Building Better Cities

A new approach to housing and urban development

THE GROWTH AGENDA
Priorities for mass employment and inclusion

CDE

About CDE

The Centre for Development and Enterprise (CDE), an independent policy research and advocacy organisation, is South Africa's leading development think tank. Since its establishment in 1995, CDE has been consulting widely, gathering evidence and generating innovative policy recommendations on issues critical to economic growth and democratic consolidation. By examining South African and international experience, CDE formulates practical policy proposals outlining ways in which South Africa can tackle major social and economic challenges. CDE has a special focus on the role of business and markets in development.

CDE disseminates its research and proposals to a national audience of policy-makers, opinion formers and the wider public through printed and digital publications, which receive wide media coverage. Our track record of successful engagement enables CDE to bring together experts and stakeholders to debate the policy implications of research findings.

Series Editor: Ann Bernstein

About this report

This CDE report is the product of a joint initiative involving Shisaka, TUHF and CDE. It is based on CDE research and a longer report written by Matthew Nell, Ros Gordon, Otto Holicki, Massive Small: It's potential for Housing Delivery in South Africa's Metropolitan Cities. This report was written by Stefan Schirmer, Lisa Bulterman and Monique Atouguia, and edited by Ann Bernstein and Matthew Nell. We have benefitted greatly from discussions with and comments from the following: Matthew Nell, Paul Jackson, Ros Gordon, Kecia Rust and Alain Bertaud.

Cover photo by Toby Selander, Khayelitsha, 2018. Property of Bitprop.

Introduction

> **"**People do not demand houses; they demand habitats. A house is an object; a habitat is a node in a multiplicity of overlapping networks – physical (power, water and sanitation, roads) economic (urban transport, labour markets, distribution and retail, entertainment) and social (education, health, security, family, friends). The ability to connect to all these networks makes a habitat valuable**"**
> **Professor Ricardo Hausmann, John F. Kennedy School of Government and Director, Harvard Growth Lab[1]**

Since South Africa became a democracy, desperate people unable to find suitable and affordable housing have constituted a calamitous reality that keeps recurring. Like many pre Covid-19 challenges, the outbreak of the pandemic has increased attention devoted to land and housing issues in urban areas, while also intensifying the seriousness of the situation. The irony is that Government's attempt to deliver housing to the poor has been amongst the most impressive in the world. As global housing expert, Alain Bertaud, has made clear, in terms of number of units delivered, South Africa's subsidized housing programme is "spectacularly better than public housing programmes in most other countries".[2]

If South African authorities have successfully delivered millions of housing units (in Gauteng, the nearly 1 million houses delivered before 2014 constituted close to 40 percent of all the households in the province) why is there such an entrenched and large disparity between the demand for and supply of affordable housing? The reason is that the quantity-driven, cost-minimising approach of the government has no chance of keeping up with the dynamic, changing and economically determined demand for housing amongst poor South Africans. As Hausmann argued: "If the deficit measured is one of houses (not) habitats, the solutions often do not solve the real problem. .. This approach has ended up exacerbating the segregation of the poor. It artificially creates…socially homogenous poor neighbourhoods where the unskilled live among themselves, disconnected from others, (segregated pockets of economic stagnation) making it harder for them to benefit from the agglomeration economies that would boost their productivity."

South Africa has a growing urban population and is a rapidly urbanising country.[3] The existing urban population is expanding and that creates a growing need for housing. In addition, people are moving away from rural areas, where poverty and unemployment are extremely high, towards urban areas, where the majority of economic opportunities are concentrated. When they get there, they usually settle on the outskirts of sprawling urban areas like Johannesburg, where land is cheap. If they are lucky, they may then qualify for government provided RDP housing, which is unfortunately also situated on the outskirts of the city for the same reason. The real opportunities, however, lie elsewhere, closer to the more concentrated centres of the city.

In the context of mass unemployment, the majority of RDP beneficiaries on the city's outskirts find it too costly to even look for, never mind secure access to, employment opportunities located in far-away city centres. It would therefore be extremely beneficial, both for the country and for the poor, to provide people with housing opportunities located much closer to centres of employment and entrepreneurship, allowing well-located residents to access all the networks and benefits of urban agglomeration and affordably search for work there, obtain more education or to even start their own businesses. This would be a much better way to encourage the emergence of habitats, in Hausmann's terms, and to have a housing policy that supports, rather than hinders, the goal of inclusive development.

One way to move towards achieving this outcome is to embrace and strengthen what is already happening: the 'massive small' approach to housing delivery. In contrast to providing sprawling housing developments for the poor far from jobs and opportunities, this approach helps to move South African cities away from segregation and exclusion. Many small housing projects, driven by small to medium sized private developers, achieve market-driven urban densification within existing residential suburbs, close to economic opportunities. It is a way to encourage local and inclusive economic development in critically important parts of the country.

"There are many ways in which better-located housing for the poor could be delivered in South Africa"

This report sets out the core elements of the 'massive small' approach and offers examples of where this kind of delivery is already making a significant difference in creating more compact and efficient South African cities. We explain why the 'massive small' phenomenon has great potential to raise growth and reduce unemployment in South Africa, and detail the factors that are preventing it from expanding at a much faster rate. A crucial aspect of this challenge is the regulatory environment that makes it too costly for many smaller providers to operate. This results, in many instances, in entrepreneurs and developers operating completely outside the legal context, which is extremely undesirable. Operating outside the legal framework places significant constraints on entrepreneurs seeking to build and finance new accommodation. It also creates potential dangers for those who want to take occupation of these well-located buildings. Reforming the regulatory environment and strengthening the ability of Metro authorities to manages these development is the way to respond to this challenge. The paper concludes by spelling out the reforms and interventions required for this approach to go to scale and deliver optimal results.

Government has not deliberately set out to segregate the poor from opportunities, but the commitment to providing subsidised, free-standing houses to all South Africans earning less than R3,500 per month, means it has no choice except to acquire the cheapest land, which is usually on the outskirts of the city or town. This is no longer a viable strategy. Local housing experts calculate that keeping up with metro housing demand will require the delivery of an additional 9,5 million new subsidised units by 2045. If delivered through RDP "greenfields" development, this will require acquisition of 316,000 hectares – a greater land area than Johannesburg metro's current total jurisdiction. If only 70% of these units were subsidised, this would require a government outlay of R2,33 trillion (at current prices), expenditure that SA's dire fiscal situation will not permit. Even under improved financial circumstances, the costs of a "greenfields" dominated approach is likely to bankrupt our cities. Urban sprawl, transport and environmental costs will be devastating to the financial viability of the metros even before there is any additional investment in bulk infrastructure. The country needs a different approach.

How housing entrepreneurs are building better cities

There are many ways in which better-located housing for the poor could be delivered in South Africa. In this report we focus on the ways in which private entrepreneurs and financing companies operating in the context of existing housing markets are developing new, relatively affordable housing options in areas that are close to urban centres of dynamic economic activity. This approach is being rolled out in an incremental way through many small or medium projects across most of South Africa's cities and often in spite of urban regulations. Cumulatively it could make a significant difference to urban integration. We call this the 'massive small' approach to housing delivery.

"South Africans are prepared to move to relatively small spaces if it means housing is affordable and well located."

Shifting patterns of demand

South Africans want to live in cities, close to economic opportunities. They are prepared to move to relatively small spaces in less than perfect circumstances if that means housing is affordable and well located. There is for example strong evidence that, before the outbreak of Covid-19, the demand for housing in the inner city of Johannesburg, and in neighbouring districts like Hillbrow, despite high crime rates, infrastructural degradation and recent housing slumps, had grown at an above average rate. Developers and landlords reported that before Covid-19 inner city tenants, the majority of whom are blue collar workers, tended to pay reliably and that vacancies were low.[4]

Statistics also show that migration patterns within South Africa are towards urban centres, with Gauteng, by far the most urbanised province in South Africa, attracting the largest numbers. StatsSA recently estimated that for the period 2016–2021, Gauteng will have received close to 1.4 million net migrants.[5] A 10% expansion of Gauteng's population over 5 years.

