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Informal Settlements

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2014
Wits University Press
https://hdl.handle.net/10539/38442
Huchzermeyer, M., Karam, A. and Maina, M. 2014. Informal settlements, in Harrison, P. Gotz, G. Todes, A. and Wray, C. (Eds.). Changing Space, Changing City. Wits University Press.

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Chapter Title: Informal settlements

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Book Title: Changing Space, Changing City

Book Subtitle: Johannesburg after apartheid - Open Access selection

Book Editor(s): PHILIP HARRISON, GRAEME GOTZ, ALISON TODES and CHRIS WRAY

Published by: Wits University Press

Stable URL: http://www.jstor.com/stable/10.18772/22014107656.12

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8 Informal settlements

MARIE HUCHZERMEYER, ALY KARAM AND MIRIAM MAINA

Informal settlements have formed an essential part of Johannesburg since its inception, to some extent shaping its growth, often being displaced by formal development but re-emerging elsewhere. In this chapter we focus on the informal settlement situation within the municipal boundaries of the City of Johannesburg, and review changes in informal settlement over the past decade. While the city developed more nuanced data in 2012 and 2013, in part sparked by drafts of the research presented in this chapter, the official and political position on informal settlements in Johannesburg remains that this form of residence has been 'mushrooming' or 'ballooning'. The official position is that as of 2013, over 189 such settlements exist in the city, of which around 50 are unsuited for in situ upgrading and require relocation.[1]

The analysis presented in this chapter challenges political rhetoric, official data and the city's intervention programmes for informal settlements. Our call is for a more differentiated understanding of the situation, which may pave the way for more in situ upgrading. The City of Johannesburg increasingly acknowledges that the number of households living in informal settlements is a moving target, and that accurate data is unavailable.[2] In 2013, the city was working on an assumption of a 20 per cent growth in the number of households in any informal settlement since its shack count of 2007, 'unless "better" statistics exist'.[3] However, the city's subsequent shack counts in individual settlements have shown that the 20 per cent growth is often an overestimate.[4]

While informal settlements must remain an area of urgent attention, we present a picture that is less dramatic, where growth in informal settlements is mostly punctual

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(restricted to specific areas) and spatially follows the trends in formal upmarket residential expansion with its domestic employment demands. In addition, the City of Johannesburg's new geographic information systems (GIS) data and the 2011 Census (Stats SA 2012) data show higher growth in numbers of backyard shacks across the city than of shacks in informal settlements. As of 2012, it was estimated that there were 165 000 units in informal settlements as opposed to 320 800 backyard shack units as identifiable using aerial photography.[5] This corroborates earlier findings that the growth in backyard rental had intensified across South African cities when compared to growth in informal settlements (SAIRR 2008).

Our concern is less with informal settlement growth than with the large concentrations of informal settlements, often dating back to the transition from apartheid, that have seen little if any improvement. This calls into question not only the effectiveness of the city's informal settlement intervention programme, but also the rationale behind the city's spatial investment planning, a theme that is carried through several chapters in this volume. It should be acknowledged, however, that by the time of going to press in 2014, the city had begun to adjust its informal settlement intervention to take into account the new data.

Our approach in this chapter was to analyse the literature and existing datasets. These included GIS data from the City of Johannesburg,[6] GeoTerraImage's growth indicator data (GTI 2010), as well as satellite imagery and aerial photographs taken late in 2011. The city also maintains a database of what it refers to as 'informal settlements' within its jurisdiction as at 2007. A database of 180 such settlements is spatialised through polygons that can be overlaid onto aerial photographs. This captures basic data such as year of formation, number of shacks, level of services and land ownership. The data, while extensive, are not entirely accurate. In 2011, the city increased the list of settlements from 180 to 189 (CoJ 2011a: 3), but there is at least one substantial informal settlement that is not included on the 2011 list, while some of the settlements on the list no longer exist, and several others do not match the definition for informal settlements recommended by national government. The City of Johannesburg has acknowledged the limitations in its approach to identifying informal settlements for inclusion in its project list.[7] GTI's growth indicator data in turn include a point-based building count of the city's settlements from 2001 to 2009. We used this to augment the city's database. We also analysed satellite imagery from 2001 to 2011 to monitor informal settlement spatial growth trends in the city.

We start by presenting how housing policy treats informal settlements in South Africa and we locate the city's approach within this. Definitions of informal settlements and the implications of these for analysis of informal settlement datasets are interrogated. We then explore broad trends in informal settlement across the municipality, discuss the nature of informal settlements in Johannesburg, identify dominant types of informal settlement, and then turn to regional change in informal settlements in Johannesburg in relation to infrastructure, land and development trends. We conclude the chapter with pointers for additional data and analysis.

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The City of Johannesburg's approach to informal settlements in relation to larger policy shifts

In post-apartheid South Africa, the practice has been to provide land, housing and services to households in informal settlements through the project-linked capital subsidy programme (commonly known as the 'RDP housing subsidy') under the National Housing Subsidy Scheme.[8] This funding mechanism was designed for development on vacant land and has therefore been difficult to apply to the upgrading or improvement of living conditions in existing informal settlements without removal and redevelopment (Huchzermeyer 2003).

By 2003, the absence of a dedicated subsidy system designed to facilitate in situ upgrading of informal settlements with minimal disruption to the lives of existing residents was widely recognised as a policy gap (Marx 2003). The national Department of Housing therefore incorporated this into its 2004 Breaking New Ground Strategy (commonly referred to as 'BNG'), which sought to provide 'more responsive mechanisms which addressed the multi-dimensional needs of sustainable human settlements' (DHS 2004: 8). In the same year, the Upgrading of Informal Settlements Programme (UISP) materialised as Chapter 13 of the national Housing Code, with the purpose of guiding informal settlement upgrading across the country (Huchzermeyer 2006). In 2009, this was incorporated into Part 3 of the new Housing Code (DHS 2009).

