

## **Driving Density Higher: Challenges for Central Cape Town**

### Summary

Cape Town's Central City Development Strategy aims to boost the area's population by 100,000 within 10 years – an almost three-fold increase from the current 55,000. The purpose of this short paper is to stimulate discussion of this bold aspiration. It examines the rationale for increasing densities in the central city and provides a framework to help consider the challenges faced.

Density is the product of two distinct elements:

- physical structures (the supply of housing) and
- the actual resident population (which reflects the demand from people to live there)

Physical density gets most attention, but the real objective is to raise the actual population density. The relationship between them is complicated by variations in household size, and because new buildings are only a small part of the established urban fabric. It is difficult to achieve a step change in density.

There are three arguments for higher densities:

1. Creating a more sustainable city into the future – environmentally and financially
2. Promoting economic growth and employment through proximity between firms
3. Supporting social and economic inclusion by improving access to opportunities

Each argument implies quite different priorities for policy attention, ranging from attracting well-off families with a choice of where to live, to accommodating people without much choice, and providing space for business activities.

At the heart of the Strategy are unexplored questions about who the central city is for and who might want to live here – the age, income and household composition of the 100,000 additional residents. More analysis and discussion of this outstanding issue is a priority.

More consideration is also needed of the obstacles to supplying the property and other facilities to accommodate them:

- the capacity of basic infrastructure, including water, sanitation and electricity
- the availability of vacant and underused land and property for new development
- creative design of new housing to meet people's aspirations and avoid segregation
- mixed housing tenures to achieve social diversity
- appropriate support services and amenities to create sustainable communities
- a stronger city-wide plan to regulate peripheral greenfield development and support new and incremental densification of the inner city.

# Driving Density Higher: Challenges for Central Cape Town

*Draft for discussion*

## 1. Introduction

Cape Town's Central City Development Strategy contains the bold ambition to boost the area's population by 100,000 within 10 years (Cape Town Partnership and City of Cape Town, 2008). This striking objective to almost treble the number of residents from the current 55,000 is not spelt out in any detail. The organisations involved have little practical experience of delivering higher density development to draw upon. The target is not framed by a wider spatial plan or by any regulations that might require denser city centre buildings. It represents a broad aspiration that has been made even more challenging to deliver by the global economic downturn and domestic property slump.

The purpose of this short paper is to provide a framework to help consider the main issues faced in promoting densification of the central city. To treble the population implies a transformation of the area that goes well beyond constructing 30-40,000 additional housing units. The paper also discusses the underlying rationale for pursuing higher density development. It is a modest and preliminary contribution to a bigger discussion that requires further research, analysis and debate before any concrete plans are made. The starting point is to examine what density actually means.

## 2. Defining density

The concept of density is widely misunderstood and efforts to promote densification frequently generate negative reactions. Density is often equated with overcrowded tower blocks or congested townships. Established communities fear the impact of high rise buildings and large incoming populations on the character of their neighbourhoods, and the extra pressure on local services and facilities. Yet density does not have to mean townscapes dominated by tall structures and congested streets. And densification should be seen less as an end in itself, and more as a means towards other ends.

Density is the product of two distinct elements:

- physical structures (the supply of housing) and
- the actual resident population (which reflects the demand from people to live there).

The former is usually measured by the number of dwellings per hectare, although this neglects important aspects of their size and the number of habitable rooms. The latter is measured by the size of the population per hectare.

Physical density invariably gets most attention, especially from urban planners and other policy-makers who have some influence over new development. However, the real objective

is to raise the actual population density. The relationship between the two elements is more complex than often assumed, partly because of variations in household size and composition, which evolve over time in response to changes in income and social norms. Generally speaking, as people's income rises, they aspire to more space and larger units, so the density of existing buildings tends to decline. For a variety of reasons, the average size of households has been falling in South Africa and elsewhere, contributing to lower actual population densities in most established urban areas.

The relationship between the densities envisaged by urban planners and the actual densities achieved in reality is also complicated because new buildings are usually a small part of the existing urban fabric. Consequently, their influence on the average density of the area is at the margin. In addition, existing densities influence the new patterns of occupation (who moves into new housing) through the character of the area, the cost of housing and related facilities, and the nature of local services such as schools and amenities. Existing communities may also influence the form of new development directly through advocacy if they perceive that higher densities nearby will affect them adversely. It is very difficult, therefore, to achieve a step change in density, unless there are very large sites available for new development. Such sites may need to be in public ownership to avoid market forces inhibiting densification. They may also need to be physically separate to reduce the likelihood of community opposition.

Planners generally devote insufficient attention to established neighbourhoods when trying to raise densities. Some areas may have considerable potential for incremental densification, for example through sub-dividing properties, building extensions and converting lofts, basements or out-buildings. Adjacent plots can also be consolidated, thereby allowing infill development or the demolition of pre-existing structures and redevelopment of higher density, multi-storey buildings.