People are moving to Gauteng because cities like Johannesburg are economic hubs generating the majority of economic opportunities, for both skilled and unskilled individuals. While some observers see decline and decay in the inner city as large numbers of formal businesses have moved out, the dominant reality is a highly dynamic small-business sector (much of it informal) which generates large revenues and creates significant employment opportunities.

Within Johannesburg's city, informal sector employment grew by approximately 210% between 1996 and 2011.[6] Over the last 20 years, Johannesburg has become an intense wholesale and retail centre for local hawkers and for traders from all over sub-Saharan Africa. Billions of rands worth of fast fashion is sold annually in the traditional central business district. A study funded by the Johannesburg Inner City Partnership (JICP) in 2017 counted 3,000 shops in the city centre. It found that cross-border shoppers spend more than R10-billion each year in this part of the city, which amounts to double the annual turnover of Sandton City.[7] From another survey undertaken by the Southern African Migration Programme (SAMP) responding entrepreneurs in 2019 created a total of 1,586 jobs, an average of 2.6 jobs for every one of the 618 entrepreneurs interviewed.[8]

As a result of these economic trends there is a dynamic market in living spaces driven by a strong demand for locations close to economic and job opportunities. As is always the case, there are private entrepreneurs who have their ear to the ground and are ready to offer affordable housing spaces in innovative ways. These trends are being seen in and around Johannesburg, but are also present in other dynamic urban centres, such as Cape Town and Durban.

"The approach is embedded in the market economy and responds to actual demand"

What is 'massive small'?

Outside of government plans to provide housing options to poor South Africans, new private entrepreneurs are offering alternatives for people who cannot access subsidised housing or are looking to locate closer to centres of economic activity than peripheral subsidised housing projects permit. These housing options are both formal and informal and many of these dwellings are in backyards throughout the city, including formal suburbs and townships. Others are new refurbished rental units in the inner suburbs and in city centres. This phenomenon is particularly appropriate in enabling market-driven urban densification as it occurs within existing residential suburbs in response to shifting patterns of demand.

'Massive small' projects are financially viable and generate development profits or net income for the developer. They do not rely on government housing subsidies. They make use of unsecured personal loans and private financial resources (savings or loans to fund development).Massive small' projects are motivated by profit and are responding to recognised demand. This generates substantial small business activity that in turn creates jobs and income in low and middle-income areas. In addition, the projects have the potential to enhance the sustainability of municipalities due to increased rates and service payments, as well as increased efficiencies in service delivery.

There are three types of 'massive small' developers:

1. **Established Enterprise Developers**: These are experienced developers who undertake housing projects on an ongoing basis as an established (registered) business. Their business has a balance sheet and lines of credit from lenders to fund their projects.
2. **Emerging Enterprise Developers:** These are developers who have a commercial interest in the housing project as a business venture and aim to learn from and undertake further housing developments. They are often employed elsewhere or run another business. They use their own equity, unsecured personal loans, mortgage loans from lenders such as TUHF, as well as loans from family and friends.
3. **Owner Developers:** These are developers who develop units on their own properties for the purposes of expanding their accommodation and/or supplementing their household income. They often use mortgage backed loans on their existing houses (where possible), their own equity, unsecured personal loans, as well as loans from family, friends and employers.

'Massive small' projects occur in existing residential areas, inner cities, transport corridors and nodes that are well located within cities. Given their location, these housing developments separately and together ensure that cities are beginning to adopt better land-use principles i.e. densification, infill development, access to public transport and existing amenity oriented developments. This helps to combat urban sprawl by bringing people and households closer to city centres and to places of economic opportunity. They also play a role in encouraging the use of existing urban infrastructure, with a focus on rehabilitation and expansion of existing infrastructure.

Because the approach is embedded in the market economy and responds to actual demand it moves beyond the provision of houses as a static asset, a consumption good, a place to live. Instead, it contributes towards spatial and economic integration, so that housing becomes classified as a productive asset that generates income and rising capital value.

The unrecognised contribution of private housing provision

Private individuals and entrepreneurs are entering the housing market and providing relatively cheap options in a dispersed, bottom up way, through a multitude of small and medium scale projects. These housing options are mushrooming across the country, and could be multiplied further, and at far better quality, if they were enabled by government, especially metropolitan government, and if they were able to gain better access to finance.

"These housing options are mushrooming across the country, and could be multiplied further, and at far better quality, if they were enabled by government"

Examples of owner-developers operating at the bottom end of the market can be found across the country:

Massive Small Stories: *Upgrading Hillbrow*

Sizakele's mother got her into the inner city low-cost accommodation business. In 2013, Majola identified an opportunity, a small apartment building in the heart of Hillbrow. The bulding, called Minfield Flats, was in dreadful condition with rubbish filling its passages and exposed live electrical cables, posing a real danger to the people living there. Majola knew that fixing it up and making the building a sustainable investment would be difficult, so she approached the financing company TUHF. Majola paid R1.8 million for Minfield Flats and budgeted R650 000 to renovate. By July 2014, the once dilapidated building had been transformed with 29 smart new units with tenants moving in soon after, paying R1,300 and R2,500 for the 12m2 and 18m2 studio flats respectively. Before the pandemic Minfield Flats employed three full-time staff – a security person, a cleaner and a caretaker. Three small spaza shops operated out of the building and were leased by traders for R3,500 per month, their presence boosting security and creating a welcome measure of economic activity. Majola says: "This is one of the hardest places in the city in which to do business, but you can make money if you manage and control the place properly, and make sure that your tenants feel they are living in a good, secure place and that they are being well looked after."


Massive small upgrading in Hillbrow

Ambitious projects in a place with potential – Dunoon, Delft/ Khayelitsha

Dunoon and Delft are well-located townships, situated near areas of economic activity and have easily accessible transport into the city. Delft is near the airport and close to thriving industrial zones while Dunoon is close to job and economic opportunities in neighbouring Killarney Gardens and Montague Gardens, as well as the residential areas Blouberg and Milnerton. In 2018 Zama saw an opportunity to develop rental units as a way to help her 65 year old mother. Because of a technicality, Zama's mother has been unable to claim a state pension. Zama approached an innovative local finance company called Bitprop for assistance to develop the rental units. Together they developed 4 rental units on her mother's property. The subsequent rentals have provided Zama's mother with an income significantly higher than what she would have received from a state provided pension.

"Dunoon, Delft and Khayelitsha are well located townships with easy access to Cape Town city centre"


Aerial photo of Dunoon (left) and Zama's development in Delft/Khayelitsha (right)

Becoming a Yeoville property entrepreneur

Soweto-born Sibusiso owns a property on St George's Street in Yeoville, Johannesburg, which was originally owned by humans settlements minister Lindiwe Sisulu. Sibusiso acquired the building with the assistance of TUHF, and developed two separate dwellings. The original 'main house' has seven units and a new built section at the back offers eight bachelor units. The bachelor flats outside have their own bathroom and feature a clever separation of the bedroom and kitchen. Rental for these units is around R2,500 per month, while the main house's self-contained units offer each tenant their own bathroom and kitchen, at a rental of R1,900 per month. Has since reinvested his profits in other buildings, in Soweto and in other parts of Yeoville.[9]

Sibusiso's first Yeoville development in St George Street

The extent of 'massive small'

A number of studies indicate that the private construction and rental of 'backyard units' is taking place at a significant scale across high, middle and low-income areas. They can be found in old and new, subsidised and unsubsidised housing estates and rural areas. The 2016 Community Survey estimates that 919,000 households (comprising 5% of the national total) are living in this type of accommodation in South Africa.[10] Studies show that this is in fact a very complex, fragile, but effectively operating housing sub-market.[11]

"Private construction and rental of backyard units is taking place at a significant scale across high, middle and low-income areas."

Backyard units vary greatly in terms of their size, type, access to basic services and quality of construction materials. A high proportion have access to water, toilets and electricity, but service connections vary from fully reticulated to illegal connections, to limited access to shared services. There is variance in the extent to which landlords comply with building regulations. Some landlords go through the formal channels of building application and approvals, and build to legislatively required specifications, while others are either ignorant of or choose to ignore existing planning frameworks, building regulations and by-laws. Although informality in this sector should be avoided as far as is possible, the legal status of units does not necessarily reflect or determine their quality, access to services or the nature of the relationship between landlords and tenants.[12]

Backyard developments in Yeoville (left) and Malvern (right)

Despite the sometimes poor quality of the housing, most tenants generally expressed satisfaction with their units and the services provided. However, research showed that some stock had a negative impact on occupants' health and wellbeing. Interventions are required to improve quality of rental rooms on a consistent basis.[13] This is, of course, of even greater concern in the context of the covid-19 pandemic. The issue is that some regulation is undoubtedly necessary, but it needs to fit the realities it is designed for. It should not create a situation where access to well-located formal housing is denied to the poor as a result of over-ambitious regulatory aspirations based on unrealistic expectations of what is possible under our current circumstances.