Provincial and local governments did not immediately implement the UISP. Recognising this challenge, the national Department of Housing established a National Upgrading Support Programme (NUSP) in 2008, initially through support from the international organisation Cities Alliance, and later incorporated directly into the national Department of Human Settlements (formerly the Department of Housing). In 2010, informal settlement upgrading received a further boost through a renewed commitment from the Presidency to fast-track delivery in 12 key sectors. One of these was Outcome 8 – 'Sustainable Human Settlements and Improved Quality of Household Life' (RSA 2010). Under this theme, all provinces must formulate informal settlement upgrading programmes as well as project plans so as to reach the goal of upgrading or improving the lives of 400 000 households in informal settlements by 2014 (RSA 2010). The NUSP is tasked with promoting and supporting the implementation of the UISP (RSA 2010). While the NUSP focuses on metropolitan cities, the Housing Development Agency fulfils this function for smaller municipalities across South Africa.

Due to the relative obscurity of the UISP since its introduction in 2004 until its elevation through the NUSP in 2008 and the Outcome 8 agreement in 2010, the City of Johannesburg pioneered its own approach to improving conditions in its informal settlements. This was also in the context of the Gauteng provincial government approaching informal settlements through 'formalisation' rather than in situ upgrading as set out in the UISP. 'Formalisation' applies 'standard development criteria' and therefore 'has not worked towards treating relocation as a last resort, recognizing intrinsic value in informal settlements or minimizing

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the disruption to people's lives' (Huchzermeyer 2011: 170). The City of Johannesburg looked to Brazil's approach of Special Zones of Social Interest 'as a first step to securing permanent tenure rights for *favela* residents' and based its new regularisation programme on this (Huchzermeyer 2011: 175). This 'incremental approach' ensures tenure security and basic services on an interim basis, and provides the foundation for later upgrading of those settlements that are located on land that allows for permanent residential development (Urban LandMark 2010). The city (CoJ 2010: 39) describes the regularisation programme as providing 'interim relief'. Until the time of drafting the chapter in 2012, this programme was able to secure only a temporary status before conventional housing delivery through the project-linked capital subsidy would be secured for qualifying households, as required by the Gauteng provincial government which approves subsidy funding. Since working in closer collaboration with the NUSP from 2013, it is hoped that the regularisation programme will form the basis for in situ upgrading under the UISP. However, there is some remaining resistance from the province, which is yet to embrace in situ upgrading as a distinct approach to housing delivery.

Definitions and datasets

Data on the number of households living in informal settlements in Johannesburg are not conclusive. In a review of various statistical databases for the Housing Development Agency, Eighty20 (2011) identifies two ways in which Statistics South Africa captures informal settlement household data, but both are inclusive of non-informal settlement forms of residence. One is the data on enumeration areas that are identified as 'informal settlements'. Statistics South Africa defines these as 'unplanned settlement on land which has not been surveyed or proclaimed as residential, consisting mainly of informal dwellings (shacks)' (Eighty20 2011: 5). The other is the housing type 'informal dwelling/shack not in back yard', which includes shacks on serviced sites and other non-informal settlement settings (Eighty20 2011; Huchzermeyer 2004; Huchzermeyer et al. 2006). Eighty20 (2011) identifies the number of households actually living in informal settlements as comprising the intersection between these two datasets. It notes the limitation that statistics at the level of enumeration areas are available only up to 2001. We identify an additional limitation, namely that the intersection between these two databases excludes brick-and-mortar structures or non-'informal' dwellings which do exist in informal settlements.

According to Statistics South Africa's 2007 Community Survey, 75 255 households or 7.2 per cent of households in Johannesburg live in informal settlement enumeration areas – the actual number of households in informal settlements would be lower (Eighty20 2011). The city's database in turn includes 200 643 shacks in its so-called informal settlements (Eighty20 2011). If each shack were to house one household, this amounts to approximately 20 per cent, the figure that reports have cited as the city's official figure for households living in informal settlements (Huchzermeyer et al. 2004; McIntosh Xaba and Associates 2008).

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For the purposes of this chapter, we adopt the definition of informal settlements set out on the website of the Department of Human Settlement's NUSP (n.d.), henceforth referred to as the 'NUSP definition':

> An 'Informal Settlement' exists where housing has been created in an urban or peri-urban location without official approval. Informal settlements may contain a few dwellings or thousands of them and are generally characterised by inadequate infrastructure, poor access to basic services, unsuitable environments, uncontrolled and unhealthy population densities, inadequate dwellings, poor access to health and education facilities and lack of effective administration by the municipality.

This clarifies the ambiguous definition in the UISP in the National Housing Code (DHS 2009: 16), which applies to any settlement displaying 'one or more' of the following characteristics: 'Illegality and informality; Inappropriate locations; Restricted public and private sector investment; poverty and vulnerability; and social stress.' It is important to emphasise the core of the NUSP definition, namely the formation of the settlements in the absence of 'official approval'. We therefore differentiate between informal settlements and transit or reception areas. The latter may display many of the attributes listed in the second half of the NUSP definition, but they emerge with official approval, albeit for temporary occupation. In certain cases, settlements that were established as 'transit camps' one or two decades ago are today not considered suitable for low-income formal development by the City of Johannesburg, but their residents have resisted relocation, as in the case of Themb'elihle in Lenasia. For the settlement of Ebumandini to the north-west of Soweto, aerial photograph history shows very clearly that roads were laid out in this area before informal housing structures were built. Ebumandini, like Themb'elihle, is on the city's list of informal settlements.

We acknowledge that transit or reception areas, like informal settlements, are in need of upgrading and permanent securing of tenure (with relocation only as a last resort). They should therefore be recognised as a particular form of settlement and not listed as 'informal settlements'. There is a wide range of different transit areas, some highly controlled and curtailing fundamental freedoms, others seemingly forgotten by the state. An example of the former is the Protea South transit area established in 2006. Due to the rules that were to govern this fenced-off camp and the lack of certainty as to where and when the temporary occupants of the camp would subsequently be moved, the Protea South informal settlement community refused to move into the relocation area. The camp was dismantled in 2009 as the land lease had expired (Huchzermeyer 2011). Themb'elihle, to the south of Soweto, was established around 1980 with government authority (essentially as a transit area), but the present municipal government does not recognise it as such.[9] There have been calls for a clearer policy on the establishment and management of transit areas to prevent the prolonged uncertainty, undignified living conditions, control or neglect (Chance et al. 2009). The history of authorisation (even if forgotten) places a particular responsibility on the municipal and provincial governments to service temporary relocation areas and

