An Investigation into the Adaptive Re-Use of Commercial Buildings in Satisfying the Demand for Residential in the Central Business District of Cape Town, South Africa, an Emerging Market

by

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LIST OF ABBREVIATIONS

BID	Business Improvement District
CBD	Central Business District
CID	Central Improvements District
CCID	Central City Improvement District
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GLA	Gross Lettable Area
HVAC	Heating, Ventilation, and Air Conditioning
IZ	Inclusionary Zoning
NDP	National Development Plan
NSHC	National Student Housing Committee
POE	Post Occupancy Evaluations
PPP	Public Private Partnership
PRS	Private Rental Sector
SA	South Africa
SAPOA	South Africa Property Owners Association
SARS	South African Revenue Service
UDZ	Urban Development Zone
UK	United Kingdom
UN	United Nations
UNISA	University of South Africa
US	United States (of America)

ABSTRACT

The built environment contributes 40% to total global greenhouse gas emissions and 87% of the buildings we will have in 2050 are already built (Wilkinson & Remoy, 2015). If predicted climate changes are correct we need to adapt existing stock sustainably. Reuse is an inherently sustainable option, which reduces the amount of waste going to landfill. Inevitably, settlements and areas undergo change, whereby land uses become obsolete and buildings vacant. At this stage, the options are either to demolish or to convert to another use. In central business districts (CBDs) outside of South Africa, there are many examples of office to residential conversion. It is expected that Cape Town CBD will take the learnings from this international market and the adaptive reuse of Cape Town's existing buildings will be explored in greater depth.

Globally there is a movement of people towards centralised living locations due to the increased congestion of transport networks to cities and the need for people to be close to the services that cities offer. This movement will only become exaggerated in time as the urbanisation of Africa continues at an increasing rate. The ability to sustainably reuse existing commercial structures thus becomes a pertinent topic in providing an efficient solution to satisfy the housing demand.

Some 9000m2 of office space is currently earmarked for residential conversion in Cape Town as demand for central residential property grows and a low interest rate economic environment creates good financial conditions for developers. Coupled with this, is a stock of ageing offices and a population projected to increase by 15% by 2031 requiring approximately 30,000 new housing options across the Cape metropolitan area. With the low projected economic growth rate of South Africa, the Cape Town office market is expected to remain relatively stagnant in 2017, 2018 and 2019 - so the macro economic conditions for residential conversion are better than ever.

Based on the above mentioned, this research aimed at answering the questions: (a) which drivers encourage residential conversions in Cape Town, and, (b) what are the barriers for successful reuse of existing commercial buildings. This research investigated the nature and extent of commercial conversions experienced in other global cities (London, Sydney and New York) so as to establish an understanding of how Cape Town can best adapt, as well as the drivers and barriers to successful conversion of existing structures in a CBD. Through an extensive literature study, the research identifies the key lessons from international residential conversion projects. Subsequently,

interviews were held with local property experts in the Cape Town market. This research explored the potential of delivering sustainability to the Cape Town CBD through the reuse of commercial buildings. The mix of these various forms of research allowed key themes to emerge and for these themes to be exploded so as to establish a view on whether conversion projects are here to stay.

The research indicates that conversion projects within the CBD area of cities are only going to become more frequent as the financial feasibility of these conversion projects improves. This, together with an ever growing wealth of knowledge amongst developers and investors about conversion projects encourages the provision of significantly more residential units in the central city.

This increase in the central city population is expected to have many positive benefits for the city on a social, cultural and economic level. It is for these benefits that Public organisations are now slowly putting their weight behind supporting the adaptation of vacant and problem commercial buildings. This proactive focus on diminishing the number of obsolete buildings in prime locations has becoming a key trait of a successful CBD.

This research has therefore highlighted the real role that CBDs should play and how the physical environment that forms the CBD plays such an integral role in the formulating the culture of a city. Cities should be exciting central places where people can interact safely, that supports the sharing of ideas, and nurtures the cultural fabric that gives a city its soul.

1. INTRODUCTION

The built environment is described as being the operation of existing buildings in addition to the production of new buildings. It is this built environment that contributes 40% to total global greenhouse gas (GHG) emissions (UNEP, 2009) but, in order to achieve international agreed aims of sustainable development, these GHG emissions must be reduced. The construction of new, sustainable buildings is most commonly perceived as the best way of achieving these aims, however, 87% of the buildings we will need in 2050 are already built (Kelly, 2008). Adaptive reuse is an inherently sustainable option, which reduces the amount of waste going to landfill, and focuses development in the existing built environment, thereby reducing the amount of land that is used for new buildings and infrastructure.

Worldwide, demographic and economic changes drive adaptation in urban settlements and areas, whereby land uses become obsolete and buildings vacant. In some regions demographic and economic decline cause obsolescence and vacancy, whereas other regions experience a spatial shift, with high demand in specific markets and change of land use as a result.

The options for managing existing real estate are, either to demolish or, to convert to another use. In central business districts (CBDs) and city centres around the world there is a long history of office to residential conversion. In addition, this increasing demand for more affordable housing in city centres has led to withdrawals of non-CBD office stock for residential conversion (CBRE, 2015). To cope with these emerging trends, lessons can be learned from international development and applied to the City of Cape Town. This thesis investigates the market opportunities; drivers and barriers of commercial conversion in Cape Town, based on literature, public reports, semi-structured interviews with Cape Town real estate experts, and finally some examples in the Cape Town CBD are explored.

1.1. Background to the Study

Africa is urbanising at a rate of 4% per year (UN Habitat). Cities growing horizontally are struggling to deal with increasing urban populations and are not likely to be sustainable over the long term because of the challenges with congestion, infrastructure, pollution and social

disaggregation. It is clear that urban planning requires a shift from viewing urbanisation mainly as a problem to seeing it as a tool for development

The share of the population living in African urban areas now is about 30%, but will rise to 50% in a very short period of time (UN Habitat). This will present several challenges in both governance and the capacity of cities or even national government to react. It's important to have a national urban policy which can be transformed into local initiatives. Urbanisation is more of an opportunity than a challenge because it goes in parallel with development. If governments plan and design urbanisation well, they will enjoy the benefits that urbanisation brings to society. Urbanisation will be a big opportunity for Africa in the future.

Former studies show the potential of delivering sustainability in urban areas through building adaptation, upgrading the environmental performance of existing office buildings (Wilkinson & Reed, 2009), and the potential of adaptive reuse to enhance social sustainability in urban areas that have large vacancies by introducing new functions (Heath, 2001; Koppels, Remøy, & El Messlaki, 2011).

The issue of financing urbanisation is a very complex one but economists say the wealth that urbanisation generates is much more than the cost of urbanising. The question is how to share the wealth created by urbanisation among all stakeholders. One of the tricky points that needs to be addressed is that urbanisation is not just building buildings, but finding a balance between the art and the science of building cities and building buildings.

Converting commercial buildings to residential is not a new concept. There is, in theory, nothing to stop a landowner applying for change of use, but in practice many local planning authorities often safeguard 'employment uses', and seek to resist change of use that will not retain or directly generate employment. Conversion schemes are feasible within the existing controlled policy environment, but some governments have argued that changing the law will encourage implementation of new policies.

In some instances there are legitimate reasons for local authorities to protect employment use; for example the City of London feels it should be able to compete with other world cities in providing the best commercial space available and a new policy making adaptive reuse easier would frustrate efforts to achieve this. There are also numerous examples of

areas where there is a strong need for employment land to meet the needs of business. In these cases, there is a good case for such land to be rightfully protected.

Nevertheless, other areas exist where redundant and obsolete commercial buildings lie empty, whilst a severe housing shortage is prevalent, and it is this part of the opportunity that is the focus of this research. There is no doubt that there are opportunities to be had and important benefits to come from this, not least in the supply of housing but also through breathing new life into old buildings and revitalising Central Business Districts of Cities.

1.2. Problem Area

The problem to be examined centres around the argument that:

As Africa is urbanising at a pace that out-strips developed countries, there is strengthening demand for residential housing in the Cape Town Metropole. This demand has resulted in residential prices in the well-located CBD to exponentially increase as there has been a constrained supply of new-build residential buildings in the CBD. It is for this reason that the conversion of commercial buildings should be investigated as a potential solution to this growing demand for residential accommodation in the Cape Town CBD.

1.3. Research Question

The research question can be stated as follows:

How can the adaptive reuse of Commercial Buildings impact the demand for residential accommodation in the Central Business District of Cape Town, South Africa, an emerging market?

Sub-research questions are:

a) Which drivers encourage residential conversions?
b) What are the barriers for successful conversions in Cape Town?
c) What does a large increase in residential accommodation mean for the Cape Town CBD?

1.4. Research Aim

The purpose or aim of this research is to:

a) Understand what the conversion of office to residential use entails,
b) Understand what the effect of large scale conversion in the Cape Town CBD means for the City of Cape Town
c) Identify the factors that are prohibiting the provision of more residential in the CBD, and
d) Examine the potential solutions to meeting the increasing demand for residential space in the CBD.

1.5. Research Proposition

The research proposition posed is:

Through understanding the drivers that encourage the adaptation of existing buildings in CBDs, a solution can be delivered towards addressing the shortage of residential space in Cape Town's CBD.

1.6. Research Objectives

The research objectives to be achieved are as follows:

a) Determine the benefits of creating a vibrant CBD through greater residential provision,
b) Understand how the commercial property market affects the provision of residential units in the CBD
c) Identify the efficiencies that can be created through easier adaptation of existing buildings

1.7. Research Methodology

The above research objectives were achieved via the application of the following research method.

The research is qualitative, sharing the three basic assumptions identified by Patton (2002) of being naturalistic, holistic and inductive. Naturalism involves seeing the phenomenon in its naturally occurring state, in this case; by visiting Cape Town to interview practitioners and visiting sites to observe what has taken place. The holistic aspect involves looking at the whole problem to develop a more complete understanding of the influencing factors and variables which determine what the most important drivers and barriers for conversion adaptation in Cape Town are; and, how these can be influenced by the Public sector to increase conversion potential. The inductive approach is derived from the literature review whereby a picture of the problems and issues emerge as the researcher becomes more familiar with the topic area. The literature review identified which areas needed to be addressed and enabled the researchers to compare whether practice and theory followed closely.

A literature review ascertained the drivers and barriers of office to residential conversion. Data on the Cape Town office and housing markets were collected from online retrievable sources. Thereafter, data was collected via semi-structured interviews as it allowed the researcher to collect identical data from each interviewee, in a reasonably relaxed atmosphere. There were no leading or biased questions in the interview and the interviewers expressed no views during the interviews to lead or encourage interviewees in any way.

The research objectives were thus achieved via the application of the following research method:

a) A detailed literature review of subject matter relevant to this study, namely: the conversion of office space to satisfy the growing demand for residential space in the Cape Town CBD. This literature review also encompasses the gathering of international literature on what encourages the conversion of buildings in CBD areas.

b) The research methods employed in the collection of data include, but are not limited to: face to face interviews with key stakeholders; inspection of relevant documentation; collection of market related data and photographic material;
c) The data has been analysed, using methodologically appropriate techniques, in terms of the research question, research aims and the research objectives; and
d) Lastly, conclusions have been drawn and recommendations made in terms of the importance of adaptive reuse of commercial buildings to stimulate a city's CBD.

1.8. Limitations

In undertaking this research, obtaining sensitive data from interviewees was identified as a potentially limiting factor. This was addressed in the research design through confidentiality forms and the assignment of anonymity codes during thematic analysis.

Other limitations were experienced, but which are inherent in the research process such as interviewer bias and the lack of generalisation of the case study approach. These items were addressed in the research design and explained in detail under sub-section 3.9 of this paper.

1.9. Structure of the Research Report

Chapter 2 examines the literature reviewed as part of the proposed research and provides insight into the key themes and schools of thought on the subject of office to residential conversion.

Chapter 3 outlines the research methodology that will be followed in undertaking research and addressing the research questions.

Chapter 4 discusses the findings, analysis and interpretation of the field data and presents three conversion projects that will be analyzed and compared.

Chapter 5 Concludes on the findings and outlines recommendations for further research that can be conducted so as to expand the understanding of the ability to use the adaption of existing buildings to satisfy residential demand.

2. CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

In recent years, there has been a progressive movement by global cities, such as London, Tokyo, New York, Amsterdam and Sydney, to find creative and sustainable ways to meet the increased demand for residential accommodation in their Central Business Districts. This focus on increasing residential unit numbers in CBDs is centred on the premise that urban populations are growing and that a city's current supply is not sufficient to offer centrally located living options to the majority of its inhabitants.

Even as home mortgage interest rates remain at near-historic lows and multifamily apartment construction reaches near-record highs, millions of working people in cities are dealing with serious housing affordability challenges. High housing costs are not only detrimental for families: they are also bad for business and local competitiveness. They make it harder for companies to attract and retain workers or force employers to pay higher wages, which may be passed along to consumers in the form of higher prices. Workers forced to make unduly long commutes between their jobs and where they can afford to live may be less productive and spend less of their income in the community of their employment. Some research even suggests that housing shortages in highly productive cities have reduced the national gross domestic product.

