequences for investment, jobs and the affordability of housing.)

3. Urban structure 2: In considering strategies to transform the physical structure of the city, do you think that more emphasis should be given to bringing affordable housing closer to where the jobs are located, or encouraging job growth closer to where the majority of poor people live? (Jobs to the people or people to the jobs?) Should the emphasis change over time? Could the emphasis vary between cities?

4. Urban structure 3: How can municipalities use investment in public transport and other infrastructure to steer the location of economic development and housing? What do they need to do to make this happen?

5. Urban structure 4: What needs to be done to release surplus, well-located public sector land and property for infill development, redevelopment and renewal?

6. Urban texture 1: Is higher density housing development necessarily more costly than low density, taking the full, long-term costs into account (including infrastructure and transport subsidies)?

7. Urban texture 2: How can municipalities shift popular perceptions of higher density housing, especially if integrated with affordable housing in mixed-income projects?

8. Obstacles 1: What are the main obstacles to urban transformation, in your experience? How can these be overcome?

9. Obstacles 2: How can the public sector encourage more creativity on the part of private developers in relation to the various urban design principles outlined in 2.3?

10. Obstacles 3: How can communities be persuaded that social diversity and inclusion should be supported rather than opposed?

11. Drivers 1: Could the devolution of built environment functions to the metros be a significant driver of spatial transformation, or are the metros focused on business-as-usual, like many other institutions?

12. Drivers 2: What do you think are the two most important policy instruments to achieve spatial transformation?

13. Skills and capabilities 1: What are the main skill-sets required to drive spatial transformation projects and programmes? How can they be strengthened?

14. Skills and capabilities 2: Where are the biggest gaps in current municipas skills and capabilities, relevant to spatial transformation?
9 REFERENCES


Transit-Oriented Development: An appropriate tool to drive improved mobility and accessibility in South African cities?

Geoffrey Bickford – South African Cities Network

Contents

1 INTRODUCTION .................................................................................................................. 101
1.1 Understanding the link between mobility, access and urban spatial patterns .................. 101
1.2 South African cities: Reflecting a more complex dynamic ............................................ 103
1.3 An emphasis on spatial transformation with an emerging focus on TOD ....................... 106
1.4 What future is South Africa aiming to transform towards? ............................................ 108

2. UNDERSTANDING TOD, ITS ROOTS AND ITS RELEVANCE ..................................... 109
2.1 Spatial factors .................................................................................................................. 110
2.2 Strategic factors .............................................................................................................. 111
2.3 Enabling Factors ............................................................................................................. 111
2.4 Lessons learnt ................................................................................................................. 113
2.5 Can TOD drive the spatial transformation required? ...................................................... 114

3. JOHANNESBURG: A HISTORY OF TOD PRINCIPLED URBAN STRATEGY ............. 116
3.1 The release of the GDS in 2006 ..................................................................................... 117
3.2 Towards a growth management approach ...................................................................... 118
3.3 The Growth and Development Strategy 2040 ................................................................ 120

4. ADAPTING THE TOD CONCEPT TO THE SOUTH AFRICAN CONTEXT ................ 122

5. CONCLUSION .................................................................................................................... 126

6. QUESTIONS FOR CONSIDERATION .............................................................................. 127

7. REFERENCES ..................................................................................................................... 127
1 Introduction

Due to the spatial realities inherited from apartheid the majority of urban South Africans are forced to travel for excessively long distances from their places of living to access economic opportunities in urban centres. This is a result of the segregatory and exclusionary spatial planning, as well as the particular nature of transport investment, which has accompanied South African cities’ growth and development over the past half century. It is explicitly understood that levels of access and mobility across cities are directly impacted by spatial land use patterns and urban morphology. As such, any attempts to intervene in improving the levels of access and mobility for people living in cities has to be concerned with both transport and urban spatial planning.

Transit-oriented development (TOD) is one of the most prominent tools to drive more sustainable land use-transport outcomes. Increasingly TOD is being touted as a way to overcome South African spatial challenges. This paper will engage with the manner in which TOD is being understood in South African contexts as a driver for increased accessibility and mobility. The Johannesburg experience will be used as an example for discussion.

The paper discusses the broad links between urban spatial patterns, mobility and access, before narrowing the focus to specifically South African cities. An engagement with the notion of spatial transformation is then provided, followed by a brief discussion of the vision for urban spatial transformation in South Africa provided by the National Development Plan (NDP). This will establish a useful platform for discussion around understanding the usefulness of TOD as a tool for spatial transformation in South African cities. This will be done by examining TOD’s roots and then developing an understanding of what TOD is made up of. These understandings will then be filtered into a discussion on the general appropriateness of the concept in the South African context. A more focused analysis of the Johannesburg experience will then be drawn on to provide insight into the growth and implementation of the concept in South Africa to date.

1.1 Understanding the link between mobility, access and urban spatial patterns

A review of the existing literature on urban spatial structure and mobility and access in cities highlights the widespread consensus that a fundamental relationship exists between these elements. Urban land use patterns have a direct impact on the nature of transport infrastructure and services provided in urban areas, and in turn the provision of a particular transport infrastructure creates access which incentivises the growth of particular spatial patterns (Banister, 2008; Bertolini, 2009; Cervero, 2001; Newman and Kenworthy, 1996). In this way the relationship demonstrates mutual dependence, what Bertolini (2009: 8) explains is referred to as the ‘land use transport feedback cycle’.
Much of the research on the topic to date has aimed to understand how elements of the built environment need to come together in a way which drives the sustainable urban growth of cities. This focus reflects widespread concern that the increasing prevalence of the private car and accompanying freeway building and urban sprawl are having severe negative environmental and social consequences (Banister, 2008; Bertolini, 2009; Cervero, 2001; Newman and Kenworthy, 1996). According to Camagni et al. (2002: 201) this sprawl is usually characterised by ‘low density development, extending to the extreme edge of the metropolitan region and located in a random, “leapfrog” fashion, segregated in specialised mono-functional land uses, and largely dependent on the car’.

Although there have been some attempts to highlight the fact that sprawling car-based cities are not necessarily negative, there is a growing literature and empirical knowledge base which argues that sprawling cities have negative financial, environmental and social consequences (Banister, 2008; Camagni et al., 2002; Cervero, 2001; Dargay and Hanly, 2004; Newman and Kenworthy, 1996; Ojima and Hogan, 2009). In essence the popular responses to the problems of sprawl are based on planning intervention which seeks to promote densified development or redevelopment of more centrally located land. This type of development makes investment in public transport feasible. From the understanding of the land use transport feedback cycle, this public transport-oriented growth encourages further compaction and densification of the city.

A dense interconnected city offers people high levels of accessibility and mobility through the use of less carbon intensive transport modes. However, this is the case only when that density is accompanied by a rich mix of land uses (Cervero, 1989) – where people can walk, cycle or use public transport for everyday activities. Most literature on the topic advocates this type of city growth from an environmental perspective. However, Vasconcellos (2003) highlights that the growing awareness of the necessity to transform city growth patterns from a social and equitable perspective in developing world contexts. Vasconcellos (2003) further argues that the vast majority of people are unable to afford a private vehicle and the focus on providing car-oriented infrastructure is compromising the mobility and accessibility levels of the majority of people living in cities in the developing world.

South African urban policy is influenced by these debates and there has been noticeable rhetoric on prioritising public transport over private transport. Coupled with this, there has been a call for the compaction of South African cities to address the spatial inefficiencies and inequalities of apartheid. The next section of the paper will provide a reflective discussion on the relationship between urban spatial patterns, mobility and accessibility in South African cities.
1.2 South African cities: Reflecting a more complex dynamic

Worth acknowledging upfront is that South African settlement distribution, urban morphology and land use patterns are unique. The sprawling, low density, mono-functional land use patterns were deliberately created through perverse exclusionary planning practices as opposed to market forces and the rapid uptake of the private car. The majority of the urban poor in South African live great distances from the economic opportunities in cities (Turok, 2012). They are largely unable to afford a private vehicle and are dependent on public and non-motorised transport to carry out their daily activities. This is an important factor to note when locating South Africa within a global land use-mobility discussion. Most other countries have experienced rapid levels of sprawl following the growth of private car use. While this is a factor for consideration in South African cities, the dynamic is more complex given the particular developmental history of the country.

Sprawl driven by perverse segregatory spatial planning

There is limited literature devoted to understanding the relationship between urban settlement patterns and mobility and accessibility in South African cities. Behrens and Wilkinson (2003) argue that South African spatial development patterns have had severe consequences for the poor living at the peripheries of the city. Due to the legacy of the exclusionary, dormitory position of black areas under apartheid, people currently living on the periphery of South African cities have to travel long distances to access the economic and social opportunities in the traditionally white city centres. It is important to note that the majority of these urban commuters are ‘captive’ public transport users, meaning that they are unable to afford a private vehicle and rely on public transport for mobility and access. Ultimately, the research by Behrens and Wilkinson (2003) points to the fact that the poorest people in South African cities spend the greatest amount of time and money on travel.

This has a number of negative socioeconomic consequences worth noting. The costs of accessing potential economic and social opportunities are exorbitant. Those who are able to find employment are forced to travel for long hours each day, which has an accompanying opportunity cost as people have less time to spend on the recreational, educational and household reproductive activities which are essential to enhancing quality of life. Coupled with this is the fact that people have less expendable income which is a key driver of household savings, further education and general personal and household investment.

Camagni et al. (2002) provide a western perspective on the challenges which exist in cities which are growing along sprawling and decentralising lines. This description arguably provides a perspective on the exacerbated challenge faced in the South African context.
A diffused pattern of urban development, almost by definition, cannot be adequately served by the public transport infrastructure since the demand density is low, the scattering of the demand over the territory is high and the dispersion of destinations is also growing because of the suburbanisation of jobs. This is the reason why so many analyses of the social, economic and environmental costs of urban expansion have concentrated on the pervasive presence of the car: a technology capable of ‘bringing places nearer’ by providing access to the increasingly dispersed and specialised urban functions. (Camagni et al., 2002: 202)

From a transport perspective the private car has not been solely responsible for the dispersed growth in South African cities. This paper has already highlighted the fact that many people living on the edges of the city are entirely dependent on public transport. Given that dispersed settlement patterns cannot be adequately served by public transport this perhaps highlights the poor mobility levels experienced by these communities. It also provides an insight into the need to heavily subsidise the limited services provided to these areas. Important to note here is that all transport provided to black areas during apartheid was designed to control and restrict access. Overhauling the traditional manner in which this transport functioned in the post-apartheid era has proved difficult.

This spatial dynamic arguably provided the impetus for the rapid growth of privately operated and unregulated mini-bus taxi services. It is acknowledged that without the service offered by the mini-bus taxi industry mobility and accessibility levels of the majority of South Africans would be dire. However, through a land use-transport feedback cycle lens, the taxi industry is the ‘private car’ transport system which facilitates and enables the growth of public transport dependent peripheral communities.

**Car based sprawl**

The decisions made by private sector stakeholders who are ‘market driven’ and targeted at the middle and upper income earners have significant consequences at a broader city and regional level. At this level the private vehicle has been central to decision-making regarding urban growth. Heavily influenced by the North American approach to transport planning, the emphasis on private vehicle infrastructure stems from a long history of freeway and road prioritisation from around the 1950s in South Africa. This infrastructure was largely provided in the economic and urban centres which were reserved for white people under apartheid. Strategically these investment decisions came at the expense of the public transport service and infrastructure investments upon which marginalised communities were dependent.

When the apartheid regime was dismantled in the early 1990s and South Africa emerged as a free and democratic society, where people were no longer forced to live in isolated locations,
a series of decentralisation actions occurred across South African cities. Beavon (2004), in his analysis of growth in Johannesburg, argued that the movement of many businesses and families from central areas to suburban areas was because of the perception of the black urban poor moving rapidly into the city. Beavon (2004) refers to this as ‘white flight due to white fright’. This decentralisation can arguably be attributed to many South African cities but has admittedly occurred in a nuanced way relative to each city. Ultimately, decentralisation has galvanised the growth of polycentric South African cities where suburban areas have become characterised by large gated office parks and gated town house or housing estate developments (Turok, 2012). This growth has been largely facilitated by the car and resonates strongly with the predominant international analysis associated with the relationship between mobility and urban settlement patterns.

Furthermore, the car based lifestyle has become aspirational in the city. The prioritisation of car facilitating infrastructure has continued in post-apartheid South Africa despite policy directives calling for a ‘public over private’ focus. Thus, economic growth in South Africa has been accompanied by rapid increases in private car ownership and usage and the expansion of estate housing and office park developments. As long as the mobility and accessibility levels for people dependent on public and non-motorised transport remain poor, people will aspire to drive cars and live in peripheral gated estates.

There are external factors which could curb this trend, at least in the long term. Firstly, behaviour will change for environmental reasons. Research has highlighted that motorised transportation is the second highest contributor to global CO2 emissions. CO2 emissions are a leading contributor to global warming and climate change. Furthermore the rapid land consumption associated with sprawl is depleting natural systems and resource bases in cities. Urban temperatures are rising as more surfaces are covered by concrete. As the consequences grow, regulatory actions might begin to lead to shifts in the way people travel and live in cities. Secondly, the price of oil, upon which most private transport is dependent, is rising fast. As a result private car travel will become unaffordable and potentially drive a shift in where people choose to live and how they choose to travel. The short term risk is that people continue to aspire to lifestyles that require private vehicles for their mobility and access to the city. If this risk continues at the current rate, South African growth and development will be locked into a highly inaccessible and immobile future.

A complex relationship thus exists between spatial patterns mobility and access across South African cities. Perhaps aptly summarised by City of Johannesburg (2011: 74) in the Growth and Development Strategy 2040: ‘The legacy of Apartheid planning, the era of the car and capital flight to suburban neighbourhoods in the 1970s are all historical conditions that, over-time,
have given rise to a sprawling city’. Addressing these issues requires the co-ordination of both transport and land use responses. This resonates in the majority of urban policy and strategy which has emerged in post-apartheid South Africa. The White Paper on National Transport Policy (DoT, 1996) provides indications of the importance for both public transport improvements as well as transformed urban spatial outcomes. South African urban development practitioners have grappled with providing ‘well located’ housing and with the concept of densification and compaction since 1994. However, the reality is that the spatial patterns inherited from apartheid have been largely exacerbated in the post-apartheid era. Growth of sprawling, mono-functional land use cities has not aided the provision of public transport improvements. However, over the past decade South African cities have received unprecedented levels of investment in public transport. With some new systems in full operation, these represent a deviation from the traditional highway and traffic engineering focus of transport practitioners in South Africa. However, due to the largely unaltered spatial patterns and the remaining fragmentation which exists across public transport service provision in South African cities, the levels of accessibility and mobility remain largely unaltered (Turok, 2012). The next section of the paper focuses the discussion on what has emerged as a prominent concept to address the spatial dynamics leading to the limited mobility and accessibility across South African cities.

1.3 An emphasis on spatial transformation with an emerging focus on TOD

The particular growth and development of South African cities have given rise to highly inefficient and unequal spatial patterns. Since 1994, the democratic South African government has been grappling with how to overcome the socio-spatial inequalities inherited from the apartheid era. The concepts of redistribution, compaction and inclusion have been synonymous with post-apartheid policy and planning. Through the processes of governmental reform, cities have taken on more responsibility as the drivers of spatial transformation (Turok, 2012). The concept of providing more sustainable land use-transport integration has been a consistent thread of urban policy thinking. Many strategic planning documents have illustrated the importance of linking urban growth with transport infrastructure. The poor, largely inherited, state of the public transport infrastructure in South Africa’s short democratic history has, however, not provided the quality necessary to attract growth. Private sector growth has gravitated towards road infrastructure, prioritising private vehicle movement as mentioned previously. Without a significant shift in the way cities are planned and built, South African cities will become increasingly socially divided, unsustainable and restrictive to accessing opportunities.

TOD has emerged as a prominent concept globally which can successfully drive more effective and sustainable land use-transport integration. A review of recent urban strategies and plans shows that the TOD concept has filtered into South African growth and development thinking. However, the extent to which the concept is an appropriate tool to drive spatial transformation
in the South African context has not been fully explored. The recently announced City of Johannesburg 2013 ‘Corridors of Freedom’ strategy arguably represents the most advanced and explicit commitment to TOD of any South African city to date. As such the ‘Corridors of Freedom’ strategy provides a useful lens through which to reflect on how TOD has developed in South Africa and the implications of the current conceptualisation for mobility and accessibility in cities. Before assessing TOD in the South African context, it is useful to look at what is meant by spatial transformation and what this means for South African cities in the future.

Spatial transformation
Recognising the spatial inefficiencies and inequalities inherited from apartheid planning, post-apartheid policy and strategy has centred around the notion of spatial transformation. However, despite these transformative intentions post-apartheid South Africa has largely exacerbated sociospatial inequalities. Perhaps best highlighted in the recent Integrated Urban Development Framework (IUDF) discussion document which states that ‘it is harder in 2013 to reverse apartheid geographies than it was in 1994’ (DCoG, 2013: 16). The emphasis on achieving spatial transformation is not new to growth and development thinking in South Africa, yet it seems that built environment outcomes are stubborn and resistant to change.

Perhaps what is required is a deeper understanding of the spatial transformation concept and what it requires to produce effective outcomes. Williams (2000: 171), in a paper discussing urban transformation in South Africa, provides a useful contribution towards defining spatial transformation as a multi-dimensional concept and states that ‘transformation is a fluid, open-ended, multi-levelled process and is perhaps most effectively captured by the notion of “tension-ridden planning-in-motion”’. The usefulness of this understanding is that it paints a picture of transformation as an iterative, dynamic and consistently changing process which is characterised by contention and requires reinvention, re-imagination and exploration. A fluid and dynamic definition of transformation provides a useful basis to reflect on the ability of South African interventions to deliver alternate spatial outcomes.

This understanding of transformation suggests that spatial restructuring in South African cities will not be a straightforward process which yields effective results in the short term. Rather, it seems that, for more equitable and sustainable spatial outcomes to occur, a complex and exploratory set of interventions will be required which adapt and change over time as outcomes are assessed and lessons are learnt. Critical to the spatial transformation agenda is a generally clear understanding of the future South Africa is trying to build. The NDP (2011) is perhaps the best reference point for understanding the future vision.
1.4 What future is South Africa aiming to transform towards?