"Well-located housing should not be denied to the poor as a result of over-ambitious regulatory expectations"

Many of these private, bottom-of-the-market providers finance their own construction using a second mortgage and unsecured personal loans, or they turn to the local informal lenders or draw on their savings. Some new lending options have emerged around this opportunity including platforms such as iBuild, the Indlu app (see box on pg. 9) and personal loans from any number of banks.[14] However, while there are loan products available, high interest rates and small loan amounts reinforce the incremental nature of these developments.

Innovative, market-supporting technology solutions

iBuild

Build follows a "community banking" model with branches located in Gugulethu, Makhaza, Khayelitsha, Mitchels Plain, Delft, Brackenfell, Site C and Soweto. The platform provides lending solutions to low income workers who would typically be rejected by banks. In order to receive a loan from iBuild, an applicant must earn a minimum joint income of R5,500 pm. Loan amounts vary, with a minimum amount of R60,000. Half of the mortgage amount is directly put towards building material suppliers and the remaining amount is disbursed to the borrower for labour and other incidentals.

Indlu

Indlu is a rental-housing mobile app that connects homeowners in townships with potential tenants for their backyard rooms. The app facilitates relationships between the landowners and tenants and builds a track record for both. Indlu believes that the only way in which the significant housing backlog can be addresses is through a for-profit, sustainable business model where every person that owns a piece of land, either bought or granted, can get an income from their property.

Indlu is more than just a letting app, owners of properties are also able to qualify for funding for certain upgrades and even the development of new formal backyard rooms. Upgrades can include improvements to existing rental rooms or houses or developing new formal rooms, for example a small multi-storey apartment building.

The owner pays for these upgrades by entering into a rental share agreement with Indlu. Indlu provides the material, labour and expertise to develop the units. In return, Indlu recives 90% of the rent of the new units for a period of five years. After five years the land owner receives 100% of the rent.

The Indlu app was launched in December 2017 and almost R5 million worth of upgrades and investments in townships have been undertaken since then.

Bitprop

Bitprop is a new company that partners with homeowners to secure title deeds, and then designs and constructs bachelor-style units for rent. Bitprop takes on the risk of the capital outlay, and in return demands a portion of the tenant income for 10 years, until the cost of construction is recouped.

Thereafter the homeowner receives the full rental amount. The company argues that it can provide a good return to investors, and that they have created a sustainable investment model that could be significantly expanded.

The importance of formalisation

In order to promote an optimal expansion of 'massive small' developments and healthy, productive densification we need to find ways to help housing entrepreneurs formalise their properties and to find reasonable loan options within the formal financial sector. The possibilities of such an approach can be well illustrated if we look at the largest, most innovative finance company active in this sub sector, namely the TUHF. This company provides financing to a range of entrepreneurs who understand their neighbourhoods and the demand for housing. Taking this approach to scale would require a number of new companies following the example of the TUHF Group, and the large, established banks becoming much more involved in this market. It also requires policy reform and the adoption of a different approach to regulating housing delivery at the municipal level.

The TUHF Group

The TUHF group is one of the leading exponents and funders of 'massive small' developments. They have helped CDE understand what is happening already, and what is possible. The group likes to describe themselves as a funder that is "making a profit and making a difference". The TUHF Group has been operating for 17 years within all 8 metros. During this time, they have provided housing entrepreneurs with R4.7 billion in total funding. This has allowed 350, predominantly black entrepreneurs, to become active in this housing market, providing 40 000 housing units in 598 well-situated buildings. Through this, TUHF claims to have created almost 3,000 jobs between 2015 and 2018. The far greater contribution to reducing unemployment, and one that would nearly be impossible to quantify, is the reality that 40,000 people now live much closer to economic centres, enabling them to learn about employment opportunities and to search for employment in areas located less than 10 kilometres away from where they live. TUHF has successfully invested R3.7 billion in 128 suburbs across all eight metros and overtime aims to increase their total investment amount to R5 billion.

Within the metros, TUHF has a 98% occupancy rate in their buildings, reflecting the extent to which these buildings are responding to very high demand. Clients range in size from those who develop between four and 4,000 units. Many had been turned down by large banks before they approached TUHF.

TUHF plays a critical role in enabling new housing entrepreneurs who are providing multi-unit developments in response to a demand that they have identified, often based on a ground-up understanding of the housing market in the area where they live. The TUHF strategy has been to support upgrading, refurbishing and the buildings of additional rental units in and around inner cities. Their track record and focus on areas that are significantly underserved by formal banks has allowed them to develop an in-depth understanding of inner city property markets. This makes it possible for TUHF to assess the viability of potential builder/landlords and to provide advice as well as financial support. To assess whether individuals are creditworthy, TIHF determines whether a candidate who has applied for a loan has identified genuine opportunity in the market, and whether they demonstrate a keen interest in property development. TUHF also introduces new clients to existing clients so that they can pass on their experience and lessons of failure and success, as well as offering training and mentoring for starter entrepreneurs. TUHF clients range from domestic workers to business owners.

TUHF receives its funding from a range of funders, including major banks such as the Development Bank of Southern Africa; Standard Bank and Nedbank. Other large funders include the National Housing Finance Corporation; Futuregrowth Asset management; the Public Investment Corporation; Cadiz Life and Asset Management; Mergence Investment managers; Stanlib Asset Management Limited; Ashburton Investments and Novo Impact Fund. Loans can range between R5 million to R400 million. TUHF has been successful in running a profitable company and achieving their vision of reviving crucial urban neighbourhoods and supporting an emerging cohort of housing entrepreneurs, many of whom are black.

Many emerging entrepreneurs are not able to invest the required deposit amount (20 to 30 per cent of total project cost) so TUHF established the Inthithuko Equity Fund in 2006. This fund supports potential entrepreneurs who have never owned investment property before, to enter into the residential property market. The fund acts as a partner by contributing to the deposit amount. TUHF recently launched a township backyard rental finance product called uMaStandi which provides finance and training to develop an existing township property though building formal, approved and quality residential stock.

By providing access to finance for the purchase, refurbishment and construction of inner-city residential property, TUHF creates a positive fiscal impact. A growing urban community of economically empowered people places less strain on government resources by contributing to rates, utilities and taxes in buildings that were previously non-paying. For example, a total of R23,5 million has been paid in taxes by TUHF entrepreneurs during the 2018 financial year.

TUHF's vision is to build a R5 billion loan book, operating in every major city in South Africa. The CEO, Paul Jackson, believes that there is ultimately scope for 10,000 twenty unit developments to be built per annum country wide. That would provide 200,000 additional affordable housing units every year.

How 'massive small' could reduce unemployment and promote inclusion

Cities that function optimally should link poor people to new economic opportunities and provide pathways out of poverty. South Africa's cities continue to be scarred by the spatial legacies of apartheid, which have been exacerbated by a housing policy that has failed to locate poor people in areas where they could most easily access economic opportunities. Current 'massive small' developments are changing this, but these trends need to be better managed and accelerated. Supporting and expanding these type of developments would make a significant contribution to promoting densification, making our cities more efficient and promoting inclusive development in critical localities. All of this well be even more important in the context of promoting a post Covid-19 economic recovery.

The unintended consequences of SA's housing policy

The unemployment rate for Q2 2020, which reflects the initial but by no means the full impact of Covid-19, is 42% and the total number of unemployed people (ie. adults who wants a job but who are unable to find one) is 10.259 million.[15] The biggest concern is that only 36.2% of South Africa's working age population is now in any kind of employment. Nothing else compares to this as a socio-economic crisis threatening to overwhelm the country. South Africa's housing policy was on the one hand extremely successful in that it provided housing to almost four million low-income households.[16] However, the location of these houses was not optimal and in many instances resulted in marginalisation of poor households.