Every city and region has development submarkets that are "hot" or "cold" areas for new development. Although the development equation is complex, this relative temperature is, at any point in time, driven largely by three variables: market rents, construction costs, and the availability and price of land.

In some parts of a city, the rents and prices are high enough to cover the cost of constructing a new higher-density building. In other areas, they are not. Even in areas where prices are sufficient to cover construction costs, developers must also find land that is available and economically profitable. In highly built-out areas of a city, such as Central Business Districts, where rents and prices are quite high, little development may occur because any available land is too costly to support new development.

These development decisions are further influenced by zoning policy. In most cities, local zoning limits the size and shape of buildings and the types of tenants that can occupy them. Sometimes those restrictions preclude developers from building projects that are financially feasible. For example, a city may allow only a four-story building to be built on a particular parcel, but the revenues from a four-story building may be too low to justify the purchase and demolition of a two-story building. In such cases, sites are likely to be repositioned in the market or adaptively used.

Therefore, as the demand for accommodation in CBDs significantly outstrips its supply, private developers have realised this opportunity and have entered the market to profit from this global dilemma that many cities face. The private developers acknowledge that there are only two options available to them for supplying further residential units in CBD's, these are:

1. Demolish existing land improvements on a site and build a new building that meets the 'highest and best use'
2. Use the existing improvements and structures on a specific site and re-engineer its use so as to convert the structure from its current use to an improved usage e.g. the conversion of office space to residential units.

This decision will primarily come down to the financial difference between:

- The cost of upgrading an existing (older) commercial building to meet current standards and occupier requirements.
- The ability to convert a building to residential that meets existing building control regulations.
- An equivalent new build residential development.

However, as cities become increasingly densely developed with more skyscrapers, the ability for developers to feasibly choose to demolish existing improvements on a site in order to develop 'higher and better' buildings will become difficult. This lack of feasibility of projects will cause developers to consider to adapt and to move towards the conversion of existing buildings within the CBD to enable the structure to better meet the most profitable demand in the prevailing market.

Cape Town's CBD is no different to these other global cities that have experienced this trend and it will only be time until the adaptive usage of buildings becomes a priority for both the private developer and the public stakeholder so as to meet the growing demand for residential accommodation in Cape Town's CBD.

The literature that will be reviewed in this dissertation will focus on this movement towards the conversion of buildings in CBDs that are currently zoned for commercial usage to residential units. The review will identify how a number of global cities have met this adaptive-building trend and the lessons learnt so that the conversion of Cape Town's commercial buildings can be better understood by the reader.

Chapter Two reviews related literature and presents the theoretical and conceptual framework that guides the research. The review is to provide a description and background of the adaptive reuse of commercial buildings and to gain insight as to what the prevailing market conditions need to be like in order for these conversions to residential units to occur.

2.2. BACKGROUND TO THE REVIEW

Globally, demographic and economic changes drive alterations in urban settlements, where land uses become obsolete and buildings vacant. In some regions demographic and economic decline causes obsolescence and vacancy, whereas in other regions a spatial shift occurs, with high demands in specific markets and changes of land use resulting. At this stage the possibilities for managing existing real estate are demolition or conversion to another use (Remoy and Wilkinson, 2015).

In total, the built environment contributes 40% to global greenhouse gas (GHG) emissions and in order to achieve international agreed aims of sustainable development, building related GHG emissions must be reduced (UNEP, 2009). Construction of new, sustainable buildings is most commonly perceived as the best way of achieving these aims, however as 87% of the buildings we will need in 2050 are already built, adaptive reuse is essential (Kelly, 2008).

Bullen (2007) argue that adaptive reuse is an intrinsically sustainable option, which reduces the amount of waste going to landfill, and focuses development in the existing built environment, thereby reducing land needed for new buildings and infrastructure. Furthermore, with population growth and increasing rates of urbanisation, reusing existing buildings is pragmatic and allows a faster build time compared to demolition and new build.

The potential of offices to residential conversion is well recorded (Geraedts and van der Voordt, 2007; Remøy, 2010; Remøy and van der Voordt, 2014; Wilkinson *et al.*, 2014) and described as being determined by the market, location and building (functional, technical, financial, aesthetic and legal) characteristics of the property.

However, to date, limited studies exist on conversion adaptation in Cape Town and most residential development is seen as being new build. There is therefore substantial potential to change the nature of the CBD through the adaptive reuse of the existing buildings.

2.3. THE URBANISATION OF THE WORLD

In today's increasingly global and interconnected world, over half of the world's population (54 per cent) lives in urban areas. The continuing urbanisation and overall growth of the world's population is projected to add 2.5 billion people to the urban population by 2050, with nearly 90 per cent of the increase concentrated in Asia and Africa. At the same time, the proportion of the world's population living in urban areas is expected to increase (UN, 2015).

The process of urbanisation historically has been associated with other important economic and social transformations, which have brought greater geographic mobility, lower fertility, longer life expectancy and population ageing. To further complement these benefits, urban living is often associated with higher levels of literacy and education, better health, greater access to social services, and enhanced opportunities for cultural and political participation.

Rapid growth of urban areas is the result of two population growth factors: (1) natural increase in population, and (2) migration to urban areas. Natural population growth results from the excess of births over deaths. Migration is defined as the long-term relocation of an individual, household or group to a new location outside the community of origin. In recent time, the movement of people from rural to urban areas within the country (internal migration) is most significant (Bhatta, 2010).

However, despite the comparative advantage of cities, unplanned or inadequately managed urban expansion leads to rapid sprawl, pollution, and environmental degradation, together with unsustainable production and consumption patterns. This unplanned urban growth also threatens sustainable development when the necessary infrastructure is not developed or when policies are not implemented to ensure that the benefits of city life are equitably shared. Urbanisation is therefore integrally connected to the three pillars of sustainable development: economic development, social development and environmental protection.

At present, Africa and Asia remain primarily rural, with 40 and 48 per cent of their respective populations living in urban areas. However, Africa and Asia are urbanising faster than the other regions and are projected to become 56 and 64 per cent urban, respectively, by 2050 (UN, 2016). Therefore, as the world continues to urbanise, sustainable

development challenges will be increasingly concentrated in cities, particularly in the lower-middle-income countries where the pace of urbanisation is fastest.

2.3.1. Trends in Urbanisation

In 2007, for the first time in history, the global urban population exceeded the global rural population, and the world population has remained predominantly urban thereafter (see figure 1). In 1950, more than two thirds (70 per cent) of people worldwide lived in rural settlements and less than one-third (30 per cent) in urban settlements. In 2014, 54 per cent of the world's population is urban. The urban population is expected to continue to grow, so that by 2050, the world will be one third rural (34 per cent) and two-thirds urban (66 per cent), roughly the reverse of the global rural-urban population distribution of the mid-twentieth century (UN, 2016).

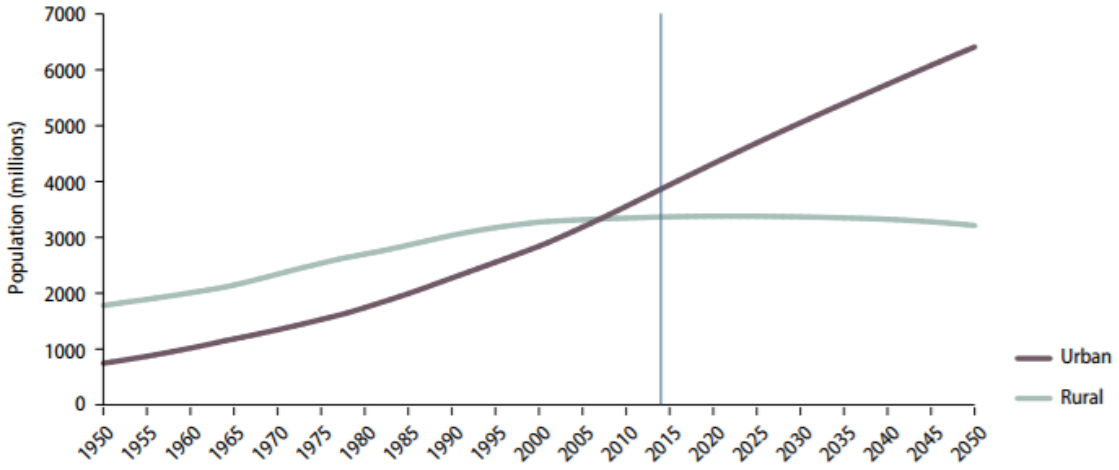


Figure 1: Urban and Rural Population of the World, 1950-2050. Source: (UN, 2016)

Africa and Asia are urbanising more rapidly than other regions of the world. The rate of urbanisation, measured as the average annual rate of change of the percentage urban, is highest in Asia and Africa, where currently the proportion urban is increasing by 1.5% and 1.1% per annum, respectively. Regions that already have relatively high levels of urbanisation are urbanising at a slower pace, at less than 0.4% annually (see figure 2). In general, the pace of urbanisation tends to slow down as a population becomes more urbanised (UN, 2016).

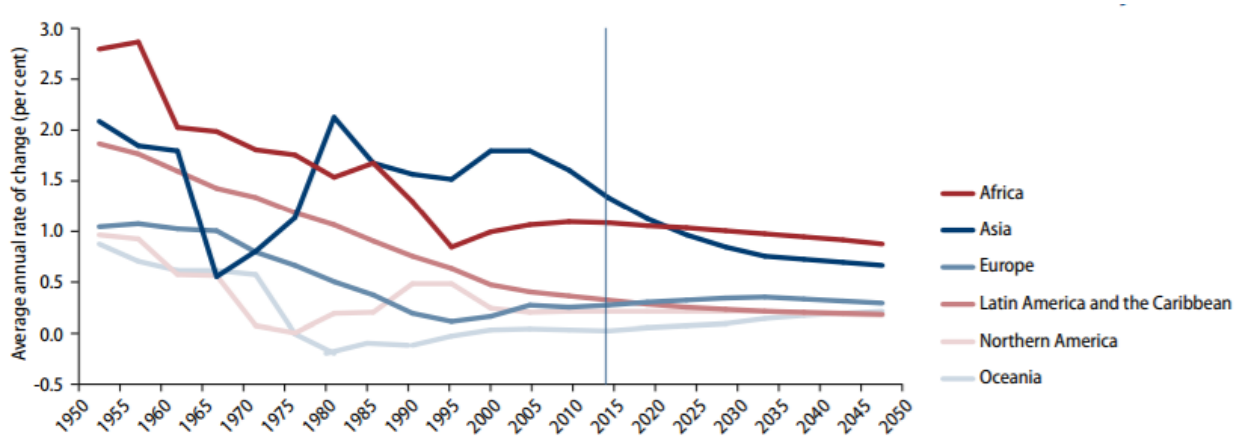


Figure 2: Average annual rate of change of the percentage urban by major areas, 1950–2050. Source: (UN, 2016)

The urban population of the world is expected to increase by more than two thirds by 2050, with nearly 90 per cent of the increase to take place in the urban areas of Africa and Asia. By mid-century, the urban population of Africa is likely to triple and that of Asia to increase by 61 per cent. (UN, 2016). This trend of increasing urbanisation across the African continent will place significant pressure on the existing infrastructure of African cities.

2.3.2. Urbanisation and South Africa

As South Africa is considered to be a middle income country, and is located in the fastest urbanising continent of Africa, it could be projected that South Africa's cities will increase significantly in population's size over the medium term.

In the South African context, urban regeneration is a process that was initially primarily led by property owners and the business sector concerned about protecting their investment in CBD areas suffering from urban decay. During the 1990s these stakeholders started implementing Community or Business Improvement Districts (CIDs and BIDs) as a key mechanism to tackle CBD urban decay. This required municipal involvement through partnerships in jointly tackling issues of 'crime and grime'. This process of lobbying for more municipal accountability in order to restore confidence and create an enabling environment for investment had some success. The three spheres of government added urban

regeneration to their agenda – with a varied commitment – and this process ended notably with legislations on Urban Development Zones (UDZs) and CIDs. UDZs can be considered as the only piece of policy related to urban regeneration established at a national level. To a certain extent, the Municipal Finance Management Act (2003) also provides a framework for urban regeneration since it governs municipal financial management and defines the conditions and processes for public–private partnerships. CIDs legislation and policy has happened within the Provincial and Municipal spheres of government.

However, the provincial commitment to urban regeneration is reported as being patchy. Gauteng and Western Cape are the only provinces with policy frameworks. The Department of Transport and Public Works of the Western Cape with the City of Cape Town has initiated a Central City Regeneration Programme (CT-CCRP) in 2010. A Regeneration Office of the Provincial Government has been created with the intent to support the CT-CCRP. One of the key objectives of the programme is 'to achieve densification by developing a percentage of the residential stock for affordable housing' (*Department of Transport and Public Works of the Western Cape, Cape Town City Regeneration Project: Strategic Framework, Version 02, February 2011, Executive Summary, i)*). The major mechanism to stimulate the regeneration is for the release of provincial-owned land and buildings to support the roll out of the strategy. However, to date there is no substantial programme for delivery and certainly no linked initiative that has helped shape residential access.