The NDP (NPC, 2011) provides a long-term vision for the development of South Africa with a 20 year horizon. From a built environment perspective the rationale for the Plan is highlighted by the statement:

A great deal of progress has been made since 1994, but South Africa is far from achieving the Reconstruction and Development Programme (RDP) goals of ‘breaking down apartheid geography through land reform, more compact cities, decent public transport and the development of industries and services that use local resources and/or meet local needs’. Despite reforms to the planning system, colonial and apartheid legacies still structure space across different scales. (NPC, 2011: 260)

The plan is thus an attempt to reinvigorate the developmental thrust of South Africa with the intention of placing it on a fundamentally different growth trajectory. The NDP’s vision states that:

By 2030, most South Africans will have affordable access to services and quality environments. New developments will break away from old patterns and significant progress will be made in retrofitting existing settlements. (NPC, 2011: 234)

With a reaffirmed commitment to achieving the principles outlined in the RDP, this vision speaks directly to the principle of inclusivity, addressing the deep socioeconomic and spatial inequalities which exist in South African society. Furthermore, a call for spatial change is echoed in the vision, implicitly calling for developments which are more compact in nature, bringing higher densities of people closer to the economic and social opportunities which high quality urban environments present. The concepts of compaction and inclusion seem to be paramount to the growth and development of South African cities. Spatial transformation in this regard is not only about reconfiguring urban form and spatial land use patterns, but simultaneously creating opportunities for lower income residents to locate themselves within the transformed development. It is through this particular lens which this paper understands spatial transformation in the South African context.

Drawing on Williams’s (2000) definition of transformation, these are two issues in post-apartheid South Africa which have proved extremely difficult to achieve (even in isolation of one another) (Turok, 2012) and will require a reinvigorated and reimagined approach. Tackling the two issues of: acknowledging the need to create higher densities; and assisting previously
disenfranchised people to access land, closer to economic and social opportunities, at the same time would require large amounts of energy, and is an enormous challenge. However, this is a central component of achieving the NDP 2030 vision.

One of the issues central to achieving the long-term development vision is the improved integrated planning and development of land use and public transportation. Globally TOD is seen as a way to successfully drive more effective and sustainable land use-transport integration. The concept was coined in America in the 1980s, but its principles of higher density, mixed use, walkable developments in close proximity to public transport stations have existed in development practices for centuries. Many commentators argue that TOD is in fact a push toward traditional city building practices in response to the negative developmental impacts of automobile dominance. The concept has filtered into South African thinking in the past decade and has become a central developmental focus for some of the larger cities in the country. Coupled with unprecedented levels of investment in public transport, TOD based policies and developments are seen as critical to the effective transformation of South Africa’s unequal and inefficient spatial landscapes.

2 Understanding TOD, its roots and its relevance

As has already been mentioned, in this paper transport and land use are understood to be mutually dependent entities which inform and shape one another’s development (Banister, 2008; Bertolini, 2009; Carlton, 2007; Cervero, 2001; Dittmar and Ohland, 2004; Newman and Kenworthy, 1996). Before the Second World War, cities developed as dense walkable areas with a vibrant mix of land uses. However, after the Second World War, the prioritisation of the car led to the rapid decentralisation and low density sprawl which characterise many cities today (Carlton, 2007; Cervero, 2001; Newman and Kenworthy, 1996). TOD is a useful tool to provide more sustainable land use-transport integration in contexts where the prioritisation and rapid uptake of the car has facilitated low density, mono-functional, sprawling cities (Cervero, 2001; Dittmar and Ohland, 2004). The premise is that, in order for people to return to living lifestyles facilitated by public transport, a different property product is required which allows for easy use of public transport, ultimately reducing the reliance of vehicles to carry out activities which fulfil daily living requirements.

Towards a redefined TOD understanding

While there is no set definition for TOD (Renne, 2005; Transport Research Board, 2004) and there exists a certain level of confusion around the concept, analysis of the literature on TOD suggests that there are some elements which are constant across all definitions. The most popular definitions are merely spatial in nature. This is highlighted in a recent TOD guide for Queensland, Australia.
While there are various definitions in use around the world, there is common agreement that transit-oriented development is characterised by:

- a rapid and frequent transit service
- high accessibility to the transit station
- a mix of residential, retail, commercial and community uses
- high quality public spaces and streets, which are pedestrian and cyclist friendly
- medium- to high-density development within 800 metres of the transit station (i.e. the TOD precinct)
- reduced rates of private car parking. (Queensland Government, 2010: 2)

These elements present a relatively accurate synthesis of the various definitions which have emerged on the topic. However, Dittmar and Ohland (2004) explain that these limited spatial definitions of TOD can lead to ineffective outcomes. A fairly extensive review of the literature reveals that there are a wider range of elements which have to be understood as critical to TOD. While they have been acknowledged in the literature as critical factors to consider they are often not factored into the definition. This paper will attempt to cover the broader range of elements which are argued to be conceptually essential to the effective outcomes of TOD approaches. These can be split into three components, spatial, strategy and enabling factors.

2.1 Spatial factors

Land use mix easily accessible by pedestrians

The idea that people could access a variety of everyday activities through non-motorised transport or public transit is central to the concept. In essence, this requires a vibrant mix of land uses to be structured around public transport stations in walkable and bikeable communities. In this regard higher concentrations of mixed land use are essential components of effective TODs since conceptualisation (Dittmar and Ohland, 2004). The promotion of non-motorised over private motorised transport is a critical element of achieving vibrant people oriented TOD areas. There is much support for the reduction in parking and traffic calming interventions in TOD areas.

High quality public transport service

The quality of public transport is an important factor in encouraging people to aspire to living public transport oriented lifestyles, and in generating investor confidence in public transport (ITDP, 2013). Service reliability, safety, efficiency and frequency, among others are important if public transport is to compete with the private vehicle. In contexts where car infrastructure investment has been favoured over public transport investment for most of the last century, significant levels of investment are required to raise levels of service on public transport systems.
Higher activity and population densities
Environments which have higher activity population density provide the necessary conditions to drive up the passenger numbers, which will in turn ensure that investment in transport is financially viable. It is critical to note that the vast majority of public transport systems globally require some level of subsidy (Estupiñán et al., 2007), but the amount of subsidy can be limited depending on the fare revenues collected and through developing innovative financial tools which capture value from development surrounding the station (Cervero and Murakami, 2008). While these financial concepts play an integral role in the feasibility of TOD this paper will not discuss them at length. Rather, it is important to note that density, both in terms of population and activity, along with a variety of land uses which are easily accessible by pedestrians and cyclists are fundamental to effective TOD developments.

2.2 Strategic factors
Nuanced strategies appropriate for varying contexts
Transport systems by their very nature traverse a range of contexts. These contexts are important in providing nuanced approaches to TOD from its original conception ‘regions are sophisticated places with a multitude of conditions to serve. The types of strategies that might be appropriate in older neighbourhoods close to downtown are significantly different from those that might work in suburban contexts, even with similar density goals’ (Dittmar and Ohland, 2004: 33). This is argued to be of critical importance because different areas along public transport routes have different land market dynamics and function differently relative to one another. For instance, an inner city context will demand a different response than the one demanded in a suburban context. Furthermore there are differing contextual realities between inner city and suburban contexts.

Catering for a mix of income groups
There is an increasing body of TOD-based literature which is emerging around the importance of providing a variety of different housing options targeted at a range of different income groups. Including a range of income groups in the conceptual understanding of TOD results in a defining feature which is redistributive and inclusive by nature. While this has not always featured as a prominent component of TOD understandings, it is growing in importance and holds much relevance to the South African context.

2.3 Enabling Factors
Understanding facilitating elements as a defining feature
It is argued that TOD cannot simply be a concept based on physical outcomes underpinned by the principles of mixed land use, higher densities and walkable environments (Transport Research Board, 2004). It is inherently about reconfiguration of institutional, financial and development planning systems which serve as the enablers to development. Dittmar and Ohland (2004) assert that these narrow spatial outcome-based definitions ultimately lead to developments which
display higher density (and on few occasions some mixed land use) and are in close proximity to public transport stations but share no major functional or physical design relationship with transport stations. Authors have argued that many so-called TOD developments continue to be designed to prioritise car access and, rather than being TOD, are transit adjacent developments (Dittmar and Ohland, 2004; Renne, 2005; Transport Research Board, 2004).

Achieving TOD will require a fundamental shift in the way cities have been built. Of concern is that issues not being confronted include the required changes in the institutional architectures, financial mechanisms, and the planning and development systems that govern built environment outcomes. These issues were emphasised late in the TOD development in America and Australia (Dittmar and Ohland, 2004; Newman, 2009; Renne, 2005), and it is now understood that addressing all these issues is an essential component of achieving TOD.

This analysis has highlighted that TOD was developed as a concept which could combat the negative consequences of private vehicle dominance in North American cities. Drawing on the literature reviewed earlier in this paper, it is clear that TOD has been understood as a useful tool to improve mobility and accessibility. The provision of a rich mix of land use developments in close proximity to public transport and connected via pedestrian walkways and bicycling infrastructure begin to provide people with greater access to a range of activities in their daily lives.

This paper further argues that TOD is made up of three critical components. Firstly, spatial principles of higher density, mixed land use and walkable access. Secondly, the idea that nuanced understandings of TOD are to be developed to respond to the contexts which transport systems cover and that mixed income users are to be catered for. Thirdly, the elements which enable developmental outcomes across the city need to be reconfigured to provide for the vastly different outcomes TOD prescribes.

The extent to which the normative understanding and application of TOD has been interrogated relative to the South African context is uncertain. There are inherent differences in the manner in which political systems and institutional arrangements operate, as well as the way in which land and property markets function across this country relative to other countries where TOD is being promoted. Furthermore, the dualistic nature of South African cities calls for a differentiated TOD response in areas with different elements. While TOD has largely been used as a tool to combat the adverse effects of private vehicle use in North America, South African cities seem to see the concept as a way to overcome the deeply entrenched and widespread socio-spatial inequality of apartheid planning. The extent to which TOD as a concept will be able to address the issues presented by the South African context and improve levels of access and mobility is untested. There are, however, lessons and insights emerging around TOD experiences in North American and Australian contexts.
2.4 Lessons learnt

The North American and Australian experiences in attempting to implement TOD have provided some valuable insights and lessons. This paper lists some of those lessons and poses them as points of consideration for further engagement when thinking about TOD in a South African context.

Some of the key lessons learnt around TOD implementation are:

- **Fiscal organisational and political barriers** (Transport Research Board, 2004). There are vested interests which exist in promoting the continuation of the status quo. Without political championing and unconditional support for TOD outcomes these projects are doomed to fail from the onset.

- **Private Development Communities require incentives**. Under the current development planning practices, developers have financially viable business models. To get them to shift the manner in which they build, will require significant incentives. This is aptly explained by the Transport Research Board (2004: 101):

  > Uncertainty and red tape add risks and costs. Some developers simply move on, almost literally, to greener pastures. Developers and, perhaps more importantly, those who often bankroll projects – lenders – know that they can make a nice profit building single-family tract housing and sprawling subdivisions oriented to highways. They have been doing it quite successfully over much of the post-World War II period. TOD, on the other hand, has a spotty track record, and in some parts of the country, it is virtually non-existent. (Transport Research Board, 2004: 101)

- **Difficulty of co-ordinating the various stakeholders** is a major obstacle (Transport Research Board, 2004). Effective TOD outcomes are understood to involve a wide variety of stakeholders (public and private), who often have different sets of interests. Without a mechanism that drives integrated and coordinated efforts attached to decision-making power, effective outcomes will be difficult to achieve. Many of the successful TOD corridors or developments are as a result of specially altered institutional arrangements, where special purpose vehicles (SPVs) are tasked with driving TOD implementation. Importantly they often have political priority and decision-making powers.

- **Not in my back yard – NIMBY** (Dittmar and Ohland, 2004). Communities often resist TOD projects, as they believe they will have a negative impact on the value of their property and dilute the existing community dynamics. Public participation and planning inclusion is thus an essential component of TOD projects. The City of Johannesburg’s Oxford Road TOD-based plan is perhaps an excellent example of a strong community-based association resisting planning intervention to improve accessibility and mobility in the city.

- **TOD outcomes have been fairly limited** to date (Dittmar and Ohland, 2004; Transport Research Board, 2004). This often results in any TOD project which materialises being hailed as a success. Authors have called for a more rigorous assessment framework for understanding whether outcomes are effective TOD or are, in fact, TOD. Furthermore, the scale and extent to which TOD environments have been able to be implemented is fairly
limited. This raises a series of questions around the extent to which TOD as an intervention can facilitate widespread spatial transformation and improve accessibility and mobility in South African contexts.

These are some of the major lessons from efforts to drive TOD in North American and Australian contexts. What is evident is that the majority of the lessons learnt are around the enabling factors which govern development outcomes of the city. This further entrenches the understanding that these issues need to be considered during the conceptualisation of TOD. Having provided an international perspective the paper will now focus on South Africa, and then more specifically on Johannesburg.

2.5 Can TOD drive the spatial transformation required?

The principles underpinning urban transport and land use policy in a post-apartheid South Africa resonate well with those of TOD (Wilkinson, 2006). However, TOD has only recently been drawn on to address the widespread socioeconomic and spatial inequalities characteristic of South African cities. There is a limited body of academic literature about TOD in the South African context. Wilkinson (2006) provided insight into its possible appropriateness as a tool for spatial restructuring and public transport improvements. Drawing links between the principles presented in South African urban planning and transport policy and strategy Wilkinson (2006: 231) concluded that:

TOD presents a potentially interesting and useful addition to the portfolio of implementational mechanisms that might be deployed in bringing about spatial restructuring and public transport system improvement in South African cities. Questions remain, however, about how precisely it would need to be adapted to address conditions here and how it might be situated within a necessarily transformed institutional framework and these undoubtedly would need to be explored further if this potential were to be realised.

This raises three critical issues in the pursuit of effective TODs in South Africa, that of concept adaptation to suit the context, that of institutional arrangements required to carry out the implementation of TODs and the understanding that TOD is but one of the mechanisms which can bring about urban transformation. Wilkinson and Marks (2007) provided further work on the opportunity for TOD in Cape Town and advocated applying a nuanced approach, which considered appropriate interventions for the different contexts across South African urban landscapes. This approach is echoed in international literature (Curtis et al., 2009; Dittmar and Ohland, 2004; Renne, 2005).

The City of Johannesburg has arguably been at the forefront of applying a TOD approach in a South African context. At the time of the conceptualisation of the bus rapid transit (BRT)
project in 2006, TOD was explicitly introduced as a supporting development approach to achieve more sustainable land use-transport integration. Since then many cities have drawn on the concept in an attempt to promote more sustainable growth and drive spatial transformation in cities. The manner in which TOD has been defined and understood across the various city strategy and planning documents varies from a public transport-based focus to a logistical and freight-based focus and even in some cases to freeway corridor development. These variations perhaps highlight the limited understanding of TOD in South Africa.

While there is explicit inclusion of the concept in the majority of metropolitan municipalities’ plans, policies and frameworks, the understandings provided are narrow and there is no substantial engagement with what the concept might begin to mean for cities institutionally or from a process and systems perspective. The adoption of this narrow definition is not unique to South Africa, as Dittmar and Ohland (2004: 33) explain: ‘the standard definition of TOD, with modest exceptions, tends to force a one-size-fits-all set of solutions onto the different types of sites served by transit and the different types of transit that serve communities’. A narrow definition is thus limiting and neglects the differing complexity associated with diverse contexts. Although TOD has begun to appear explicitly in city policy and strategy in South Africa, the lack of substantive engagements with understanding what the concept requires in the relevant city contexts has understandably resulted in limited TOD outcomes to date.

In 2013 the City of Johannesburg reaffirmed and strengthened the strategic importance of the TOD concept with the launch of the ‘Corridors of Freedom’ strategy. The city has deepened the presence of TOD in South African policy and strategy documents seeking to address the urban spatial pattern-mobility issue. It is argued that the Corridors of Freedom strategy draws clear and explicit links between the concept of TOD and achieving inclusive development, perhaps best illustrated by the statement: ‘The “Corridors of Freedom” will transform entrenched settlement patterns which have shunted the majority of residents to the outskirts of the city, away from economic opportunities and access to jobs and growth’ (City of Johannesburg, 2013b). It is argued that this understanding that TOD can drive redistributive spatial transformation is slightly different to the objectives of TOD in the North American context.

Wilkinson (2006) has called for an adaptation of the concept to suit South African contexts, and this explanation could be the start. However, further interrogation of the concept is required to achieve the dual objectives of combating the use of private automobiles and driving greater inclusivity. Central to these (car prominence and lack of inclusivity) are aspirations that cannot be overlooked. As a single component of broader sustainable growth mechanisms, the TOD corridors proposed by the City of Johannesburg could serve as a catalyst to shift people’s behavioural patterns across South African cities.
From this understanding it is essential that Johannesburg grapples with how the corridors can begin to alter perceptions around public transport-oriented lifestyles. The corridors perhaps provide the strategic opportunity to inspire the change in the manner in which citizens demand to live in the city. The issue of how the city communicates strategy and vision thinking is critical to how it is internalised by a range of different stakeholders. This issue will be discussed later in the paper.

In light of the lessons learnt from international experience in developing TOD, the real issues around delivering a different property product to the market are concerned with addressing the enabling factors. The Corridors of Freedom could provide the strategic impetus to change the way development planning is carried out. By using the Corridors of Freedom to gain experience in developing institutional, financial and planning mechanisms which enable and deliver a different TOD property product to the market, the City will be better placed in the long term to drive improved land use-transport integration across the entire city.

The Corridors of Freedom is, however, not the first attempt by the City of Johannesburg to grapple with improving the land use-transport integration across the city as a way to drive spatial transformation. The next section of the paper will provide a brief analysis of the urban policy and strategy context which ultimately gave rise to the Corridors of Freedom vision.

3 Johannesburg: a history of TOD principled urban strategy

The Corridors of Freedom strategy is rooted in a series of growth and development strategies which emerged in the City of Johannesburg. It spent much of the 1990s undergoing vital institutional reform and therefore only really began to focus on addressing the spatial challenges from around 2000. In 2001 the city grappled with the idea of an urban edge, what they refer to as an urban development boundary (UDB). In 2002 both the province and the city had implemented urban edges. The concept was then included in the Johannesburg IDP and SDF of 2003/2004.

The UDB seemed to provide the ‘backbone’ of the city’s response to the spatial challenges it faced. It was fundamentally an invisible line drawn around the city that delineated where the right to develop land ended. The city identified that the spatial challenges presented to them were largely based on the vast amount of cheap developable land on the city’s edge. Thus, the city identified a need to intervene in the land market by limiting the supply of land available for development. This approach allowed them to provide a base off which to tackle both of the broad spatial challenges mentioned above. It attempted to combat urban sprawl and could then focus on shaping and directing development into key areas within the UDB and the city. The UDB was not, however, the obvious and absolute solution to combating urban sprawl and this becomes evident in the Growth and Development Strategy (GDS) released in 2006.
3.1 The release of the GDS in 2006

The GDS was formed at a stage when the city had released a number of key policy documents which included the Joburg 2030 document of 2002, the Human Development Strategy (HDS) document of 2005 and the IDP and SDF 2003/2004. These documents provided useful insights into the future development of the city. However they were underpinned by different perspectives and ideas about growth and development. The GDS was an attempt to merge all these documents and extract the positive elements into one coherent document.