"Cities that function optimally should link poor people to new economic opportunities and provide pathways out of poverty"

New York University's Alain Bertaud, leading global urbanist and author of the book Order without Design, recently outlined the broad contours and consequences of South Africa's post 1994 housing policy. As he puts it: an important component of this programme was "a uniform, normative definition of adequate housing", which was frequently applied irrespective of location or local land prices.[17] This uniformity "greatly facilitated project appraisal and contractual relations between the government's housing agency and private developers building the units", but it constituted "an enormous built-in rigidity when selecting potential sites, privileging the choice of very large empty building sites, where land was cheap, and therefore far away from urban centres."[18] The resulting structure of South African housing was the reverse of an 'optimum urban structure', where high densities of jobs and people ought to be concentrated in more central areas.[19] As a result, most poor communities face large distances between their homes and employment centres, massively reducing their ability to access or even to look for jobs.[20]

Of course, South Africa's high unemployment rate cannot be entirely attributed to the poor location of the subsidized housing units government has provided for the poor. However, as Bertaud puts it, "this massive programme of building individual housing units in widely dispersed communities with no economic and speedy means of transport did not help."[21]

The importance of creating more efficient cities

If the South African economy is to grow more rapidly and link unemployed people to job opportunities, our cities must become more efficient. It is important, therefore, to understand how cities work, and what an efficient city should look like.

As cities expand, centrally located land tends to become more expensive. This can be seen in the high property prices in South Africa's biggest cities, in areas such as Sandton and Rosebank in Johannesburg, the City Bowl in Cape Town and Umhlanga in eThekwini. Households and firms respond to this by using space as efficiently and intensely as possible, reducing land consumption, building up and occupying less space, thereby substituting capital for land. Simply put, centrally located areas, due to the high demand from business and residents, become more densely occupied and people become more closely connected. By bringing people together in dense clusters, cities facilitate the explosion of productivity through agglomeration economies.[22]

"Large, efficient cities permit a concentration of factories, office buildings, houses, apartment buildings, community facilities, and infrastructure"

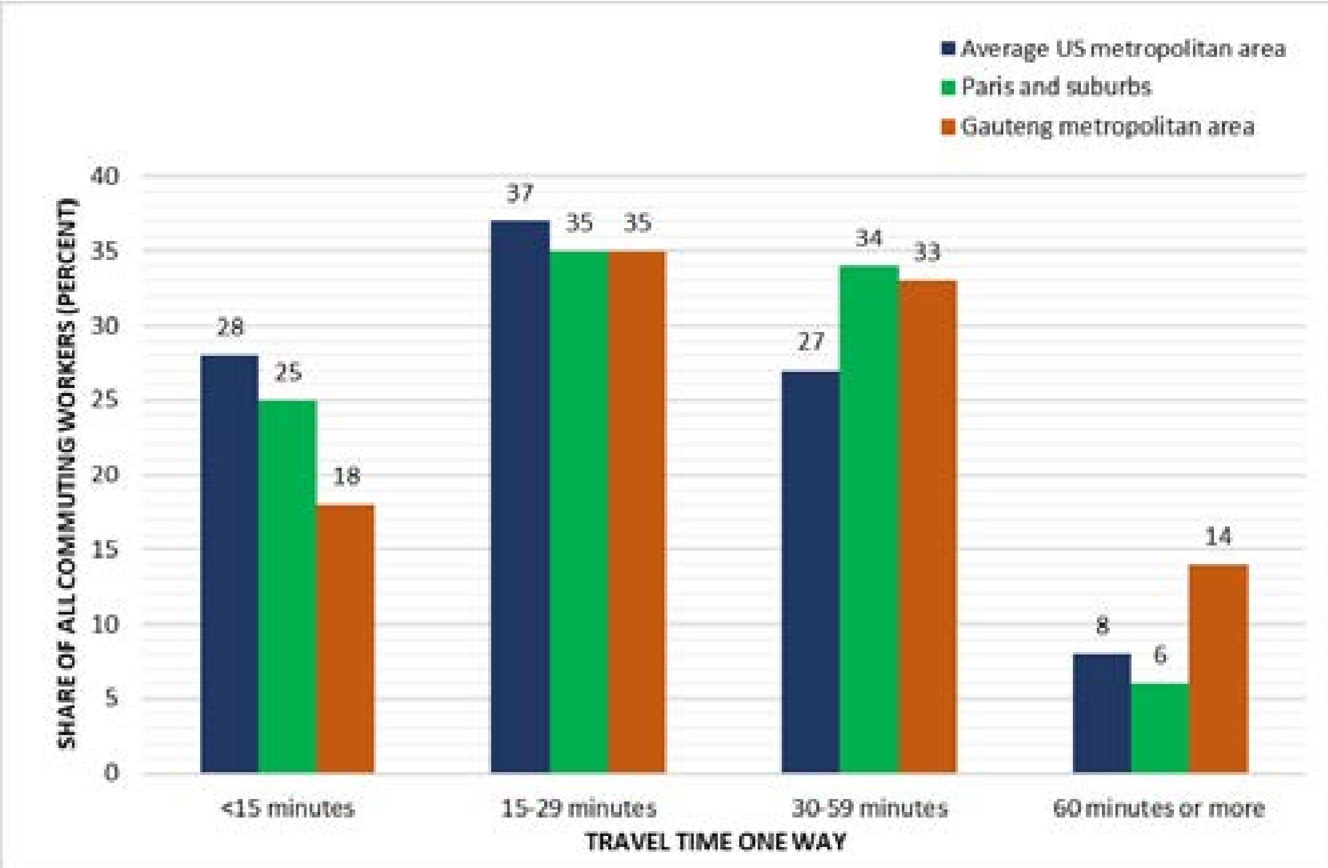
Large, efficient cities permit a concentration of factories, office buildings, houses, apartment buildings, community facilities, and infrastructure. Bringing people and these facilities together allows workers to specialise more, raising productivity. This works better the greater the diversity of skills, experience, know-how and aptitudes in a neighbourhood or region. If, however, an area within a city is made up only of poor people who are all equally unskilled, then agglomeration will create some efficiencies, but not nearly enough. Part of the challenge of building efficient and inclusive cities is therefore the ability to bring people from different backgrounds with different skill levels into contact with one another and to allow them to interact in mutually beneficial ways.

Workers, consumers, and suppliers can only reap the advantages of large cities if they are able to exchange labour, goods, and ideas with minimum friction and to multiply face-to face contacts with minimum time commitments and cost. The productivity of a city with a growing population can increase only if travel between residential areas and firms and among firms' locations remains fast and cheap.[23]

It is useful to think of cities as large labour markets, putting people in the vicinity of multiple job opportunities. This attracts employers to urban centres where the mix of skills and abilities they require is likely to be found, while work-seekers have the best chance to look for and engage with the employment opportunities that are suited to their skills and their needs. This obviously has significant economic benefits both for individuals and society at large as it promotes economic growth and reduces unemployment.

Statistics reveal that the distribution of US cities' commuting times represents the best in the world. Only 8% of all commuting workers have to travel 60 minutes or more to access a US metropolitan area, such as New York.[24] By comparison, Gauteng's commuting time distributions are incredibly inefficient. Thirty three percent of all commuting workers have to travel 30 to 59 minutes (one way) and 14% have to travel 60 minutes or more to access a metropolitan area.[25]

Figure 1: Travel time to access a metropolitan area



Source: CDE 2020, adapted from Bertaud 2018[26]

For city-level labour markets to function well, households and firms require access to affordable accommodation and unhindered mobility. A well-functioning labour market makes possible every other useful urban activity, which all centre on bringing people together, to interact and to work in ways where they can be the most productive. What this means is that the ability to locate near centres of economic activity as well as the mobility provided by good transport infrastructure is vital for cities to be efficient and to deliver on their potential to generate growth and employment.