Contrary processes of *de-densification* may also occur in selected places through the direct replacement of low income households by higher income groups able to afford more space. The gentrification of inner city areas often illustrates this, and Bo-Kaap is a good local example. The efforts of public agencies to upgrade open spaces and public amenities in low income inner neighbourhoods may have an unintended effect of promoting gentrification and thereby lowering densities.

Density can be considered at different spatial scales. It is typically discussed at the scale of the neighbourhood or locality, but it can also be thought about meaningfully at the scale of individual buildings or the city as a whole. Different density levels are appropriate in different parts of the city, depending on the nature of the local environment and services, the accessibility to jobs and amenities elsewhere, and local land values and household incomes. In some parts of the city a third dimension of density is also significant, namely the concentration of economic activity and employment. Different kinds of economic activity have different densities - warehousing and distribution tend to be low, whereas office-based services tend to be high.

There are two basic approaches to densification:

- through state-driven procedures - such as the direct provision of new social or low income housing by public bodies, or
- through market mechanisms - using incentives or regulations to influence the practices of new housing developers to build at higher densities. Similar kinds of instruments can also be used to influence the attitudes and lifestyle preferences of households who own or rent property. For example, detached houses can be taxed more heavily than flats.

To increase the density of *economic* activity requires a change in the behaviour of property developers and business occupiers.

Residential densities can also increase through unregulated invasion and occupation of vacant and under-utilised land and buildings, often with dramatic and unsustainable effects in terms of overloaded infrastructure and services. There are many examples around the country of informal settlements with these features, as well as very overcrowded buildings in inner city areas such as Hillbrow and Berea in Johannesburg. They offer a salutary reminder that densification does not necessarily improve the quality and efficiency of the urban environment. Government policy may actually seek to reduce densities in some of these places in order to improve public health and resilience to environmental disasters, such as the spread of fire.

### **3. The rationale for densification**

There are different reasons for raising density levels, with tensions and trade-offs between them. This makes it important to clarify at the outset the fundamental purpose for promoting densification in order to set priorities accordingly. The Central City Development Strategy lists six different and rather general objectives, but tends to conflate them by assuming that a single solution is possible with few dilemmas or conflicts of interest.

Standing back from the Strategy, there are essentially three arguments for higher densities. The first relates to the creation of a city which will be more sustainable into the future – environmentally and financially. Low density urban sprawl imposes environmental costs in terms of energy consumption and carbon emissions from private car-oriented transport. It also imposes financial costs through the provision of bulk infrastructure and services such as public transport, health and sanitation. Higher density development in the inner city might help to reduce the rate at which peripheral urban land is consumed. It might also reduce the need for people to travel to work by car, and make more efficient use of the city's existing infrastructure. A larger resident population might help to realise economies of scale in central facilities such as colleges, libraries, specialised retailing and consumer services, and make new and existing arts, culture, sports and entertainment venues more viable. These assets could in turn reinforce central Cape Town's position as a magnet for tourism and creative industries.

A second and related argument is that higher densities of economic activity promote efficiency and growth through positive spillovers and increasing returns. There is growing evidence that proximity between firms, their customers, suppliers and competitors enhances flexibility, productivity and innovation. Spatial concentration enables firms to mix and match

their distinctive requirements for labour, suppliers and business services better than elsewhere because there is more choice available. Firms performing higher level functions also benefit from superior flows of information and knowledge among business networks, which promotes more learning and creativity, and results in more valuable products, processes and services.

A third argument is that a higher density central city is important for economic inclusion and social cohesion. It can give disadvantaged groups who move into the inner city better access to centrally-located economic and social opportunities. This will save them considerable financial and personal costs of long distance commuting. A more diverse central city could also serve as a valuable model for promoting greater tolerance and social integration across the city as a whole. It could showcase Cape Town's unique potential as a cosmopolitan metropolis in which people from very different backgrounds mix and mingle successfully.

The first argument tends to imply that the main target of densification is middle- to high-income car owners with jobs in the city centre and who would otherwise live in the outer suburbs. They offer the biggest gains through reducing car-based commuting and economising on peripheral urban land and infrastructure. Such groups are likely to demand generous space standards within their dwellings, well-designed and secure surroundings, and attractive public open spaces and amenities nearby. High quality schools, health centres, shops, restaurants and other services are also likely to be important to them.

The second argument implies that the densification should be driven by economic considerations rather than increasing the resident population per se. The city centre is a unique location for certain activities that cannot function as effectively elsewhere. The priority is to attract, retain and develop enterprises that need and will benefit from concentration. This means making space, infrastructure and suitable support services available for higher value activities, and selected small, medium and micro- enterprises. Higher education, research, professional services and cultural institutions could all play a part in creating an environment conducive to business development and growth.