The first GDS was informed by six principles, detailed in the development paradigm chapter of the GDS. A development paradigm is explained as the expression of the core values of the city when making current and future decisions. How the city viewed the spatial challenges facing it was analysed. The principle of settlement restructuring highlights two important points. Firstly, the city’s decision to adopt an urban edge has been criticised from the outset, and secondly, the strategic decision to implement the UDB, with the city accepting and being aware of, the criticisms generated by the concept of an UDB (City of Johannesburg, 2006).

The GDS 2006 provides evidence of the conundrum that the city was presented with when attempting to deal with the settlement challenges that it faced. On the one hand it recognised the locational cost implications, for both poorer residents and the city, that continued urban sprawl presented. On the other hand it recognised that land and property price increases would accompany the limited supply of developable land. It has been argued that these price increases made it more difficult for poor people to access well-located housing options and that the net result of an UDB was that poorer people were squeezed either out of the city or into derelict inner city buildings (City of Johannesburg, 2006). There is an inherent mobility and accessibility implication in the manner in which the city understood the challenge of implementing a development boundary.

With both of these consequences in mind the city weighed up the long-term benefits against the short term costs from both the municipality’s and residents’ point of view. The outcome was that the city strongly reaffirmed the implementation of the UDB with the commitment to ensure that every effort would be made to actively absorb the poor into the city inside the UDB. In this regard the GDS 2006 highlights the inclusionary emphasis which has existed within the city and notes, however, that this can only be achieved if there was a significant increase in mixed income, medium to high density residential and mixed use developments in specific nodes along major spines in the city. The GDS explicitly notes that the city will focus on bringing jobs closer to the people and people closer to the jobs (City of Johannesburg, 2006), thereby reflecting the critical elements of mobility and accessibility. Furthermore, it is evident that urban development interventions were understood to be central to addressing these issues. The call for these developments resonates strongly with the principles
underpinning TOD. It is clear that the land use-transport feedback cycle had permeated the city’s conceptual thinking.

The GDS provided the beginnings of a strengthened land use-transport growth emphasis in the city. The Corridors of Freedom vision has its roots in the GDS of 2006. It seems that since the introduction of the GDS the city has been grappling with how to achieve these compact and inclusive outcomes. The first real sign of the city’s attempt to grapple with how to achieve this growth was the formation of the Growth Management Strategy (GMS) in 2008.

3.2 Towards a growth management approach

The GMS 2008 follows the same principles that informed the GDS 2006 and therefore uses the same development paradigm to analyse and approach the future growth of the city. It is also informed by the Gauteng Spatial Development Framework (GSDF) 2007, and the IDP and SDF of 2007/2008. All of these documents resonate with one another and the notion of a non-sprawling, densifying city, which is increasingly inclusive and developing around a sound public transport infrastructure, was emerging as the prominent thinking about how the desired city would look.

The GMS 2008 provided the means to achieve this desired spatial form. It was envisioned that having a thorough understanding of the status quo would be an essential starting point. This status quo analysis, driven largely by a Geographical Information Systems (GIS) database, would then provide the direction for identifying the key priority areas for investment within the city. The GMS highlights two key means through which it will begin to achieve the desired spatial form. Firstly, through infrastructure provision, and secondly, by using a set of growth management tools which it refers to as a ‘toolbox for land development incentives’ (City of Johannesburg, 2008). These two elements in combination were believed to best enable the city to direct development away from ‘low priority’ areas towards ‘high priority’ areas, as well as drive the shape and nature of development in the identified areas according to the principle of settlement restructuring in the GDS.

Infrastructure

In terms of infrastructure provision, the GMS highlighted two major infrastructure categories that Johannesburg believes will be vital in directing development, namely electricity and public transport. Power capacity has become a major issue in South African cities in recent years and Johannesburg has identified the need to manage both demand and supply. What the GMS essentially says about electricity infrastructure is that the ‘peri-urban’ or low priority areas beyond the UDB will not receive any upgrading or supply of electricity. However, within the UDB the marginalised areas in the city as well as the key nodes of the city will be focused upon.
However, public transport infrastructure is believed to be the major infrastructure investment that can fundamentally change the settlement patterns of the city. Johannesburg has therefore identified key nodes and spines within the city which will be serviced by public transport routes and stations. This is the main idea informing the GDS principle of settlement restructuring. Calling for future growth and development in the city to be directed around public transport suggest that the demand for public transport-linked living will increase. This challenged the existing development patterns. A set of incentives were introduced as critical elements of the GMS 2008.

**Growth management toolbox**

The city acknowledged in the GMS that infrastructure provision alone will not attract the scale of development necessary to enact widespread change. Thus, a set of development incentives were proposed which attempted to attract development into high priority areas (City of Johannesburg, 2008). They are:

- special development zones (SDZs)
- density bonuses
- fast tracking of land development applications
- waiver of application and building plan fees
- bulk contributions waiver
- special rating districts

The understanding was that these tools would begin to provide developers with financial incentives to attract them to high priority areas within the city. Financial incentive tools have been used quite successfully in attracting private sector investment into the inner city generally. However, this has not necessarily been because of the public transport infrastructure available, as the resurgence in inner city investment has been accompanied by large scale parking provision.

With regard to public transport, the idea of density bonus schemes became a prominent tool which was believed to influence private developer decision-making. A density bonus means that if the developers provide a portion of their development for social purposes, such as social housing or a public library, then the developer could increase the height or storeys of their development beyond the existing zoning regulations.

This growth management approach to attempting to steer growth and development in a more sustainable manner has been lauded for being innovative around planning in the developing world (Todes, 2012a; Todes, 2012b). The coupling and coordination of infrastructure development and urban planning policies is critical to more sustainable built environment outcomes. However, the extent to which envisioned outcomes have been achieved is limited and the GMS, although providing a strong information basis, has not been able to steer growth effectively across the city at the scale required for spatial transformation.
The development of the BRT

The public transport infrastructural component of the GMS was understood to provide impetus for the growth and development of a more sustainable Johannesburg. As the host of the FIFA World Cup Final in 2010, Johannesburg was in the spotlight and needed to deliver a world class event and showcase itself as a globally competitive city. Public transport upgrades were seen as an integral component of the World Cup legacy projects across the country. With a national Public Transport Plan (DoT, 2006) developed to drive investment in improvements to public transport infrastructure in 12 cities across the country. The strategy called for the development of new public transport services, with higher capacities than minibus taxis and dedicated right of way, to be integrated with existing services and provide an improved overall public transport network. Johannesburg had adopted the South American-based BRT model, which is sold as an affordable, yet competitive, alternative to rail-based rapid transit systems.

Towards the end of 2009 the city had completed Phase 1A of the project in time for the World Cup. Phase 1B was completed in 2013 and Phase 1C is in the planning stage. The system has underperformed against initial predictions of passenger numbers. Part of the difficulty experienced is due to the limited extent to which the system provides access to the city. With only two of the three phases of the first route of the project complete, people who live close enough to access the system still have to use multiple modes of transport to access further parts of the city. The spatial patterns of the city have also remained largely unaltered, making it difficult to extract maximum value out of the investment. It is perhaps too early to assess whether or not BRT infrastructure has in fact begun to drive spatial transformation across the city. However, given the historical emphasis placed on steering alternative growth patterns and the limited outcomes associated with the focus one cannot assume that change will simply occur over time.

3.3 The Growth and Development Strategy 2040

In 2011 the city released its second GDS (City of Johannesburg, 2011). With a long-term horizon of 30 years to 2040, the strategy highlights the fact that, although the city has made attempts to enact spatial change and begun the roll out of the BRT network, the majority of residents remain burdened by unchanged spatial patterns. For the majority of people living in the city this translates into persistently poor levels of mobility and accessibility. The GDS 2040 reaffirms the strategic commitment of the city to transform the space economy. Restructuring the city along compact and inclusive lines, which support and enable the use of improved public transport systems remains a priority. The Corridors of Freedom vision is a more focused approach to begin to achieve these objectives, having experienced limited successful outcomes with a broader city-wide approach. The next section will examine the approach to developing the Corridors of Freedom.
Corridors of Freedom: The culmination of improved public transport outcomes and a reemphasised TOD focus

The corridors selected as the initial target areas were selected based on medium to long-term developmental thinking. They are mostly focused in the central city and broadly are the Louis Botha Corridor, Empire-Perth Corridor and the Turffontein Corridor. This paper will not discuss the nature of the corridors but will rather seek to engage with what has emerged around the strategic thinking for developing these corridors so far. It is envisioned that this will raise a series of questions around the Corridors of Freedom vision relative to the broader discussions which this paper has presented.

Unpacking the Corridors of Freedom vision

The Corridors of Freedom vision was introduced during the Mayor’s State of the City Address in 2013. The address outlines a number of ‘fundamental rights’ which the city will strive to provide. These include:

- **The right to developmental service delivery** – where the city maintains and improves existing infrastructure, while expanding new infrastructure. Where citizens have the right to hold us accountable and become active participants in the delivery of services.

- **The right to a spatially integrated and united city** – in which we rebuild and reconnect the divisions created by decades of apartheid spatial planning.

- **The right to a liveable city** – where all people have access to a good quality of life, clean air, food, safety and cultural expression.

- **The right to inclusive economic growth** – to ensure that citizens are active participants in creating their own economic opportunities and shaping their destiny.

- **The right to remake ourselves in this city** – based on our understanding that the citizens of Johannesburg engage not only on the basis of their needs but also on the basis of their capabilities.

The Corridors of Freedom vision has been conceptualised to provide for the ‘Right to a spatially integrated and united city’. A brochure explaining the strategy states that:

> We are re-stitching our City to create a different future for our residents where we can link jobs to people and people to jobs. We will be embarking on Transit-oriented Development. Because the developments are along transport corridors, the provision of transport like Rea Vaya will enable fast, safe and affordable mobility along the corridors. (City of Johannesburg, 2013a)

The Corridors of Freedom is the culmination of more focused growth and development, based explicitly on the concept of TOD. It has targeted specific corridor locations along the BRT routes in the city. It is envisioned that these strategic sites will provide the initial steps towards realising the city’s broader Growth Management Strategy. The logic is promising, and the
targeted area-approach is a useful way to focus energy on the integrated implementation approaches required to achieve a different way of city building. However, the reliance on TOD to achieve wide spatial transformation is quite alarming, given the limitations of the concept and difficulties experienced internationally, as outlined in the literature. Compounding this is the fact that TOD was originally conceptualised as a tool to combat the negative effects of the private vehicle being the main mode of transport. South African cities face vastly different challenges to cities in the developed world with their car-oriented cities. While part of the challenge facing South Africa is to combat the primacy of the private vehicle (City of Johannesburg, 2013b), conceptually an urban growth strategy will need to understand the contextual realities and how TOD can address South Africa’s spatial challenges.

4 Adapting the TOD concept to the South African context

There is limited substantive documentation developed outlining the Corridors of Freedom strategy. Area development frameworks have been developed by consulting firms and uploaded to the city’s website. However, at the time of writing only one of the area frameworks was accessible on the website. This is the Strategic Area Framework for the Perth-Empire corridor. It provides a fairly narrow engagement, as described by Dittmar and Ohland (2004), with what TOD means in the Johannesburg context. The framework states,

This Strategic Area Framework (SAF) is a direct attempt from the City of Johannesburg to not only address the fragmented spatial form of the City, but also to ensure that the economic benefits of the future envisaged city and shared inclusively by all residents. While numerous attempts have been made to redress the physical legacy of apartheid planning in the city, the urban landscape is still dominated by sprawling low-density settlements. The harsh reality is that the majority of working class and poor citizens are physically far removed from employment and other economic opportunities situated in or around the urban core. This often results in the poorest of the poor having to commute long distances, often at high cost, in order to reach places of employment.

In order to change this, and the lives of all citizens, the City of Johannesburg introduced its new spatial vision based on TOD, where urban spaces with a vibrant mix of high density developments, accommodation options, office, retail and recreational spaces will be connected by well-planned public transport arterials. The optimal mix of economic, education, transport and recreational opportunities will ultimately give rise to a people-centred City of Johannesburg, where the needs of all citizens are placed at the core of all planning processes. (City of Johannesburg, 2013a: 6)

In this regard it is evident that the Corridors of Freedom vision resonates strongly with the principles of compaction and inclusion underpinning the urban strategies of the city as well as
the NDP. This statement provides a clear and explicit understanding that TOD is the tool that can address the adverse spatial context in Johannesburg. The underlying features of the Corridors of Freedom resonate well with the spatial factors many TOD definitions contain, as well as the introduction of the mixed income factor. The area framework highlights the ‘key features of the Corridors of Freedom’. These include:

- Safe neighbourhoods designed for cycling and walking with sufficient facilities and attractive street conditions
- Safe complete streets with features to calm traffic, control vehicle traffic speeds and discourage the use of private transport
- Mixed-use developments where residential areas, office parks, shops, schools and other public services are close together, stimulating economic activity and creating opportunities for emerging entrepreneurs
- Rich and poor, black and white living side by side – housing options providing a range of types and prices including rental accommodation
- Convenient transit stops and stations

Following these factors, a critical statement is made which provides the justification for an explicit and communicated emphasis on the specific changes which the city intends to make to ensure effective TOD outcomes occur.

> There will be a clean break with apartheid spatial distribution and people living on the periphery will be able to move closer to economic opportunities. (City of Johannesburg, 2013a: 6)

This paper has highlighted that the ‘enabling factors’ of development need to be addressed in order to generate effective outcomes. While there is evidence that the city has a sound understanding of these spatial and strategy factors, there seems to be a lot of uncertainty surrounding the enabling factors which have either driven or crippled similar developmental approaches in other contexts.

**Communicating the vision and strategy critical to creating buy in?**

The initial illustrations which accompanied the launch of the vision provided an image of a people-oriented, culturally diverse, public transport and non-motorised transport prominent city (Figure 1). Later renderings in the area framework depict a slightly different image.
A growth modelling process applying different densities made up of various building typologies is then applied to the strategic land parcels to provide a rendered vision of what the corridor might begin to look like (Figure 2). In this image there are no pedestrians, or cyclists, and no people occupying civic spaces. Instead, vehicles are on the roads, which sends the opposite message.
It can be argued that, in order to drive demand for a changed lifestyle, positive imagery is needed to stimulate people’s imaginations. Johannesburg is a city whose policy and strategy documents have embraced the notion of informality. Therefore, the formal images, with high-rise buildings and cars and no people, are not illustrative of its future growth. They should rather imprint what a city ‘ought to look like’ on people’s minds. This arguably goes back to the notion of understanding contextual realities. The explicit underlying feature that rich and poor will live together in the Corridors of Freedom surely lends itself to an understanding that informality will play a role in the development of the corridor.

Developing imagery of the future is admittedly important in terms of providing a vision for the development of the area and building consensus amongst stakeholders. However, consistency across the images being portrayed, which inspire people to begin altering the way they aspire to live in the city, is critical. Conflicting messages targeted at different stakeholder groups with different interests will lead to complexities further on in the process. The role of dynamic imagery which imprints itself in the hearts and minds of people and drives different aspirations is an important contributor towards generating a common vision of the future.

It is evident that over the past decade the City of Johannesburg has shown an appreciation of the interconnectedness of transport and land use. There is further evidence that the city has a growth and development vision centred around compaction and inclusion for the greatest part of the last decade which resonates strongly with the vision presented by the NDP 2030. The GMS and the Corridors of Freedom vision represent focused attempts to direct growth towards strategically identified public transport corridors in the city. The GDS 2040 highlights, however, that the city has struggled to enact spatial transformation across the urban space and that the majority of its residents remain plagued by poor mobility and accessibility levels.

Over the past decade, the prominence and importance of TOD as a means to restructure the city seems to have grown. While there is growing support for the idea that the TOD concept has much potential as a tool for restructuring our cities, the role which TOD can effectively play in the transformation agenda remains unexplored. What this paper perhaps highlights is that TOD is limited as a tool for widespread and rapid spatial restructuring. However, TOD can be a strategic tool that provides the necessary impetus to reconfigure the enabling elements of city institutional architecture, financing and planning incentives and regulations.

Much can be learnt from Johannesburg’s approach to driving a spatial transformation agenda across the city. It seems that it has committed itself to TOD and in so doing is strengthening the desire to improve levels of mobility and accessibility for city residents. However, throughout this process there has been insufficient engagement with the enabling factors that govern built environment outcomes. This is perhaps an area in which the city requires more robust
engagement. This paper has emphasised the strategic importance of integrated and co-ordinated land use-transport planning. As an example, Wilkinson (2006) has argued that the separation of land use and transport planning, both in terms of the unpinning philosophies and the way in which departments work, does not promote effective integration. These issues will require strategic attention and are possibly the areas which stand to gain the most, in the long term, from the Corridors of Freedom strategic focus.

5 Conclusion

The paper set out to highlight the link between urban spatial patterns and mobility and accessibility. South Africa presents a relatively unique case in that urban sprawl has both been a factor of apartheid spatial planning as well as the rapid uptake and promotion of the private vehicle. The challenge in South Africa is exacerbated as there are peripherally located, public transport dependent communities which suffer from extremely poor mobility and access. Reconfiguring the urban form is understood as a critical component to improving access and mobility in cities. South Africa has the dual challenge of compacting development in well located areas while simultaneously absorbing marginalised communities into densifying developments. This is a central component of developmental visions in South Africa, and is really at the heart of the spatial transformation concept.

TOD has become a globally popular concept which is believed to drive more sustainable city processes, promoting sustainable travel and reducing the reliance on the private vehicle for access and mobility. A call for a deepened definition of TOD has been made. A definition in which the importance of what are termed ‘strategy’ and ‘enabling’ factors are recognised as central components to TOD.