Therefore, Metropolitan municipalities have had to take the primary leadership role in establishing urban regeneration strategies to help reverse the decline of their urban centres, protect their asset base and support their own fiscal objectives. To this extent, there was a common interest between the municipalities, the business sector and property owners. Municipalities involved in urban regeneration have generally acted as facilitators for these business and property owning interests and this has given form to the content of their urban regeneration strategies. Their interventions have generally concentrated on supporting public private partnerships for property owners to tackle 'grime and crime' and infrastructure investment as a way of drawing on increased private sector investment.

The urban regeneration strategies implemented by the municipalities are quite similar in terms of their vision and content. The primary focus is on economic growth. The core of the

strategies generally emphasise attracting sustained private investments and creating a functioning property market leading to a rise in property value. The emphasis is often put on the improvement of municipal infrastructure, and the regulation of informal trading. The physical upgrading of urban centres is generally accompanied by mechanisms to enhance urban management, to 'eradicate crime and grime'.

These strategies are characterised by the weakness of their housing component, especially in the early stages of the policy development (1990s). However, there was a shift after the mid-2000s, in attention given to affordable housing delivery in inner cities. The Central City Development Strategy (CCDS) written in 2006 by the Cape Town Partnerships both balance concerns for growth with social considerations. In both documents, affordable housing has been prioritised.

2.4. THE ROLE THAT CITIES PLAY

The central question of why cities exist ties together almost all of urban economics. This clustering of human activity in a small number of urban areas might be because some places have innate advantages in these areas-- New York City's harbour increases productivity and San Diego's climate is pleasant—or because clusters of people are the cause for increased amenities, housing supply or productivity (Glaser & Gottlieb, 2009). Also, there are certainly cases where cities have formed for consumption rather than production reasons.

However, if cities were driven by amenities, then real wages should be lower in big urban areas, but this is not the case (Glaeser and Gottlieb, 2006). The real wage premium associated with living in big cities has declined over time which suggests that cities have become relatively more pleasant places to live, perhaps because of the decline in crime (Schwartz, Susin and Voicu, 2003). Yet even today, however, people require a small wage premium to live and work in big urban areas.

In addition, cities are perceived as places where one could have a better life; because of better opportunities, higher salaries, better services, and better lifestyles (Bhatta, 2010). This is due to cities with higher concentrations of skilled workers paying higher wages (Rauch, 1993). Therefore workers who come to cities don't receive the urban wage

premium immediately, but instead experience faster wage growth rates, which suggests faster human capital accumulation in urban areas (Glaeser and Mare, 2001).

It is implausible to think that big cities exist because these areas have an innate advantage in supplying housing or because density makes it easier to build but data on construction costs show that it costs considerably more to build vertically than horizontally (Gyourko and Saiz, 2006). Across metropolitan areas, housing prices rise substantially with city size, so this suggests that housing supply is more expensive in urban areas (Glaeser and Gottlieb, 2009).

Therefore, we are left with the view that cities exist because they are areas with high levels of productivity, which might occur because people come to places that are innately more productive or because density itself enhances productivity because of agglomeration economies. Agglomeration economies are, at their root, advantages that come from reducing transportation costs. Agglomeration economies can exist because of reduced transportation costs for goods and people: input suppliers and customers save on those costs if they locate near one another, and labour markets may be more efficient in urban areas and service providers may find it easier to cater to their customers (Glaeser and Gottlieb, 2009).

Glaeser and Gottlieb (2016) continue to argue that since rising productivity attracts more people which further increases productivity, agglomeration economies act as a multiplier that increases the relationship between productivity-enhancing factors and population, wages and housing prices. Ciccone and Hall (1996), for example, show a strikingly powerful connection between density and productivity across cities. This expansion of economic base (such as higher per capita income, increase in number of working persons) creates demand for new housing or more housing space for individuals (Boyce, 1963; Giuliano, 1989; Bhatta, 2009b). This also encourages many developers for rapid construction of new houses. Rapid development of housing and other urban infrastructure often produces a variety of discontinuous uncorrelated developments (Bhatta, 2010).

Therefore cities are important drivers of development and poverty reduction in both urban and rural areas, as they concentrate much of the national economic activity, government, commerce and transportation, and provide crucial links with rural areas, between cities, and across international borders (UN, 2016).

2.4.1. The changing role of a Central Business District

Central Business Districts today are much more likely to specialise in business services, and Kolko (2000) finds that business service firms are much more likely to locate near sectors that are abundant in potential customers or input suppliers. Indeed, it is natural to think that transport costs are more important for service firms where output typically involves face-to-face contact but reducing the transport cost of purchasing inputs may still be an important element in urban economies - as the important inputs are now management consultants rather than iron ores (Glaeser and Gottlieb, 2009).

Duranton and Puga (1998) suggest that CBDs are now "nurseries" for new ideas. In their model, mature industries flee cities for the lower production costs of non-urban locales. Another way in which the urban transmission of ideas can increase productivity is by increasing human capital acquisition for workers. This view is that the flow of ideas in cities enhances worker human capital as workers learn skills directly from each other. Therefore central proximity enables them to observe mistakes and successes and to adjust accordingly (Glaeser and Gottlieb, 2009).

Also, the great improvements in information technology over past 30 years have led some to argue that the informational functions of physical proximity will eventually become obsolete. Gaspar and Glaeser (1998) question this view and argue that the important question becomes whether face-to-face communication and electronic communication are substitutes or complements. Theoretically, the two types of communication could certainly be complements, as people may expect to use both types of connection when forming relationships. The example of Silicon Valley, which is both a famous geographic cluster and a centre for information technology, cast doubts on the view that proximity and information technology are strong substitutes (Glaeser and Gottlieb, 2009).

Glaeser and Ponzetto (2007) argue that these changes in information and transportation technologies have increased the returns to new ideas. If new ideas are best created in cities, where people can readily learn from one another, then technological changes that increase the returns to new ideas will only make cities more important, at least when those cities specialise in creating ideas. This theory can help explain why idea-oriented agglomerations, like those that specialise in financial services, have thrived over the last 30 years while

goods-oriented agglomerations, like those that specialise in manufacturing, have faltered (Glaeser and Gottlieb, 2009). This further supports Duranton and Puga (1998) idea that the role of cities is to enable the sharing and nurturing of ideas amongst the city's inhabitants.

2.4.2. The importance of Residential Accommodation in Central Business Districts

The Central Business District (CBD) is a place where the capital's core economic activities, businesses and employment opportunities often concentrate. The CBD is also the home for a large number of households and a notable centre for culture that includes theaters, museums and cinemas. Moreover, the CBD is also regarded as the point of maximum accessibility to the city as a whole. Hence it makes the daily journeys to and from work as well as journeys to do other activities such as shopping, accessing schools and colleges, receiving healthcare and going for entertainment and recreation tend to be lower as the distance gets nearer to the CBD. All of the abovementioned positive attributes associated to the CBD have made the location closer to the CBD more attractive than locations further away (urban periphery). Hence, 'the only spatial characteristic of each location in the city that matters to households is the distance from the CBD' (Fujita, 1989: p. 12). It is important to note that the attractiveness of the location is normally capitalised into land values and subsequently property values.

Similar gains to labour market agglomerations occur if there is uncertainty about match quality between worker and firm. If firms are in isolation, then workers will be stuck with their first employer. If there are many firms locating near one another, there is opportunity for workers to move from job to job in order to find the best match for their talents and interests (Helsley and Strange, 1990). Strange, Hejazi and Tang (2006) provide a general model linking uncertainty and the gains from agglomeration that come from statistical returns to scale.

Changes in preferences over the lifecycle, such as a desire to change work patterns for parenting, create advantages from cities. There are numerous cases in which dense agglomerations provide extremely well-functioning labour markets. The presence of so many alternative employers also may induce workers to take on riskier jobs because they know that there will be other employment opportunities should a job not work out.

However, Urban Economics published a report earlier in 2013 which states that 4 out 5 jobs are not in the CBD, they're in the suburbs. A CBD typically only represents around 10 to 15% of a city's workforce. What's a CBD about if more than 80% of businesses are not there? They're about connecting. They're social hubs which provide health, entertainment, retail, government services and cultural activities. The heart of the city is a social space.

Given this, a 21st Century CBD needs to be more liveable than it needs to be workable. Cities all around the world are trying to turn weekend ghost towns back into liveable communities. The future of cities is about creating a Central Social District. A place where small businesses thrive, where new housing forms take shape in vertical and horizontal shaped buildings, where culture thrives, where retail is mixed with lifestyle and towers hold an unknown multitude of uses and services. A Central Social District puts people first and commerce second.

Yet, the traditional CBD concept has been under substantial criticism with Dubin and Sung (1987) arguing that cities rarely have a simple monocentric structure, since employment and amenity centres are located outside of the CBD. Over the last three decades, in particular since the late 1970s, the rapid growth of suburban nodes of economic activity and the emergence of urban sub-centres has been widely recognised. As Heikkila *et al.* (1989), Garreau (1991) and Waddell *et al.* (1993) argue the dominance of the CBD has increasingly been challenged by the growth of suburban employment centres or in essentially ex-urban locations, exemplified most notably by 'edge cities'.

2.4.3. The continued development of Central Business Districts

As the world continues to urbanise, sustainable development challenges will be increasingly concentrated in cities, particularly in the lower-middle-income countries where the pace of urbanisation is fastest (UN, 2015). At the same time, cities offer opportunities to expand access to services, such as health care and education, for large numbers of people in an economically efficient manner. Providing public transportation, as well as housing, electricity, water and sanitation for a densely settled population is typically cheaper and less environmentally damaging than providing a similar level of services to a predominantly rural household. Therefore, sustainable urbanisation requires that cities generate better income and employment opportunities and ensure equal access to services; and reduce the number

of people living in low-cost housing through the provision of more affordable accommodation in central locations.

Our cities are continually changing to match our progression towards a denser urban settlement. At this moment in time the construction industry accounts for 30-40% of the world's carbon emissions and is also the largest global consumer of raw materials (Boston Consulting Group, 2016). This trend does not seem to be slowing down as population numbers by 2050 are expected to have reached 9 Billion inhabitants and 75% of them will be living in cities, this expanding nature of the urban dwelling will be affected by resource scarcity, climate change and rising energy costs (Schiller, 2013).

In emerging economies, the movement to cities combined with the growing middle class is creating a desperate need for a push to create more urban real estate (PWC, 2014). In order for us to overcome these social, environmental and economic barriers, our urban landscape will face a radical transformation - and that is a vertical one. Horizontal sprawl will no longer be a sustainable effective solution in this urbanising and resource limited world.

2.4.3.1. The Millennial population and their demand urban-style environments

Furthermore, across the world Millennials, described as people born in the early eighties and late nineties, are driving the steady movement toward more compact suburban growth. This large demographic segment of society is entering the market for housing and jobs, and they tend to favour the convenience of urban-style environments. Millennials have a stronger preference for city living and a high propensity to rent – these factors have contributed to urban gentrification, strong apartment demand and development activity in markets across the world (CBRE, 2015).

Therefore, the choice to live in cities is no longer just economic but it has progressed to also be cultural. Millennials prefer to live downtown and closer to work. This cultural shift of millennials has gone unnoticed by employers. Companies are opening offices in CBDs adjacent to amenities so that employees can have the desired urban-services lifestyle in close proximity to work. These areas are rapidly growing in popularity and have now become known as 'innovation' districts due to the high-concentration of industry-leading companies and vibrant start-ups. These districts have been historically underdeveloped, but

cutting-edge companies are now embracing the alternative location as a way to break-out from the traditional CBD office space profile and to design creative, open-plan environments that promote collaboration (CBRE, 2015). This trend is most prevalent in the millennial led high-tech industry where competition is fierce to attract and retain top talent. Many 'innovation' districts now have a lower vacancy rate than their respective metro average and even the CBDs.

2.5. THE ADAPTIVE REUSE OF BUILDINGS

As buildings appreciate in years their operational and commercial performance decreases until eventually they fall below the expectations of owners and occupiers (Haakinen, 2007). Apart from the natural depreciation of fabric and systems, the effectiveness of buildings is impacted by constantly changing market demands (Petersdorff *et al.*, 2006). The resultant declining commercial and operating performance is a critical issue that owners and operators have to deal with throughout the lifecycles of their buildings. Responding to declining performance has resulted in decisions to purely demolish and redevelop buildings based on economic grounds (Pearce, 2004). The decision to demolish may be premature if it ignores the residual utility and value of buildings that could be optimised by adapting and refurbishing using the process of adaptive reuse (Ellison *et al.*, 2007). Failing to optimise buildings can result in their residual lifecycle expectancy not being fully exploited, which is not a sustainable use of built stock.