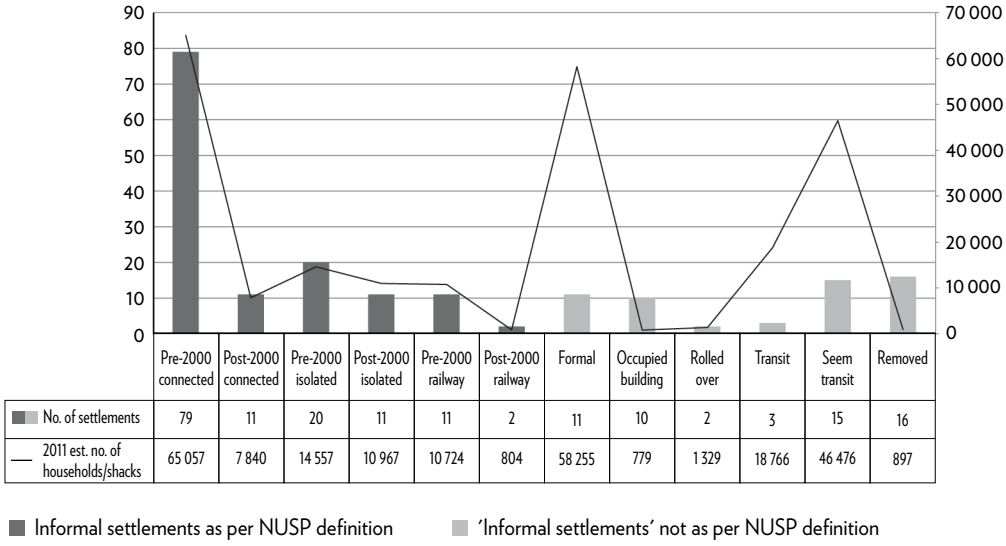
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to ensure they are 'temporary', not through eviction but through a route to adequate permanent accommodation.

In essence, the state's constitutional obligation in relation to unauthorised informal settlements is the same as its obligation to authorised ones. However, in the case of a transit area, the state legally secured land and planned a settlement, albeit a temporary one. This means that these settlements should be a step ahead of unauthorised informal settlements, at least in terms of a basic level of tenure security and in provision of basic services.

Eighty20 (2011: 15) cites a definition for informal settlements from the City of Johannesburg that is similar to that of the NUSP, emphasising lack of 'authority' in 'the occupation of a parcel of land', the informal nature of the structures and the absence of 'essential services'. The city's list of 189 informal settlements includes recognised transit and reception areas, areas that evidently emerged as transit areas even if not recognised as such by the city, formal subsidised housing areas, as well as occupied buildings. An example of the latter is Happy Valley, a settlement of 30 households living in some 26 formal structures, and for which the city intends piloting informal settlement upgrading. The presence of a few clusters of occupied buildings in the city's list of informal settlements needs to be placed within the context of many more buildings in the inner city of Johannesburg inhabited precariously, either informally occupied or rented out in inadequate conditions and with severe overcrowding (Chapter 9 refers to these as 'vertical informal settlements'). Citing the 2001 Census (Stats SA 2012), the Centre on Housing Rights and Evictions points to 'a total of approximately 20 500 households [78 000 people] earning less than R3 200 living in the inner city of Johannesburg' (COHRE 2005: 9). There are no conclusive data on inner-city buildings occupied informally, but in 2013 the city estimated that 100 000 people live as occupants of 'condemned … debt-ridden, abandoned buildings' across the various economic nodes of the city.[10] This includes the formerly industrial area of Marlboro near Alexandra which has large numbers of informally occupied factory buildings. In Figure 8.1, we contrast the city's informal settlement data with our analysis of the city's informal settlements as per the NUSP (or City of Johannesburg) definition. Among proper informal settlements, which make up 134 in total, we include three substantial informal settlements, all well located, that are not included in the city's database. Among these proper informal settlements, we differentiate between those that are inserted in or in close proximity to the existing built environment and services, and those that are isolated in their location. We also differentiate between those that emerged before 2000 and those that emerged after that date. Among those settlements on the city's database that are not proper informal settlements according to the NUSP definition, we differentiate between formal greenfield housing developments, former informal settlements that have been rolled over into formal serviced sites or housing developments, temporary or transit areas named as such by the city, settlements that show strong signs (in the formality of the layout) of being transit areas (i.e. seeming transit areas), and settlements that have been removed and no longer exist.

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	Pre-2000 connected	Post-2000 connected	Pre-2000 isolated	Post-2000 isolated	Pre-2000 railway	Post-2000 railway	Formal	Occupied building	Rolled over	Transit	Seem transit	Removed
No. of settlements	79	11	20	11	11	2	11	10	2	3	15	16
2011 est. no. of households/shacks	65 057	7 840	14 557	10 967	10 724	804	58 255	779	1 329	18 766	46 476	897

FIGURE 8.1: A categorisation of Johannesburg's 180 informal settlements, 2011
Source: CoJ (2011b)

Broad spatial trends

Informal settlements in Johannesburg remain concentrated in an arc along the city's western periphery, from Ivory Park in the north-east, past Diepsloot in the north-west, down to Orange Farm in the far south (Figure 8.2). This pattern must be understood from a view beyond the city's boundary line. On the one hand, the continuation of Johannesburg's upmarket suburban core of northern suburbs into the neighbouring Ekurhuleni Municipality to the east means that no informal settlements established themselves on the city's eastern boundary. On the other hand, in three large concentrations, the city's formal low-income housing areas, all with pockets of informal settlement, form part of a much larger agglomeration of formal low-income development. Orange Farm's formal development continues seamlessly across the Johannesburg border into Evaton, Ivory Park into Tembisa, and Ebumandini (to the west) into Kagiso. A further large formal low-income housing concentration just outside the city boundary is Olievenhoutbosch, directly to the north. Only one informal settlement pocket within formal housing development crosses the municipal boundary – this is Chris Hani Extension 4 settlement, in an area spanning Ivory Park and Tembisa.