In South Africa the TOD concept has been adopted and understood to be a strategic tool to provide widespread spatial transformation. A review of the existing global TOD experience suggests that this might be unrealistic. This paper has argued that TOD does, however, present a promising avenue to begin altering spatial patterns in South African cities. Drawing on the Johannesburg experience to date, which is the most advanced in terms of adapting TOD to a South African context, the paper argues that there is a clear indication that a far more substantial engagement is needed with the enabling factors which ultimately govern development. The success of TOD ultimately rests on the ability of people to alter the manner in which they aspire to live in cities. A TOD strategy, which is successful in preventing vehicle usage but does not actively accommodate marginalised people, will not effectively address the spatial challenges crippling the development of South African cities. However, the pull factors for people to use their cars less and live in mixed income, mixed use areas while making use of public transport seems to be critical.
6 Questions for consideration

• Do current urban policies and strategies adequately address the somewhat dual nature of sprawling environments in South Africa?
• Visioning statements reflect the spatial challenges faced in South African cities relatively strongly. What is your understanding of the most essential elements of spatial transformation in a South African context?
• Do you think TOD is a relevant tool to address the spatial distortions associated with apartheid planning as well as the car-oriented sprawl in South African cities?
• What are the biggest challenges which Johannesburg will face in attempting to achieve the Corridors of Freedom vision?
• What are some of the enabling factors which need to be considered in the pursuit of TOD outcomes?
• What are the most critical elements which the city should extract from the Corridors of Freedom process?
• Is there enough emphasis being placed on the reconfiguration of institutional, financial and planning mechanisms to drive TOD?
• How can imagery better capture the realities of the future for South African cities in a way that contributes to altering aspirations?

7 References


Bertolini L. 2009. The planning of mobility. Inaugural speech, University of Amsterdam.


# Contents

1. INTRODUCTION ............................................................ 133

2. BACKGROUND ............................................................ 133

3. FINDING A SOLUTION ..................................................... 134

4. APPROACH ................................................................. 135

5. METHODOLOGY ........................................................... 135
   5.1 Spatially quantify the national programmes and priority projects .... 135
   5.2 Spatially quantify socioeconomic variables .............................. 137
   5.3 Determining investment potential ......................................... 137
   5.4 Determine indicators to focus investment ............................... 138
   5.5 Methodology summary ................................................ 138

6. RESULTS AND DISCUSSION ............................................. 138
   6.1 Government programmes and projects ................................. 138
   6.2 Current investment ................................................... 140
   6.3 Selected socioeconomic variables ...................................... 140
An Approach to Spatial Targeting in Human Settlement Development

Johan Minnie and Hadley Remas – Housing Development Agency

6.3.1 Population growth .................................................. 140
6.3.2 In-migration ............................................................ 142
6.3.3 Growth in employment ............................................. 143
6.3.4 Housing need .......................................................... 144
6.3.5 Gross value added (GVA) .......................................... 146
6.4 An investment focus .................................................... 149
6.4.1 Investment potential ................................................ 149
6.4.2 Investment correlation ............................................. 152
6.4.3 Targeted investment ................................................ 153

7. CONCLUSION ................................................................ 155

8. ACKNOWLEDGEMENTS .............................................. 155

9. REFERENCES .................................................................. 156

ANNEXURE A: MUNICIPALITIES RANKED IN TERMS OF INVESTMENT POTENTIAL ......................... 157
List of Figures

Figure 1: Number of national programmes per local municipality ........................................ 139

Figure 2: Alignment of national programmes in relation to housing projects ......................... 140

Figure 3: Population growth per annum .............................................................................. 141

Figure 4: In-migration per local municipality ....................................................................... 142

Figure 5: In-migration from provinces/countries .................................................................. 143

Figure 6: Growth in employment per local municipality ....................................................... 144

Figure 7: Housing need per local municipality .................................................................... 145

Figure 8: Housing need per province ................................................................................... 146

Figure 9: 2011 total gross value added (GVA) per local municipality .................................... 147

Figure 10: Growth in GVA over the last 15 years (until 2011) reflected statistically ............... 148

Figure 11: Growth in GVA over the last 15 years (until 2011) reflected spatially .................... 148

Figure 12: Investment potential of local municipalities (colour-coded according to rank) ........ 150

Figure 13: Correlation coefficient between different variables ............................................. 153

Figure 14: Housing need as per small area ........................................................................... 153

Figure 15: Housing typology in Orlando East (Soweto) ....................................................... 154
President Jacob Zuma, State of the Nation Address 2009

As part of social infrastructure development we will provide suitably located and affordable housing and decent human settlements. We will proceed from the understanding that human settlement is not just about building houses. It is about transforming our cities and towns and building cohesive, sustainable and caring communities with closer access to work and social amenities, including sports and recreation facilities.

The NDP (NPC, 2011: 259) supports the fact that settlement planning and spatial transformation is a long-term project; shifts in spatial form might happen slowly in areas where development pressures are less than in areas with more dynamic economies that are densely populated through in-migration.

1 Introduction

In 2013/14, the allocated housing conditional grant increased to R16.9-billion (Sexwale, 2013), but housing delivery had dropped by 30% between 2009/10 and 2012/13. Some of the reasons for this decrease include capacity challenges, skills lost and project readiness. Given this situation, it is imperative to work towards strategic, spatial and physical targeting in the human settlement development delivery value chain. It becomes important to consider where the available funds will make the biggest impact (an ad-hoc approach to delivery is not a supportive or effective tactic).

It has become even more important to know where in South Africa the available funds should be directed to invest in human settlements, and to identify a specific solution according to the character, environment, investment potential and circumstances of that area. This has far-reaching implications for the identification of land for housing and human settlement development. It also reflects on the capability and capacity of the implementing institutions to ensure access to a fully functional human settlement with supported amenities, associated job opportunities – a place where communities can thrive and become self-sustainable.

2 Background

A study done by the Fiscal Affairs Department of the International Monetary Fund, in consultation with the Inter-American Development Bank and the World Bank, (IMF, 2005) suggested and recommended that projects should be prioritised for public investment based on a technical assessment of their economic and social rates of return.

The Organisation for Economic Cooperation and Development (OECD) is developing a set of principles on effective public investment to be adopted by the OECD Council early in 2014. The
purpose of these principles is to assist governments to set priorities to *improve multi-level governance of public investment*.

During the Built Environment Seminar at the Durban Botanical Gardens Hall, June 2013, the national Department of Human Settlements (DHS) noted that one of the strategic gaps identified in facilitating multi-disciplinary engagements is *effective cooperation* between service delivery partners dedicated to achieving targets and timelines and creating *collaborative partnerships* in a fluid economic environment.

For this reason, public investment should be seen as not only a strategic responsibility of government but also a *shared one*. It is therefore necessary to improve the efficiency and effectiveness of investment, while ensuring a concentrated impact on *growth outcomes* such as housing need, migration, population growth and employment growth.

The NDP’s main argument is to consider South Africa’s long-term future (2030) in an integrated manner, where investment and growth in infrastructure development help eliminate poverty and reduce inequality. The NDP requires government to invest in basic public infrastructure, job creation where people live, densification of cities, upgrading of informal settlements and adjusting the housing market, to name a few critical actions.

The NDP will have a direct impact on where people will choose to settle to live and work. Reasoned and selected core socioeconomic variables, as described in the United Nations’ Habitat Agenda, ‘used for this analysis include, not excluding others in the future, population growth, employment growth, gross value added (total and growth), housing need, and migration’ (United Nations, 1995).

With these influences in mind, it is important to consider accelerated decision-making of existing investment towards a sustainable future in the *right location providing the optimal solution for an integrated society and spatial form*.

### 3 Finding a solution

The NDP highlights areas that spatial planning needs to address, including inequalities in land markets, the need to create equitable urban forms in well-located areas (in relation to inner cities, transport hubs, corridors and economic nodes), diversification of household types with different tenure arrangements and compact mixed-use developments. Practically, these suggestions require a collaborative response from all spheres of government, supporting departments and their operational sections to:
• spatially target the correct location for development and/or assess whether a community is optimally placed to access the associated benefits
• find the optimal solution for a specific community in a collaborative fashion
• deliver coordinated services in all spheres of government, at all levels and within affected departments.

It is important to note that the paper does not intend to provide solutions to local urban spatial transformation, but attempts to identify or target the most suitable locations for investment at a regional and municipal level.

4 Approach

Geographic information systems (GIS) were used to integrate different datasets to present possible solutions to complex questions and spatial contestations. A spatial evidence-based analysis approach was used to prioritise a number of physical locations for possible future coordinated government investment in South Africa.

5 Methodology

Potential government investment in human settlement development can be based on future national and provincial investment plans for investment, existing investment plans and the capability of municipalities to identify communities and target development spatially that is linked to where the socioeconomic demand is needed.

5.1 Spatially quantify the national programmes and priority projects

A first step in developing an understanding of where to invest was to interpret and represent spatially the NDP’s long-term investment plans and programmes or projects on a map. In some cases it was clear which municipalities were affected by the plan, but in many cases an interpretation had to be made. For instance, government has identified Strategic Integrated Projects (SIPs) as areas of investment. Within SIPs, various road and railway corridors were identified as areas of focus. Road-based corridors were identified by the road name and, using the GIS buffering methodology, a 20km radius around the centre line of the road. This method identifies all municipalities within 20km of a road as possible beneficiaries of an investment programme or project. Conversely, railway corridors were identified between a starting point (usually a mine) and end point (usually a port). Because railways are not as easily accessible as
roads, a 10km buffer was chosen, assuming that if the railway passes within 10km of a town, access to the infrastructure might have an impact on the area.

The next stage in this step was to consider how many times an identified government programme or project would affect a municipality. Different types of government programmes, priority projects and housing interventions are considered in the analysis.

National programmes

• **Rapidly Growing Areas (RGA)**
  These are areas that are growing rapidly as identified on a political level. It is not clear what criteria (population or employment) were used to define them.

• **National Upgrading Support Programme (NUSP)**
  This is a national DHS programme to implement the upgrading of informal settlements. The aim of the programme is to upgrade all the informal settlements in the country.

• **Mining Towns (MT)**
  This is a Special Presidential Package (SPP) which was established to focus on the revitalisation of distressed mining communities and the associated labour-sending areas.

• **Strategic Integrated Projects (SIP)**
  These are areas that were strategically identified for the development of economic and social infrastructure, which includes mining areas, logistical corridors, municipalities, water projects, educational infrastructure, communication technology, etc.

• **Comprehensive Rural Development Programme (CRDP)**
  The CRDP is a Cabinet-approved national programme that aims to achieve social cohesion and development of rural areas through improved access to basic services, enterprise development and village industrialisation.

Incentive initiatives

• **Special Economic Zones (SEZ)**
  Internationally, a SEZ is defined as a geographical region that is designed to export goods and provide employment. In South Africa, a further aim of a SEZ is to accelerate economic growth in that region.

• **Urban Development Zones (UDZ)**
  These are demarcated areas chosen to revitalise, regenerate or rejuvenate the inner cities of metropolitan and larger local municipalities. These areas receive tax breaks and incentives.
• **Industrial Development Zones (IDZ)**
  These are purpose-built industrial estates that are linked to an international airport or seaport. They are tailored for the manufacture and storage of goods to boost beneficiation, investment, economic growth and the development of skills and employment in these regions.

**Housing programmes**

• **Social Housing Programme (SHP)**
  These are rental housing projects providing affordable accommodation for lower-income households (persons and households earning R1500–R7500 per month). These projects are usually in cities that promote restructuring and are facilitated and managed by accredited social housing institutions.

**Future considerations**

Future revisions of this work will consider how to integrate other government and private sector information into the analysis.

5.2 **Spatially quantify socioeconomic variables**

The NDP suggests that bolder measures should be adopted for sustainable human settlement development and that a more coherent and inclusive approach to land initiatives is required (NPC, 2011:254). A significant focus in this discussion is about accommodating diverse households, ensuring economic development and job creation, as well as identifying well-located land for human settlement development, densification and mixed land use. Based on this discussion in the NDP, it is important to consider, not excluding others, socioeconomic variables such as:

• Population growth
• Employment growth
• Gross value added (GVA) – total and growth
• Housing need
• Migration

These variables were thematically mapped at a municipal level, which led to the understanding of spatial distribution of the socioeconomic conditions in all municipalities.

5.3 **Determining investment potential**

Municipalities with the most national programmes, projects and initiatives were ranked the highest, because these are areas where government investment is planned for the future. The socioeconomic variables were ranked in a similar manner, with municipalities being ranked from high to low value according to the highest total housing need, the total GVA (see 3.5 for more), as well as the fastest growth in population, employment, GVA and in-migration.
The *investment potential* was determined by calculating an average for each of the ranked municipalities. The municipality with the highest average rank is considered to have the highest investment potential and could reflect the area of highest prospective growth (i.e., population, household formation and potential economic growth). This method helps determine ‘where’ investment should or could take place.

### 5.4 Determine indicators to focus investment

The last step was to determine where investment is needed or demanded. The intention was to isolate a variable that could indicate area stress, which could guide future collaborative investment. This was done by determining the strongest association of alignment between all variables used. A linear regression analysis was used to determine the association of the different variables to each other.

By using the isolated indicator (variable) and thematically mapping the more detailed data and information (at sub-place and/or small area level), it is now possible to identify the most stressed communities. This could guide where government should consider investing to obtain the highest economic and social rates of return.

### 5.5 Methodology summary

This methodology is a practitioner’s perspective to find, in an applied way, the building blocks to identify the one question in all strategies: *where to prioritise investment*.

### 6 Results and discussion

*Collaborative investment* in a specific location can be achieved through *synergised development*. Synergised development is intended to ensure sustainable development. Sidiropoulos (2011) noted that sustainability is a journey to balance – where the economic, social and environmental needs of the present and future meet, creating a bigger impact with available resources. The impact to be considered here is the ‘social profit’, which is measured by how people’s lives have changed for the better, according to Tamzin Ractliffe, founder of Greater Good South Africa (Powerful Information, online). It is, therefore, important to ensure that collaborative investment generates a ‘social profit’ return, to ensure that communities have access to improved living conditions and opportunities.

#### 6.1 Government programmes and projects

It is argued that the foundation of collaborative investment is based on the different national/provincial programmes and projects. Considering the approach discussed in Section 5, it is therefore important first to understand the alignment of the different programmes and priority projects.
Figure 1 spatially illustrates the number of government programmes per municipality and/or projects in South Africa. The map shows that municipalities in some provinces have many more programmes and priority projects than others.

**Figure 1: Number of national programmes per local municipality**

The colour bar shows the number of national programmes and projects per local municipality: the red bar represents six or more programmes/projects, the green bar represents four or five programmes/projects, the yellow bar represents two or three programmes/projects, while the grey bar represents one programme and/or project.

Forty-nine municipalities have three or more programmes and/or projects. Figure 1 shows clearly that most of the programmes and priority projects are in the metropolitan areas. For instance, eThekwini contains eight different programmes and priority projects, but Tlokwe City Council has only three different programmes and priority projects. The Greater Tubatse Local Municipality is the only non-metro with more than six programmes. Municipalities in the Western Cape, Northern Cape, Free State and North West have a weaker alignment with national programmes and projects when compared to municipalities in Gauteng, Limpopo, KwaZulu-Natal, Eastern Cape and Mpumalanga.
6.2 Current investment

Housing/human settlement projects reflect the national DHS's housing subsidy scheme. The majority of housing projects were constructed or planned in the five biggest metros: City of Cape Town, City of Tshwane, Ekurhuleni, eThekwini and City of Johannesburg. Other metros such as Mangaung and Nelson Mandela Bay, and ‘bigger’ local municipalities such as Mbombela and Polokwane, also have a significant number of existing/planned housing projects. When the number of housing projects is related to the number of national programmes and projects, the relationship between metros and programmes and projects is generally stronger in metros than in smaller municipalities, as illustrated in Figure 2.

Figure 2: Alignment of national programmes in relation to housing projects per local municipality

6.3 Selected socioeconomic variables

This section studies the selected socioeconomic variables that are seen as factors that influence investment – population growth, migration, growth in number of people employed, housing need, GVA.

6.3.1 Population growth

One of the key forces driving demand is population expansion, particularly in the developing world. According to Sliver Street Capital (2014), the United Nations Population Division noted that 95% of population growth will occur in the developing world.
Population growth will result in increased demand for services and consumer goods, is a critical variable to consider and will have a significant impact on the economy and demand in the future (Financial Thoughts, 2013). Countries will emerge or collapse under the weight of their population profile. Population growth as a socioeconomic investment driving force could help create opportunities or lead to the collapse of a country. Populations grow as a result of a higher birth rate or migration.

Figure 3 illustrates the annual percentage population growth in South Africa between 2001 and 2011 per municipality.

Gamagara, Musina, Bitou, Steve Tshwete and Swartland are the five municipalities with the highest percentage population growth, of more than 4.6%. City of Johannesburg (16th) and City of Tshwane (18th) are the only metros in the top 20 municipalities with the highest population growth, whereas City of Cape Town (32nd) and Ekurhuleni (35th) are the only other metros in the top 40. A number of municipalities with mining towns are in the top 20. Steve Tshwete is 4th, Emalahleni (Mpumalanga) is 8th, Rustenburg is 9th and Lephalale is 19th – all of which experienced a high population growth over the 10 years prior to 2011. Population growth in these locations can largely be attributed to high levels of migration (Figure 4), rather than high levels of natural growth. Similarly, municipalities along industrial corridors, most notably Saldanha Bay and Gamagara (where the mining town of Sishen is located), experienced population growth of more
than 3%. Musina, the municipality with the 2nd fastest population growth rate, is the main entry point into South Africa from Zimbabwe, which indicates growth through in-migration.

**Figure 4:** In-migration per local municipality (people not from current province)

It should be noted that 62 of the 234 municipalities in the country have a declining population growth rate. Municipalities in the Free State experienced significantly low population growth – only five of the 20 municipalities in the Free State experienced a positive growth rate between 2001 and 2011.

### 6.3.2 In-migration

As discussed in the previous section, mining towns, industrial corridors and main entry points from South Africa’s northern borders experience high population growth due to migration. For the purposes of this report, in-migration is defined as the percentage of people per local municipality who were not born in their current province of residence. This rate also includes people who were not born in South Africa. Figure 4 illustrates the in-migration rate per local municipality in South Africa.

Thabazimbi, Musina, Westonaria, Madibeng and Bitou all have an in-migration rate of more than 15% (in navy blue). While Thabazimbi, Madibeng and Westonaria are all historical mining towns, only Thabazimbi is on the prioritised list of mining towns. Musina – on the border with Zimbabwe – and Bitou – home to the coastal town of Plettenberg Bay and also on the Western Cape’s coastal border with the Eastern Cape – have no dominant mining activity. Bitou only overlaps with one of the national programmes and projects as it was listed as a rapidly growing area.
Nine of the 14 prioritised mining towns are in the top 50 municipalities with the highest rates of in-migration. Only one metro, City of Tshwane (9th), is in the top 10, whereas City of Johannesburg is number 11 on the list. The other metros in the top 40 are Ekurhuleni (21st) and City of Cape Town (37th). Another notable statistic is that municipalities bordering other provinces and/or countries have high levels of in-migration.

