

A major intervention is needed to change province's poor urban structure, write Ivan Turok and Gerbrand Mans

Here is Gauteng's future – in 3D

THIS novel 3D map of the Joburg, Ekurhuleni and Tshwane metropolitan areas turns the conventional image of these cities inside out.

Focusing on where people live shifts the centre of gravity and produces a striking new perspective. Prominent districts such as Rosebank, Sandton and Midrand lose significance compared with outlying areas such as Soweto, Tembisa, Thokoza and Mamelodi.

The map was prepared for the 2011 State of the Cities report. The height of each column represents the population density of that district or neighbourhood – the taller the column, the higher the density.

The footprint of each column is the geographical extent of the area – the bigger the footprint, the larger the area. So the volume of each column reflects the total number of people living in the area.

The map provides a powerful representation of how the population of Gauteng is distributed across the region. This is vital for strategic planning purposes and resource allocation by public bodies. It is also crucial for property developers and other private sector investors influenced by the location of consumers and workers.

The overwhelming concentration of people in dispersed townships and informal settlements around the metropolitan periphery is remarkable. Residential densities rise from the inner suburbs towards the outer edge. Growing shack settlements function as gateways to the city for migrant groups. People are crammed together because of pressure on the supply of land and municipal restrictions on settlement expansion.

Meanwhile, the middle-income suburbs of Joburg and Pretoria have low densities and small populations. A single house with a garden on each erf is the norm, often with a pool. There is little awareness here that each of the major townships house more people than all the city's suburbs put together.

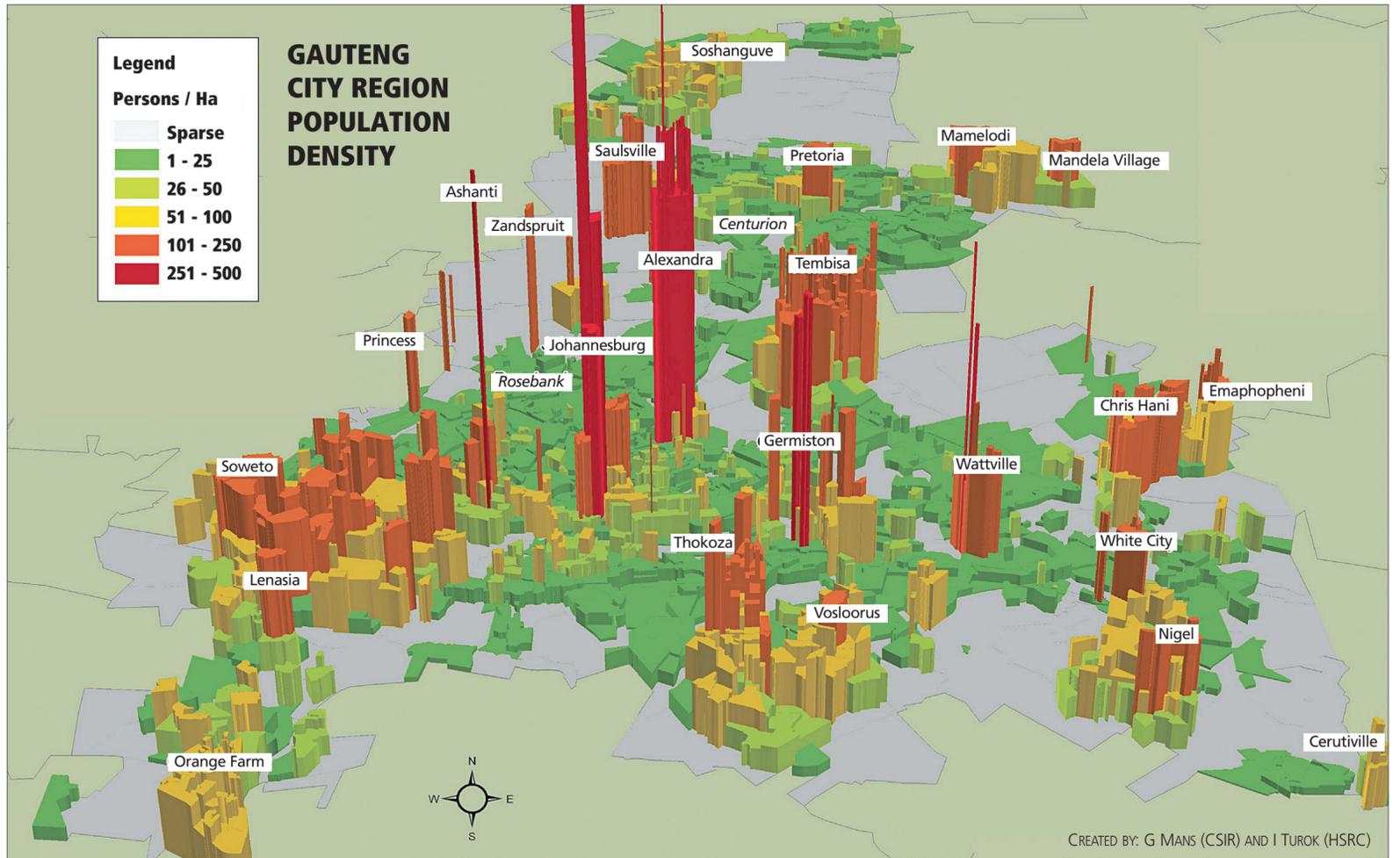
Township densities are typically more than 10 times higher than in the suburbs, and often well over 100 or even 200 people per hectare. These densities stem from small overcrowded dwellings at ground level, rather than the tall buildings typical of dense Asian or Latin American cities.

