INSIGHT EXCHANGE

Powering smarter municipal planning

Provocation Piece | June 2026

Spatial Transformation: better data, better diagnosis, but better decisions?

Despite increasingly sophisticated analysis on the state of South Africa's spatial inequities, there remains limited agreement about how spatial transformation should be measured, what success looks like, and how evidence should influence decision-making.

The recent Insight Exchange session on Measuring Spatial Transformation in South Africa offered a window into this evolving landscape. Presentations from researchers, practitioners and government institutions showcased both the sophistication of the analytical work now underway and the persistent challenges of translating evidence into meaningful spatial change.

Spatial transformation remains one of South Africa's most persistent public policy challenges. More than thirty years after democracy, significant progress has been made in expanding access to housing, water, electricity and other basic services. Yet many of the spatial patterns inherited from apartheid have calcified.

If services have expanded, why has spatial inequality been so difficult to shift? Part of the answer may lie in how we think about transformation itself.

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Measuring a multidimensional problem

Spatial transformation is often framed as a single outcome, or viewed through a particular theoretical lens. In reality, it is a multidimensional process involving economic opportunity, accessibility, housing, service delivery, safety, environmental quality and social inclusion.

> *"Spatial transformation is not a single-dimensional process. It is inherently multidimensional."*
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>
> Dr Arindam Jana, African Centre of Excellence for Inequality Research, UCT

This matters because progress in one dimension does not necessarily produce progress in another. A community may gain access to electricity and water while remaining disconnected from jobs. Housing delivery may improve while transport costs continue to rise. New infrastructure may be built while local economic opportunities remain stagnant.

Recent work by the Gauteng City-Region Observatory (GCRO) illustrates how rapidly the spatial evidence base is evolving. Researchers are increasingly using high-resolution geospatial data, building footprint datasets, remote sensing and population modelling to understand how inequality manifests across space at much finer scales.

Examples presented included analysis of building volume per capita, population density at hexagon level, and the use of remotely sensed land-use data to examine settlement patterns and accessibility. While methodological questions remain around accuracy, verification, weighting and interpretation, these approaches provide increasingly powerful ways of understanding how people experience space and how inequality manifests geographically.

These advances also expose a persistent obstacle -

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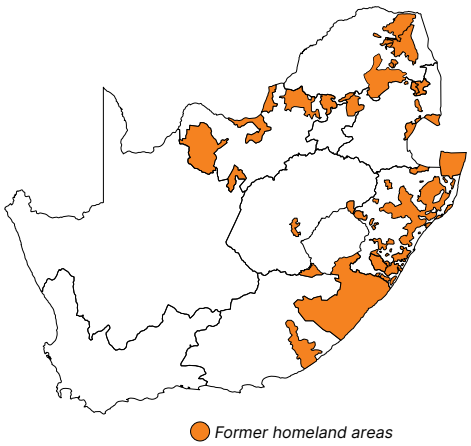
> *"Can we get more detailed and granular demographic and socio-economic data? That's really the question."*
>
> Dr Laven Naidoo, GCRO

The quality of spatial analysis ultimately depends on the quality of our understanding of people and places and how they interact.

Economic behaviour: A driver and an outcome of the lack of spatial transformation

Some of the most striking insights emerging from the National Strategic Hub's (NSH) ongoing spatial-economic analysis relate to South Africa's former homeland areas.

It is estimated that the municipalities which currently govern over former homeland areas (FHAMs) contain roughly 40% of the country's population but only around 19% of formal employment. In rural municipalities alone, approximately 15 million people are supported by only some 700,000 formal jobs.



Former homeland areas

The scale of the challenge becomes clearer when formal labour absorption rates are compared with similar municipalities elsewhere in the country.

Rural municipalities would require approximately 1.46 million additional formal jobs simply to reach employment ratios comparable to non-former homeland small towns.

Gross Value Added data tells a similar story. Despite the large populations in rural municipalities, these areas combined contribute only 9% of the national economic output, reiterating the disproportionate structural weaknesses in these local economies.

Public investment has dramatically improved access to services and basic infrastructure in these areas. The question is why these gains have not translated into stronger local economies capable of generating employment at scale.

> *"For thirty years we have measured whether services arrived. Largely, they have. The harder question is whether a place became* ***investable****."*
>
> Simon Webster, NSH

From access to investability

This distinction between access and investability may be a critical insight for spatial transformation policy. Services improve quality of life, but they do not automatically create economic agglomeration.

Economic activity tends to concentrate where firms, workers, infrastructure, institutions and markets reinforce one another. Transport networks, skills, market demand, governance, safety and connectivity interact to create conditions where investment becomes viable.

Many former homeland areas remain disadvantaged across several of these dimensions simultaneously. Major freight and rail corridors continue to bypass large portions of these regions. Educational outcomes remain weak in many areas. Disposable incomes are low, limiting local market demand. Administrative and governance constraints add further friction.