In total, the built environment contributes 40% to global greenhouse gas (GHG) emissions and in order to achieve international agreed aims of sustainable development, building related GHG emissions must be reduced (UNEP, 2009). Construction of new, sustainable buildings is most commonly perceived as the best way of achieving these aims, however as 87% of the buildings we will need in 2050 are already built, adaptive reuse is essential (Kelly, 2008). Adaptive reuse has been identified as a process to ameliorate the financial, environmental and social performance of buildings (Langston et al., 2007; Bullen, 2007). It is best described as ''a process that changes a disused or ineffective item into a new item that can be used for a different purpose" (Department of Environment and Heritage, 2004). Thus, the adoption of this process for buildings can contribute to sustainability and climate

change through mitigation of CO2 emissions (Bullen, 2007). This can occur through reusing the functionality of the building, components, materials and recycled materials and therefore reduce the amount of embodied energy needed to suit the purpose of facility that is required.

The majority of buildings that we will inhabit in the next 30 years are already in existence today (CBRE, 2016). The urban framework is restricted in sprawl and green field sites. However, it is clear that the greatest opportunity to reduce primary energy usage lies within our already existing buildings. Conversion is defined as a change of use adaptation and is a form of adaptive reuse that usually requires major changes of the building. Conversion, as such, contributes to the continued use of beloved historical cities and buildings (Remoy and Wilkinson, 2015).

Therefore the adaptive reuse is an intrinsically sustainable option, which reduces the amount of waste going to landfill, and focuses development in the existing built environment, thereby reducing land needed for new buildings and infrastructure. Furthermore with population growth and increasing rates of urbanisation, reusing existing buildings is pragmatic and allows a faster build time compared to demolition and new build (Bullen 2007).

The ability to sustainably adapt buildings throughout their life-cycle provides a significant amount of value to the surrounding environment and the stakeholders of that building. This is primarily due to the inefficiency and the financial drain on public and private resources that vacant or derelict buildings represent. Therefore, the adaptive reuse of a building helps to ensure that it will positively contribute to the success of its neighbourhood.

Also, as part of the reuse of poor performing buildings, the retrofitting of fast ageing infrastructure assets is an immense opportunity and responsibility for the construction industry. The ability to retrofit buildings by enhancing high performance façade systems, mechanical systems, vacancy and daylighting sensors and off peak thermal energy storage will have a dramatic impact in the reduction of carbon emissions within cities globally. The enhancement of buildings internal energy systems has the potential to reduce overall energy usage by as much as 40% (CBRE, 2016).

Therefore, this urban revitalisation process eliminates the need for costly redevelopment projects which involves carbon emissions being created through raw materials being mined and logistics in getting materials to site. The retrofitting idea does not stop at the building sector, the modifications to vacant or existing structures that have been abandoned or even areas that have been labelled as 'dead space' within cities can be re-used in improving the liveability and creation of green infrastructure within cities.

It is for these reasons that the ability to sustainably adapt B/C-grade vacant offices to residential units is being experienced as a growing trend across the world's mega-cities' CBDs. This conversion of offices therefore holds intrinsic benefits that cities are able to capture through policies and the economic environment.

2.5.1. The adaptation of existing buildings vs. demolition and new-build

There is a growing acceptance that a process of adaptive reuse can be used as a responsive strategy that can attend to the changing needs of owners and occupiers (Wilkinson *et al.,* 2009). A key decision that many owners and occupiers are confronted with is whether to adapt and reuse their building or demolish. Itard and Klunder (2007), for example, have suggested that the longevity of buildings can be detrimental because of their negative environmental impact, and the relative technical problems associated with renovating and refurbishing. According to Ellison *et al.* (2007) refurbishing a building to meet the standards needed to make a contribution to sustainability may be 12% more expensive than a standard reuse project. In a similar vein Kohler and Yang (2007) concludes that the costs of reusing buildings are lower than the costs of demolition. According to Thomsen and van der Flier (2006), an adaptive reuse strategy is only preferable to demolition if the objectives of environmental sustainability and reduced energy consumption can be attained. Building owners and practitioners, however, have been reluctant to embrace adaptive reuse because of the perceived problems associated with health and safety, increased maintenance, increased rental returns that may be required, inefficiencies in building layout and the commercial risk and uncertainty (Shipley *et al*., 2006; Remoy and van der Voordt, 2007; Kurul, 2007; Bullen, 2007).

In many cases, increasing the life of a building through reuse can lower material, transport and energy consumption and pollution and thus make a significant contribution to

sustainability (e.g. Van der Voordt, 2004; Velthuis and Spennemann, 2007; Bullen, 2007). Given this, there is now a coming together of ideas among researchers that adaption can make a significant contribution to the sustainability of existing buildings (e.g. Brand, 1994; Pickard, 1996; Cooper, 2001; Balaras *et al.*, 2004; Bromley *et al.*, 2005; Kurul, 2007). There is also a growing perception that it is cheaper to convert old buildings to new uses than to demolish and rebuild (e.g. Vanegas *et al.*, 1995; Ball, 2002; Douglas, 2002; Department of Environment and Heritage, 2004; Gregory, 2004; Pearce, 2004).

Furthermore, building longevity can raise many technical problems, particularly with respect to the durability of the external fabric and finishes. When the external fabric of a building begins to deteriorate this can cause significant problems when considering reuse. Ball (1999) suggests that such technical challenges require a wide range of renovation and refurbishment techniques. In many cases, this involves finding innovative solutions that can be applied within the constraints imposed upon the design team and contractor (Shipley *et al.*, 2006).

The relative costs, related benefits and constraints of reuse versus demolition and new build have received widespread debate. Hall (1998), Douglas (2006) and Kohler and Yang (2007) have stated that the costs of reusing buildings are lower than the costs of demolition. It is potentially cheaper to adapt than to demolish and rebuild, in as much as the structural components already exist and the cost of borrowing is reduced, as contract periods are typically shorter (Shipley *et al.*, 2006).

However, when buildings are demolished, it is generally because they no longer have any value (Kohler and Yang, 2007). In most cases, it is the market that sets this value, even though such an assessment may be based on incomplete information with no consideration given toward externalities. Douglas (2006) maintains that there is considerable value attached to retaining style and character and the so called ‘solid build qualities of buildings’. According to Ball (2002), it is generally preferable to repair a building than replace it because the value of the location and quality of a new building is not necessarily better than the old one. In contrast, O’Donnell (2004) suggests that an adapted building will not completely match a new building in terms of performance, but the shortfall should be balanced against gains in social value.

2.5.2. Global examples of when adaptive reuse of buildings occurs

Heath (2001) describes office to residential conversions as a successful strategy for inner city redevelopment in London and Toronto. During the 1990s, the Toronto city core was a mono-functional office district, which was depopulated after 6pm in the evening. Office construction booms in the late-1980s and an economic recession in the early 1990s resulted in high office vacancy rates, rent reductions and tenants moving to newer accommodation with comparable rents (Barlow & Gann, 1995).

Whereas the London planning authority was supportive though not proactive: conversions were mainly market led, the Toronto municipality introduced a planning policy to stimulate redevelopments (Remoy and Wilkinson, 2015). In Toronto, conversion and redevelopment contributed to adding 9000 dwellings to the downtown in the 1990s. By 2000 the office vacancy had fallen back to acceptable rates and the buildings most suitable for residential use had been converted. Drivers for conversions in Toronto and London included demographics and household compositions with changing attitudes and housing demand, and increased popularity of city-centre living. In addition, new use was needed to activate obsolete offices. A third and most important driver was the rent-gap between offices and housing: in some situations the return on housing was estimated to be 90% higher than for commercial property (Barlow & Gann, 1993).

Between 1992 and 1995 the New York Downtown vacancy rate was 20%, caused by economic downturn (Barlow & Gann, 1995). Reacting to this development, the New York City government initiated the Lower Manhattan Revitalisation Plan to enable and subsidise residential conversion (Beauregard, 2005). Subsidies were given for conversion of office buildings constructed before 1975. The government encouraged conversions into studios and small apartments, targeting first-time renters. The low rents made the apartments popular for other groups as well, although the area lacked basic services and facilities. The most important drivers for conversions were the tight housing market, a high supply of obsolete office buildings, and governmental policy. From 1995 to 2005 more than 60 office buildings were converted, and the number of inhabitants in the area grew (Remoy and Wilkinson, 2015).

In Tokyo, the office market collapse in 2002-2003, oversupply and economic decline were the drivers for conversion. Older offices in secondary locations became obsolete and were converted (Ogawa *et al.*, 2007). As tenancy perspectives for new, large office buildings were still good, redevelopment was generally a more interesting option than conversion. The local government had little control over the urban developments, though recent focus on urban conservation might enhance conversion potential in the future (Minami, 2007).

In Australia, although sustainability is a key driver for building adaptation, economic considerations are also very important (Remoy and Wilkinson, 2015). Upgrading the existing building stock to improve sustainability and reduce CO2 emissions before 2020 is a target for the City of Melbourne (Wilkinson & Remøy, 2011). The aim is shared by Perth in Western Australia, where high office vacancy and increased residential construction activity has been another driver for building conversion in the last decade (Bullen, 2007). The governing authorities in many Australian cities seek to encourage sustainability in adaptations to deliver emission reduction targets.

In these described cases, sustainability aims, urban policy, office obsolescence and a tight housing market were the most important conversion drivers. These relate to political, economic, social, technological, legal and environmental drivers. Political, economic and social drivers consider residential conversion as a strategy to introduce housing in central business districts that have historically been mono-functional office locations. Moreover, residential conversion in central urban areas is seen as a possibility for realising more affordable housing in city centres. In large cities, housing affordability in central areas has become problematic for lower income groups and for the middle classes.

Technological and economic drivers are most important in cities where the value of residential property is higher than the value of offices. Due to technological and economic changes, several cities have struggled with high office vacancy and obsolete office locations. In these cases, residential conversions are driven by market forces; conversion is less expensive and faster than demolition and new-build, and many existing obsolete office buildings occupy central locations. It is these buildings that within-use adaptation is a possibility, but conversion for new use is often chosen, especially in locations with a high market demand for housing (Remoy and Wilkinson, 2015).

2.6. FACTORS THAT AFFECT THE ADAPTIVE CONVERSION OF BUILDINGS

The barriers of adaptive conversion of buildings are categorised as political, economic, environmental, social, technological/physical and legal (Remoy and Wilkinson, 2015). Of these, one of the major obstacles for conversions is the specialised nature of the work and the competence of the actors in the real estate market. Developers and investors work within their own areas of expertise, and have little understanding of related disciplines (Remøy & Van der Voordt, 2007). Moreover, the market is sectorial; office investors do not invest in housing and vice versa, and moving from the office to the housing sector is therefore difficult. Socially the infrastructure to support residential land use may not exist in a former, or predominantly, commercial area (Heath, 2001).

In addition, legislation in the form of zoning plans and building laws are important conversion barriers. In most countries the building laws for offices are stricter than for housing, especially for fire escape, daylight admittance and energy efficiency (Remøy & Van der Voordt, 2007b). Regulations can require structural alterations that lead to high costs or make conversion physically unfeasible (Bullen, 2007). In existing buildings harmful materials, such as asbestos, is a barrier where removal follows strict safety-rules as well as incurring high costs (Remøy & Van der Voordt, 2007).

Another issue arises when the original construction drawings of older office buildings are not always correct, although this is not a technical barrier as such, it makes thorough inspection of the structure vital (Remøy & Van der Voordt, 2007). The main structure or fabric of older buildings may be aged and experiencing decay, for instance the concrete may be deteriorating. Repairs can be costly, and secondary construction may be required. Physically, apartments require more vertical shafts for electricity, water and plumbing services than offices (Remøy & Van der Voordt, 2007). Overall most barriers are technical and threaten the economic performance of the building and the financial feasibility of the project.

Furthermore, the development industry cites a number of disadvantages that are specific to mixed use buildings where residential units are added to commercial buildings. Providing residential within an office block can fragment ownership where the units are for sale. They require different management structures for the commercial and residential elements, even

if the residential units are retained for rent. Also, there are increased costs associated with the need for separate entrances, cores and servicing. In some cases there can be sub-optimal and sometimes contrived design, particularly to meet the required proportions of each floor space. It can also reduce the flexibility of uses within a building (for example, if an office occupier wants to grow). Overall there are concerns that mixed use within buildings creates inefficiencies in the buildings themselves, increasing service charges and creating opportunity costs.