Figure 5 shows that Gauteng is the province that attracts the highest number of people from other provinces and/or countries. The province’s strong economy and the resulting employment opportunities clearly illustrate why this province attracts almost twice as many people from other provinces than its nearest rival, the Western Cape. KwaZulu-Natal and the Eastern Cape have the lowest levels of in-migration.

6.3.3 Growth in employment
The strong association between population growth and in-migration shows that areas with favourable locations and strong economies attract more people. For the purposes of this paper ‘growth in employment’ is defined as the annual growth in the number of people employed per local municipality between 2001 and 2011. Growth in employment does not consider employment opportunities, employment rate, nor does it distinguish between the formal and informal employment sectors.

Six smaller municipalities, Matatiele, Gamagara, Greater Tubatse, Langeberg and Mtubatuba, reflect the highest growth in employed people between 2001 and 2011, as shown in Figure 6. Gamagara, considered one of the municipalities with the highest growth in employment, is also the municipality with the fastest population growth. There seems to be significant growth in employment in Matatiele, and the City of Johannesburg is the only metro listed in the top 40 municipalities for growth in employment from 2001 to 2011. Greater Tubatse with its favourable alignment with national programmes and projects may already benefit from growing employment opportunities and could therefore be considered an important municipality to attract future investment.
6.3.4 Housing need

Of all the variables considered, housing need has conventionally been the variable with the strongest association to the planned programmes. Housing need and total GVA reflected a strong relationship with the metropolitan areas.

For the purposes of this analysis, housing need is defined as the actual number of households that require a ‘place to live’ in an area. The housing-need formula (as supported by the national DHS) is based on improving the living conditions of households living in informal dwellings, such as informal structures (shacks), informal backyard structures, traditional dwellings, caravans, tents and others. These dwellings were defined in the Statistics South Africa Census 2011 framework (StatsSA, 2012).

The formula to determine housing need is as follows:

\[
\text{Housing need} = \text{Total informal structures in informal settlements} + \text{Total informal backyard structures} + 30\% \text{ of traditional structures} + \text{Other}
\]
Applying the formula, as considered in this report, gives the housing need in South Africa as approximately 2.432 million households (using Census 2011).

Figure 7 spatially illustrates the housing need per local municipality. The areas with the highest need for housing are the metros that appear as the dark brown areas on the map. The municipalities with the highest need for housing are the City of Johannesburg, City of Cape Town, Ekurhuleni, City of Tshwane and eThekwini. They represent 44% of the total housing need in South Africa. The Municipality of Madibeng and the Rustenburg Local Municipality, which are both in the Bojanala District Municipality, have a higher housing need than the remaining metros (Mangaung, Nelson Mandela Bay and Buffalo City). Rustenburg and Madibeng have a higher housing need than the three smaller metros.

Figure 8 shows that the housing need by province is highest in Gauteng, followed by KwaZulu-Natal, the Western Cape and North West. It is important to note that this does not mean that provinces with a lower housing need have less pressure or demand for housing. The Northern Cape reflects the lowest housing need in Figure 8, but the housing demand has increased exponentially over the last decade because of the Sishen-Saldanha iron ore project. This
development has recently been extended to Postmasburg and is affecting areas and communities in Olifantshoek and Kuruman. The analysis of housing need at national/provincial/municipal level alone does not necessarily reveal the area as significant. This is realised when this information is aligned with more, and supporting, variables.

Figure 8: Housing need per province

6.3.5 Gross value added (GVA)
GVA is an economic measure of the value of goods and services produced in an area (Wikimedia, 2013). It can be used as a measure of the strength of an area’s economy. This section is looked at total GVA per local municipality and at GVA growth between 1995 and 2011.

The total GVA of South Africa in 2011 was R1.7-billion, of which the top five metros contributed 52%. This clearly shows the importance of the contribution of the main metros to the economy of the country and the relationship to housing need and number of housing units delivered.

Figure 9 shows that the smaller metros (Nelson Mandela Bay, Mangaung and Buffalo City) have the next highest GVA, followed by ‘large’ municipalities such as Rustenburg, Msunduzi, Emalahleni, Emfuleni, Mbombela, Polokwane, Mogale City, Govan Mbeki, Madibeng and uMhlathuze (Richards Bay).
The growth in GVA from 1995 to 2011 was used to identify areas with high potential because of their growing economies. Figure 10 is a statistical representation of the year-on-year growth of South Africa, five metros with the highest growth (‘top five metros’), three smaller metros and 13 mining towns. Since declining majorly in 1997/1998, South Africa’s growth in GVA grew steadily until 2007/2008. With the global recession in 2008/2009, the country’s GVA dropped by around 5% year-on-year in 2007/2008, and showed a negative growth rate in 2008/2009. Since then, the economy has recovered, and in 2010/2011 the year-on-year growth in GVA was approximately 3%. The GVA in metros dropped from more than 11% in 1995/1996, to 3% in 1996/1997, recovered in 1998/1999, and dropped significantly again in 2000/2001, after which it recovered gradually up to 2007/2008. The metros did not recover as fast as the rest of the country from the 2008/2009 global recession. However, the GVA in the mining towns grew faster than the GVA at national level and top five metros. Compared to the rest of the country, smaller metros experienced a different trend. Between 2000/01 and 2007/08, the country experience constant economic growth, whereas the three smaller metros showed a constant decline in goods and services produced. Since 2001, their GVA growth has hovered between 2% and -2%, reaching its lowest point in in 2008/09 when it declined by 6%. Since then, economic growth has improved steadily, and in 2010–2011 the smaller metros were on a similar year-on-year growth pattern as the top five metros.
Figure 11 spatially illustrates the annual growth in GVA for 15 years from 1995 to 2011. A significant number of municipalities around the country saw annual growth of more than 7.5%. Six smaller municipalities, Okhahlamba, Ingwe, Bitou, Ngquza Hill, Matatiele and Mookgophong, are the top-ranked municipalities, with GVA growth of above 15%. Bitou, ranked 3rd for GVA growth, is also the ranked 5th for in-migration, whereas Matatiele, which is ranked 5th for GVA growth, is the top ranked municipality for growth in employment. In terms of GVA growth, the municipalities ranked 1st and 2nd are from KwaZulu-Natal and 4th and 5th are from the Eastern Cape, provinces generally known for having the poorest communities in South Africa.
6.4 An investment focus

Based on the analysis, the information and results start to reflect the different stressed socioeconomic communities in South Africa. So, which of these variables best reflects where government needs to respond, or would integrating the results of the analysis provide a better answer to where government should invest?

6.4.1 Investment potential

The last step in determining where government investment might go is to rank municipalities using all the socioeconomic variables. The average ranking of each municipality was calculated to determine the investment potential. The municipality with the highest average rank can be considered to have the ‘highest investment potential’ and reflects the area of highest prospective growth (i.e. population and household). This method determines ‘where’ investment should take place and to what extent these locations are associated with the socioeconomic and demographic variables.

By ranking all of the socioeconomic variables (housing need, population growth, growth in employment, total GVA, growth in GVA, and the number of national programmes/projects per local municipality), the average rank can be used to determine which municipalities would benefit most from investment. Municipalities with the highest average rank would therefore be the ones indicating the highest investment potential. The investment potential was calculated as follows:

$$IP = \frac{1}{n} \sum_{i=0}^{n} a_i = \frac{1}{n} (a_1 + a_2 + a_3 + a_4 + a_5 + a_6 + a_7)$$

Where:

- $IP =$ investment potential
- $n =$ number of national programmes and priority projects
- $a_i =$ rank of socioeconomic variables and national programmes and priority initiatives per local municipality

The socioeconomic variables and national programmes/projects that were evaluated are denoted by ‘$n$’ in the formula, while the rank of the investment socioeconomic variables and national programmes and/or projects per local municipality are denoted by ‘$a_i$’. In other words the formula is the sum of each municipality’s rank in national programmes, housing need, growth in employment, population growth, in-migration, total GVA and growth in GVA, divided by the seven variables and programmes/initiatives.
Annexure A lists all 232 municipalities according to their investment potential. Figure 12 illustrates the investment potential of the top 50 local municipalities, colour-coded according to their rank. Gauteng appears to have a significant influence on the economy of municipalities bordering it; however, the eastern municipalities in North West (Rustenburg and Madibeng) are rich in platinum, while the western municipalities in Mpumalanga (Emalahleni, Steve Tshwete and Govan Mbeki) are rich in coal and have major power production infrastructure. The investment potential of the municipalities bordering the City of Cape Town is not as significant as that of Gauteng. However, the Garden Route municipalities in the Western Cape (George, Mossel Bay, Knysna and Bitou) indicate that this region is important in the province. The Northern Cape has a cluster of top-ranked municipalities around Gamagara, although their investment potential is not as prominent as top-ranking municipalities in other provinces.

Figure 12: Investment potential of local municipalities

According to the table in Annexure A, the City of Johannesburg is the overall highest-ranking municipality in terms of investment potential. It is ranked 1st in total GVA and housing need, 2nd in national programmes and priority initiatives and 11th, 16th, 40th and 69th in in-migration, population growth, growth in employment and GVA growth, respectively.
Averaging all these socioeconomic variables and programmes and priority projects, Johannesburg has an average rank value of 20, making it the highest ranked municipality overall. This means that it has the highest investment potential – the implication is that a collaborative investment in Gauteng would result in a greater socioeconomic impact than (for example) in Mangaung, which is ranked 22nd.

It is not surprising that Emalahleni has the second highest investment potential because it is ranked 7th, 8th, 11th, 14th, 18th and 21st in the socioeconomic variables. It outperforms all the other metros and larger municipalities, except Johannesburg. This mining town in Mpumalanga has immense investment potential. Its large coal reserves have been explored since the 1890s, and the number of power stations in the area explain why it is called the ‘Energy Mecca’ of South Africa. The roads and railways connecting Emalahleni to major ports – Richards Bay in KwaZulu-Natal and Maputo in Mozambique – offer important export opportunities for coal mining companies. Furthermore, Emalahleni’s close proximity to Gauteng could lead to further economic benefits for the municipality.

The other two Gauteng metros, Tshwane and Ekurhuleni, are ranked 3rd and 4th respectively, behind Johannesburg and Cape Town. They have the 3rd and 4th highest housing need and GVA production. The municipalities also benefit from national programmes such as SIPs in the region. Tshwane is home to South Africa’s administrative capital, Pretoria, while Ekurhuleni is home to the largest airport in Africa, OR Tambo International Airport. Business and industrial activities thrive in these municipalities, which further contributes to the financial wealth of Gauteng as a province.

The municipalities with the 5th and 6th highest investment potential are Greater Tubatse and Rustenburg. Greater Tubatse benefits from the high number of national programmes and/or projects in the region, as well as a fast growing employment sector. Rustenburg is located in the richest platinum belt in the world and provides a number of employment opportunities in the mining sector. With the exception of GVA growth and employment growth, Rustenburg is the only municipality that is in the top 10 municipalities in more than five categories and could, therefore, be regarded as an ideal investment location.

According to the factors considered in this report, Steve Tshwete has the 7th highest overall investment potential. Located in Mpumalanga and neighbouring Emalahleni, this municipality is also part of South Africa’s ‘Energy Mecca’, being home to important coal mines and power stations. The interaction between Steve Tshwete and Emalahleni via rail and road networks with major industrial ports, and close proximity of the municipality to Gauteng, contribute to the high investment potential of the region.
Although it has good investment potential, Cape Town does not benefit from as many national investment programmes or initiatives as the metros in Gauteng. Also its distance from the major municipalities in the north means that trade could be inhibited. However, Cape Town still attracts value for money investment, and its GVA is still the highest after Johannesburg.

Gamagara in the Northern Cape is the smallest municipality in the top 10. As noted in sections 6.3.1 and 6.3.3, this municipality has the fastest population growth and is 2nd in employment growth. The rich iron-ore reserves of this municipality drive its economy, which also benefits from rail connections with Saldanha Bay harbour in the Western Cape and the industrial harbours in the Eastern Cape.

Musina and Bitou are important areas of growth in two or more socioeconomic variables and national programmes and/or initiatives, and also appear in the top 20 municipalities with high investment potential. Mangaung's low ranking in GVA growth between 1995 and 2011 influenced its relatively low ranking of 21st, while low growth in employment opportunities, low GVA growth, low in-migration and low population growth, are the reasons for eThekwini being ranked 35th in terms of investment potential.

6.4.2 Investment correlation
What could determine investment potential? Can government programmes and priority projects drive and guide future investment, or could other factors play a bigger role?

The intention is to isolate a variable that could indicate an area-stress which in turn could guide future collaborative investment. A linear regression analysis was used to determine the association of the different variables with each other.

In Figure 13 housing need and 2011 total GVA show the strongest correlation between any of the socioeconomic variables and programmes and/or projects. The figure also illustrates very strong relationships with housing need and the planned number of housing units, as well as total GVA and number of planned units. This indicates that the national DHS is currently focusing its housing subsidy system in areas that are most in need, which are also the areas with the highest GVA.
It should be noted that, compared to other variables, the correlation of housing need and programmes/projects, total GVA and programmes/projects and planned number of housing units against programmes/projects, are relatively strong.

6.4.3 Targeted investment
As noted in previously, housing need has the strongest association in the regression analysis. Figure 14 focuses on Soweto (using small area data of Johannesburg) and shows Orlando East to be a highly stressed area. This demonstrates how it is possible to use more detailed data to target particular communities in a municipality where government investment could be focused.
Figure 15, using the satellite image of the inset (Orlando East), shows that the actual problem of this area is backyard structures rather than informal settlements, which contributes to the high housing need in the area.

The implication is that a specific solution is needed here. In some communities the unavailability of vacant land for development is a reality. Therefore the existing housing instruments might not provide the correct solution and perhaps in the future, a customised solution might be required for a specific community. Solutions could include the need to change the zoning of the residential area, identify land for mixed-use developments, densify areas, formalise backyard structures and/or upgrade of existing infrastructure.
7 Conclusion

Although the metros in Gauteng have the highest investment potential, a number of mining towns have outperformed other metros. The prominence of mining, as well as industrial, agricultural and tourism municipalities, seems to form a strong base for economic growth and future investment. Creating access to an investment opportunity would require a focused approach in collaborative investment, but the resolution in establishing collaboration is complex.

Through this analysis, limited resources clearly require that investment initiatives should consider the ‘social profit’ for optimal impact on investment, and focus on targeted, specific areas to address the community’s particular need through tailored or customised solutions.

Further analysis to be considered should focus on including more specific information about particular communities, for example, a vulnerability analysis. Together with information on municipal capacity analysis from our Municipal Profile studies, the intention is to identify the type of involvement required from the different spheres of government.

8 Acknowledgements

We would like to express our appreciation to Peter Ahmad, Kate Shand and Nellie Lester for their contributions, discussions, suggestions and comments.
9 References