The third argument suggests that the priority is to accommodate low income groups. Affordability is a major consideration, implying different space standards and levels of design and maintenance of buildings and the surrounding environment compared with middle- to high-income residents. For example, walk-up flats of 3-4 storeys offer better value for money than taller structures served by lifts and requiring more substantial foundations. There may also be greater need for public rather than private provision of schools and health centres, and lower cost community facilities and amenities.

These distinctions are presented in a rather stark manner above. It must be possible to devise ways of balancing the different objectives and mixing social groups and land uses in practice. This would probably involve different combinations in different parts of the central city, reflecting their comparative advantages for different functions. Nevertheless, there are inconsistencies between them which will not disappear and cannot be ignored in density planning. These include tensions between the quality and cost of buildings, exclusive and inclusive forms of urban design, and residential and employment uses of land. Different priorities will also imply different levels of cost for the public sector, and different roles to the public sector to perform.

The challenges involved in promoting densification can be explored in more detail from two broad perspectives: the desire of people to live in the city centre and the supply of property to accommodate them. The Central City Development Strategy adopts the top-down viewpoint of the planner in assuming that there is little or no constraint on residential demand for central city living. It assumes that all the obstacles to densification lie on the supply side. It is important, therefore, that the issue of demand is examined more closely to see whether this is correct.

#### **4. The demand for city living**

At the heart of the Strategy are unexplored questions about the composition of the 100,000 additional residents. This is an outstanding issue that cannot be postponed because of the wide-ranging implications for density planning and service provision. The income of the prospective new residents has already been mentioned as a key dimension for consideration – effective demand (backed by the ability to pay the requisite costs) is much more significant than a general wish to live in the central city. Age and household structure are two other vital elements.

Very little is known about the age composition, income and household make-up of the current resident population of the area, and the kinds of trade-offs they make between location and space. Even less is known about these kinds of attitudes and preferences of potential incomers. Little is also known about how the local housing market currently works, and how existing inner city neighbourhoods function in relation to the wider metropolitan housing market. Where do people move to the area from, where do they move to when they leave, and what social groups are involved in the different patterns of movement? These issues call for more substantial evidence and deeper understanding.

It is commonplace that different groups have different housing requirements and expectations of local services. Central cities throughout the world house disproportionate numbers of students, young working couples, older single people and migrant populations. These groups attach more importance to access to centrally-located jobs, universities or social amenities than to suburban lifestyles. Yet, as people's incomes rise and they have children, it is common for adults in their 30s and 40s to move to the suburbs in search of more internal space, outside gardens, better schools, greater security and access to the countryside and natural amenities.

If the city centre is to retain and attract back some of these families, in the hope of stemming sprawl and long distance commuting, their preferences will need to be satisfied and density standards will have to reflect their demands for space and for flexibility to cope with additional children. It should be easier to attract students, single adults and recent migrants, who have limited budgets and are more tolerant of living in small flats. However, the benefits for sustainability from accommodating these groups will be more limited.

Another possibility is that many of the new dwellings are bought as second homes for weekday living by people whose main houses are in the suburbs and outlying towns, or even as holiday homes by people living elsewhere in the country or abroad. This would be a

perverse effect of building more housing units without properly considering the source of demand.

For lower income groups, affordability is the critical issue. Central city living is typically more costly than elsewhere because the value of the land is reflected in property prices and rent levels. Land values are also reflected in the price of some other local goods and services, including retailing and entertainment. The Strategy is committed to increasing the supply of affordable housing by cross-subsidising from higher income housing and encouraging the disposal of vacant land in public ownership at low cost. This is laudable, but 'affordability' is not defined and there are limits to what will be feasible, especially at a time when property developers are cautious about embarking on any new schemes, let alone those incurring an extra tax. If developers are cross-subsidising affordable housing they will also be less willing to contribute to infrastructure costs, implying a higher burden on the public sector.

Policy-makers will find it difficult to justify additional subsidies to multi-storey housing and investment in new schools, health centres and basic services for inner city residents who don't yet exist, in face of pressures to address the massive backlogs in existing outlying communities. Over the last decade it has proved to be very difficult to allocate vacant public land in Cape Town for affordable housing, and nothing has changed recently to make this easier. More analysis of how projects in other cities have succeeded in delivering higher density housing for low income groups would be useful.

## **5. The supply of suitable housing and amenities**

The supply side obstacles to densification are generally better understood, although a considerable amount of detailed analysis is still required to establish their scale and significance. This is a very wide-ranging agenda that can be organised into six broad categories.