Currently our transport systems are expensive, ineffective, unreliable and sometimes unavailable. According to 2016 statistics, 44% of Johannesburg residents commute by taxi. This is followed by 31% who utilise their private cars, with only 0.6% and 0.3% who use the Rea Vaya and Gautrain respectively.[27] The situation is that all forms of public transport in South Africa struggle to cope with peak demand but become unsustainable during off-peak hours. Instead of public transport serving to move people around the city, it currently only serves to bring them in and out of the city. One of the key arguments for densifying cities is that it would permit, although not necessarily automatically deliver, a more efficient public transport system, one that moves people around and within the city throughout the day and at night.

"Government policy should primarily aim to help poor people become an integrated part of diverse and thriving urban neighbourhoods"

The real housing challenge

Although the Governments' housing programme was successful in delivering much needed housing units at a very rapid rate after 1994, it has not been able to eradicate South Africa's housing backlog, nor has it prevented the emergence of a large informal housing market.[28] In 2017, Stats SA found that 2.2 million households lived in "makeshift structures not erected according to approved plans".[29] On the basis of the 2016 StatsSA Community Survey there were 16,9 million households in South Africa. Using assumed growth rates, it is estimated that by 2045, the number of households will grow by a further 16 million, of which 9 million will be within the metros. If the government delivers these 9 million houses only via "greenfield" developments, around 316,000 hectares of land is required, equating to approximately 3,162km^2 - greater than Johannesburg metro's current total jurisdiction area. These statistics and ongoing reports of rising homelessness illustrate why we need to increase the rate of housing development, both public and private.

The problem with the government's delivery approach is that it ignores two critical issues:

- The trade-off people are prepared to make between living space and the location of their housing (transport cost for accessibility),
- The ways in which housing and land markets respond to and signal changes in the economy.

To overcome these challenges government should adopt a different approach, and should within reasonable regulatory limits and well-designed forms of support, allow the private sector, particularly small enterprises and households, to contribute much more to the supply of houses in ways that correspond to actual demand.[30] Government planners as well as banks and other large businesses need to learn to work with, rather than against, the current methods of 'massive small' housing delivery. An approach that ignores the market, entrepreneurs and people's preferences, as South Africa's experience attests, leads to hugely problematic outcomes.

Government policy should primarily aim to help poor people become an integrated part of diverse and thriving urban neighbourhoods. Policy makers should think about more than just supplying poor people with a standard place in which to reside. They need to think about habitats and how their living spaces and neighbourhoods can add value to their lives and provide access to opportunities, which will allow them to move out of poverty.[31]

What prevents 'massive small' from delivering on its potential?

Private housing entrepreneurs are delivering housing in a way that reflects demand and works in the context of existing neighbourhoods. However, these entrepreneurs operate in a complex, overly-zealous regulatory environment, which makes it difficult for entrepreneurs to comply or even enter this market. In a more appropriate and more open environment many more small-scale providers could emerge, making the 'small' approach truly 'massive' in scale. Crucially, a better business environment would allow many who are operating on a small-scale (and informally), to formalise their operations, to access finance, and to expand significantly as well as improve the quality of their developments.The benefits of actively encouraging 'massive small' housing delivery in existing areas of our cities both to lower and middle income households seeking well located accommodation and municipalities is clear. Despite this, the ability to implement these projects is being held back by current inappropriate municipal regulations. Municipalities and businesses are failing to tailor their regulations and services to the methods of 'massive small' developers. The specific and unique challenges that prevent 'massive small' activities from expanding and delivering many more well-located, formally constructed housing opportunities include:

Lack of appropriate regulations

Metro's generally have not developed appropriate regulations for 'massive small' delivery and lack the municipal management capacity to properly regulate and ensure compliance with appropriate building standards. This is particularly challenging when delivery is through thousands of small projects undertaken by emerging micro developers.

Compliance burdens

'Massive small' projects face a disproportionate compliance burden, in terms of project cost and duration. The cost of compliance ranges from 5% to 20% of total development costs. More importantly the increase in development duration ranges from 40% (no planning approvals) to 80% (with both planning and building plan approvals required) of total development duration. The smaller the development, the more severe the impact on duration. This is because small developers are frequently unable to marshal the resources to accommodate these kinds of additional costs and extended project time.

Lack of finance

While short-term small loans are readily available, 'massive small' developers struggle to access the necessary long-term development finance to fund their projects. The problem arises when the dependence on small loans increases the uncertainty and duration of their projects, as funding is often insufficient and raised incrementally.

Financial insecurity

Non-compliance in respect of both planning and building plan approval requirements often results in the formal providers of housing loans refusing to lend to 'massive small' developers, irrespective of the creditworthiness of the developer or the projected cash flow on the project. In many instances developers rely on unsecured personal loans. This exposes developers to financial insecurity and much higher interest rates.

Insufficient infrastructure

The municipal infrastructure capacity in existing residential areas may not be sufficient to absorb increased densities. Further increased densities also put pressure on existing social facilities and services. This is generally seen as a problem by municipalities rather than as an opportunity to rehabilitate and upgrade existing aging infrastructure.

High service fees

The cost of bulk service contributions and service connections fees per unit in formal rental and infill developments is about 10% of total development costs and is higher for formal backyard rental developments.

'Massive small' providers would expand in number, in size, and in their ability to operate formally if municipalities, firstly, adopted a much more supportive approach towards them, and, secondly, reformulated and streamlined their compliance requirements. National government, in turn, should finance and support municipal efforts to achieve this, particularly in respect of the need to upgrade the existing urban infrastructure. Large, established businesses and financial entrepreneurs should also wake up to these new realities, and develop products and offer financing options that would allow the kinds of small and medium developers described in this report to flourish.

Facilitating the expansion of 'massive small' rental units in the City of Cape Town

After recognizing the prevalence of small scale rental accommodation in Khayelitsha, The City of Cape Town (CoCT) launched a programme to encourage this form of housing delivery across the city. The city believes that this programme will make a significant contribution to addressing the current housing backlog at little cost to the city. The programme proposes to authorise the executive director of spatial planning and environment to amend the zoning scheme in areas where the city would like to encourage this from of development. The director will be further authorized to draft a 'menu' of building plans, which will be drawn up and approved, and then be made available "off the shelf" to prospective property owners. The city also recognizes that a major obstacle faced by property owners wishing to construct additional housing units on their properties is the lack of access to finance. To support the small-scale rental market, CoCT proposed to petition Central Government to make subsidies available to individual property owners on the same bases as the current social housing subsidies. CoCT also intends to make presentations to traditional financing institutions to encourage them to play a greater part in the roll out of this programme.32

Policy implications

In order to enable 'massive small' to reach its potential, in terms of scale of delivery close to economic opportunities in city nodes, and in terms of the quality of accommodation provided, a number of reforms and interventions need to be introduced. These reforms are required not only by national government, but also by local businesses, metro's and city administrations.

The suggested policy changes below have the potential to improve the performance while fully embracing the potential of 'massive small' housing developments.

"Metro's should also be encouraged and enabled to manage and regulate builders and landlords in a supportive, enabling manner"

Changing metro practices

Metro's need to introduce appropriate and streamlined compliance requirements, select areas for densification, which have infrastructure capacity, and use densification potential in specific areas as justification to invest in the expansion and rehabilitation of existing engineering and social infrastructure.

Metro's should be encouraged and enabled to manage and regulate builders and landlords in a supportive, enabling manner.

The most immediate need is for metro's to do the following: Invest in the capacity of municipal infrastructure in existing areas, particularly areas targeted for 'massive small' development; Streamline their planning and building control compliance requirements, including setting appropriate standards; Strengthen their urban management capacity for massive small by responding to request timeously, approve building plans and conduct inspections efficiently and timeously; and Waive or reduce the bulk infrastructure contributions and service connection fees by developers on these projects.

Revising and streamlining metro compliance processes (both planning and building plan approval), and waiving up front metro charges will enhance the viability of compliant micro housing projects. The goal of these changes should be to encourage higher levels of compliance and formalisation of housing projects.