Of the large cross-boundary agglomerations of low-income residential areas, Ivory Park, an almost artificial enclave carved out of the municipal boundary, stands out as the largest concentration of informal settlements in the city. This is similar to the informal occupation of almost all open spaces in the Cape Town township of Khayelitsha. Of the 49 documented informal settlements in Johannesburg's northern Region A, 37 are within or

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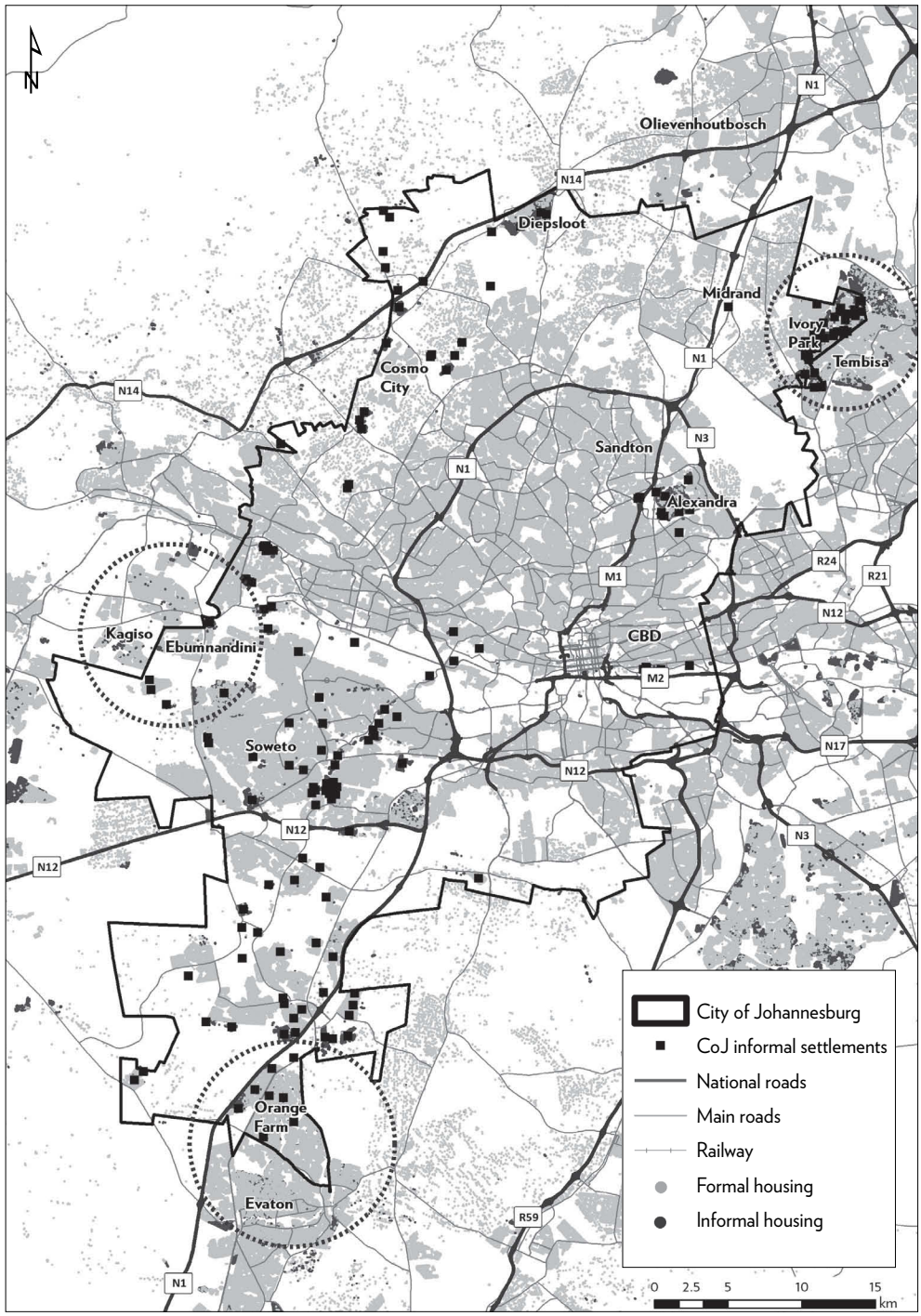


FIGURE 8.2: Johannesburg's high-income and low-income built-up areas crossing into neighbouring municipal areas

Sources: CoJ (2009, 2011b); GTI (2010)

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directly adjacent to Ivory Park. Most have existed since before 2000 and remain without formalisation or in situ upgrading.

Alexandra is atypical of Johannesburg's low-income residential areas (and pockets of informal settlements) with its close proximity to upmarket Sandton. However, it remains a microcosm of apartheid-era spatial planning. It has buffer zones on all sides and is not directly adjacent to the upmarket area. As we will show, there are a small number of newer informal settlements, mainly in Johannesburg's north, that atypically border onto exclusive upmarket areas, defying apartheid spatial planning and post-apartheid land market trends. These settlements bring us closest to the reality of cities such as São Paulo, where walls have performed the function that spatial buffer zones played in apartheid planning. Apart from these, there are a number of informal settlements embedded within Johannesburg's lower middle-income suburban belt stretching east-west on either side of the CBD. The settlements tend to spatially punctuate railway stations. These too have existed since before 2000.

Informal settlements in Johannesburg have been on a fairly constant trajectory over the past decade, but with regional variation. While individual informal settlements, for instance Kya Sands, emerged after 2000 and have grown substantially, we found no evidence of a 'mushrooming' or 'ballooning' of informal settlements in and around Johannesburg – terms that became popular among politicians during the height of the 2004–2009 drive to eradicate informal settlements across South African cities (Huchzermeyer 2011). The majority of Johannesburg's informal settlements originate from before 2000 (Figure 8.3). This correlates with Eighty20 findings, namely that '[t]he majority of people currently living in a shack not in a backyard in Gauteng have been living there since before 2001' (2011: 60).

In Johannesburg, there is still not a single informal settlement in the formerly 'whites only' large suburban area just north of the CBD up to the exclusive suburban areas surrounding Sandton in the north. In its 2003/2004 Integrated Development Plan, the city (CoJ 2003a: 225) labelled these as City Foundations, areas to be maintained and enhanced, implying their relevance as a revenue base for the municipality. Similarly, a formerly white suburban area directly south-east of the CBD and the mining belt has remained free of informal settlements. An analysis of Statistics South Africa data (Crankshaw 2008) shows that up to 50 per cent of this area is inhabited by the middle class, which includes professionals and managers.