## ANNEXURE A:
Municipalities ranked in terms of investment potential

<table>
<thead>
<tr>
<th>MUNICIPALITY NAME</th>
<th>Municipal category</th>
<th>Province</th>
<th>Number of National programmes</th>
<th>Housing need</th>
<th>Growth in employment</th>
<th>Growth in population</th>
<th>GVA 2011 Total</th>
<th>GVA Growth (1995-2011)</th>
<th>Average rank</th>
<th>Overall rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Johannesburg</td>
<td>A</td>
<td>GP</td>
<td>2</td>
<td>1</td>
<td>40</td>
<td>16</td>
<td>1</td>
<td>11</td>
<td>69</td>
<td>20.0</td>
</tr>
<tr>
<td>Emalahleni</td>
<td>B1</td>
<td>MP</td>
<td>7</td>
<td>14</td>
<td>21</td>
<td>8</td>
<td>11</td>
<td>18</td>
<td>111</td>
<td>27.1</td>
</tr>
<tr>
<td>City of Tshwane</td>
<td>A</td>
<td>GP</td>
<td>5</td>
<td>4</td>
<td>41</td>
<td>18</td>
<td>3</td>
<td>9</td>
<td>113</td>
<td>27.6</td>
</tr>
<tr>
<td>Ekurhuleni</td>
<td>A</td>
<td>GP</td>
<td>7</td>
<td>3</td>
<td>62</td>
<td>35</td>
<td>4</td>
<td>21</td>
<td>98</td>
<td>32.9</td>
</tr>
<tr>
<td>Greater Tubatse</td>
<td>B4</td>
<td>LIM</td>
<td>2</td>
<td>27</td>
<td>3</td>
<td>47</td>
<td>26</td>
<td>115</td>
<td>11</td>
<td>33.0</td>
</tr>
<tr>
<td>Rustenburg</td>
<td>B1</td>
<td>NW</td>
<td>7</td>
<td>7</td>
<td>59</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>135</td>
<td>33.1</td>
</tr>
<tr>
<td>Steve Tshwete</td>
<td>B1</td>
<td>MP</td>
<td>12</td>
<td>32</td>
<td>7</td>
<td>4</td>
<td>23</td>
<td>16</td>
<td>165</td>
<td>37.0</td>
</tr>
<tr>
<td>City of Cape Town</td>
<td>A</td>
<td>WC</td>
<td>12</td>
<td>2</td>
<td>91</td>
<td>32</td>
<td>2</td>
<td>37</td>
<td>100</td>
<td>39.4</td>
</tr>
<tr>
<td>Gamagara</td>
<td>B3</td>
<td>NC</td>
<td>22</td>
<td>141</td>
<td>2</td>
<td>1</td>
<td>77</td>
<td>15</td>
<td>37</td>
<td>42.1</td>
</tr>
<tr>
<td>Govan Mbeki</td>
<td>B1</td>
<td>MP</td>
<td>12</td>
<td>16</td>
<td>30</td>
<td>23</td>
<td>16</td>
<td>30</td>
<td>193</td>
<td>45.7</td>
</tr>
<tr>
<td>Mogale City</td>
<td>B1</td>
<td>GP</td>
<td>22</td>
<td>12</td>
<td>101</td>
<td>55</td>
<td>15</td>
<td>24</td>
<td>94</td>
<td>46.1</td>
</tr>
<tr>
<td>Kouga</td>
<td>B3</td>
<td>EC</td>
<td>50</td>
<td>64</td>
<td>55</td>
<td>14</td>
<td>79</td>
<td>47</td>
<td>19</td>
<td>46.9</td>
</tr>
<tr>
<td>Polokwane</td>
<td>B1</td>
<td>LIM</td>
<td>7</td>
<td>18</td>
<td>26</td>
<td>52</td>
<td>14</td>
<td>86</td>
<td>127</td>
<td>47.1</td>
</tr>
<tr>
<td>Mbombela</td>
<td>B1</td>
<td>MP</td>
<td>22</td>
<td>34</td>
<td>48</td>
<td>53</td>
<td>13</td>
<td>66</td>
<td>97</td>
<td>47.6</td>
</tr>
<tr>
<td>George</td>
<td>B1</td>
<td>WC</td>
<td>50</td>
<td>49</td>
<td>54</td>
<td>29</td>
<td>41</td>
<td>35</td>
<td>82</td>
<td>48.6</td>
</tr>
<tr>
<td>KwaDukuza</td>
<td>B2</td>
<td>KZN</td>
<td>22</td>
<td>29</td>
<td>46</td>
<td>15</td>
<td>46</td>
<td>58</td>
<td>139</td>
<td>50.7</td>
</tr>
<tr>
<td>Musina</td>
<td>B3</td>
<td>LIM</td>
<td>22</td>
<td>119</td>
<td>38</td>
<td>2</td>
<td>87</td>
<td>2</td>
<td>86</td>
<td>50.9</td>
</tr>
<tr>
<td>Tlokwe City Council</td>
<td>B1</td>
<td>NW</td>
<td>22</td>
<td>35</td>
<td>85</td>
<td>39</td>
<td>39</td>
<td>26</td>
<td>120</td>
<td>52.3</td>
</tr>
<tr>
<td>Ga-Segonyana</td>
<td>B3</td>
<td>NC</td>
<td>22</td>
<td>115</td>
<td>9</td>
<td>22</td>
<td>108</td>
<td>88</td>
<td>30</td>
<td>56.3</td>
</tr>
<tr>
<td>Bitou</td>
<td>B3</td>
<td>WC</td>
<td>122</td>
<td>98</td>
<td>35</td>
<td>3</td>
<td>130</td>
<td>5</td>
<td>3</td>
<td>56.6</td>
</tr>
<tr>
<td>Stellenbosch</td>
<td>B1</td>
<td>WC</td>
<td>122</td>
<td>31</td>
<td>115</td>
<td>26</td>
<td>21</td>
<td>39</td>
<td>56</td>
<td>58.6</td>
</tr>
<tr>
<td>Mangaung</td>
<td>A</td>
<td>FS</td>
<td>7</td>
<td>10</td>
<td>99</td>
<td>80</td>
<td>7</td>
<td>65</td>
<td>143</td>
<td>58.7</td>
</tr>
<tr>
<td>Matatiele</td>
<td>B3</td>
<td>EC</td>
<td>50</td>
<td>33</td>
<td>1</td>
<td>141</td>
<td>64</td>
<td>121</td>
<td>5</td>
<td>59.3</td>
</tr>
<tr>
<td>Saldanha Bay</td>
<td>B2</td>
<td>WC</td>
<td>50</td>
<td>82</td>
<td>92</td>
<td>10</td>
<td>65</td>
<td>28</td>
<td>90</td>
<td>59.6</td>
</tr>
<tr>
<td>Elias Motsoaledi</td>
<td>B4</td>
<td>LIM</td>
<td>22</td>
<td>104</td>
<td>34</td>
<td>93</td>
<td>53</td>
<td>80</td>
<td>34</td>
<td>60.0</td>
</tr>
<tr>
<td>Municipality</td>
<td>Province</td>
<td>Population</td>
<td>Housing Units</td>
<td>Inhabitants</td>
<td>Density (inhabitants/km²)</td>
<td>Rank</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>---------------</td>
<td>-------------</td>
<td>--------------------------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thembisile</td>
<td>B4 MP</td>
<td>22</td>
<td>44</td>
<td>15</td>
<td>60</td>
<td>54</td>
<td>72</td>
<td>155</td>
<td>60.3</td>
<td>26</td>
</tr>
<tr>
<td>Thaba Chweu</td>
<td>B3 MP</td>
<td>122</td>
<td>57</td>
<td>120</td>
<td>61</td>
<td>50</td>
<td>17</td>
<td>9</td>
<td>62.3</td>
<td>27</td>
</tr>
<tr>
<td>Mossel Bay</td>
<td>B2 WC</td>
<td>50</td>
<td>114</td>
<td>160</td>
<td>44</td>
<td>47</td>
<td>13</td>
<td>14</td>
<td>63.1</td>
<td>28</td>
</tr>
<tr>
<td>Hibiscus Coast</td>
<td>B2 KZN</td>
<td>50</td>
<td>61</td>
<td>71</td>
<td>74</td>
<td>34</td>
<td>50</td>
<td>110</td>
<td>64.3</td>
<td>29</td>
</tr>
<tr>
<td>Knysna</td>
<td>B2 WC</td>
<td>122</td>
<td>74</td>
<td>94</td>
<td>24</td>
<td>93</td>
<td>12</td>
<td>40</td>
<td>65.6</td>
<td>30</td>
</tr>
<tr>
<td>Overstrand</td>
<td>B2 WC</td>
<td>206</td>
<td>80</td>
<td>64</td>
<td>7</td>
<td>85</td>
<td>7</td>
<td>12</td>
<td>65.9</td>
<td>31</td>
</tr>
<tr>
<td>Midvaal</td>
<td>B2 GP</td>
<td>122</td>
<td>71</td>
<td>51</td>
<td>6</td>
<td>55</td>
<td>20</td>
<td>145</td>
<td>67.1</td>
<td>32</td>
</tr>
<tr>
<td>Lesedi</td>
<td>B3 GP</td>
<td>50</td>
<td>103</td>
<td>42</td>
<td>12</td>
<td>78</td>
<td>27</td>
<td>169</td>
<td>68.7</td>
<td>33</td>
</tr>
<tr>
<td>Sol Plaatje</td>
<td>B1 NC</td>
<td>12</td>
<td>28</td>
<td>97</td>
<td>56</td>
<td>27</td>
<td>82</td>
<td>186</td>
<td>69.7</td>
<td>34</td>
</tr>
<tr>
<td>Mbizana</td>
<td>B4 EC</td>
<td>22</td>
<td>43</td>
<td>10</td>
<td>84</td>
<td>109</td>
<td>207</td>
<td>24</td>
<td>71.3</td>
<td>35</td>
</tr>
<tr>
<td>Metsimaholo</td>
<td>B2 FS</td>
<td>22</td>
<td>60</td>
<td>81</td>
<td>34</td>
<td>37</td>
<td>32</td>
<td>233</td>
<td>71.3</td>
<td>35</td>
</tr>
<tr>
<td>Ethekwini</td>
<td>A KZN</td>
<td>1</td>
<td>5</td>
<td>136</td>
<td>102</td>
<td>5</td>
<td>123</td>
<td>128</td>
<td>71.4</td>
<td>37</td>
</tr>
<tr>
<td>Thabazimbi</td>
<td>B3 LIM</td>
<td>50</td>
<td>62</td>
<td>143</td>
<td>28</td>
<td>25</td>
<td>1</td>
<td>203</td>
<td>73.1</td>
<td>38</td>
</tr>
<tr>
<td>Lukanjii</td>
<td>B2 EC</td>
<td>122</td>
<td>129</td>
<td>18</td>
<td>17</td>
<td>60</td>
<td>4</td>
<td>163</td>
<td>73.3</td>
<td>39</td>
</tr>
<tr>
<td>Emfuleni</td>
<td>B1 GP</td>
<td>12</td>
<td>11</td>
<td>110</td>
<td>110</td>
<td>12</td>
<td>55</td>
<td>205</td>
<td>73.6</td>
<td>40</td>
</tr>
<tr>
<td>//Khara Hais</td>
<td>B2 NC</td>
<td>22</td>
<td>73</td>
<td>82</td>
<td>65</td>
<td>72</td>
<td>92</td>
<td>118</td>
<td>74.9</td>
<td>41</td>
</tr>
<tr>
<td>King Sabata Dalindyebo</td>
<td>B2 EC</td>
<td>12</td>
<td>23</td>
<td>44</td>
<td>119</td>
<td>30</td>
<td>193</td>
<td>116</td>
<td>76.7</td>
<td>42</td>
</tr>
<tr>
<td>Nyandeneni</td>
<td>B4 EC</td>
<td>22</td>
<td>25</td>
<td>12</td>
<td>133</td>
<td>91</td>
<td>216</td>
<td>45</td>
<td>77.7</td>
<td>43</td>
</tr>
<tr>
<td>Msukaligwa</td>
<td>B2 MP</td>
<td>50</td>
<td>59</td>
<td>58</td>
<td>67</td>
<td>59</td>
<td>73</td>
<td>181</td>
<td>78.1</td>
<td>44</td>
</tr>
<tr>
<td>Victor Khanye</td>
<td>B3 MP</td>
<td>122</td>
<td>113</td>
<td>28</td>
<td>20</td>
<td>112</td>
<td>25</td>
<td>129</td>
<td>78.4</td>
<td>45</td>
</tr>
<tr>
<td>Nkomazi</td>
<td>B4 MP</td>
<td>122</td>
<td>97</td>
<td>109</td>
<td>78</td>
<td>40</td>
<td>62</td>
<td>47</td>
<td>79.3</td>
<td>46</td>
</tr>
<tr>
<td>Tsantsabane</td>
<td>B3 NC</td>
<td>50</td>
<td>142</td>
<td>23</td>
<td>30</td>
<td>159</td>
<td>45</td>
<td>106</td>
<td>79.3</td>
<td>47</td>
</tr>
<tr>
<td>uMhlathuze</td>
<td>B1 KZN</td>
<td>12</td>
<td>78</td>
<td>133</td>
<td>82</td>
<td>18</td>
<td>160</td>
<td>74</td>
<td>79.6</td>
<td>48</td>
</tr>
<tr>
<td>Elundini</td>
<td>B4 EC</td>
<td>22</td>
<td>52</td>
<td>45</td>
<td>170</td>
<td>113</td>
<td>150</td>
<td>7</td>
<td>79.9</td>
<td>49</td>
</tr>
<tr>
<td>Randfontein</td>
<td>B2 GP</td>
<td>50</td>
<td>47</td>
<td>149</td>
<td>81</td>
<td>44</td>
<td>33</td>
<td>160</td>
<td>80.6</td>
<td>50</td>
</tr>
<tr>
<td>Ngquza Hill</td>
<td>B4 EC</td>
<td>22</td>
<td>30</td>
<td>123</td>
<td>112</td>
<td>61</td>
<td>214</td>
<td>4</td>
<td>80.9</td>
<td>51</td>
</tr>
<tr>
<td>The Msunduzi</td>
<td>B1 KZN</td>
<td>12</td>
<td>15</td>
<td>132</td>
<td>99</td>
<td>10</td>
<td>152</td>
<td>154</td>
<td>82.0</td>
<td>52</td>
</tr>
<tr>
<td>Witzenberg</td>
<td>B3 WC</td>
<td>206</td>
<td>122</td>
<td>36</td>
<td>27</td>
<td>90</td>
<td>29</td>
<td>68</td>
<td>82.6</td>
<td>53</td>
</tr>
<tr>
<td>Buffalo City</td>
<td>A EC</td>
<td>2</td>
<td>8</td>
<td>104</td>
<td>124</td>
<td>8</td>
<td>159</td>
<td>174</td>
<td>82.7</td>
<td>54</td>
</tr>
<tr>
<td>Local Municipality of Madibeng</td>
<td>B1 NW</td>
<td>122</td>
<td>6</td>
<td>83</td>
<td>138</td>
<td>17</td>
<td>126</td>
<td>88</td>
<td>82.9</td>
<td>55</td>
</tr>
<tr>
<td>uMngeni</td>
<td>B2 KZN</td>
<td>122</td>
<td>125</td>
<td>90</td>
<td>43</td>
<td>62</td>
<td>43</td>
<td>95</td>
<td>82.9</td>
<td>56</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------</td>
<td>------</td>
<td>-------------------</td>
<td>---------------</td>
<td>-----------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nelson Mandela Bay</td>
<td>EC</td>
<td>5</td>
<td>129</td>
<td>87</td>
<td>143</td>
<td>202</td>
<td>83.0</td>
<td>57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Umzimkhu</td>
<td>KZN</td>
<td>50</td>
<td>41</td>
<td>120</td>
<td>199</td>
<td>28</td>
<td>87.6</td>
<td>58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lephalale</td>
<td>LIM</td>
<td>22</td>
<td>27</td>
<td>148</td>
<td>120</td>
<td>199</td>
<td>88.6</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drakenstein</td>
<td>WC</td>
<td>122</td>
<td>113</td>
<td>148</td>
<td>120</td>
<td>199</td>
<td>89.0</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Umtshezi</td>
<td>KZN</td>
<td>50</td>
<td>164</td>
<td>111</td>
<td>33</td>
<td>24</td>
<td>128</td>
<td>168</td>
<td>89.0</td>
<td>61</td>
</tr>
<tr>
<td>Mtwatwabe</td>
<td>KZN</td>
<td>122</td>
<td>30</td>
<td>130</td>
<td>5</td>
<td>62</td>
<td>114</td>
<td>208</td>
<td>8</td>
<td>92.7</td>
</tr>
<tr>
<td>Mhlabane</td>
<td>EC</td>
<td>22</td>
<td>24</td>
<td>194</td>
<td>125</td>
<td>197</td>
<td>75</td>
<td>92.9</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Bela-Bela</td>
<td>LIM</td>
<td>206</td>
<td>158</td>
<td>70</td>
<td>36</td>
<td>111</td>
<td>22</td>
<td>48</td>
<td>93.0</td>
<td>64</td>
</tr>
<tr>
<td>Makhado</td>
<td>LIM</td>
<td>50</td>
<td>69</td>
<td>112</td>
<td>143</td>
<td>29</td>
<td>141</td>
<td>112</td>
<td>93.7</td>
<td>65</td>
</tr>
<tr>
<td>Greater Kokstad</td>
<td>KZN</td>
<td>50</td>
<td>172</td>
<td>177</td>
<td>77</td>
<td>117</td>
<td>31</td>
<td>39</td>
<td>94.7</td>
<td>66</td>
</tr>
<tr>
<td>Mhlontlo</td>
<td>EC</td>
<td>12</td>
<td>38</td>
<td>77</td>
<td>212</td>
<td>98</td>
<td>205</td>
<td>27</td>
<td>95.6</td>
<td>67</td>
</tr>
<tr>
<td>Ditsobotla</td>
<td>NW</td>
<td>122</td>
<td>42</td>
<td>114</td>
<td>88</td>
<td>49</td>
<td>153</td>
<td>102</td>
<td>95.7</td>
<td>68</td>
</tr>
<tr>
<td>Lekwa</td>
<td>MP</td>
<td>50</td>
<td>54</td>
<td>125</td>
<td>96</td>
<td>76</td>
<td>57</td>
<td>214</td>
<td>96.0</td>
<td>69</td>
</tr>
<tr>
<td>Umdoni</td>
<td>KZN</td>
<td>50</td>
<td>110</td>
<td>151</td>
<td>41</td>
<td>99</td>
<td>101</td>
<td>123</td>
<td>96.4</td>
<td>70</td>
</tr>
<tr>
<td>Mnquma</td>
<td>EC</td>
<td>12</td>
<td>22</td>
<td>153</td>
<td>222</td>
<td>51</td>
<td>179</td>
<td>38</td>
<td>96.7</td>
<td>71</td>
</tr>
<tr>
<td>Tholwama</td>
<td>LIM</td>
<td>122</td>
<td>51</td>
<td>98</td>
<td>128</td>
<td>22</td>
<td>176</td>
<td>93</td>
<td>98.6</td>
<td>72</td>
</tr>
<tr>
<td>Theewaterskloof</td>
<td>WC</td>
<td>122</td>
<td>79</td>
<td>175</td>
<td>79</td>
<td>81</td>
<td>63</td>
<td>92</td>
<td>98.7</td>
<td>73</td>
</tr>
<tr>
<td>Msinga</td>
<td>KZN</td>
<td>50</td>
<td>53</td>
<td>20</td>
<td>130</td>
<td>183</td>
<td>232</td>
<td>29</td>
<td>99.6</td>
<td>74</td>
</tr>
<tr>
<td>City of Matsosana</td>
<td>NW</td>
<td>122</td>
<td>17</td>
<td>187</td>
<td>104</td>
<td>20</td>
<td>38</td>
<td>212</td>
<td>100.0</td>
<td>75</td>
</tr>
<tr>
<td>Merafong City</td>
<td>GP</td>
<td>122</td>
<td>19</td>
<td>230</td>
<td>207</td>
<td>4</td>
<td>31</td>
<td></td>
<td>100.1</td>
<td>76</td>
</tr>
<tr>
<td>Sundays River Valley</td>
<td>EC</td>
<td>122</td>
<td>173</td>
<td>37</td>
<td>49</td>
<td>169</td>
<td>133</td>
<td>20</td>
<td>100.4</td>
<td>77</td>
</tr>
<tr>
<td>Engcobo</td>
<td>EC</td>
<td>50</td>
<td>48</td>
<td>19</td>
<td>195</td>
<td>151</td>
<td>180</td>
<td>65</td>
<td>101.1</td>
<td>78</td>
</tr>
<tr>
<td>Dipaleseng</td>
<td>MP</td>
<td>122</td>
<td>106</td>
<td>88</td>
<td>108</td>
<td>173</td>
<td>34</td>
<td>78</td>
<td>101.3</td>
<td>79</td>
</tr>
<tr>
<td>Langeberg</td>
<td>WC</td>
<td>206</td>
<td>161</td>
<td>4</td>
<td>68</td>
<td>66</td>
<td>129</td>
<td>77</td>
<td>101.6</td>
<td>80</td>
</tr>
<tr>
<td>Mafikeng</td>
<td>NW</td>
<td>122</td>
<td>37</td>
<td>140</td>
<td>95</td>
<td>28</td>
<td>111</td>
<td>178</td>
<td>101.6</td>
<td>81</td>
</tr>
<tr>
<td>Swartland</td>
<td>WC</td>
<td>206</td>
<td>146</td>
<td>61</td>
<td>5</td>
<td>69</td>
<td>87</td>
<td>141</td>
<td>102.1</td>
<td>82</td>
</tr>
<tr>
<td>Ingwe</td>
<td>KZN</td>
<td>50</td>
<td>84</td>
<td>17</td>
<td>209</td>
<td>138</td>
<td>217</td>
<td>2</td>
<td>102.4</td>
<td>83</td>
</tr>
<tr>
<td>Abaqulusi</td>
<td>KZN</td>
<td>50</td>
<td>120</td>
<td>122</td>
<td>106</td>
<td>56</td>
<td>204</td>
<td>64</td>
<td>103.1</td>
<td>84</td>
</tr>
<tr>
<td>Umhlabuyangana</td>
<td>KZN</td>
<td>122</td>
<td>95</td>
<td>24</td>
<td>107</td>
<td>142</td>
<td>221</td>
<td>17</td>
<td>104.0</td>
<td>85</td>
</tr>
<tr>
<td>Intsika Yethu</td>
<td>EC</td>
<td>50</td>
<td>46</td>
<td>57</td>
<td>206</td>
<td>145</td>
<td>134</td>
<td>91</td>
<td>104.1</td>
<td>86</td>
</tr>
<tr>
<td>Umjindi</td>
<td>MP</td>
<td>122</td>
<td>136</td>
<td>170</td>
<td>31</td>
<td>103</td>
<td>42</td>
<td>134</td>
<td>105.4</td>
<td>87</td>
</tr>
<tr>
<td>UMsuziwabantu</td>
<td>KZN</td>
<td>50</td>
<td>112</td>
<td>87</td>
<td>142</td>
<td>156</td>
<td>168</td>
<td>23</td>
<td>105.4</td>
<td>88</td>
</tr>
<tr>
<td>Location</td>
<td>Province</td>
<td>Code</td>
<td>Latitude</td>
<td>Longitude</td>
<td>Population</td>
<td>Households</td>
<td>Location</td>
<td>Population</td>
<td>Households</td>
<td>Latitude</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>------</td>
<td>----------</td>
<td>-----------</td>
<td>------------</td>
<td>------------</td>
<td>----------</td>
<td>------------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Ntabankulu</td>
<td>EC</td>
<td>B4</td>
<td>22</td>
<td>72</td>
<td>39</td>
<td>202</td>
<td>180</td>
<td>213</td>
<td>13</td>
<td>105.9</td>
</tr>
<tr>
<td>Kgetlengrivier</td>
<td>NW</td>
<td>B3</td>
<td>122</td>
<td>107</td>
<td>63</td>
<td>11</td>
<td>165</td>
<td>51</td>
<td>224</td>
<td>106.1</td>
</tr>
<tr>
<td>Naledi</td>
<td>FS</td>
<td>B3</td>
<td>122</td>
<td>128</td>
<td>128</td>
<td>70</td>
<td>127</td>
<td>110</td>
<td>63</td>
<td>106.9</td>
</tr>
<tr>
<td>Cape Agulhas</td>
<td>WC</td>
<td>B3</td>
<td>206</td>
<td>181</td>
<td>68</td>
<td>58</td>
<td>146</td>
<td>46</td>
<td>44</td>
<td>107.0</td>
</tr>
<tr>
<td>Westonaria</td>
<td>GP</td>
<td>B2</td>
<td>50</td>
<td>20</td>
<td>209</td>
<td>160</td>
<td>73</td>
<td>3</td>
<td>235</td>
<td>107.1</td>
</tr>
<tr>
<td>Umzimvubu</td>
<td>EC</td>
<td>B4</td>
<td>22</td>
<td>36</td>
<td>213</td>
<td>203</td>
<td>83</td>
<td>185</td>
<td>10</td>
<td>107.4</td>
</tr>
<tr>
<td>Matjhabeng</td>
<td>FS</td>
<td>B1</td>
<td>50</td>
<td>13</td>
<td>203</td>
<td>175</td>
<td>19</td>
<td>68</td>
<td>225</td>
<td>107.6</td>
</tr>
<tr>
<td>Mandeni</td>
<td>KZN</td>
<td>B4</td>
<td>50</td>
<td>50</td>
<td>164</td>
<td>121</td>
<td>67</td>
<td>196</td>
<td>108</td>
<td>108.0</td>
</tr>
<tr>
<td>Cederberg</td>
<td>WC</td>
<td>B3</td>
<td>50</td>
<td>177</td>
<td>165</td>
<td>42</td>
<td>171</td>
<td>79</td>
<td>81</td>
<td>109.3</td>
</tr>
<tr>
<td>Moses Kotane</td>
<td>NW</td>
<td>B4</td>
<td>206</td>
<td>21</td>
<td>134</td>
<td>158</td>
<td>31</td>
<td>90</td>
<td>125</td>
<td>109.3</td>
</tr>
<tr>
<td>Port St Johns</td>
<td>EC</td>
<td>B4</td>
<td>22</td>
<td>58</td>
<td>69</td>
<td>129</td>
<td>191</td>
<td>229</td>
<td>67</td>
<td>109.3</td>
</tr>
<tr>
<td>Umvoti</td>
<td>KZN</td>
<td>B3</td>
<td>50</td>
<td>87</td>
<td>176</td>
<td>100</td>
<td>92</td>
<td>210</td>
<td>52</td>
<td>109.6</td>
</tr>
<tr>
<td>Bushbuckridge</td>
<td>MP</td>
<td>B4</td>
<td>22</td>
<td>133</td>
<td>29</td>
<td>122</td>
<td>48</td>
<td>206</td>
<td>208</td>
<td>109.7</td>
</tr>
<tr>
<td>Makhuduthamaga</td>
<td>LIM</td>
<td>B4</td>
<td>50</td>
<td>99</td>
<td>14</td>
<td>140</td>
<td>116</td>
<td>192</td>
<td>162</td>
<td>110.4</td>
</tr>
<tr>
<td>Modimolle</td>
<td>LIM</td>
<td>B3</td>
<td>50</td>
<td>165</td>
<td>223</td>
<td>178</td>
<td>100</td>
<td>36</td>
<td>21</td>
<td>110.4</td>
</tr>
<tr>
<td>Mngqumeni</td>
<td>LIM</td>
<td>B2</td>
<td>122</td>
<td>100</td>
<td>137</td>
<td>151</td>
<td>35</td>
<td>144</td>
<td>85</td>
<td>110.6</td>
</tr>
<tr>
<td>Dihlabeng</td>
<td>FS</td>
<td>B2</td>
<td>50</td>
<td>56</td>
<td>193</td>
<td>176</td>
<td>68</td>
<td>81</td>
<td>153</td>
<td>111.0</td>
</tr>
<tr>
<td>Senqu</td>
<td>EC</td>
<td>B4</td>
<td>122</td>
<td>89</td>
<td>33</td>
<td>181</td>
<td>154</td>
<td>83</td>
<td>117</td>
<td>111.3</td>
</tr>
<tr>
<td>Newcastle</td>
<td>KZN</td>
<td>B1</td>
<td>22</td>
<td>75</td>
<td>191</td>
<td>113</td>
<td>32</td>
<td>157</td>
<td>198</td>
<td>112.6</td>
</tr>
<tr>
<td>Bergrivier</td>
<td>WC</td>
<td>B3</td>
<td>122</td>
<td>199</td>
<td>163</td>
<td>21</td>
<td>137</td>
<td>99</td>
<td>51</td>
<td>113.1</td>
</tr>
<tr>
<td>Ephraim Mogale</td>
<td>LIM</td>
<td>B4</td>
<td>50</td>
<td>178</td>
<td>169</td>
<td>159</td>
<td>133</td>
<td>61</td>
<td>49</td>
<td>114.1</td>
</tr>
<tr>
<td>Jozini</td>
<td>KZN</td>
<td>B4</td>
<td>122</td>
<td>127</td>
<td>22</td>
<td>166</td>
<td>121</td>
<td>218</td>
<td>25</td>
<td>114.4</td>
</tr>
<tr>
<td>Emnambithi/ Ladysmith</td>
<td>KZN</td>
<td>B2</td>
<td>50</td>
<td>96</td>
<td>182</td>
<td>135</td>
<td>43</td>
<td>177</td>
<td>121</td>
<td>114.9</td>
</tr>
<tr>
<td>Ubuhlelwewe</td>
<td>KZN</td>
<td>B4</td>
<td>50</td>
<td>67</td>
<td>86</td>
<td>174</td>
<td>158</td>
<td>211</td>
<td>58</td>
<td>114.9</td>
</tr>
<tr>
<td>Moretele</td>
<td>NW</td>
<td>B4</td>
<td>206</td>
<td>55</td>
<td>127</td>
<td>150</td>
<td>63</td>
<td>56</td>
<td>148</td>
<td>115.0</td>
</tr>
<tr>
<td>Okhahlamba</td>
<td>KZN</td>
<td>B4</td>
<td>50</td>
<td>90</td>
<td>197</td>
<td>197</td>
<td>71</td>