Currently, the average South African metro requires builders to undertake an 11 step process to obtain valid building permits. These steps can be summarised as follows:

1. The builder must prepare building plans and submit them to the municipal building control department. The submission should include application forms, title deeds, zoning certificates and drawings.
2. The builder must obtain a geological and topographical survey of the land plot conducted by a land surveyor.
3. A fee of submission hast to be paid to obtain a reference number.
4. The departments of health, water and sanitation, fire, traffic, roads and energy and others will review and comment on the plans when they receive them.
5. Once approval has been obtained the builder must give the municipality at least four days notice that he/she intends to commence with the building work.
6. The builder must then apply for water and sewerage connections at the relevant departments.
7. Compulsory inspections, including foundation trenches and drains, take place throughout the construction period.
8. A final inspection will take place once the builder has notified the municipality that the work has been completed.
9. The builder must then prepare a set of compliance certificates indicating that the building was designed and erected in accordance with the approved application.
10. These certificates are then sent along with a written request for issuance of the occupancy certificate to the municipality.
11. The building can only be occupied once the occupancy certificate has been issued.[33]

Across South Africa's metros these steps take an average of 125 days to complete. The process requires nearly six more procedures and is nearly 40% more expensive than the average for the OECD. Denmark—the global best performer—requires seven procedures and is two months faster than the South African average.[34] However, even if we achieved this level of best practice the process would still be too expensive and inhibiting for many 'massive small' builders.

The only solution is to short circuit the process and offer pre-approved planning options. Builders can pick these and as long as they stick to the plan they will be deemed compliant. Those who want to deviate from the pre-approved options will have to go through the multi-step process described above. This proposal has recently been put forward by the City of Cape Town, and we see this as a very positive development (see box on page 18).

In terms of city planning, Spatial Development Frameworks (SDFs) and housing and engineering strategies should be adjusted to accommodate and encourage 'massive small' housing delivery at scale. This would include identifying areas for 'massive small' densification and increasing the capacity of the infrastructure capacity within them.

All of the above will require metro's to invest additional capital and increase operating capacity, while at the same time forgoing certain once off gains. To do this metro's will need to access state funding grants, proposed below. In addition, it is urgent for cities to re-zone areas pro-actively and appropriately to encourage the further expansion of massive small developments in areas where they may be emerging. This will remove the onus on the developer to apply for and pay rezoning fees. Currently rezoning application fees (excluding the fees of a town planner or lawyer) in 2018 ranged from R1,200 to R16,000 depending on the municipality. It would also be helpful if such rezoning would include an automatic relaxation of building lines and make subdivision of properties an easy to complete process. All of this would reduce the cost of developing a building by thousands of rands.

"The role of the national government should be that of an enabler"

National policy changes

The role of the national government should be that of an enabler. Government should not provide technical support itself but should create a legislative and regulatory environment that is conducive to private housing entrepreneurs, particularly small and micro entrepreneurs, providing desirable, safe and formalised living spaces (meeting appropriate municipal compliance requirements in respect of planning and building standards). The enabling environment should focus on reformulated planning and development control requirements to be more appropriate and to streamline regulatory methods. The broad objective should be to actively encourage the expansion of the 'massive small' approach and to enable small scale private entrepreneurs to deliver better quality compliant housing stock.

A new approach to state funding

Government should not provide individual or supply side housing subsidies into the 'massive small' housing sector, as this will interfere with the dynamic markets that are allowing small entrepreneurs to deliver affordable housing. This is currently proposed by the City of Cape Town, and we are opposed to it. Instead of this approach, government funds should be directed towards municipalities to enable them to upgrade infrastructure (engineering and social) to support higher levels of density. Municipalities can also devote resources and effort towards providing more streamlined, easy to access and cheap services and approvals.

To do this the state should urgently consider the following:

- Introducing a national conditional grant for South African cities, which funds:
    - Provision of free service connections;
    - Waiving bulk infrastructure contributions;
    - Expanding and upgrading the bulk infrastructure and local infrastructure reticulation (eg sewage, water, electricity, safe roads and secure buildings).
- Developing programme support to municipalities to reconfigure planning and building compliance requirements;
- Incentivising owners and enterprise developers to undertake 'massive small' housing projects in targeted areas of the cities (to be explicitly identified and designated in the adjusted Spatial Development Framework (SDF).

All grants to municipalities should be performance driven and reflect the volume of 'massive small' housing units targeted and subsequently delivered within the framework of the approved SDF and Sector strategies.

"Banks must become much more aware of the changes taking place in housing delivery"

Reconsider building norms and standards

Private sector rental developments must demonstrate compliance with the National Building Regulations and Building Standards Act 1997, as well as a series of "Normative References" and Standards as issued by the SABS Standards Division. Exemptions are provided in this Act for single storey backyard shacks, but these are in no way applicable to the kind of multi-storey rental buildings that small developers are erecting in many parts of our cities. Studies undertaken and anecdotal evidence gathered by Shisaka Consulting point to the reality that many of the emerging massive small builders described in this report cannot feasibly comply with current norms and standards. In addition, requiring that they should comply will undermine the ability of the sub-market to service lower income households, as it currently does. It is very important that any norms and standards that are introduced enhance rather than undermine the massive small sub-market. It is therefore vital to develop more appropriate norms and standards for this sub-market, which take into consideration the funding constraints under which builders in this market operate. If the norms and standards are too restrictive it will mean that landlords will not have sufficient funding to provide the housing units and that current tenants will not be able to afford them.

Private banks and new financing models to support smaller entrepreneurs

Banks must become much more aware of the changes taking place in housing delivery. They could play a major role in improving access to finance and promoting formality by developing appropriately structured project and asset finance for 'massive small' housing projects.

Financing Micro-Developments of Residential Rental stock

The financial sector should create products that target the circumstances of local micro-developers. Alongside this, they should invest in building economic infrastructure, find ways of providing easy and local access to finance, and provide the technical and business services required by their micro-developer clients.

Financial products should be designed as business loans with the following attributes:

1. **Reasonable interest rates:** Interest rates need to be considered as 'reasonable' by the target client base and structured to start low for easy entry. Interest rates and payment terms should be flexible and adjustable, within agreed limits, to accommodate the financial circumstances of the client and their tenants. The repayment terms should be as short as possible, and the loan should incentivise savings for future investment by individuals and groups.

2. **Incentivise:** Business loans that provide and incentivise the use of digital rental payment system for tenants linked to the loan repayment and savings and investment benefits for the micro-developer/landlord.

3. **Conditional on savings:** Loans should be conditional on demonstrated savings in a dedicated project savings account by individual clients or by a collaborative group of three to four micro-developers or homeowners.

4. **Assess creditworthiness:** Support to assist clients to improve their credit ratings and demonstrate creditworthiness. Consideration should be given to household finance related risks in assessment of creditworthiness.

The financial offering should proactively support clients with loan applications and provide technical and legal administrative business services through the project cycle. This implies that the financial institutions should have greater physical proximity to this market and these clients and personal knowledge of their clients' development activities.

Ideally, each client should be given private client status and, accordingly, the required time and effort.[35]

Concluding remarks

Cities are major generators of economic opportunities. This function depends on the extent to which cities bring people and opportunities into close proximity and facilitate new, value generating-interactions. Densification is a critical aspect of making cities more inclusive and efficient generators of economic opportunities. Particularly given the terrible spatial legacies created by apartheid, it is vital that our major cities (most particularly the existing residential and mixed use areas) become more densely settled and that poorer people are given opportunities to settle closer to areas where economic opportunities are generated.

Increased density is possible, and it is already happening. Increasingly, people are building South Africa's cities in new and dynamic ways. Government policy and metro administration has unfortunately not caught up with this reality, and by failing to support these positive initiatives, the process is being held back. This is not something the country can afford. In the context of mass unemployment, extreme fiscal constraints and the devastation wrought by the Covid-19 pandemic, government needs to take advantage of and encourage all private-sector-driven improvements to reach their optimal extent.

'Massive small' housing delivery offers major social, economic and spatial benefits, and is already underway. To ensure that it realizes its full potential, a shift in perceptions about housing delivery are required. Government must get behind these processes and must support and encourage cities to establish an enabling policy and regulatory environment. At both national and metro government levels, a number of carefully designed programmes should be implemented to accommodate and promote up-scaling of micro and small housing projects.

At the same time, new and established financing companies must also be encouraged to respond to these changes and offer appropriate but commercially sustainable financing options.

In this way emerging entrepreneurs and housing markets can play their role in massively transforming our cities, and our country.