Unlike neighbouring Ekurhuleni, Johannesburg's mining belt has remained relatively free of informal settlements. The land is mainly owned by a private company whose land extends east-west through Johannesburg and Ekurhuleni for about 80 kilometres (Karam and Venter 2007). Despite much of the land appearing to be underutilised, it is still undergoing recycling and more gold is being extracted from the dumps with the 'free' soil deposited in super-dumps in Ekurhuleni (Simons et al. 2008). As these 'dumps' are being reprocessed, they create an unsuitable environment for settlements to emerge. However, while mined land with its unstable soil conditions makes it difficult to build permanent structures and infrastructure, the removal of former dumps means land becomes available for development (Tang and Watkins 2011), potentially both formal and informal.

Like Ekurhuleni, Johannesburg is crossed by a wide strip of dolomitic rock formation

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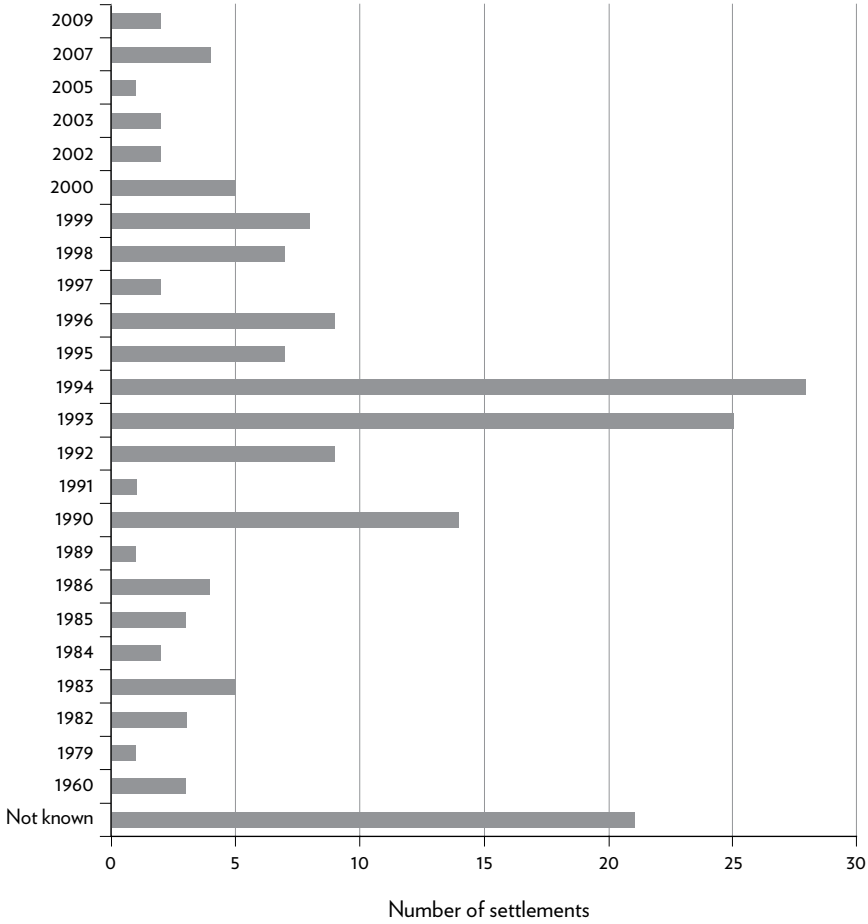


FIGURE 8.3: Informal settlement formation, Johannesburg 1960–2008

Source: CoJ (2011b)

Note: This graph excludes settlements on the database that we do not consider to be actual informal settlements; few informal settlements formed after 2003.

south of the main gold reef or mining belt (Plate 42). This affects the southern and western parts of Soweto as well as the formal residential area of Lenasia (Storie 2011), which the apartheid state established as a relocation area for Indians during the implementation of the Group Areas Act. Although danger of subsistence exists to different degrees depending on the severity of the dolomitic instability and the extent to which the groundwater has been lowered (as a result of agriculture or mining), numerous large informal settlements have existed on this land and in some cases resisted attempts at relocation. The most prominent examples are Themb'elihle in Lenasia and Protea South and Slovo Park on the south-western side of Soweto. Formal state-subsidised housing areas constructed in the period 2004–2014 in Lehae and Lufhereng (Doornkop) have also been constructed on the dolomitic belt.

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The nature of Johannesburg's informal settlements

With the exception of settlements that have established themselves on pockets of unused space within the urban fabric, particularly Ivory Park, Johannesburg's informal settlements display an overwhelming orderliness.

On the whole, informal settlements have expanded in a pattern of parallel roads (Figure 8.4), mirroring closely the layout dimensions of formal settlements. This is similar to, if somewhat less regular than, the pattern of settlements that were originally established as transit areas, for instance Themb'elihle and Motswaledi (south of Baragwanath Hospital). Overall, the adherence to this pattern, rather than densification of these settlements, indicates both the availability of land and a strong expectation from informal settlement communities that in situ upgrading will materialise.

It is settlements that occupy small open spaces in formal areas that have reached the extreme densities that are characteristic of many informal settlements, for instance in Cape Town – cars generally cannot enter these settlements.

The densest informal settlement in Johannesburg appears to be Slovo (Figure 8.5), a settlement of 950 structures in the lower middle-income area of Coronation. Slovo settlement first emerged in 1993 and has not changed over the past decade. A similarly dense settlement was completely removed between 2003 and 2004 from the centre of Diepkloof, Soweto (the triangle at the intersection of Immink Drive, Cuyler Drive and Patrick Street) (Figure 8.6). This settlement remains unmentioned in the city's database, which lists other settlements that have been removed over the past decade.

Particularly dense too are pockets of informal settlements within the old fabric of Alexandra, as well as Sejwetla, the only remaining informal settlement on the banks of the Jukskei River in Alexandra. Sejwetla was not removed to the Diepsloot Reception Area during the much criticised evictions of the early years of the Alexandra Renewal Programme. Ironically, the West Reception Area of Diepsloot, established in 1995 for relocations from Zevenfontein and Alexandra (Harber 2011), today with 25 000 structures, is also extremely dense. In our definition, however, it forms an authorised transit area (with its own set of unresolved challenges) and not an informal settlement.

Analysing the settlements on the city's database as well as those discovered through our own mapping, we found that 65 per cent (81 settlements) of actual informal settlements have an orderly layout, as opposed to 35 per cent (45 settlements) that have a far denser and haphazard layout. We also found an interesting distribution of households across settlement size, with the majority of households being in medium-sized, fairly orderly settlements (Figure 8.7).