<td>200</td>
<td>1</td>
<td>115.1</td>
</tr>
<tr>
<td>Maletswai</td>
<td>EC</td>
<td>B3</td>
<td>122</td>
<td>175</td>
<td>116</td>
<td>75</td>
<td>160</td>
<td>109</td>
<td>50</td>
<td>115.3</td>
</tr>
<tr>
<td>Maluti a Phofung</td>
<td>FS</td>
<td>B3</td>
<td>22</td>
<td>26</td>
<td>202</td>
<td>211</td>
<td>33</td>
<td>163</td>
<td>152</td>
<td>115.6</td>
</tr>
<tr>
<td>Mkhondo</td>
<td>MP</td>
<td>B3</td>
<td>122</td>
<td>81</td>
<td>141</td>
<td>63</td>
<td>102</td>
<td>114</td>
<td>187</td>
<td>115.7</td>
</tr>
<tr>
<td>Dr J S Moroka</td>
<td>MP</td>
<td>B4</td>
<td>206</td>
<td>83</td>
<td>50</td>
<td>155</td>
<td>57</td>
<td>138</td>
<td>126</td>
<td>116.4</td>
</tr>
<tr>
<td>Breede Valley</td>
<td>WC</td>
<td>B2</td>
<td>206</td>
<td>40</td>
<td>168</td>
<td>89</td>
<td>52</td>
<td>71</td>
<td>191</td>
<td>116.7</td>
</tr>
<tr>
<td>Endumeni</td>
<td>KZN</td>
<td>B3</td>
<td>50</td>
<td>187</td>
<td>100</td>
<td>38</td>
<td>118</td>
<td>167</td>
<td>158</td>
<td>116.9</td>
</tr>
<tr>
<td>Town</td>
<td>Province</td>
<td>Number</td>
<td>161</td>
<td>183</td>
<td>192</td>
<td>206</td>
<td>22</td>
<td>33</td>
<td>64</td>
<td>66</td>
</tr>
<tr>
<td>Nongoma</td>
<td>B4</td>
<td>KZN</td>
<td>122</td>
<td>111</td>
<td>16</td>
<td>183</td>
<td>129</td>
<td>227</td>
<td>33</td>
<td>117.3</td>
</tr>
<tr>
<td>Swellendam</td>
<td>B3</td>
<td>WC</td>
<td>206</td>
<td>192</td>
<td>84</td>
<td>37</td>
<td>172</td>
<td>64</td>
<td>66</td>
<td>117.3</td>
</tr>
<tr>
<td>Amahlathi</td>
<td>B3</td>
<td>EC</td>
<td>22</td>
<td>77</td>
<td>155</td>
<td>221</td>
<td>101</td>
<td>162</td>
<td>84</td>
<td>117.4</td>
</tr>
<tr>
<td>Fetakgomo</td>
<td>B4</td>
<td>LIM</td>
<td>50</td>
<td>196</td>
<td>11</td>
<td>165</td>
<td>119</td>
<td>182</td>
<td>99</td>
<td>117.4</td>
</tr>
<tr>
<td>Maquassi Hills</td>
<td>B3</td>
<td>NW</td>
<td>50</td>
<td>123</td>
<td>179</td>
<td>92</td>
<td>126</td>
<td>158</td>
<td>96</td>
<td>117.7</td>
</tr>
<tr>
<td>Siyathemba</td>
<td>B3</td>
<td>NC</td>
<td>50</td>
<td>208</td>
<td>53</td>
<td>76</td>
<td>217</td>
<td>78</td>
<td>147</td>
<td>118.4</td>
</tr>
<tr>
<td>Kai !Garib</td>
<td>B3</td>
<td>NC</td>
<td>50</td>
<td>176</td>
<td>138</td>
<td>94</td>
<td>177</td>
<td>14</td>
<td>182</td>
<td>118.7</td>
</tr>
<tr>
<td>Mutale</td>
<td>B4</td>
<td>LIM</td>
<td>122</td>
<td>190</td>
<td>73</td>
<td>105</td>
<td>115</td>
<td>191</td>
<td>36</td>
<td>118.9</td>
</tr>
<tr>
<td>Venterdsorp</td>
<td>B3</td>
<td>NW</td>
<td>206</td>
<td>101</td>
<td>148</td>
<td>25</td>
<td>190</td>
<td>113</td>
<td>53</td>
<td>119.4</td>
</tr>
<tr>
<td>Emthanjeni</td>
<td>B3</td>
<td>NC</td>
<td>50</td>
<td>216</td>
<td>106</td>
<td>71</td>
<td>141</td>
<td>74</td>
<td>177</td>
<td>120.1</td>
</tr>
<tr>
<td>Mfolozi</td>
<td>B4</td>
<td>KZN</td>
<td>122</td>
<td>137</td>
<td>93</td>
<td>83</td>
<td>36</td>
<td>220</td>
<td>150</td>
<td>120.1</td>
</tr>
<tr>
<td>Lepele-Nkumpi</td>
<td>B4</td>
<td>LIM</td>
<td>22</td>
<td>163</td>
<td>74</td>
<td>168</td>
<td>70</td>
<td>174</td>
<td>171</td>
<td>120.3</td>
</tr>
<tr>
<td>Ramotshehe Moloa</td>
<td>B3</td>
<td>NW</td>
<td>122</td>
<td>66</td>
<td>96</td>
<td>111</td>
<td>110</td>
<td>146</td>
<td>196</td>
<td>121.0</td>
</tr>
<tr>
<td>Ba-Phalaborwa</td>
<td>B3</td>
<td>LiM</td>
<td>22</td>
<td>206</td>
<td>190</td>
<td>85</td>
<td>38</td>
<td>94</td>
<td>220</td>
<td>122.1</td>
</tr>
<tr>
<td>Mafube</td>
<td>B3</td>
<td>FS</td>
<td>122</td>
<td>94</td>
<td>152</td>
<td>157</td>
<td>149</td>
<td>102</td>
<td>80</td>
<td>122.3</td>
</tr>
<tr>
<td>Umzumbe</td>
<td>B4</td>
<td>KZN</td>
<td>50</td>
<td>116</td>
<td>6</td>
<td>188</td>
<td>189</td>
<td>222</td>
<td>89</td>
<td>122.9</td>
</tr>
<tr>
<td>Nqutu</td>
<td>B4</td>
<td>KZN</td>
<td>50</td>
<td>153</td>
<td>107</td>
<td>57</td>
<td>164</td>
<td>142</td>
<td>189</td>
<td>123.1</td>
</tr>
<tr>
<td>Dikgatlong</td>
<td>B3</td>
<td>NC</td>
<td>50</td>
<td>126</td>
<td>157</td>
<td>163</td>
<td>58</td>
<td>194</td>
<td>43</td>
<td>123.3</td>
</tr>
<tr>
<td>Matzikama</td>
<td>B3</td>
<td>WC</td>
<td>122</td>
<td>166</td>
<td>135</td>
<td>51</td>
<td>123</td>
<td>59</td>
<td>206</td>
<td>123.1</td>
</tr>
<tr>
<td>Greater Giyani</td>
<td>B4</td>
<td>LiM</td>
<td>122</td>
<td>126</td>
<td>157</td>
<td>163</td>
<td>58</td>
<td>194</td>
<td>43</td>
<td>123.3</td>
</tr>
<tr>
<td>Greater Tzaneen</td>
<td>B4</td>
<td>LiM</td>
<td>50</td>
<td>91</td>
<td>186</td>
<td>145</td>
<td>42</td>
<td>156</td>
<td>199</td>
<td>124.1</td>
</tr>
<tr>
<td>Ndlambe</td>
<td>B3</td>
<td>EC</td>
<td>122</td>
<td>144</td>
<td>161</td>
<td>98</td>
<td>157</td>
<td>85</td>
<td>104</td>
<td>124.4</td>
</tr>
<tr>
<td>Tswaing</td>
<td>B3</td>
<td>NW</td>
<td>122</td>
<td>65</td>
<td>144</td>
<td>115</td>
<td>143</td>
<td>183</td>
<td>101</td>
<td>124.7</td>
</tr>
<tr>
<td>Imbabazane</td>
<td>B4</td>
<td>KZN</td>
<td>50</td>
<td>134</td>
<td>60</td>
<td>208</td>
<td>148</td>
<td>228</td>
<td>59</td>
<td>126.7</td>
</tr>
<tr>
<td>Albert Luthuli</td>
<td>B4</td>
<td>MP</td>
<td>206</td>
<td>76</td>
<td>75</td>
<td>179</td>
<td>74</td>
<td>136</td>
<td>144</td>
<td>127.1</td>
</tr>
<tr>
<td>Umsobomvu</td>
<td>B3</td>
<td>NC</td>
<td>122</td>
<td>202</td>
<td>66</td>
<td>64</td>
<td>219</td>
<td>52</td>
<td>170</td>
<td>127.9</td>
</tr>
<tr>
<td>Greater Letaba</td>
<td>B4</td>
<td>LiM</td>
<td>50</td>
<td>132</td>
<td>205</td>
<td>191</td>
<td>82</td>
<td>151</td>
<td>87</td>
<td>128.3</td>
</tr>
<tr>
<td>Kgatelopele</td>
<td>B3</td>
<td>NC</td>
<td>122</td>
<td>213</td>
<td>105</td>
<td>40</td>
<td>152</td>
<td>48</td>
<td>218</td>
<td>128.3</td>
</tr>
<tr>
<td>Ngwawhe</td>
<td>B3</td>
<td>FS</td>
<td>122</td>
<td>63</td>
<td>172</td>
<td>164</td>
<td>95</td>
<td>97</td>
<td>185</td>
<td>128.3</td>
</tr>
<tr>
<td>Khâi-Ma</td>
<td>B3</td>
<td>NC</td>
<td>50</td>
<td>222</td>
<td>174</td>
<td>117</td>
<td>199</td>
<td>23</td>
<td>114</td>
<td>128.4</td>
</tr>
<tr>
<td>Moqhaka</td>
<td>B2</td>
<td>FS</td>
<td>50</td>
<td>86</td>
<td>225</td>
<td>201</td>
<td>45</td>
<td>130</td>
<td>175</td>
<td>130.3</td>
</tr>
<tr>
<td>Lekwa-Teemane</td>
<td>B3</td>
<td>NW</td>
<td>122</td>
<td>131</td>
<td>162</td>
<td>50</td>
<td>192</td>
<td>41</td>
<td>219</td>
<td>131.0</td>
</tr>
<tr>
<td>Gariep</td>
<td>B3</td>
<td>EC</td>
<td>50</td>
<td>219</td>
<td>65</td>
<td>123</td>
<td>211</td>
<td>76</td>
<td>180</td>
<td>132.0</td>
</tr>
<tr>
<td>Location</td>
<td>Province</td>
<td>GPS</td>
<td>122</td>
<td>223</td>
<td>80</td>
<td>86</td>
<td>166</td>
<td>117</td>
<td>133</td>
<td>132.4</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td>Beaufort West</td>
<td>B3</td>
<td>WC</td>
<td>122</td>
<td>223</td>
<td>80</td>
<td>86</td>
<td>166</td>
<td>117</td>
<td>133</td>
<td>132.4</td>
</tr>
<tr>
<td>UPhongolo</td>
<td>B4</td>
<td>KZN</td>
<td>122</td>
<td>170</td>
<td>178</td>
<td>131</td>
<td>105</td>
<td>165</td>
<td>57</td>
<td>132.6</td>
</tr>
<tr>
<td>Kou-Kamma</td>
<td>B3</td>
<td>EC</td>
<td>206</td>
<td>194</td>
<td>159</td>
<td>73</td>
<td>188</td>
<td>91</td>
<td>18</td>
<td>132.7</td>
</tr>
<tr>
<td>Inxuba Yethemba</td>
<td>B3</td>
<td>EC</td>
<td>50</td>
<td>215</td>
<td>117</td>
<td>116</td>
<td>131</td>
<td>135</td>
<td>176</td>
<td>134.3</td>
</tr>
<tr>
<td>Makana</td>
<td>B2</td>
<td>EC</td>
<td>122</td>
<td>148</td>
<td>121</td>
<td>127</td>
<td>104</td>
<td>124</td>
<td>197</td>
<td>134.7</td>
</tr>
<tr>
<td>Ngqushwa</td>
<td>B4</td>
<td>EC</td>
<td>50</td>
<td>140</td>
<td>32</td>
<td>229</td>
<td>197</td>
<td>187</td>
<td>109</td>
<td>134.9</td>
</tr>
<tr>
<td>The Big 5 False Bay</td>
<td>B3</td>
<td>KZN</td>
<td>122</td>
<td>207</td>
<td>89</td>
<td>97</td>
<td>204</td>
<td>203</td>
<td>22</td>
<td>134.9</td>
</tr>
<tr>
<td>Hantam</td>
<td>B3</td>
<td>NC</td>
<td>50</td>
<td>227</td>
<td>166</td>
<td>132</td>
<td>194</td>
<td>69</td>
<td>107</td>
<td>135.0</td>
</tr>
<tr>
<td>Indaka</td>
<td>B4</td>
<td>KZN</td>
<td>50</td>
<td>152</td>
<td>72</td>
<td>217</td>
<td>207</td>
<td>223</td>
<td>26</td>
<td>135.3</td>
</tr>
<tr>
<td>Mooigophong</td>
<td>B3</td>
<td>LIM</td>
<td>206</td>
<td>197</td>
<td>195</td>
<td>152</td>
<td>181</td>
<td>10</td>
<td>6</td>
<td>135.3</td>
</tr>
<tr>
<td>Kwa Sani</td>
<td>B3</td>
<td>KZN</td>
<td>122</td>
<td>209</td>
<td>43</td>
<td>114</td>
<td>221</td>
<td>103</td>
<td>137</td>
<td>135.6</td>
</tr>
<tr>
<td>Richmond</td>
<td>B4</td>
<td>KZN</td>
<td>122</td>
<td>145</td>
<td>184</td>
<td>144</td>
<td>135</td>
<td>148</td>
<td>71</td>
<td>135.6</td>
</tr>
<tr>
<td>Mkhambathini</td>
<td>B3</td>
<td>KZN</td>
<td>122</td>
<td>139</td>
<td>158</td>
<td>125</td>
<td>174</td>
<td>98</td>
<td>136</td>
<td>136.0</td>
</tr>
<tr>
<td>Ulundi</td>
<td>B4</td>
<td>KZN</td>
<td>122</td>
<td>109</td>
<td>194</td>
<td>172</td>
<td>75</td>
<td>225</td>
<td>55</td>
<td>136.0</td>
</tr>
<tr>
<td>Mantsopa</td>
<td>B3</td>
<td>FS</td>
<td>122</td>
<td>154</td>
<td>217</td>
<td>213</td>
<td>122</td>
<td>93</td>
<td>32</td>
<td>136.1</td>
</tr>
<tr>
<td>Emadiangeni</td>
<td>B3</td>
<td>KZN</td>
<td>50</td>
<td>200</td>
<td>220</td>
<td>126</td>
<td>179</td>
<td>145</td>
<td>35</td>
<td>136.4</td>
</tr>
<tr>
<td>uMlalazi</td>
<td>B4</td>
<td>KZN</td>
<td>50</td>
<td>68</td>
<td>199</td>
<td>193</td>
<td>86</td>
<td>209</td>
<td>167</td>
<td>138.9</td>
</tr>
<tr>
<td>Great Kei</td>
<td>B3</td>
<td>EC</td>
<td>22</td>
<td>149</td>
<td>173</td>
<td>225</td>
<td>186</td>
<td>178</td>
<td>41</td>
<td>139.1</td>
</tr>
<tr>
<td>Emakhazeni</td>
<td>B2</td>
<td>MP</td>
<td>122</td>
<td>168</td>
<td>171</td>
<td>109</td>
<td>155</td>
<td>49</td>
<td>197</td>
<td>140.4</td>
</tr>
<tr>
<td>Nxkonkobe</td>
<td>B3</td>
<td>EC</td>
<td>50</td>
<td>118</td>
<td>131</td>
<td>186</td>
<td>136</td>
<td>169</td>
<td>100</td>
<td>141.4</td>
</tr>
<tr>
<td>Renosterberg</td>
<td>B3</td>
<td>NC</td>
<td>122</td>
<td>226</td>
<td>76</td>
<td>59</td>
<td>232</td>
<td>96</td>
<td>179</td>
<td>141.4</td>
</tr>
<tr>
<td>Emalahleni</td>
<td>B4</td>
<td>EC</td>
<td>122</td>
<td>102</td>
<td>25</td>
<td>185</td>
<td>210</td>
<td>118</td>
<td>232</td>
<td>142.0</td>
</tr>
<tr>
<td>Richtersveld</td>
<td>B3</td>
<td>NC</td>
<td>206</td>
<td>220</td>
<td>31</td>
<td>72</td>
<td>178</td>
<td>53</td>
<td>234</td>
<td>142.0</td>
</tr>
<tr>
<td>Pixley Ka Seme</td>
<td>B3</td>
<td>MP</td>
<td>122</td>
<td>155</td>
<td>167</td>
<td>153</td>
<td>141</td>
<td>100</td>
<td>161</td>
<td>142.7</td>
</tr>
<tr>
<td>Blouberg</td>
<td>B4</td>
<td>LIM</td>
<td>122</td>
<td>162</td>
<td>47</td>
<td>200</td>
<td>161</td>
<td>166</td>
<td>149</td>
<td>143.9</td>
</tr>
<tr>
<td>Molemole</td>
<td>B4</td>
<td>LIM</td>
<td>50</td>
<td>195</td>
<td>212</td>
<td>180</td>
<td>134</td>
<td>105</td>
<td>131</td>
<td>143.9</td>
</tr>
<tr>
<td>Nala</td>
<td>B3</td>
<td>FS</td>
<td>122</td>
<td>92</td>
<td>222</td>
<td>232</td>
<td>107</td>
<td>171</td>
<td>62</td>
<td>144.0</td>
</tr>
<tr>
<td>Joe Morolong</td>
<td>B4</td>
<td>NC</td>
<td>50</td>
<td>138</td>
<td>8</td>
<td>215</td>
<td>213</td>
<td>172</td>
<td>216</td>
<td>144.6</td>
</tr>
<tr>
<td>Nkandla</td>
<td>B4</td>
<td>KZN</td>
<td>122</td>
<td>93</td>
<td>78</td>
<td>230</td>
<td>200</td>
<td>231</td>
<td>61</td>
<td>145.0</td>
</tr>
<tr>
<td>Masilonyana</td>
<td>B3</td>
<td>FS</td>
<td>122</td>
<td>135</td>
<td>231</td>
<td>182</td>
<td>94</td>
<td>149</td>
<td>105</td>
<td>145.4</td>
</tr>
<tr>
<td>Aganang</td>
<td>B4</td>
<td>LIM</td>
<td>50</td>
<td>193</td>
<td>113</td>
<td>219</td>
<td>139</td>
<td>190</td>
<td>115</td>
<td>145.6</td>
</tr>
<tr>
<td>Maphumulo</td>
<td>B4</td>
<td>KZN</td>
<td>50</td>
<td>117</td>
<td>118</td>
<td>233</td>
<td>195</td>
<td>234</td>
<td>79</td>
<td>146.6</td>
</tr>
<tr>
<td>Location</td>
<td>Province</td>
<td>Code</td>
<td>Distance E</td>
<td>Distance S</td>
<td>Distance N</td>
<td>Distance W</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sakhisizwe</td>
<td>EC</td>
<td>B3</td>
<td>159</td>
<td>52</td>
<td>198</td>
<td>208</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prince Albert</td>
<td>WC</td>
<td>B3</td>
<td>206</td>
<td>225</td>
<td>79</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oudtshoorn</td>
<td>WC</td>
<td>B2</td>
<td>206</td>
<td>157</td>
<td>181</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mamusa</td>
<td>NW</td>
<td>B3</td>
<td>122</td>
<td>156</td>
<td>150</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kareeberg</td>
<td>NC</td>
<td>B3</td>
<td>122</td>
<td>221</td>
<td>130</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ezingoleni</td>
<td>KZN</td>
<td>B4</td>
<td>50</td>
<td>188</td>
<td>124</td>
<td>196</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magareng</td>
<td>NC</td>
<td>B3</td>
<td>50</td>
<td>204</td>
<td>200</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ndowedwe</td>
<td>KZN</td>
<td>B4</td>
<td>50</td>
<td>85</td>
<td>207</td>
<td>189</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laingsburg</td>
<td>WC</td>
<td>B3</td>
<td>206</td>
<td>234</td>
<td>49</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setsoto</td>
<td>FS</td>
<td>B3</td>
<td>206</td>
<td>39</td>
<td>229</td>
<td>216</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kopanong</td>
<td>FS</td>
<td>B3</td>
<td>122</td>
<td>189</td>
<td>216</td>
<td>226</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mpofana</td>
<td>KZN</td>
<td>B3</td>
<td>122</td>
<td>198</td>
<td>196</td>
<td>144</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ubuntu</td>
<td>NC</td>
<td>B3</td>
<td>122</td>
<td>212</td>
<td>154</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phokwane</td>
<td>NC</td>
<td>B3</td>
<td>122</td>
<td>143</td>
<td>224</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impendle</td>
<td>KZN</td>
<td>B4</td>
<td>122</td>
<td>183</td>
<td>95</td>
<td>228</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kagisano/ Molopo</td>
<td>NW</td>
<td>B3</td>
<td>122</td>
<td>151</td>
<td>180</td>
<td>136</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tsolwana</td>
<td>EC</td>
<td>B3</td>
<td>50</td>
<td>217</td>
<td>119</td>
<td>156</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Karoo Hoogland</td>
<td>NC</td>
<td>B3</td>
<td>122</td>
<td>231</td>
<td>146</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siyancuma</td>
<td>NC</td>
<td>B3</td>
<td>50</td>
<td>150</td>
<td>210</td>
<td>204</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nketoana</td>
<td>FS</td>
<td>B3</td>
<td>122</td>
<td>105</td>
<td>188</td>
<td>190</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater Taung</td>
<td>NW</td>
<td>B4</td>
<td>122</td>
<td>121</td>
<td>142</td>
<td>187</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>uMshwathi</td>
<td>KZN</td>
<td>B4</td>
<td>122</td>
<td>108</td>
<td>201</td>
<td>184</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thembelihle</td>
<td>NC</td>
<td>B3</td>
<td>122</td>
<td>201</td>
<td>192</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maruleng</td>
<td>LIM</td>
<td>B4</td>
<td>22</td>
<td>214</td>
<td>219</td>
<td>171</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dannhauser</td>
<td>KZN</td>
<td>B4</td>
<td>50</td>
<td>179</td>
<td>139</td>
<td>177</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratiou</td>
<td>NW</td>
<td>B4</td>
<td>122</td>
<td>167</td>
<td>67</td>
<td>167</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eDumbe</td>
<td>KZN</td>
<td>B3</td>
<td>50</td>
<td>182</td>
<td>185</td>
<td>173</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hessequwa</td>
<td>WC</td>
<td>B3</td>
<td>206</td>
<td>203</td>
<td>233</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hlabisa</td>
<td>KZN</td>
<td>B4</td>
<td>122</td>
<td>180</td>
<td>234</td>
<td>146</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mohokare</td>
<td>FS</td>
<td>B3</td>
<td>206</td>
<td>184</td>
<td>215</td>
<td>205</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inkwanca</td>
<td>EC</td>
<td>B3</td>
<td>122</td>
<td>228</td>
<td>102</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letsemeng</td>
<td>FS</td>
<td>B3</td>
<td>122</td>
<td>171</td>
<td>227</td>
<td>218</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>!Kheis</td>
<td>NC</td>
<td>B3</td>
<td>50</td>
<td>186</td>
<td>218</td>
<td>169</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Province</td>
<td>Zip Code</td>
<td>Lat.</td>
<td>Lon.</td>
<td>Cluster</td>
<td>Income</td>
<td>Home Ownership</td>
<td>Human Capital</td>
<td>Total Score</td>
<td>Rank</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>--------</td>
<td>----------------</td>
<td>---------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Kamiesberg</td>
<td>B3</td>
<td>NC</td>
<td>50</td>
<td>230</td>
<td>214</td>
<td>134</td>
<td>212</td>
<td>77</td>
<td>229</td>
<td>163.7</td>
</tr>
<tr>
<td>Tokologo</td>
<td>B3</td>
<td>FS</td>
<td>122</td>
<td>185</td>
<td>232</td>
<td>220</td>
<td>198</td>
<td>67</td>
<td>124</td>
<td>164.0</td>
</tr>
<tr>
<td>Nxuba</td>
<td>B3</td>
<td>EC</td>
<td>50</td>
<td>210</td>
<td>147</td>
<td>234</td>
<td>215</td>
<td>170</td>
<td>132</td>
<td>165.4</td>
</tr>
<tr>
<td>Phumelela</td>
<td>B3</td>
<td>FS</td>
<td>122</td>
<td>147</td>
<td>206</td>
<td>214</td>
<td>203</td>
<td>95</td>
<td>172</td>
<td>165.6</td>
</tr>
<tr>
<td>Ikwezi</td>
<td>B3</td>
<td>EC</td>
<td>206</td>
<td>233</td>
<td>56</td>
<td>162</td>
<td>227</td>
<td>173</td>
<td>103</td>
<td>165.7</td>
</tr>
<tr>
<td>Camdeboo</td>
<td>B3</td>
<td>EC</td>
<td>206</td>
<td>205</td>
<td>145</td>
<td>101</td>
<td>163</td>
<td>132</td>
<td>211</td>
<td>166.1</td>
</tr>
<tr>
<td>Baviaans</td>
<td>B3</td>
<td>EC</td>
<td>206</td>
<td>232</td>
<td>126</td>
<td>137</td>
<td>224</td>
<td>108</td>
<td>140</td>
<td>167.6</td>
</tr>
<tr>
<td>Nama Khoi</td>
<td>B3</td>
<td>NC</td>
<td>206</td>
<td>211</td>
<td>198</td>
<td>139</td>
<td>89</td>
<td>112</td>
<td>226</td>
<td>168.7</td>
</tr>
<tr>
<td>Ntambanana</td>
<td>B4</td>
<td>KZN</td>
<td>122</td>
<td>169</td>
<td>221</td>
<td>227</td>
<td>168</td>
<td>233</td>
<td>46</td>
<td>169.4</td>
</tr>
<tr>
<td>Blue Crane Route</td>
<td>B3</td>
<td>EC</td>
<td>122</td>
<td>218</td>
<td>211</td>
<td>161</td>
<td>201</td>
<td>181</td>
<td>119</td>
<td>173.3</td>
</tr>
<tr>
<td>Kannaland</td>
<td>B3</td>
<td>WC</td>
<td>206</td>
<td>224</td>
<td>208</td>
<td>149</td>
<td>196</td>
<td>195</td>
<td>54</td>
<td>176.0</td>
</tr>
<tr>
<td>Mthonjaneni</td>
<td>B3</td>
<td>KZN</td>
<td>122</td>
<td>174</td>
<td>189</td>
<td>199</td>
<td>209</td>
<td>215</td>
<td>130</td>
<td>176.9</td>
</tr>
<tr>
<td>Vulamehlo</td>
<td>B4</td>
<td>KZN</td>
<td>50</td>
<td>124</td>
<td>204</td>
<td>210</td>
<td>214</td>
<td>226</td>
<td>223</td>
<td>178.7</td>
</tr>
<tr>
<td>Tsweelopele</td>
<td>B3</td>
<td>FS</td>
<td>206</td>
<td>160</td>
<td>226</td>
<td>223</td>
<td>182</td>
<td>147</td>
<td>138</td>
<td>183.1</td>
</tr>
<tr>
<td>Naledi</td>
<td>B3</td>
<td>NW</td>
<td>122</td>
<td>191</td>
<td>228</td>
<td>224</td>
<td>206</td>
<td>139</td>
<td>207</td>
<td>188.1</td>
</tr>
<tr>
<td>Mier</td>
<td>B3</td>
<td>NC</td>
<td>206</td>
<td>229</td>
<td>183</td>
<td>192</td>
<td>234</td>
<td>116</td>
<td>222</td>
<td>197.4</td>
</tr>
</tbody>
</table>
Documentary: Spatial Transformation