Former research (De Vrij, 2004, Geraedts and Van der Voordt, 2007) developed instruments to decide office buildings potential for conversion, and also developed checklists to determine development risks. This table summarises the potential risks when adapting buildings:

Table 1: Checklist of potential risks for the conversion of buildings from Office to Residential use (*Source: de Vrij (2004)*)

Location and Market	**Aspect**
Legal	• Zoning Law • Land Ownership • Soil Pollution
Financial	• Purchasing costs of vacant office buildings • Housing (rental) and commercial space market
Technical	• Stench pollution • Noise pollution
Functional/Architectonic	• Bad reputation, unsafe area • Amount of parking places • Amount of facilities in the area • Accessibility by public transport • Routing of the area
Building	**Aspect**
Legal	• Presence of asbestos • Monumental status • Fire Regulations and Heritage status • Municipal building act
Financial	• Acquirement / purchasing costs • Initial phase investments • financial feasibility • Vacancy of the new function
Technical	• Incorrect technical assessment • Inadequate pipes, ducts, electricity system and water supply • Inadequate acoustic insulation of the floors

	• Inadequate thermal insulation of façade, openings and roof • Damp in structure • Joints of bricks in poor condition • Daylight in a limited amount of the appointed living space • sunlight, building is poorly situated • Poor state of the main structure or foundation
Functional/Architectonic	• Incorrect assessment of functional possibilities • Low recognisability of the building and its entrance • Building too slender or too deep • Too loose fit, too high floors • No basement • Windows not operable • No balconies or roof terraces • Not enough elevators and staircases

2.6.1. The prevailing vacancy in the office market

The extent of vacancies in buildings in the CBD of a city directly correlates to the growth in rental rates being achieved by the private landlords. This means that as a city's vacancies rise, rental returns for investors decrease and the investor is encouraged through financial goals, to reassess how best to re-tenant the building and achieve the best return.

The commercial vacancy rates of cities vary as typically in boom times of GDP growth developers flock to the market and oversupply commercial space. This oversupply at the tail end of a boom period creates a high vacancy rate for a CBD. This results in empty or poorly maintained properties which are often unsightly on neighbourhoods. So making the most of these empty properties, could be said, to resonate with residents' wishes to see visual improvements in their area.

Whilst average office rents in cities have performed well and recovered to pre-recession levels, the drivers for office to residential conversion relate to relative values and not to an over-supply of office floor space or poor office returns values. Importantly, there are also other drivers for office floor space. Significant landlords, such as Growthpoint, have a strong preference for commercial development or rental accommodation as they can retain long-term ownership or freehold reversion, but single owner-occupiers have a right to purchase the freehold of their home which fragments ownership and makes it difficult to refurbish or redevelop buildings in the future.

According to experts, the transformation prospects of the current offering of office buildings depend primarily on the following three factors:

1. *Duration of vacancy*: The longer an office building is unoccupied, the more-likely the current owner will be to convert it so that it can be used for another purpose.
2. *Reason for vacancy: market, location or building*: When an office building is unoccupied because of market factors, transformation would not seem to be an attractive option from the owner's viewpoint if the market is strengthening. If the location is unsuitable for office purposes and/or the building does not meet (or no longer meets) the requirements for office use, transformation may be a good idea. If the vacancy is due to building-related factors, the transformation potential is highly dependent on the extent to which the building can be converted by design interventions into an attractive residential property meeting the requirements and wishes of local target groups. Financial feasibility and permission to modify the zoning plan are critical factors for success in this context.
3. *Municipal policy*: When the office building lies in an area that has been prioritised for residential use by the municipal authorities, transformation into residential housing would seem to be an obvious solution since this is in line with municipal policy. If, on the other hand, the building is in an area earmarked for (re)development for office use, renovation and reuse for office purposes would seem to be more appropriate.

Also, the vacancy of office buildings leads to financial problems for the owners and social problems for the community, e.g. vandalism, dereliction and deterioration. A solution may be found through the conversion of vacant office buildings into housing as vacancy-threatened buildings are often part of the mediocre part of the building stock.

2.6.2. Improved sustainability and lower carbon emissions

When an existing building's life expectancy is estimated to be less than a new alternative, despite any improvements that adaptive reuse may inject, demolition is often selected by the developer (Douglas, 2002). Certainly the life cycle expectancy of the materials in an older building may well fall short of those in a new building. The age of materials will also directly affect the on-going maintenance costs of an adapted building, which, as a result, may well be higher than those for a new building.

However, adaptive reuse can offer a more efficient and effective process of dealing with buildings than demolition. This is because it is deemed to be safer as it reduces the amount of disturbance due to hazardous materials, contaminated ground and the risk of falling materials and dust. In particular, site work is also more convenient because the existing building presents a work enclosure that reduces downtime from inclement weather.

In a similar vein, Itard and Klunder (2007) have stated that demolition should be regarded as being an environmentally unfriendly process. They found from a renovation study that adapting buildings for a new use generates less waste, uses fewer materials and probably uses less energy than demolition and rebuilding. Evidence clearly suggests that the opportunities created by adaptive reuse outweigh those presented by demolition and rebuilding (e.g., Ball, 1999; Brand, 1994; Cooper, 2001; Douglas, 2002; Kohler and Hassler, 2002; Petersen, 2002).

2.6.3. Traffic congestion in CBDs

In general, governments do not allow construction of high-rise buildings if the site cannot be easily accessed. Narrow roads within the city area restrict construction of high-rise buildings resulting in waste of vertical space. This wastage of vertical space historically transformed into horizontal growth. This is a common problem to very old cities in many developing countries where past planners failed to visualise the future needs and did not plan wider roads. Recent road-widening policies that are taken in many developing countries have failed owing to their economic (huge money is required to compensate the road-side house owners) and political constrains (Bhatta, 2010).

The construction of roads and highways cause both congestion in the city and rapid outgrowth (Harvey and Clark 1965). Roads are commonly considered in modelling and forecasting urban sprawl (Cheng and Masser 2003; Yang and Lo 2003), because they are a major catalyst of sprawl. Important to realise that transportation facilities are essential to cities and its neighbourhoods. Development of urban economy and thereby job opportunities are directly dependent on the transportation facilities. Therefore, transportation facilities can never be suppressed; rather initiatives to impede linear branch development by means of government policies and regulations should be practiced.

Traffic congestion in the inner city is increasing due to population growth, increased car ownership and the increasing number of taxis, and will in the longer term impact negatively on the inner city's development if strategies are not put in place to deal with growing congestion. Pedestrian movements are compromised due to priority that was given to motorised transport in the past, as well as by informal trading on sidewalks limiting available pedestrian space.

These higher densities of CBDs mean shorter trips but more congestion. Newman and Kenworthy (1988) find that the former effect overwhelms the latter. Also, even though vehicles are not as fuel-efficient in dense areas owing to traffic congestion, fuel consumption per capita is substantially less in dense areas because people drive much less.

Residential densification is important to making public transport more viable. The establishment of mixed use precincts in support of the multi-modal transport hubs must take place, as well as the reinforcement of local precinct orientated mixed use centred around public transport stations.

2.6.4. The Affordability of Accommodation in CBDs

Affordable housing is a term used to describe dwelling units whose total housing costs are deemed 'affordable' to those that have a median household income. A common measure of community-wide affordability is the number of homes that a household with a certain percentage of median income can afford (Bhatta, 2010). For example, in a perfectly balanced housing market, the median household could officially afford the median housing option, while those poorer than the median income could not afford the median home. This fifty percent affordability for the median home indicates a balanced market.

House prices represent the interaction of supply conditions and the individuals' desires to live and work in certain locales. Factors such as income heterogeneity across space, amenities and land use restrictions will therefore drive housing prices (Glaeser & Gottlieb, 2009). Lack of affordable housing within the city forces people to set their residences in the countryside (Bhatta, 2010).

Generally living cost and property cost is higher in the main city area than the countryside. Generally majority of urban residents seek to settle within the core city, but lower living and

property cost attract them to the countryside (Bhatta, 2010). Also, the costs involved in development of community-infrastructure and public services are higher in the countryside rather than the core city. The maintenance costs of public services are also higher in the countryside.

The standard urban economic model proposed by Alonso (1964), Muth (1969) and Mills (1972) indicates that there is a distance decay relationship between land value and distance from the CBD of a monocentric city. As a result, the greater distance a household lives from the CBD, the more he/she will have to spend on transport costs and thus will be spending less on housing. In other words, the residential choice of the household is determined by the trade-off between space for living (housing) and accessibility to employment, which is often concentrated in the CBD. Following this reasoning, households are compensated for higher rents in CBD's by reduced commuting costs (Ahlfeldt, 2007).

Therefore, the affordability of accommodation in CBDs should be considered holistically together with the saving on commuting time and costs as the higher rental rates should compensate the renter for their decreased commuting time.

2.6.5. Feasibility of the conversion project and access to funding

Building conversion is a well-known phenomenon; inner city buildings lose their function, and adapt to new use. Building conversion is a way of coping with vacant buildings. The alternatives are consolidation, renovation or upgrading, or demolition - eventually with new construction on the site. Most owners of vacant office buildings choose consolidation; to do nothing, but to wait for better times. This choice is often not based on rational reasoning. The value of office buildings is based on rental income, not on the value of the building itself. Hence, the sale of a vacant building invariably brings less than the sale of an occupied building. The building may not be sold in accordance with its book value, which would mean financial loss for the seller.

For housing market investors and real estate developers, high asking prices is a reason for not converting vacant office buildings into housing. The different real estate markets are separated; office market actors have little knowledge about the housing market, and vice versa. Among the stakeholders on the real estate market there is a general lack of knowledge about conversion processes (Remøy, 2007).

Therefore, the feasibility of a property development is based on a set of calculations that assess whether the project (a) has sufficient demand (measured in market rents or sales) to cover its construction and operating costs and (b) can provide financial returns for the effort and risk undertaken by the developer and its sources of funding. Government policies affect feasibility in various ways throughout the development process as some may increase upfront costs, while others may reduce ongoing operating costs.

Feasibility calculations have two major components. The first is 'sources' and 'uses', which reflects the costs of building and financing a development project. 'Uses' reflect the costs of creating a development project and 'Sources' describe the various sources of capital available. For a project to be built, the sources must meet or exceed the uses. The following percentages are broadly illustrative of the breakdown of sources and uses for a multifamily development project.

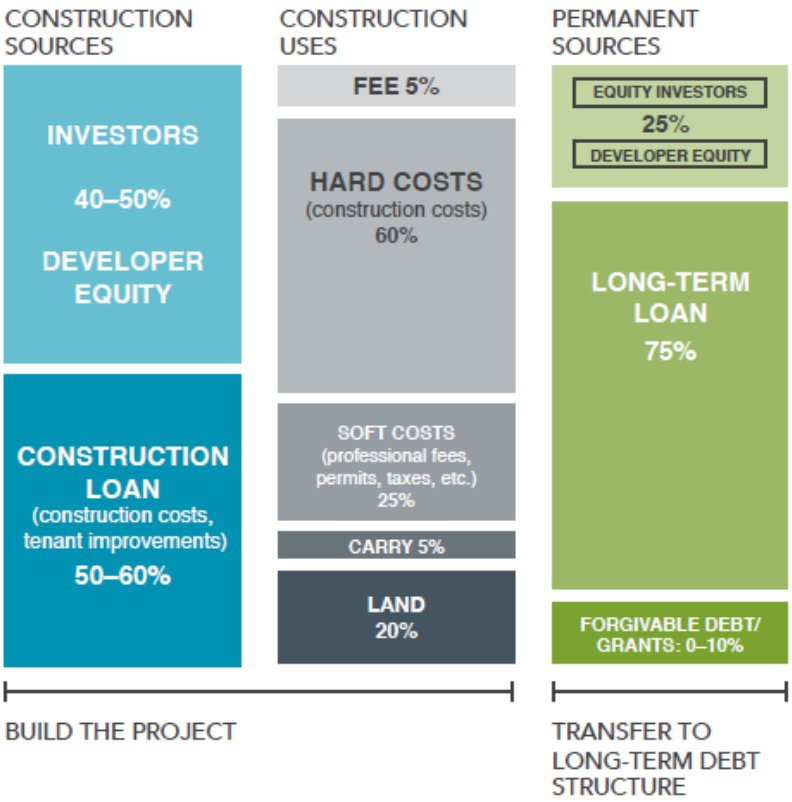


Figure 3: Overview of the construction sources of funding for a development project (*Source: Williams, 2016*)

Figure 3 above details the construction sources that provide funding to build the project. This figure shows that the developer and outside investors typically provide equity to a

project and that most projects also have a construction loan that accounts for at least half the sources. Some projects have mezzanine debt (a hybrid of equity and debt).

The uses are the costs of the project, including the costs to acquire the site, construct the project, pay for architectural, engineering, and other services, and pay interest on financing the construction loan. In addition, developers must cover overhead costs for staff and other expenses and often choose a fee for their time and expenses.

The permanent sources pay off the construction loan when the project is operational. Some development loans are “convertible” into conventional long term loans while other developers arrange for separate long-term financing that repays the construction lender once construction is complete.

However, financiers are risk-averse and projects don’t start unless a very large proportion of units have been pre-sold. So rather than developers building speculatively and risking a glut, supply of residential units in CBD’s is actually dependent on real demand.

Therefore, if the transformation project is not financially feasible, there is no point in taking the plans any further. An adaptive reuse development project’s financial feasibility depends among other things on:

- the acquisition costs
- the current condition of the building
- the amount of renovation or modification work required
- the number of dwelling units that could be created in the building, and
- the projected yield in the form of rental income and/or sales prices.