The housing backlog means backyard shacks drive densities higher still. This limits the open space available for recreation and adds to the strains on families and facilities. Township residents have far less personal space than the domestic animals kept in some affluent suburbs.

Gauteng's fragmented urban form is also peculiar by international norms. Most big cities have their highest densities in and around the central area. This is where competition for space is most intense and land values peak, because this maximises access to opportunities. High-rise apartment blocks dominate inner-city living.

People normally trade off the amount of living space they want against proximity to workplaces and social amenities.

Population densities and building heights usually fall with distance from the city centre, creating a cone-shaped urban



CREATED BY: G MANS (CSIR) AND I TUROK (HSRC)

structure. This compact arrangement is highly functional. Average travel-to-work distances are modest and a comprehensive public transport system is viable.

In Gauteng it's generally the other way round. Most high-density areas are in the outer city, especially in the south.

Residents with jobs have to commute exceptional distances to the city centres.

This imposes big costs on themselves, as well as on businesses and the environment because of the travel time involved.

Gauteng's skewed physical form is a headache for urban planners and managers trying to simplify travel for citizens and to promote higher densities in well-located areas with affordable housing.

A state of underdevelopment is effectively "locked in" to the most isolated outlying areas, such as Orange Farm in Joburg and Soshanguve in Tshwane.

Employment is growing fastest along the corridor between Joburg and Pretoria, yet this area is inaccessible to most major townships.

The quality of life is worsened by the extreme densities and lack of space for expansion. Existing public infrastructure is often overloaded, and schools and health centres are overcrowded.

Intense competition for housing land and other scarce resources exacerbates social tension and crime. High densities expose people to heightened risks of fire damage and flooding.

It is also inefficient for workers to be concentrated in peripheral areas because of the effects of long-distance commuting on punctuality, productivity and wage demands. Travel-to-work patterns match Los Angeles, despite Gauteng being a low-income region. Transport subsidies and

other state resources should be invested in making the spatial form more coherent through targeted residential development, infilling and densification of the inner and northern suburbs. Linkages between the townships and established urban areas should also be strengthened through mixed-use property development in intermediate locations, supply chains and better transport connections.

Gauteng's settlement structure can't be reshaped overnight, of course. Efforts to restructure cities are even slower and more difficult than turning around a supertanker. Without stronger interventions by local and provincial planners and infrastructure providers, current patterns be entrenched well into the future, threatening the region's long-term viability.

Wider awareness of the current growth path could assist progress. Most citizens in

the suburbs don't have a clue how people are distributed across the city, and what conditions are like in low-income areas. It would be easier to mobilise a concerted effort by all spheres of government to create a more functional city if they did.