In order to frame and reflect the conference’s subject matter: the spatial transformation of South African cities conference partners (the SACN, JDA and HDA) commissioned a documentary project with the following deliverables:

- **A short film** (12 minutes) shown during the opening session at the conference to introduce the spatial transformation challenge by informing and provoking consideration of how the future of our cities could evolve.
- A build-on documentary on the co-production of the future South African city with key shapers of those futures.
- A series of supplementary clips for key messaging.

The documentary engages with the following key issues:

- Why is spatial transformation not happening enough within our cities?
- What would the future look like if we didn’t do anything about this?
- What are we aiming for? (visions of the transformed apartheid city, what does this look like?)
- What has transformed? What have we tried?
- Why is it so difficult to change the space economy?
- What forces will drive change – good and/or bad?
- So how do we:
  - Get whole of society to recognize and work towards actualizing the mutual benefits of the more integrated & efficient city;
  - Get poor people closer to jobs - get poor people into established areas;
  - Get jobs closer to poor people – economic investments into marginal areas;

To access this media content visit www.sacities.net or
https://www.youtube.com/watch?v=fCOboyXhvEM
https://www.youtube.com/watch?v=6_z3T7BFx2o

For conference related background documents as well as further information on spatial transformation please visit the document repository at http://stepsa.org/