In order to determine the financial feasibility, answers must be obtained to a number of questions concerning both the project costs and the expected revenue. On the revenue side, we need to know how many dwelling units can be created and for what target groups they are intended. These questions can only be answered if a sketch has been made of the intended layout of the building after transformation. The financial feasibility can be raised by increasing the size of the building, e.g. by adding extra storeys on top, or by the inclusion of commercial functions alongside the residential ones. On the expenses side, it is necessary

to know the acquisition costs for the premises, including the cost of the ground. Building and installation costs are also important factors.

Figure 4 below illustrates in a highly schematic manner the principal factors that intersect to determine development feasibility: public policy (allowable density, required use mix), market feasibility (achievable pricing relative to production cost), capital (cost and availability), and land (cost and availability).

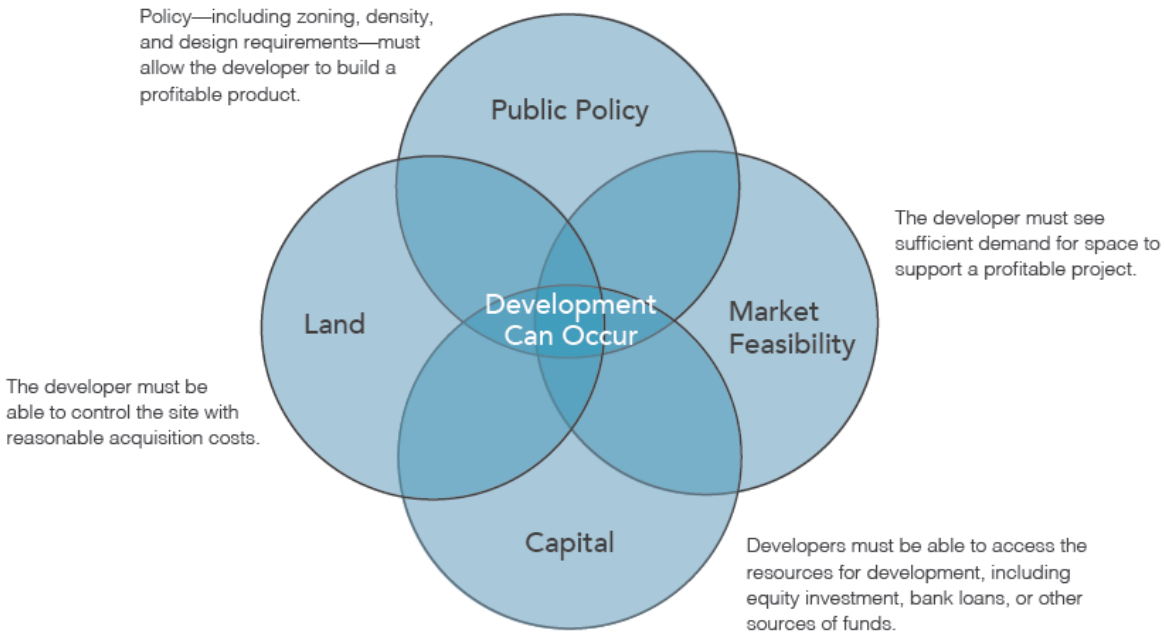


Figure 4: The factors that influence the feasibility of a development (*Source: Williams, 2016*)

2.6.6. Conversion costs are reliant on the design of existing buildings

Remøy and de Jonge (2007) defined the building type characteristics that influence the conversion potential, e.g. structure and floors, facade, floor lay-out and the length and depth of the building, and the number and situation of stairs and lifts.

The main load bearing structure in standard office buildings typically has a high conversion potential characterised by a wide span or bay width, few columns, high floors and high load bearing capacity. Low acoustic insulation, high beams and (in older properties) a dense structural grid reduces conversion capacity. Interventions in the facade represent substantial costs and reduce the conversion potential. Cantilevering floors with curtain walls

reduces the possibility to add balconies and subdivide the facade to fit interior walls. Well maintained facades in good technical condition, and with a dense grid, increase the conversion potential. Also large floor plates and building depth increase the conversion potential of office buildings. The location of elevators and staircases has a high impact on the lay-out, as relocating stairs and elevators adds significantly to building costs. A high number of lifts in offices adds to a high conversion potential and elevator shafts can be reused as shafts for HVAC, water supplies and sewer. Table 2 below summarises the characteristics affecting office to residential conversion adaptations:

Table 2: Physical building characteristics affecting conversion potential ((Source: Remøy and Wilkinson, 2015)

	Positive	**Negative**
Structure and Floors	Large floors	Dense grids
	Columns; free plans	Low ceilings under existing beams
	Constructed for heavy carriage	Thin floors: acoustic insulation insufficient
Façade	Small Grid	Inadequate technical state, no attachment-points for interior walls
	Good technical state	Cantilevering floors: complicates adding balconies
	Deep Buildings	locations of elevators and staircases
	Excess number of elevators	Insufficient number of fire escape routes
		Excessive space occupied by cores

2.6.7. Incentives and planning schemes that improve feasibility for private developers

The lack of consistent and well-experimented planning policies may cause urban sprawl. A city may be planned with exclusive zoning policies; this means separation of residential, commercial, industrial, office, institutional, or other land uses. Through this completely separate zoning in some cities, it has created isolated islands of each type of development. In most cases, the automobile had become a requirement for transportation between vast fields of residentially zoned housing and the separate commercial and office strips, creating issues of automobile dependency and more fossil fuel consumption and thereby pollution. It

is due to this inefficiency that a mixed land-use policy is preferred to fight against sprawl (Bhatta, 2010).

In America, Williams (2016) argues that a growing number of cities are using their zoning authority to increase the development of new workforce housing units. The most widely used zoning approach is inclusionary zoning (IZ). Through IZ, cities require or encourage developers to create below-market rental apartments or for-sale homes in connection with the local zoning approval of a proposed market-rate development project (Williams, 2016).

IZ can be a complicated and controversial policy approach. Complicated because it aspires to harness the ever-changing dynamics of market-rate real estate development to achieve a fixed policy objective. Controversial because it aims to balance often opposing points of view in communities regarding the roles and responsibilities of the private sector to help meet a public need within a free-market economic system (Williams, 2016).

IZ's complexity and controversy come together around the extent to which the policies are mandatory, voluntary, or somewhere in between—i.e., applying only in certain situations, such as when local zoning is changed for a neighbourhood or development project. Wherever a city lands along this continuum, almost all cities offer various types of development incentives that attempt to mitigate or offset the economic impacts the inclusionary policy has on land values and real estate development.

Understanding those effects is important. By definition, an IZ is intended to generate a below-market real estate end use—workforce housing units—that the private market on its own would not produce at a given location. Therefore IZ may make a site less valuable than it would be if developed to its highest and best use. The goal of an IZ policy is to leverage new market-rate development to provide new workforce housing.

A growing number of cities in the United States and Canada are turning to their zoning authority as a means to generate new development of workforce housing units, which are in short and decreasing supply in many communities.

IZ policies can be an effective tool for harnessing local real estate market dynamics to generate development of new housing units under certain conditions. Most important, IZ

policies depend on market-rate development to be successful; areas not experiencing any or much market-rate development will likely not generate significant results from an IZ policy.

In very strong development environments (substantial amounts of new construction and rehabilitation, steady rent and price growth, low vacancy rates), IZ policies can yield development of new housing units without subsidy or other development incentive from the local jurisdiction. In some moderately strong development environments, IZ policies can achieve their goals as well, provided the city or county contributes the optimal levels and combinations of development incentives (Williams, 2016).

In order for a site to be developable, landowners must be willing to part with their land and any occupied or operating asset on the site for a price that developers can afford. The price that developers are willing to pay is determined by the financial viability of a proposed development project on that site (Bhatta, 2010). As IZ policies may reduce what a developer can pay for land, the best-case scenario is that the reduced land value is still the highest and best use for that site at that moment in the market cycle, and absent any price adjustment for the landowner, the development outcome will still be the same. However, that is not always the case. In many instances, incentives are required for development to be feasible (Williams, 2016).

To the extent that IZ policies remain in place over a sustained period of time, land prices may adjust and the IZ requirements may be absorbed as a “cost of doing business” in the jurisdiction. The challenge is that the most effective IZ policies need to have the ability to adapt in response to changing market conditions. Both these somewhat opposing values—policy consistency and policy flexibility—have value to developers and contribute to the success of an IZ policy. Balancing them appropriately in design and administration of IZ is perhaps the central challenge for cities seeking to make best use of this particular policy tool.

In the right market conditions and with the optimal availability of development incentives, IZ policies can generate development of new housing units that would not otherwise be built. Even in such situations where the “stars align,” IZ at its most effective is only one tool in what must be a broad-based toolbox available to local governments to meet their workforce housing needs (Bhatta, 2010).

Also, having a proper planning and incentive policy is not enough, rather its successful implementation and enforcement is more important. Unsuccessful enforcement of land-use plans is one of the reasons of sprawl in developing countries, since the enforcement is often corrupt and intermittent in these countries (Bhatta, 2010).

2.6.7.1. Reduced Parking Requirements and Parking Incentives

Due to the transport and spatial trends of cities around the world, traffic congestion and the demand for parking have increased with the result that the availability and management of parking in particular, has become an increasingly complex and controversial issue for residents, commuters, visitors and the business sector.

These parking requirements can have a material impact on development costs, because parking is relatively expensive to build and often does not produce significant revenue. By decreasing construction costs, reducing parking requirements can enhance development feasibility and mitigate negative economic impacts associated with below-market units. The value of parking incentives is related to the optimal parking configuration for a project as well as to the required amount of parking.

Given this, development incentives that reduce parking requirements are valuable only where the policies require more parking than a developer would optimally provide. This approach allows developers to reduce the amount of parking required to be built as part of a development. Furthermore, parking reductions may be valuable in some locations and have little or no value in other contexts. A reduction in required parking is beneficial only where requirements are set higher than market demand (Williams, 2016).

Williams (2016) continues to state that the value of a parking reduction will vary based on the optimal building form, given the parking requirements. For example, a parking reduction may allow a developer to use more of a parcel's area for building footprint and therefore provide more housing units. Given the higher planned use of the land, the developer can offer to pay more and is more likely to strike a development deal with the landowner.

Parking capital costs vary considerably based on the type of bays. For example, a project with surface parking may see only a modest reduction in project cost by reducing the

number of bays. In contrast, a central-city tower with underground parking may save tens of thousands of dollars per unit by reducing the number of bays provided.

Also, it should be noted that a reduction in parking may have negative effects in some development situations. For example, reducing the amount of parking in an upscale apartment tower may lead to lower sales prices because potential homeowners must pay for off-site parking. Reducing the amount of parking in a suburban garden apartment complex may lead to lower rental rates because of the difficulties tenants may face when seeking a parking spot near their unit. Thus, developers may not take advantage of lower parking requirements in many cases. For these types of reasons, the financial institutions that are the lenders in these developments may object to reductions in the parking provided in a given development as the value of their security for the loan could be jeopardised.

2.6.7.2. Improved zoning regulations

Working with the local development community to craft sensible bulk and height policies is one way to address housing affordability irrespective of inclusionary zoning. Density bonuses are by far the most common form of incentive that accompanies IZ policies. Density bonuses allow developers to build larger buildings (in terms of height or floor/area ratio) on a site as an incentive or offset for providing below-market units. Also, density bonuses can enhance development feasibility—and mitigate negative economic impacts associated with 'affordable' units—by increasing a property's gross rents, which can generate more rent and yield a higher land value.

The effects of density bonuses vary substantially based on market conditions. In general, density bonuses are attractive only in markets where developing additional square metres of new development is profitable. Density bonuses by definition will not provide an incentive in areas where market-rate development is not already occurring and will offer only a modest incentive in areas where development is happening on a limited basis (Williams, 2016).

However, increasing density, height, or both can put properties into another construction cost category. So adding density to a site may reduce the efficiency of the layout or generate layouts that are less attractive. For example, if the only way to take advantage of a density bonus would be to reduce the widths of light wells, courtyards, and open spaces, it

may reduce the achievable rents of the project and yield a less profitable building than a lower-density alternative.

2.6.8. Lack of support from the Economic / Political environment

City governments can tap into both private and public sources of finance through capital markets, private institutional investors, domestic financial institutions, multilateral-bilateral and export credit agencies, asset leverage (land), joint ventures and public private-partnerships (KMPG 2012). However, cities are not generating the kinds of finance necessary to pull off the sweeping restructuring required to substantially increase the number of jobs, opportunities, and services (Simone 2002).

While countries may now have more options to access development and operational financing for municipalities, they are not generally providing a fair share of the national fiscus for cities. As a result, cities find it difficult to generate realistic plans, leading almost always to excessive amounts of deficit spending (Simone 2002). Provision, financing and management of urban infrastructure require a holistic and harmonized approach. Ndeto (2010) reports that in Ethiopia, the provision, financing and management of urban infrastructure services by the public sector, is constrained by chronic financial and technical expertise shortages resulting in poor performance of urban infrastructure and ineffective service delivery. As a result the city cannot meet the demands of the rapidly growing population.