First, the capacity of basic infrastructure in the city centre to accommodate an additional 100,000 population is clearly fundamental to above-the-ground activity, including water supply, sanitation and electricity. A step change in demand for basic services is bound to require substantial investment in additional bulk capacity. This should be a relatively straightforward technical engineering matter, constrained mainly by financial considerations.

Second, the supply of vacant and underused land for new development is essential given the scale of growth envisaged. A range of sites of different sizes are available, although their capacity to accommodate dwellings on a large scale is uncertain. Complex legal issues need to be resolved to release publicly-owned land for development. Acquiring private land in fragmented ownership or facing competing land claims is not straightforward either. Some previously-used (brownfield) sites may also face problems of contamination and dereliction. Finding new and more intensive uses of under-used and redundant old buildings will be technically and financially challenging.

Third, the design of the new housing and the surrounding environment will be critical to the long-term success of the density plan. If the flats are too small and inflexible, and the open spaces do not meet people's aspirations, the diversity of the central city could be

compromised. Taller buildings raise densities but are more costly to construct and maintain, thereby undermining affordability. The level of inequality and division within Cape Town mean that the housing and urban design challenges will be formidable and require innovative approaches. Avoiding social selectivity, segregation and damage to the natural environment and heritage of the city bowl from a rapid increase in population are just some of the concerns.

Fourth, different forms of housing tenure will be important to achieve social diversity and a mixture of different age groups, cultural backgrounds and household structures. Complex financial and management arrangements (as well as imaginative urban design solutions) will be required to avoid the visible separation of communities into different income brackets.

Fifth, the density plan will not succeed without due attention to supporting services and amenities ranging from schools, colleges and public transport to cultural, leisure and recreational facilities. Some of these may need to be tailored to the needs of particular groups, although the emphasis should be on openness and inclusivity as far as possible. Flexibility will be required for public service standards such as school playing fields and car parking, bearing in mind the shortage of land in the central city. The creation of sustainable communities requires a comprehensive perspective going well beyond the provision of more housing units. The idea of mixed-use development will need widespread application and creativity to deliver successfully.

Sixth, the central city density plan will not succeed without a more effective city-wide plan to regulate peripheral development, to raise densities across the city more generally, and to recognise the strategic importance of the inner city. The private property market, left to itself, will tend to extend the urban edge using relatively cheap and easy-to-develop greenfield sites and leave more challenging inner city sites unused. Political will is required to resist development pressures at the edge and to promote the viability of brownfield sites and incremental densification. A certain amount of land and property also needs to be protected for employment-generating uses in face of higher value housing.

## **6. Conclusion and implications**

The boldest objective of the Central City Development Strategy is to treble the local population within a decade. Many uncertainties and dilemmas surround this goal. Much research and public discussion will be required to identify a way forward that is both desirable and feasible. One of the key issues to be resolved is who the central city is for – what the demographic composition of the area should be, and to what extent public bodies should invest in and regulate the built environment to bring this about, sometimes in the face of countervailing pressures for lower density, more exclusive and up-market forms of development.

The focus of the density plan also depends partly on the relative importance of different functions envisaged for the city centre in relation to the wider metropolitan area – its role as an economic generator and jobs machine, a unique vehicle for social integration, a magnet for tourism and cultural activities, a centre for learning and higher education, and a place

with a distinctive heritage and natural environment that can help to promote more sustainable forms of development.

Increasing the central city population in a way that can be sustained will require much more than building 30-40,000 new homes. Boosting the supply of housing will be financially and technically demanding in itself, but the challenges go well beyond this. New neighbourhoods need to be created where people with a choice want to live, and where people without much choice can also be accommodated. This will require buildings that are well-managed, and that offer access to open space and local amenities that are appropriate to household needs and well-maintained.

There will be difficult decisions to be made about the balance between different types of housing, with units of different sizes and qualities to suit different segments of the market. Considerable creativity in urban design will be required to combine different forms of development that bring diverse social groups together rather than keep them apart. Creating stable and cohesive communities will also require early engagement in shaping plans and building relationships. Some public assets, such as parks and amenities, might be transferred to local community control in order to encourage greater involvement in shaping and managing their environments.

Finally, considerable attention will also need to be given to existing neighbourhoods in the central city, based on a better understanding of how they currently function in the wider housing market. Some areas may have potential for incremental densification, through conversions of under-used property, sub-division or changes of use. Public bodies will need to be alert to the possibility of unintended and perverse effects of financial incentives and environmental improvements, such as gentrification or people acquiring properties for pied-à-terre or holiday homes. Other established areas may be adversely threatened by plans for large-scale new building, in which case extensive consultation and compensation may be required. Forums will be needed to bring new and existing residents together with property developers and service providers to build mutual understanding and cooperative relationships.

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