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FIGURE 8.4: Sweetwaters settlement, showing the orderly layout typical of Johannesburg's informal settlements



FIGURE 8.5: Aerial photograph of Slovo informal settlement in Coronation.

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FIGURE 8.6: A dense informal settlement in the centre of Diepkloof, Soweto in 2000 (top) and the same area in 2009.

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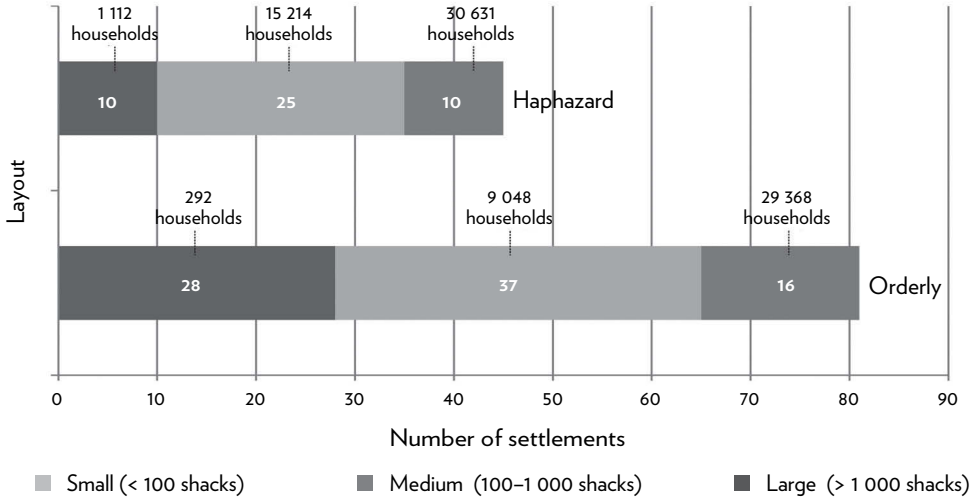


FIGURE 8.7: Distribution of households across various types and sizes of informal settlements

Regional trends in informal settlement change

Complete removal in areas of investment interest

The removal of entire settlements without evident RDP housing supply in very near proximity, therefore relocation to a distant site, is prominent only in Soweto (Figure 8.8). There, the city has removed Dlamini 1, 2 and 3, Mshenguville, Zondi, a small settlement called Fred Clarke, as well as the dense settlement in Diepkloof illustrated in Figure 8.6. The only other areas in which several informal settlements disappeared completely are the wealthy smallholding and gated-development areas of northern Johannesburg, in the city's Region A. The largest settlement to be removed entirely is Zevenfontein, adjacent to the exclusive gated community of Dainfern. This saw relocations, initially to Diepsloot in the late 1990s (Bénit 2002) and more recently to Cosmo City, with the final clearance occurring only in 2011. Other settlements that have been removed are Empire, Inadan Plot 37 in Kya Sands and the very small settlement of Formula One. Real estate pressure no doubt contributed to the removal of these settlements. Only one informal settlement, Goniwe, was removed in Ivory Park (the removal was from a school ground – what remains is a small number of shacks along the road). The concentration of informal settlement removal in Soweto can be explained through the city's spatial investment strategy or 'area regeneration'. Soweto was singled out for 'area regeneration' alongside Nasrec, Randburg, Lenasia and the inner city under the Joburg 2030 Strategy of 2002 (CoJ 2003b). By contrast, in the historically and therefore also politically less significant Ivory Park, a sizeable concentration of pre-2000 informal settlements exists largely unchanged.

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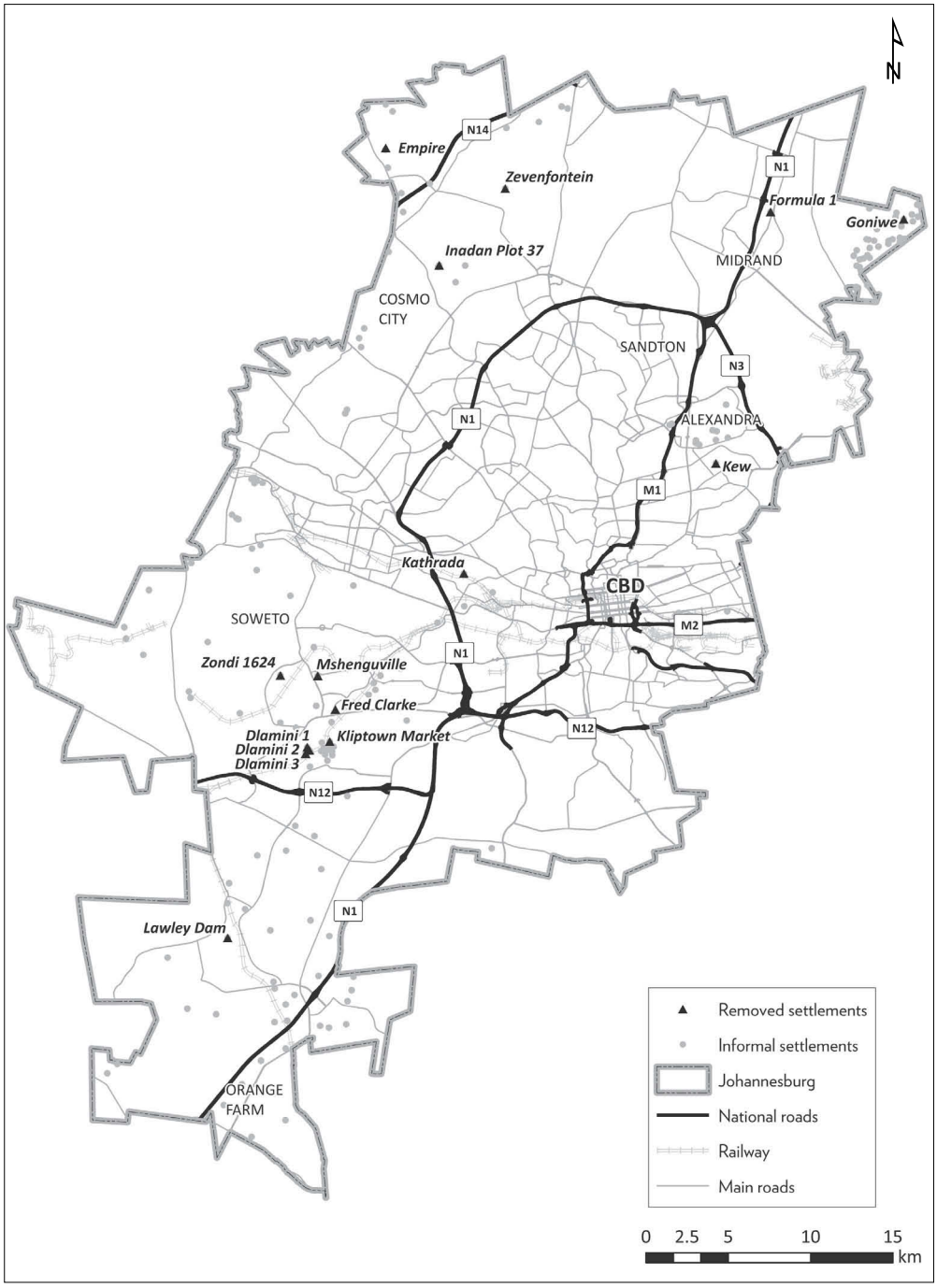