2.7. THE CAPE TOWN CENTRAL CITY

Over the past 30 years, the physical land area of the greater Cape Town metropolitan region has increased by over 200%; its population has increased by only 125% (Turok, 2011). Due to this, Cape Town faces a double urban planning crisis of resilience and long-term sustainability (South African Cities Network, 2011; Swilling, 2010). Increasing levels of urbanisation have put unexpectedly large economic, social and environmental pressures on the city's existing infrastructural components, throwing into question the city's ability to maintain functional operations in the longer term (Fleming and Makalima-Ngewana, 2012).

However, this spatial growth was achieved through low-density greenfield developments which only further exacerbated the environmental strain and social separation that was historically found in the spatial fabric of the 'Apartheid City' (OECD, 2008). This legacy of colonial and apartheid spatial planning runs deep beneath South Africa's surface and continues to govern resource distribution, spatial use patterns, and social connections (Samara, 2011). Unequal infrastructural and housing provision, inadequate transportation options, constrained and disparate access to economic opportunities, and disconnected communities all serve to hold Cape Town back from its full growth potential (OECD, 2008: 61-62).

As both a source of municipal rates and employment opportunities, the economic importance of the Central City cannot be overstated. In Cape Town's growing urban development, mainly recognised as being polycentric and nodal in nature (City of Cape Town, 2012b), the Central City serves as a critical connection site for the metropolis's larger economic system. The linkages between the Central City and other areas of Cape Town create the opportunity to activate larger economic opportunities through maximising spatial integration. Further strengthening these connections through transport, housing, and other infrastructural upgrading is pivotal for ensuring Cape Town's long-term urban sustainability in the face of growing rates of migration from within South Africa and abroad (Statistics South Africa, 2012).

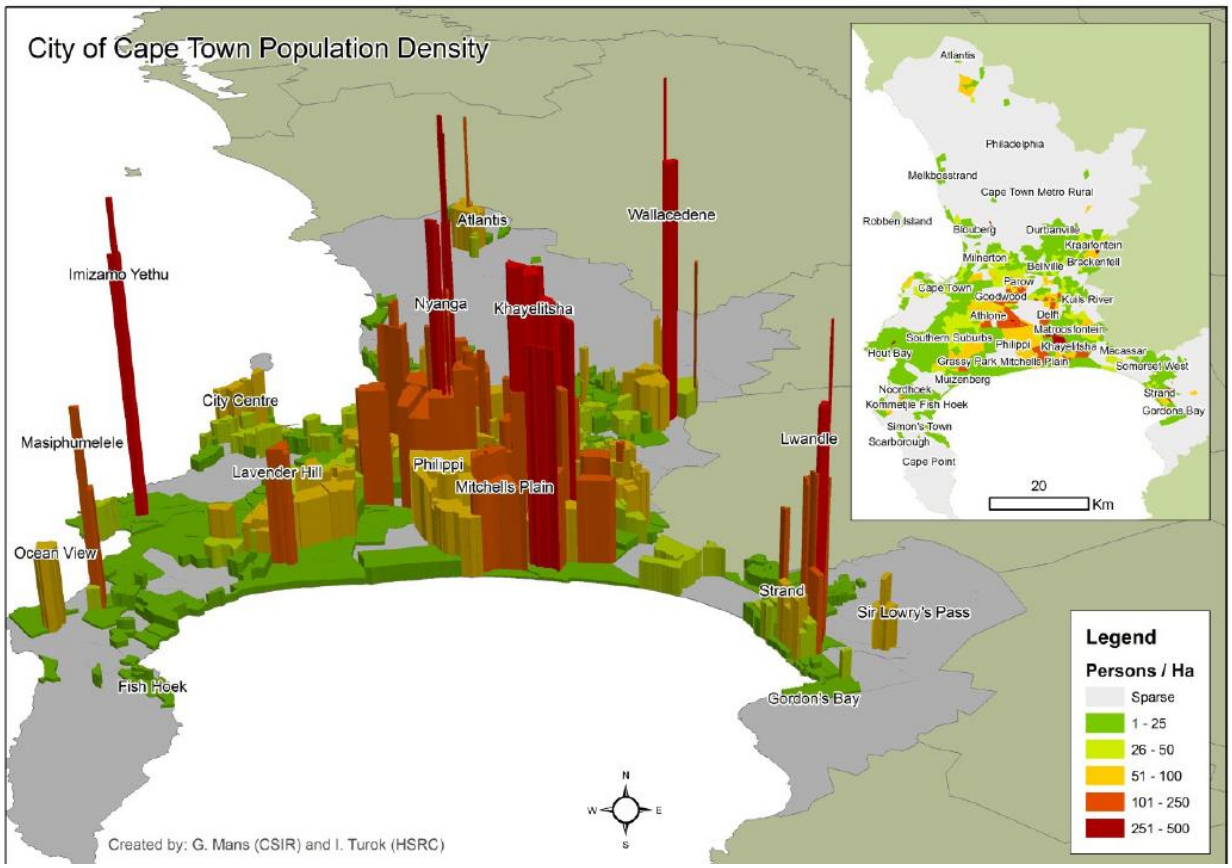


Figure 5: Population density in Cape Town (Source: Mans (2011) and Turok (2011a)

Therefore the resilience and sustainability of Cape Town's urban fabric depends on multiple stakeholders being able to participate in the holistic development of Cape Town's Central City area, thereby strengthening economic and social connections to the benefit of the wider metropolitan region.

This holistic development will need to seek to reverse the relative economic and social isolation of Cape Town's Central City (Pirie, 2007). So in order to be a truly successful example of an inclusive city, the development in the Central City must catalyse new growth and development opportunities across the metropolitan region and open up spaces of opportunity for more people – permeable and expandable urban development across diverse and distinct neighbourhoods and communities (Fleming and Makalima-Ngewana, 2012).

It is viewed that by becoming a denser, more inclusive, and better connected economic and social space, the Central City will act as a connected urban development catalyst for the longer term reversal of the separated spatial realities of the wider Cape Town metropole,

helping to sustainably re-connect and re-build Cape Town for the future benefit of the city and its citizens.

However, developers continue to face vague and confusing heritage restrictions, zoning schemes that seem to reduce development rights and a lack of infrastructural capacities and bulk usage availability (Townsend, 2008). Similarly, the City often finds itself inundated with multiple iterations of seemingly uncoordinated new building applications and zoning departures that have not been vetted against any regulated framework, leading to a severely backlogged and cumbersome institutional approvals process. This institutional friction directly impedes economic growth and urban development and stifles a dialogue supportive of partnership based planning policies (Fleming and Makalima-Ngewana, 2012).

Therefore, in order to promote a more inclusive physical urban form, the City has begun to target specific types of mixed-use development throughout the Central City (Fleming and Makalima-Ngewana, 2012). This is one of the key views of the Spatial Development Framework, in which the economic value of putting housing together with retail opportunities and transportation options is not only recognised, but also highly encouraged (City of Cape Town 2012b: 32). This promotion of mixed-use developments will further facilitate the expansion of larger planning collaboration tools across the metropolitan region, opening up new opportunities for developers to engage with the city on a variety of developmental targets, such as housing, transportation, and other urban interventions.

2.7.1. An Inclusionary Cape Town Central City

The legacy of South Africa's past continues to upset the country's drive towards inclusive cities. This is particularly true in Cape Town, perhaps more so than in any other city in the country, where the spatial divides of apartheid contribute to a most unequal and segregated geographic existence. In order to address this urban challenge, the Cape Town Partnership developed the Central City Development Strategy (CCDS), a ten-year plan that calls for the densification of the central city in order to become a more liveable, inclusive, democratic, and sustainable urban space (Fleming and Makalima-Ngewana, 2012).

Therefore inclusive urban planning is at the heart of making the Central City Development Strategy for Cape Town a success. Exclusionary historic spatial planning is responsible for many of Cape Town's present challenges; so urban planning and development must accordingly play a role in shaping the city's integrated future. Since the launch of the CCDS in 2008, a series of new strategies and policies across the city have given rise to new planning possibilities, particularly in respect of the idea of sustainable densification (Fleming and Makalima-Ngewana, 2012).

While the above policies position densification as one piece of a greater urban planning solution, the City of Cape Town's Densification Policy goes further to set forth a new vision of how a denser Cape Town would alleviate the "rapid and continuous low-density development" that threatens the "long-term sustainability of the city" (City of Cape Town, 2012). The policy puts densification at the centre of an urban planning and development vision for Cape Town, in which housing, transportation, and community development policies can promote a healthier reversal of Cape Town's problematic inverse densification.

If achieved in conjunction with appropriate mixed-use housing initiatives and integrated public transport, densification will be a key driver of urban growth in Cape Town along with a strong force to reverse the inequitable and inefficient city of the previous apartheid regime (City of Cape Town, 2012b).

In order to promote higher densities and stronger communities, the CCDS contains a directive to promote the increased residential population of the Central City area. A greater supply of affordable housing will also ensure that the Central City accounts for a larger sector of the population in an economically pro-active way (Fleming and Makalima-Ngewana, 2012).

By planning larger mixed-use and transportation-linked nodes within and surrounding the Central City, new economic opportunities will be created for a greater percentage of the population in physical spaces which simultaneously help to de-stigmatise the notion of affordable housing. To achieve this, there needs to be further emphasis on the benefits of working partnerships and functional dialogue between the City, the private sector, future residents, and other urban stakeholders.

2.8. CONCLUDING THOUGHTS

This chapter created a basic understanding of the opportunity that cities have to adapt their existing buildings to be reused and repurposed to meet the growing demands for centrally located residential accommodation. It highlighted the impact that the global trend of urbanisation is having on CBD's and that the share of the population living in African urban areas is expected to rise to 50% in a short period of time. Due to this, urbanisation will be a big opportunity for African cities to tap into in the future.

Planning for a denser Central City holds many benefits for Cape Town's development. The tangible benefits extend well beyond the Central City itself as it promotes inclusive economic and social development within Cape Town's Central City. This develops the region's urban framework in a way that confronts the urban challenges of the 21st century such as poverty, security, and climate change, by emphasising the need to collaborate and act together as one interconnected and unified metropolitan region (Beall & Fox, 2009).

Challenges such as affordable housing, environmental policy and social development have underscored the need for a stronger emphasis on the power of partnerships to leverage inclusive urban developments.

Therefore, this increasingly urbanised population should be recognised as more of an opportunity than a challenge because urbanisation goes in parallel with the development of cities. If governments plan and design urbanisation well, they will enjoy the benefits that urbanisation brings to society.

Glaeser and Gottlieb (2016) support this positivity on urbanisation by stating that since rising productivity attracts more people which further increases productivity, cities act as a multiplier that increases the relationship between productivity-enhancing factors and population, wages and housing prices. Ciccone and Hall (1996), also show a strikingly powerful connection between density and productivity across cities. This expansion of the economic base (such as higher per capita income, increase in number of working persons) creates demand for new housing or ultimately more housing space for individuals (Boyce, 1963; Giuliano, 1989; Bhatta, 2009b).

It is this expectation of increased demand for residential accommodation together with the need for cities to grow sustainably that encourages the employment of the highest and best use theory across existing buildings in CBDs. This approach will help to mitigate vacancy and the non-performance of properties.

This urbanisation of Cape Town will also be enhanced by the drivers that were identified in the literature playing a part in motivating greater numbers of people to demand more central living. This demand will grow organically should Cape Town be perceived as Bhatta (2010) states of a place where one could have a better life; because of better opportunities, higher salaries, better services, and better lifestyles.

However, satisfying this increasing demand for centrally located residential will only be able to be achieved if developers are able to overcome the barriers of adaptive conversion. These barriers were categorised in the literature as being political, economic, environmental, social, technological/physical and legal (Remoy and Wilkinson, 2015).

Further to this, the motivation for converting a building from commercial to residential use is largely driven by three variables: market rents, construction costs, and the availability and price of land. Given this, it is essential that developers who are evaluating the adaptive re-use of an existing building understand:

- The physical building characteristics affecting conversion potential
- The Incentives and planning schemes that improve feasibility for private developers
- The impact of Reduced Parking Requirements and Parking Incentives
- The sources and structure of funding options for a conversion development project
- The prevailing vacancy in the local office market

These points each have a significant impact on the success of a conversion project and need to be investigated further so as to identify how each point can aide itself to encouraging the adaptive reuse of existing buildings to satisfy the increased residential demand.

3. CHAPTER 3: RESEARCH METHODOLOGY

3.1.1. Introduction

This chapter represents an exploration of the literature that exists in the area of research method, methodology, approach, design and analysis. It also emphasises the underlying ethics and principles of validity and reliability, all of which are critical for meaningful research. It is only through a strong understanding of research theory that researchers are able to establish a framework through which to establish knowledge. Furthermore, it also serves to provide the researcher with tools to develop an understanding of the relationship between data collected and literature.

