

Novel map shows Gauteng’s urban problem

State of the Cities report gives new perspective on population distribution,write **Ivan Turok** and **Gerbrand Mans**

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, Thembisa, 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.

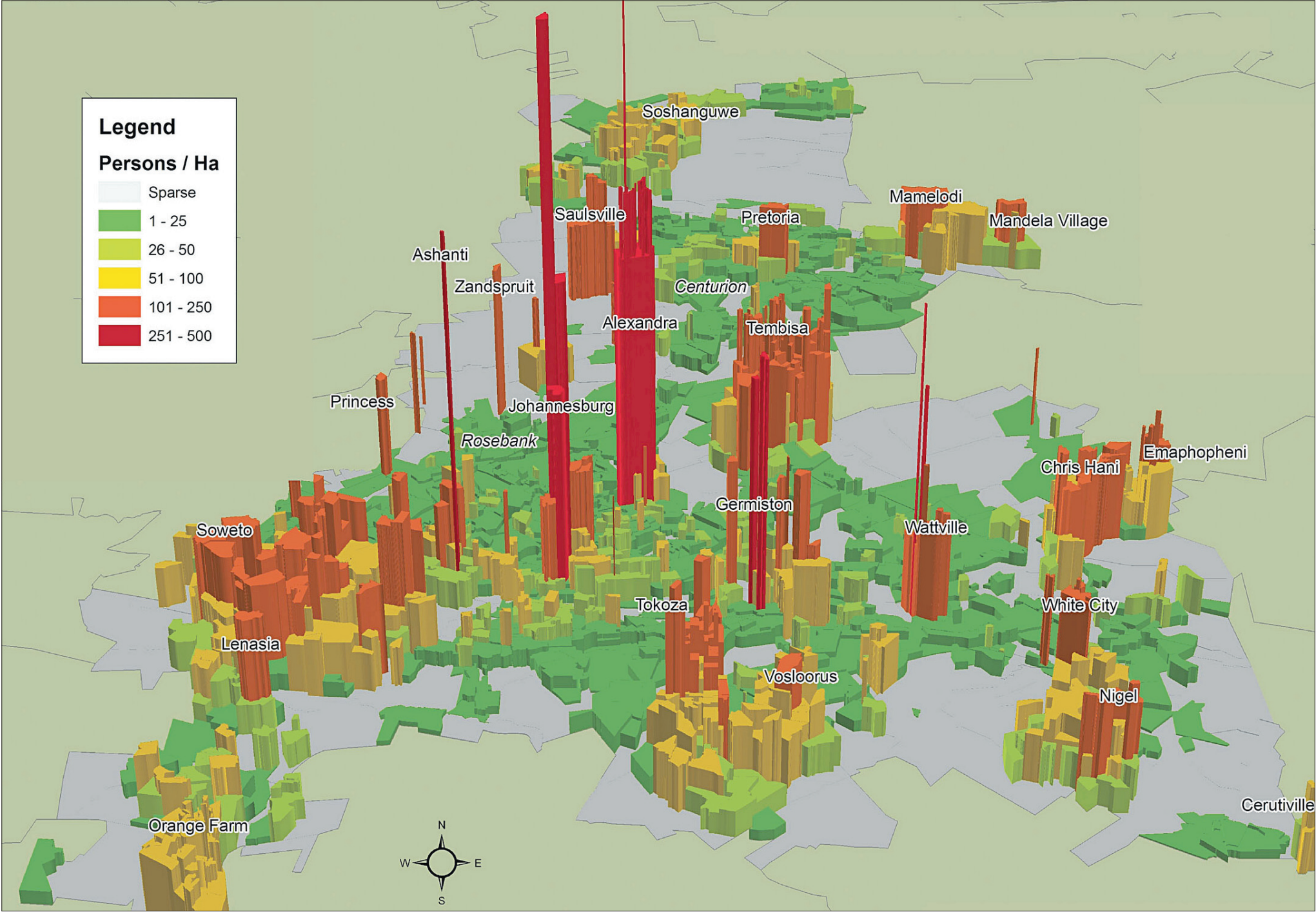
The overwhelming concentration of people in dispersed townships and informal settlements around the metropolitan periphery is remarkable. Residential densities rise from the inner suburbs towards the outer edge. Growing shack settlements function as gateways to the city for migrant groups. People are 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 houses 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 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.

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, cur-

rent patterns will 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 forever.

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.

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Tshwane: a massive, smart city

THE CITY of Tshwane has positioned itself as a “smart” city, with technological and scientific hubs as well as a strong administrative and economic base.

The metro is made up of 13 former city and town councils which include Pretoria, Centurion, Laudium, Eersterust, Akasia and Soshanguve, surrounding areas of Atteridgeville, Crocodile River, Ga-Rankuwa, Mabopane, Winterveldt, Hammanaskraal, Temba and Mamelodi.

It covers an area of 2 198km². Not all areas are urbanised to the same extent and Tshwane also has significant regional open spaces and environmentally sensitive areas.

The city is characterised by a rapidly growing population. The projected annual growth of the population between 1996 and 2001 was 4.1 percent. According to the Stats SA 2007 Community Survey, the population has since 2001 grown by 15.4 percent, while Tshwane’s Household Survey 2008 indicates a growth of 3.4 percent between 2007 and 2008. The estimated mid-year population: 2 040 517.

The situation is exacerbated by immigration, resulting in an increase of informal settlements.

The city’s population has, on average, the highest educational level in the country, and Tshwane is a national centre of research and learning with four universities and the headquarters of the Council for Scientific and Industrial Research and the Human Sciences Research Council.

The growth of the city has been focused largely around the central core and along the major movement lines along which nodal points are subsequently being created.

The continuous processes of outward urban expansion furthermore provides constant pressures on the municipality’s capacity to provide services and infrastructure to open up new areas for development while maintaining required service levels in developed areas.

The dynamic growth of the city and the development of economic nodes is happening on the southern and eastern sides of the city.

The areas in the far north, far east and far west of the city are characterised by settlements housing the majority of poor communities.

These outlying areas highlight the distortions of the spatial economy of the city as these residents have to travel long distances to economic opportunities in the city.

Tshwane plays an important role in the economy of Gauteng, featuring a strong manufacturing sector. – Staff Reporter

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