FIGURE 8.8: Informal settlements removed between 2000 and 2011

Source: CoJ (2011b); GDRT (2010). Cartography by Miriam Maina

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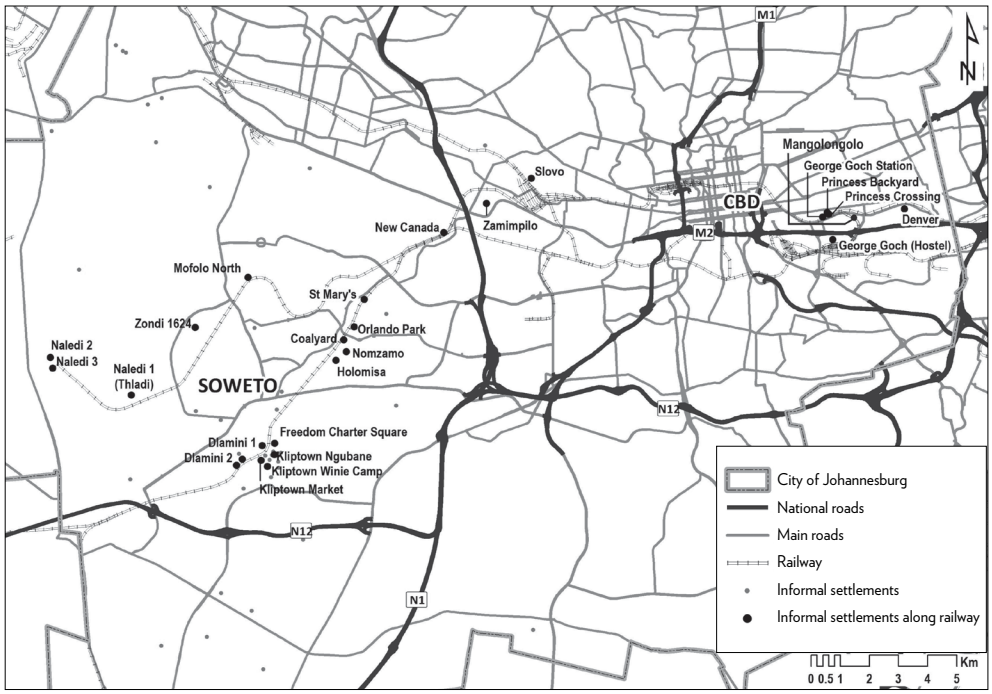


FIGURE 8.9: Johannesburg's informal settlements adjacent to railway lines, 2011
Source: CoJ (2011b); GDRT (2010). Cartography by Miriam Maina

In Soweto, development has not always resulted in complete removal of informal settlements. The Klipspruit Valley Road construction in 2004 through the Christ Hani (Chicken Farm) informal settlement resulted only in the removal of that part of the settlement, although further partial relocation or de-densification has since occurred. Other settlements that have seen no change are Holomisa in Klipspruit, Mofolo North, Naledi and Coalyard (Figure 8.9). The concentration of informal settlements in Kliptown remains despite intense state and private investment in the Walter Sisulu Square heritage and tourism precinct. Informal settlements have also remained along Soweto's railway lines. On some stretches, each station is marked by one informal settlement. Most of these, with the exception of St Mary's, already existed before 2000 and display little change.

As Figure 8.9 shows, the relationship between small informal settlements and railway stations is not only characteristic of Soweto. It is a long-run trend on the east-west axis of the city to the north of the mining belt. A series of informal settlements remain to the west (George Goch Station, Princess Backyard, Princess Crossing, George Goch Hostel, Denver and one informal settlement that does not appear on the city's database), and a few small informal settlements to the east (Slovo and Zamimpilo – Kathrada recently having been removed). Settlements along the railway lines, whether in Soweto or elsewhere, are on small portions of land and are correspondingly dense. The trend of informal settlements along railway lines

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continues in Ekurhuleni, where these settlements often extend along stretches of the railway line rather than occurring as small pockets punctuating individual railway stations.

Rollover upgrading in the south

In the south of Johannesburg, several informal settlements have been 'formalised' through rollover upgrading. Here, a former usually orderly and not very dense layout is replaced with a new layout, often of similar density (low-density informal settlements were often informally laid out to mimic formal layouts in anticipation of formalisation [Huchzermeyer 2004]). This is ironic, and in Huchzermeyer's (2004) case study of two such settlements, the reason given was merely the engineer's assumption that the existing layout was unworkable, and their brief to design a conventional layout for a subsidised housing development. The new roads characteristically run in the same intervals as the former roads, but in different directions. While these settlements displayed spatial characteristics suitable for upgrading, the households and their structures were removed from the land and a new development executed. Nomzamo is one such case in Soweto. The others are located further south – Devland and Weilers Farm (now named Kanana Park), and Kathrada (formerly Newclare Station) in Johannesburg's east-west axis. Figure 8.10 shows the former Weilers Farm layout overlaid onto the subsequent formalised layout.