Massive Small developments in Harley Street, Yeoville, 10 minutes walk from Hillbrow, Johannesburg

Appendix A

Alain Bertaud worked for the World Bank for many years, living in numerous cities in the developing world. Now based at NYU's Marron Institute he is author of the book "Order Without Design: How Markets Shape Cities" (2018), which bridges the gap between operational urban planning and urban economics and has been widely heralded as one of the most important books about cities ever written. After reading CDE's report, Dr Bertaud wrote this appendix for CDE on how to monitor the implementation of the Massive Small Strategy

Monitoring implementation of the Massive Small strategy

The report' Building Better Cities: A new approach to housing and urban development proposes a policy framework to modify the current housing delivery system in South Africa. The proposed approach relies on private demand-driven housing supply by many types of entrepreneurs. However, to deliver the large number of housing units that will correspond to demand, the strategy will require actions at several levels. Because the proposed policy does not rely on a "silver bullet" approach, it will be necessary to develop several indicators that will monitor progress in implementation and provide information to new entrepreneurs on various segments of the new housing market.

These implementation indicators will reflect the following data:

1. Increasing supply
    a. Number of new housing units of different types affordable to various income groups being developed
    b. rents, prices, and location of the new units built
2. Regulatory reforms at the local level
    a. changes in local land development and building regulation
    b. formalizing informal dwelling units and neighborhoods
3. Budgetary reforms at the national and local levels.
    a. Transfers for financing residential infrastructure in specific areas
4. Infrastructure delivery in target areas (mapping)
5. Increase in the financial sector's ability to deliver the amount of finance required for construction finance and mortgages.

The monitoring of the new housing supply created by the new policy is extraordinarily complex. We should measure success not solely by the total number of units built each year but also by their market price and location. To be considered successful, the units should be affordable to a wide range of income within the low-income groups. They should also demonstrably be located in areas with good job accessibility.

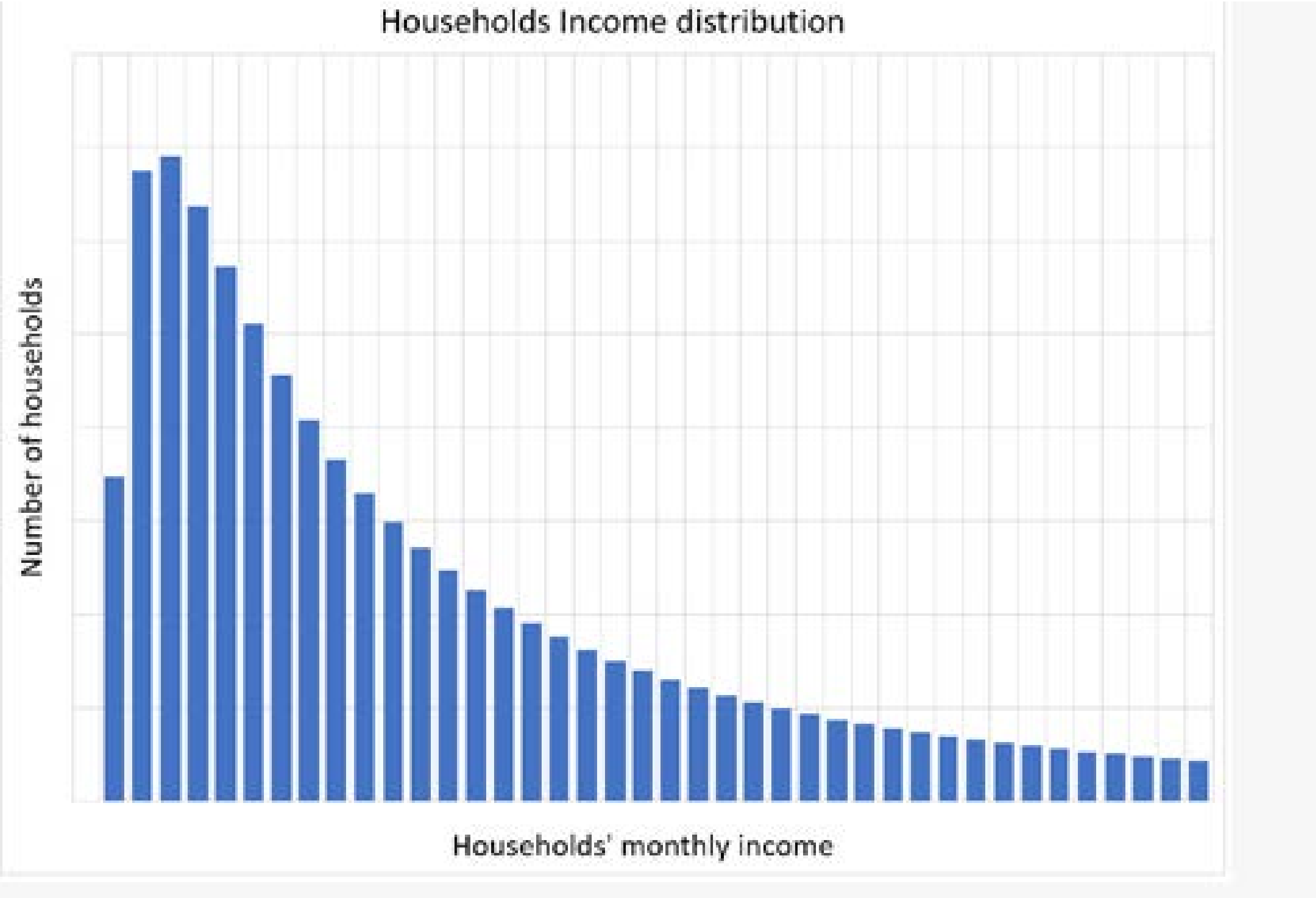
Because this type of housing policy has not been tested in the past, it is likely that the first supply results will show success for some housing types, say, for backyard units in well-located areas, but not in others, say, apartments in dense neighborhoods. When this is the case, the new supply indicators should trigger a reexamining of the reforms described from 2 to 5 in the list above. Because of the careful monitoring of new units supplied is key to adjusting the policy's design during its implementation, I will focus entirely on the design of the new supply monitoring indicators in the following paragraphs. The policy and program managers should also develop implementation indicators for the reforms and actions listed from 2 to 5 above.

New housing supply indicators

Detailed income distribution for an entire city

It is necessary to relate the target group of housing beneficiaries to the entire households' income distribution of the city being monitored. I suggest using an income distribution curve of the type shown in Figure Error! Main Document Only.