The growing concentration of people in outlying areas is significant for four additional reasons:

- These are areas of rising consumer spending power that service sector businesses and builders could benefit from taking more seriously.
- They are sizeable sources of labour supply that major employers ought to consider.
- Housing policy needs to support in situ upgrading and de-densification.
- These are also areas with rising capacity to pay municipal taxes. Although residents cannot pay as much as in more

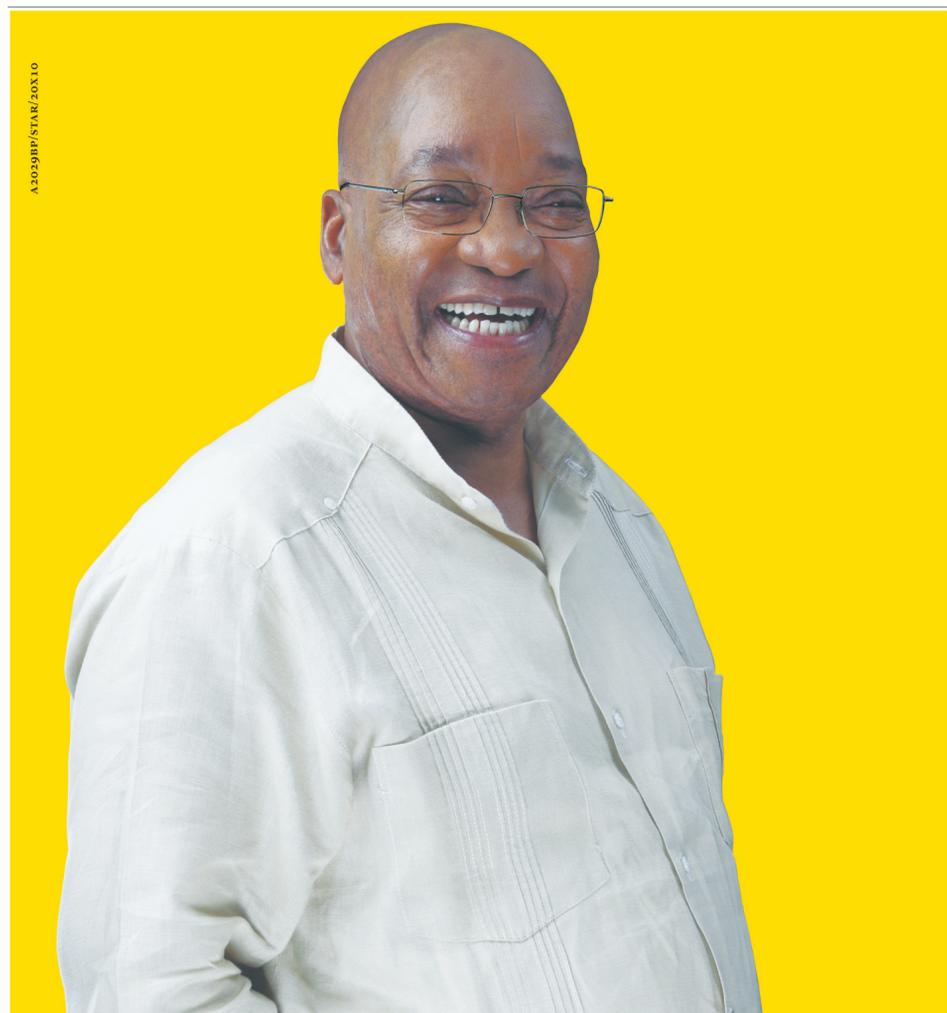
affluent areas, in aggregate they can pay enough to sustain better services.

Gauteng's major townships are at the heart of the "people's city".

Many are experiencing greater economic vitality, and should not be seen as bottomless pits into which state subsidies need to be poured for ever.

Recognising their potential has potent implications for strategic decisions about the location of major public and private investment. It is vital that civic leaders, urban planners, managers, investors and other decision-makers recognise this reality.

● Professor Ivan Turok is an economist/planner and deputy executive director at the Human Sciences Research Council and Gerbrand Mans is an urban geographer and geographic information system specialist at the CSIR.



SIYANQOBA!

ANC VICTORY IS CERTAIN

PRESIDENT ZUMA SPEAKS

WHEN: SUNDAY 15 MAY

**WHERE: FNB STADIUM
NASREC**

TIME: 9 AM

Entertainment provided by various artists including; Chomee, Arthur, Chicco, Kalawa Jazmee artists.

(For transport, please contact your local branch).

A better life for all 