FIGURE 8.10: A planned rollover upgrade showing former orderly layout of Weilers Farm and the proposed new layout

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Apart from the informal settlements along railway lines, there are other settlements that have seen virtually no change in size over the past decade. In the south, these are Sweetwaters and Lawley Station (also on the railway line). Surprisingly, despite large investments made through the Alexandra Renewal Programme, numerous informal settlements in Alexandra have remained unchanged. This applies both to Sejwetla and smaller pockets of informal settlement interspersed throughout the old Alexandra Township and surrounding the Helen Joseph Women's Hostel. However, aerial photography of Sejwetla belies the fact that the Alexandra Renewal Programme has relocated households from the settlement, as others have reoccupied the area. Its proximity to the Gautrain's Marlboro Station will place pressure on this portion of land in the near future.

Informal settlement expansion and new informal settlement formation

Surprisingly, many informal settlements, including several that formed since 2001, are on privately owned land. Private land ownership is an obstacle for the city's programme of 'formalising' informal settlements, that is, its programme of replacing them with formal serviced stands (as opposed to in situ upgrading). This may explain the long unchanged existence of the Sweetwaters informal settlement north of Orange Farm, as well as Lawley Station.

While many settlements have remained constant, there have been pockets of informal settlement growth in the period after 2001. Several of these are on privately owned land and appear to be in strategic locations in relation to casual or domestic work opportunities. An example is Msawawa in the affluent north-west of the city, directly adjacent to a new upmarket walled extension to Maroeladal and within a 4 km radius of Dainfern, Lone Hill and several other gated communities, as well as an industrial park. Msawawa was established in 1995 and grew slowly until around 2006/2007 when it began expanding rapidly. According to the city's database, it housed about 1 500 households in 2011. Also in Johannesburg's affluent north-west, Kya Sands grew rapidly from 2007. The city's database suggests that Kya Sands housed around 3 000 households in 2011. Kya Sands is located across the road from a large industrial area. It is also in proximity to several affluent areas including the gated communities of Maroeladal and Jukskei Park, all within a range of 3 km.

The settlement Lindhaven, adjacent to the middle-class suburb Grobler Park to the west of Roodepoort, has experienced growth since 2001. In Johannesburg's south, Volta emerged around 2004 on privately owned land in close proximity to middle-class Lenasia, opposite Themb'elihle. A slightly different scenario is represented by Sol Plaatjie, which emerged in 1999 and resisted relocation. From 2004 to 2009, residents were rehoused through a rollover upgrade and housing project. During the same period, a new informal settlement emerged and grew directly south of the original settlement. This was possibly due to de-densification and the displacement of households not qualifying for the state's housing subsidy.

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Conclusion

In this chapter we outlined an informal settlement scenario for Johannesburg that is less dramatic than generally assumed and portrayed by politicians. By separating actual informal settlements from other inadequate forms of residence which the city includes in its informal settlement database, approximately 10 per cent of households live in informal settlements according to the NUSP definition, which centres on absence of authorisation of the land occupation.[11]

While far more detailed analysis of the city's actual informal settlements is required (the city's new GIS forming a good basis for this), the analysis in this chapter supports the position that informal settlements are only one of many forms of inadequate housing within the city, and that each requires a tailored intervention approach. Two broad categories alongside informal settlements in the NUSP definition are temporary or transit areas and occupied buildings. Both require interventions and clear identification within the city's budgetary and monitoring processes. Conflating some of them into the city's informal settlement list hides these diverse situations, while also leading to an inflated picture of the informal settlement reality.

The city's attempt to pilot informal settlement upgrading in Happy Valley, a small settlement comprised of formal structures, suggests an unhelpful blurring of distinct forms of residential inadequacy, and evades (and therefore further delays) the actual piloting of in situ upgrading in proper informal settlements. If in situ upgrading as per the UISP were to be applied to informal settlements in Johannesburg according to the NUSP definition, the predominance of medium-sized settlements and of orderly rather than dense settlements would be recognised as an advantage in terms of feasibility. Therefore, the significance of this chapter is in representing a reality that should encourage the city to explore the tenets of the UISP in relation to actual informal settlements. This is an important message in terms of challenging the city's 'township' investment concentration (or area regeneration) in Soweto.

While the chapter highlights the ease with which many of the city's settlements could be upgraded, it also draws attention to long-neglected areas such as Ivory Park, neither growing rapidly, nor experiencing any significant improvement. The chapter also highlights the demand for low-income accommodation in close proximity to expanding upmarket residential developments, suggesting that this coexistence must be planned for in a more integrated manner so that the trend of growth in informal settlements can be proactively arrested.

Notes

1 P Ahmad, 'Reconsidering informality and growth within the city'. PowerPoint presentation, School of Architecture and Planning, University of the Witwatersrand, Johannesburg, 11 June 2013.

2 Ahmad, 'Reconsidering informality and growth within the city', slide 28.

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3 Ahmad, 'Reconsidering informality and growth within the city', slide 28.
4 Ahmad, 'Reconsidering informality and growth within the city'.
5 Ahmad, 'Reconsidering informality and growth within the city'.
6 Presentation on 180 squatter settlements, PowerPoint database provided by the City of Johannesburg, 2010.
7 Ahmad, 'Reconsidering informality and growth within the city'.
8 RDP stands for Reconstruction and Development Programme. Low-cost housing developed in Johannesburg under the project-linked subsidy is examined in Chapter 9 of this volume.
9 Letter by M Hathorn as legal representative of the Themb'elihle Concerned Residents Committee to the Executive Mayor of the City of Johannesburg, 18 May 2006, Webber Wentzel Bowens.
10 Ahmad, 'Reconsidering informality and growth within the city', slide 11.
11 Using the informal settlements data and our analysis, the number of households living in actual informal settlements is approximately 109 949. We measured this against the total population of Johannesburg of 1 050 701 households, as provided by Eighty20 (2011). However, by 2013, the 2011 Census (Stats SA 2012) data showed an underestimation of the city's entire population, which instead was found to be 1 438 185 households (4 444 564 people) (Ahmad, 'Reconsidering informality and growth within the city'). Applying this to our informal settlement analysis, the percentage of households across the city living in actual informal settlements is as low as 7.46 per cent. Using the city's new GIS data for informal settlements based on 2012 aerial photography, i.e. 165 000 households (Ahmad, 'Reconsidering informality and growth within the city'), and the city's population based on the 2011 Census, the percentage of households living in informal settlements stands at 11 per cent.

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