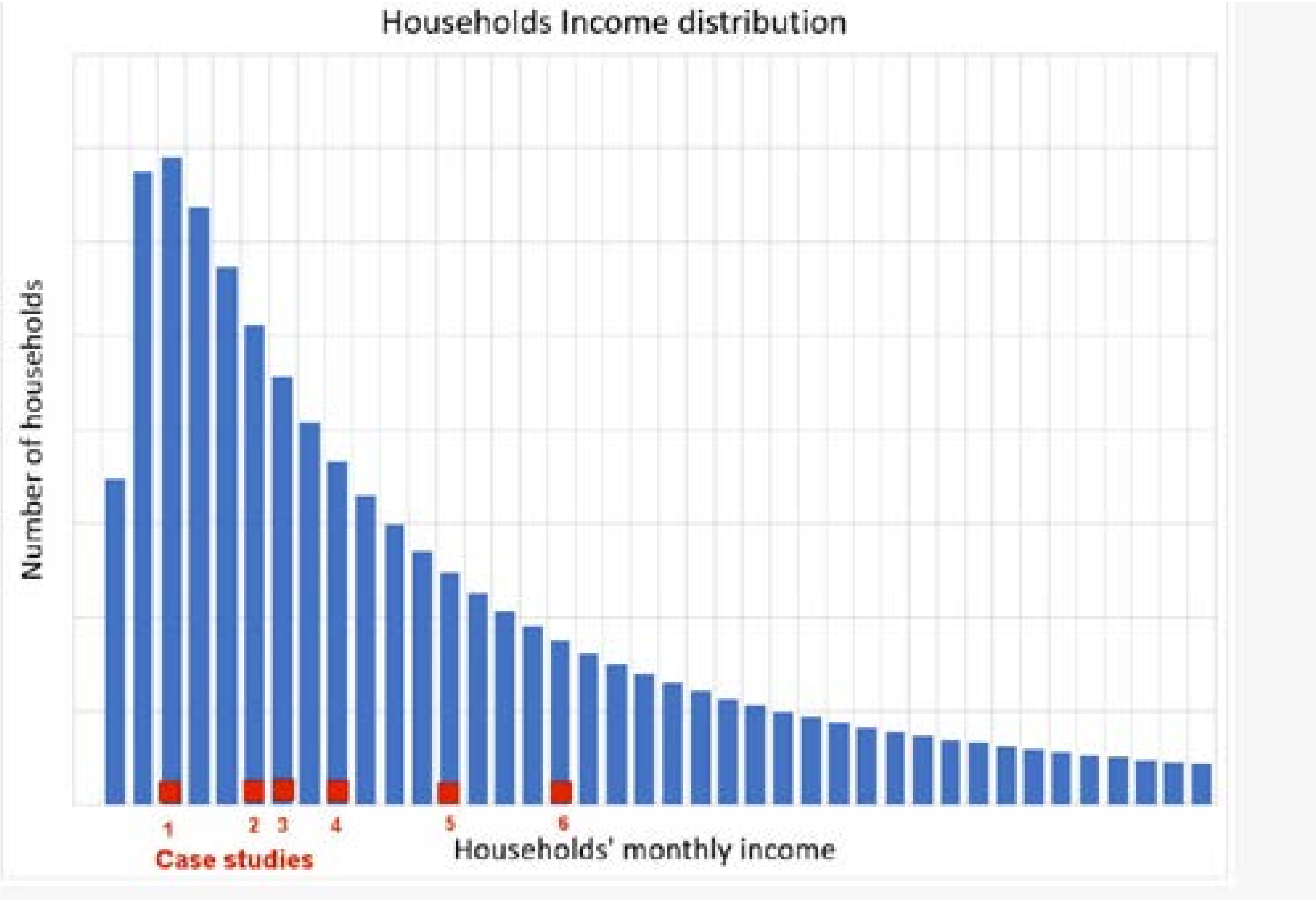
Figure 2: income distribution graphic representation (not real curve, just for illustration)



The traditional graphic display of income distribution by quintile would not be adequate to represent the vast array of types and dwelling prices that needs to be delivered. If a distribution by quintile is the only one available, I suggest to convert it in a cumulative curve and to obtain the intercepts then to get a more detailed distribution graph as shown in Figure 1.

The case studies described in the report Massive Small are compelling examples of what is already happening on the ground, unfortunately on a small scale so far. These case studies should be marked on the income distribution curve showing the bracket of income within which they are affordable. For instance, "Examples of micro owner-developers operating at the bottom end of the market" But also "the private construction and rental of 'backyard units' is taking place at a significant scale across high, middle and low-income areas" The case studies could be represented on the income distribution curve as shown as an example on Figure 2.

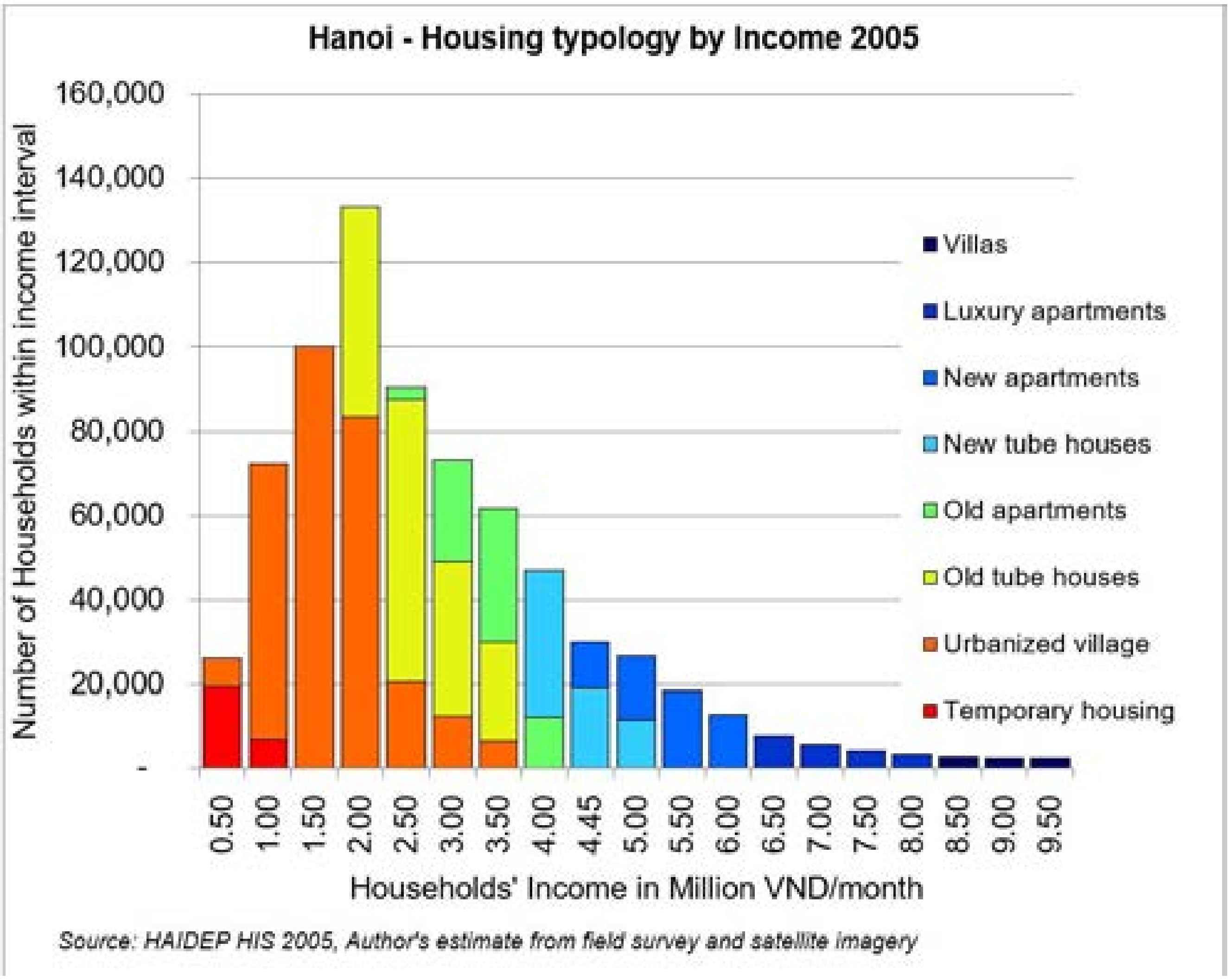
Figure 3: Massive small case studies



This graph then would lead to a typology of potential new housing: rental apartments, backyard shacks, formal subdivisions of existing residential lots, redevelopment of obsolete land use (industrial or other), RDP housing, etc.

I provide the example of Hanoi's housing typology superposed on an income distribution curve to illustrate what I mean. Obviously, in South Africa, the housing typology will be very different. It would be necessary to differentiate between the formal and informal types. The transformation of informal settlements into formal ones might also constitute a new contribution to the affordable housing stock.

Figure 3: Example of housing typology and income in Hanoi



Mapping the case studies and the areas where the new stock is likely to emerge.
The Massive Small report has two complementary elements to define the new affordable housing stock likely to emerge in South African cities: prices and location.

The income distribution described above relates to price and income and would show the number of housing units required to respond to demand. However, it will also be necessary to represent the emerging new affordable housing units on a map to take into account location, as location is the other major component of affordable housing as defined by the Massive Small strategy.

Therefore, the case studies should also be represented on a map, first at the metropolitan scale, then probably on a more detailed map at a larger scale.

The typology of existing types and potentially new types should also be mapped.
Monitoring progress

Finally, as new housing units are built and financed by the many actors described in the Massive Small report, it will be necessary to represent these new units on the income distribution histogram and the city map.

The monitoring will show progress and may show gaps between low income groups for which there is demand but no supply has emerged.

The mapping of new units' locations may also show areas whose location is desirable for new units, but no supply source has yet emerged. It may indicate local regulatory or infrastructure issues that will have to be addressed.

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Published in November 2020 by The Centre for Development and Enterprise
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