None of these factors alone explains the challenge. Together, they help explain why economic activity struggles to take root despite significant public spending.

While decent service provision is critical, services alone are unlikely to transform local economies if broader economic preconditions remain absent.

Land, infrastructure and spatial levers

The discussion also highlighted the role of **strategic land** and **infrastructure assets.** Participants pointed to the importance of state-owned land, major public landholders such as Transnet, and the alignment of logistics infrastructure, intermodal hubs and property disposal programmes with broader spatial development objectives.

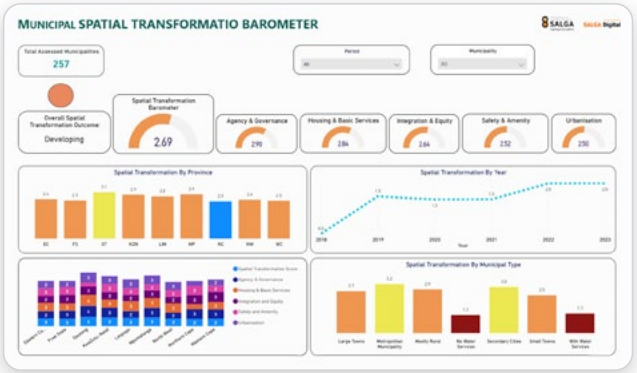
Slow and fragmented land administration processes continue to constrain investment in many former homeland areas. Spatial transformation cannot be reduced to housing delivery, land use planning or infrastructure provision alone. It requires understanding how land markets, transport systems, economic networks and governance arrangements interact over time.

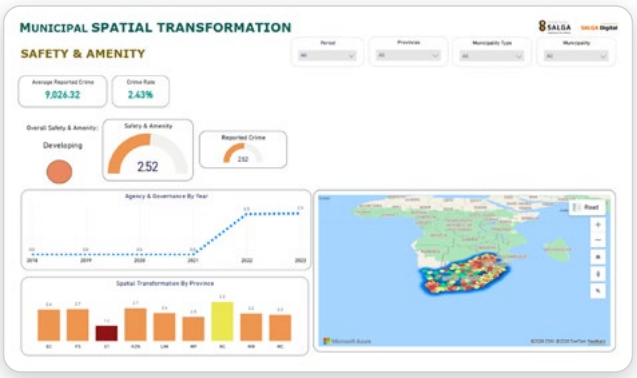
Better data does not guarantee better decisions

A recurring theme across all our Insight Exchange sessions is that South Africa is not short of data; and that our greater shortcoming is turning evidence into decisions.

Across government, significant investments are being made into dashboards, observatories, monitoring systems and digital platforms. These initiatives are improving our ability to understand spatial conditions and track change over time.

The **SALGA Spatial Transformation Barometer** emerged from recognition that municipalities often lack consistent, comparable data with which to assess spatial transformation. Through a negotiated set of indicators and a national dashboard platform, the initiative seeks to create a common evidence base across municipalities.





Research undertaken through the SALGA initiative confirms that spatial transformation is being constrained by a combination of slow pace of land reform, unresolved land access challenges, the persistence of apartheid spatial patterns, limited socioeconomic improvement in townships and informal settlements, continued vulnerability to crime and shocks, poor connectivity and mobility, weak institutional focus and capacity, conceptual uncertainty about what transformation entails, shortages of technical planning skills, and severe fiscal pressures across the local government system.

There is an absence of mechanisms that translate evidence into planning, budgeting and implementation decisions. Data creates value when it shapes investment priorities, influences Spatial Development Frameworks, informs Integrated Development Plans and changes how resources are allocated.

This distance between analysis and action remains one of the most significant barriers to spatial transformation.

> *"Spatial transformation is happening as an **accidental process** and it is not well coordinated."*
>
> Zanoxolo Futwa, SALGA

Understanding places as systems

The crux of spatial transformation is changing the systems that shape places.

Housing, transport, land, infrastructure, economic development, safety and governance are often planned and funded separately. Yet places do not experience them separately. They interact continuously, reinforcing or undermining one another.

This helps explain why spatial inequality has proven so difficult to shift. The challenge is not simply delivering more infrastructure, more housing or more services. It is creating the combinations of conditions that allow places to become productive, connected, inclusive and resilient.

This session demonstrated that South Africa has become increasingly sophisticated at diagnosing spatial conditions. We are getting better at identifying where people live, where opportunities concentrate, where investment flows and where inequalities persist.

We urgently need to develop the capabilities to use that understanding to change trajectories.

The tools for better diagnosis are increasingly available. The harder task is ensuring that this evidence informs the decisions that shape places – measurement needs to lead to action, or have consequences for inaction.

Resources

The SALGA Spatial Transformation Barometer →

GCRO's Map of the Month
Changes to population distribution in the GCR (1996-2022), March 2026 →

GCRO's Map of the Month
Gauteng's urban land cover growth: 1990-2020, March 2022 →

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