3.1.2. Methodology

This research will follow an interpretivist ideology, whereby the researcher and its subjects are not considered to exist in isolation, with a resulting constructivist stance assuming that the social world can only be understood through its complex interactions. More specifically, the research methodology to be followed shall encompass an idiographic focus on case-based specifics, leading to a single case approach, which will be explored further below.

3.2. Research Methodology

3.2.1. Justifications for a Qualitative Approach

Due to the lack of a coherent account of the adaptive reuse of buildings in Cape Town and the fact that many of the variables were relatively unknown, a qualitative approach was regarded as most appropriate for the purposes of this research. This decision was further reinforced by the innate limitations posed by a small dataset within a quantitative approach.

3.3. Research Methods

3.3.1. Overview

Research methods have been described as the "techniques and tools that researchers use to collect and interpret data" (Biber & Leavy, 2004). Importantly, the method selected ought to be determined by both the underlying context of the research question and the researchers' epistemological and ontological learnings (Hesse-Biber & Leavy, 2004). In short, the argument is that the chosen research method is driven by the problem and that no single technique is superior to another, but whose value is context-dependent (Bryman, 1984).

In the realm of social sciences, there are a number of potential methods, including:

(1) Experiments;
(2) Case studies;
(3) Interviews;
(4) Action research; and
(5) Ethnography.

Importantly, it ought to be noted that one is capable of utilising more than one strategy for a particular research question. The strategies are not mutually exclusive and it is therefore conceivable that one can have interviews within a case study or vice versa (Yin, 1994).

As noted by May (2011), "while they do possess clear limitations, any research method involves necessary trade-offs; the inherent weaknesses of any one method, however, can potentially be offset by situating them within a broader, pluralistic mixed-method research strategy".

3.3.2. Case Studies

Yin (1994:13) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident".

Yin (1994:13) goes on further to suggest that "the case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to

converge in a triangulating fashion and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis". In this sense, case studies ought to be considered not simply as an approach to data collection or data analysis, but rather, a comprehensive research strategy.

Critically, case studies are not simply exploratory, but could be exploratory, descriptive or explanatory, depending on the context (Yin, 1994:4). In addition, they could further be categorised as either qualitative or quantitative or as either single or multiple case studies (Yin, 1994:14).

3.3.2.1. Suitability of Case Studies

Yin (2003), suggests that a case study may be most suitable in the following circumstances:

(1) If the focus of the study is to answer “how” and “why” questions;
(2) If the researcher cannot manipulate the behaviour of the participants;
(3) If the researcher wishes to address contextual issues; or
(4) If the boundaries between the phenomenon and context are not sufficiently clear.

It is for these reasons that this research will use three commercial to residential conversion projects, completed in the Cape Town CBD, as the basis for the Case Study. This case study help to provide tangible examples to the comments made both in the literature review as well as the interviews with professionals in the local industry.

3.3.3. Interviews

Interviews are regarded as one of the most frequently employed and important data collection methods for qualitative research (Punch, 2005). By their nature, interviews tend to highlight a subject’s interpretation of facts, events or circumstances, rather than a researcher’s objective observation of a subject’s thoughts or actions (Bryman, 1984).

It is evident that interviews may be either specific or open-ended in their nature. While the latter tends to extract opinions and beliefs, the former tends to be more corroborative (Yin, 1994). Punch (2005) identifies three main categories of interviews, classified according to the extent of structure. These are:

(1) Structured;

(2) Unstructured; and

(3) Semi-structured.

3.3.3.1. Structured Interviews

In this type of interview, each respondent is asked a pre-determined set of questions. The questions typically allow for a limited number of responses, making analysis a relatively simple task (Punch, 2005). By ensuring minimal deviation from the questions and instructing respondents to select from a list, researchers are able to analyse and compare large volumes of data (Qu & Dumay, 2011).

3.3.3.2. Unstructured Interviews

Unstructured interviews are open-ended and are designed to create conditions under which the respondents feel comfortable and more inclined to share their perspective on the subject (Hannabuss, 1996). If carried out properly, they are regarded as powerful research tools that can produce a rich dataset (Punch, 2005). Critically, due to their nature, it is imperative that researchers have sufficient insight into the subject to formulate follow-up or clarification questions (Qu & Dumay, 2011).

3.3.3.3. Semi-Structured Interviews

A semi-structured interview is the most common type of interview in qualitative research (Alvesson & Deetz, 2000) and entails a limited number of prepared questions that relate to issues that the interviewer wishes to examine (Bryman & Bell, 2007). Through the use of broad questions, the interviewer can probe further with additional questions and steer the respondent in a direction likely to address the research question (Bryman & Bell, 2007).

Aide memoires or interview guides serve as a reference point and vary from being highly scripted to entirely open-ended, depending on the purpose of the interview. Interviewers ought to ensure that not only do the questions address the research question, but further, that the interviewer is sufficiently prepared to improvise based on particular responses (Wengraf, 2001). It is also advisable that researchers develop as much knowledge on the relevant topic to allow them to pose relevant and informed questions that can lead to a robust and rich dataset (Qu & Dumay, 2011).

In general, semi-structured interviews are regarded as most suitable for exploring complex, and occasionally sensitive, perceptions and opinions. Furthermore, semi-structured interviews offer the advantage of giving researchers the ability to clarify areas of uncertainty (Barriball & While, 1994).

3.3.4. Document Analysis

The second method of data collection was through document analysis. Gathering data by studying documents follows the same idea focus as observing and interviewing (Stake, 1995). A document known as the 'State of Cape Town Central City Report 2016' together with "JLL Cape Town Office Market Reports" were analysed in the research. These documents gave an in depth analysis of the performance of the Cape Town CBD Commercial Market together with insight into how the CBD has changed over the years. These documents are used so as to provide insight into the prevailing CBD environment to give the case study context together with the interviews and the literature review to research the answers to the problems and questions posed.

3.3.5. Justification for a Case Study Approach Combined with Semi-Structured Interviews

Based on the research questions, a case study approach combined with semi-structured interviews was deemed most appropriate. Three conversion projects were selected and semi-structured interviews were conducted with stakeholders, as well as relevant industry experts.

This case study approach was favoured because:

(1) The subject is diverse, complex and often, subjective;
(2) The research question demanded a holistic, empirically-rich and context-driven approach; and
(3) The research area is inadequately addressed in the literature. A case study of the Cape Town CBD, with specific reference to three separate projects, was regarded as providing a platform upon which knowledge could be built.

It is submitted that challenges in relation to the generalisability of only using three projects as part of the case study are overcome for the following reasons:

(1) The projects were well-selected and highly suitable. As the projects relate to high-profile Commercial to Residential conversion projects in Cape Town, the projects provide unrivalled insight into the aspects that affect the successful adaptive reuse of existing buildings in the Cape Town CBD.

(2) Reliability and trustworthiness was achieved by the fact that the case's stakeholders are leaders in their respective industries. Despite anonymity and confidentiality concerns it is worth noting that several of the case's stakeholders are recognised thought-leaders in the industry and hold specific knowledge of the conversion of office space in the Cape Town CBD

(3) Reliability, validity and rigour was further realised through triangulation and the achievement of data saturation.

Supplementary to the three projects used in the case study, semi-structured interviews were favoured because:

(1) The underlying goal was focused on a respondent's subjective interpretation, rather than attempting to form an objective assessment of the respondent's perceptions or beliefs.

(2) An interview with key industry leaders was regarded as the most likely approach to produce new, unexpected, meaningful and relevant insight into the subject;

(3) As senior executives in their respective organisations, the project's stakeholders (respondents) would be unlikely to have the time or inclination to complete a lengthy written survey. Even if they did, the responses would be unlikely to contain sufficient detail for meaningful insights to be extracted. Given the limited time available with the respondents, an unstructured interview would be equally inappropriate. In the absence of an aide memoire or interview guide, the respondents would probably have unwittingly shared much irrelevant insight before their respective time limits were up. A semi-structured interview offered the best flexibility and direction required in order to obtain insight relevant to the research question;

(4) It offered the flexibility to probe further and ask clarification or follow-up questions where information was unclear or incomplete; and

(5) As industry leaders in their field, respondents were assumed to be more willing to share insight and information in a format more closely resembling a conversation than either a written questionnaire or a verbal series of questions and answers.

3.3.6. Research Design

It is suggested that a good research design is one where the components work together in harmony, promoting successful and efficient function. By contrast, a poor one leads to bad operation or failure. In general, the purpose of a research design is to ensure that the evidence obtained enables researchers to answer the research questions in as clear a manner as possible (Maxwell, 2013).

In this research, the single case was selected for reasons highlighted above and in Population & Sampling section below. Based on those discussions, it is submitted that the case is a successful conversion project that offers both the requisite knowledge and access to stakeholders that would enable a researcher to obtain information that would successfully address the research questions. The semi-structured interviews of the case's stakeholders and use of an aide memoire, justified in Justification for a Case Study Approach Combined with Semi-Structured Interviews, enabled the researcher to obtain specific information required to address the research questions. Simultaneously, the approach permitted a conversational style of interview, which served to provide interesting and unexpected insight and examples.

The case's stakeholders were interviewed and the results formed the basis of data analysis. It is submitted that elements outlined in the research design above worked together in congruence to successfully address the research question.

3.4. Population & Sampling

3.4.1. Overview

Sample selection has the potential to have a major impact on the quality of the qualitative research (Coyne, 1997). If interviews are the main method of data collection, it has been

suggested that researchers define a set of criteria to identify the right profile or suitability of a participant to be interviewed. Furthermore, one should ensure the purpose behind sample selection is clear to ensure that answers and responses are properly interpreted (Wengraf, 2001).

There are a number of non-probability sampling strategies that can be employed, determined at least in part by the underlying objectives of the research (Schatzman & Strauss, 1973). In this research, there were two primary sampling strategies employed:

(1) Convenience sampling - although the least desirable, it is the most common sampling strategy because it is based on information sources that are easy and inexpensive to access (Suri, 2011). This approach is most effective when the researcher makes use of any qualified persons available to participate in the research study (Castillo, 2009). Convenience sampling is most often used when respondents have limited availability or accessibility (Wengraf, 2001).

(2) Purposive sampling - technique used to identify and select specific cases on the basis of their nature, whether homogenous or outliers (Wengraf, 2001).

3.4.2. Justification for Sampling Technique Employed

Convenience sampling was selected on the basis that the participants, namely board-level executives and leaders within South African real estate companies, are typically relatively inaccessible and have limited availability. In the absence of the researcher's relationship with the case's stakeholders, the participants would in all probability be relatively inaccessible and/or unwilling to participate.

A purposive sampling technique was also employed to ensure that participants were diverse, from an operations, management, market and type of property perspective. The diversity of participants would serve to reinforce common themes identified as well as highlight specific regional challenges, if any.

3.4.3. Research Participants – The Case & The Interviewees

Below is a short overview of the case and the two interviewees, comprising the research participants.

3.4.3.1. Overview of the Case Study

The description of the case below is based on analysis of the aspects that affected the conversion of buildings in the Cape Town CBD, which primarily sought to gain an understanding of the following:

(1) The prevailing property market prior to the case being converted to residential units;
(2) The successful delivery of conversion projects;
(3) The broad and specific aspects identified in the literature that affect the conversion of existing buildings and whether those exist in the Cape Town CBD;
(4) How the successful conversion of building's in Cape Town have been financed;
(5) The key benefits of the adaptive reuse of the existing building in Cape Town's CBD; and
(6) Any trends or themes not covered in the literature worth mentioning.

As a starting point, the various respondents were informed that all responses would be anonymous and confidential, as indicated in the consent form which was signed by each respondent.

The case study specifically focuses on three recent conversion projects in the Cape Town CBD namely: Mutual Heights, Cartwrights Corner and Triangle House.

3.5. Data Quality

3.5.1. Overview

Data quality concerns two primary issues, namely: reliability and validity. These determine the extent to which one is able to draw meaningful conclusions about a particular social phenomenon (Leedy & Ormrod, 2010). There is a distinct lack of agreement evident in the literature in terms of how either term is defined and its applicability to qualitative research (Golafshani, 2003). Reliability and validity have often been conceptualised as

trustworthiness, rigor and quality in the qualitative paradigm (Golafshani, 2003). In this research, reliability and validity are regarded as appropriate measures of data quality.

Validity refers to the ability of a chosen method to capture desired information (Gummesson, 2000). The key issue is that the method must be the most appropriate way of achieving the desired research outcomes. In order for validity to be preserved, skilled researchers typically test, revisit and reassess all assumptions, methods and tools throughout the research process (Leedy & Ormrod, 2010). By contrast, reliability relates to the extent which "data collection techniques or analysis processes will yield consistent findings" (Saunders, Lewis & Thornhill, 2009). This means that independent researchers, following the same methods, ought to arrive at the same conclusion. It therefore is critical for the research process to be clearly defined (Yin, 1994). To ensure reliability in qualitative research, examination of trustworthiness is crucial (Golafshani, 2003). In summary, reliability relates to whether the result is replicable, while validity focuses on accuracy of the method of measurement and whether it actually measures as it intends (Golafshani, 2003).

Triangulation is one of the more commonly used techniques in qualitative research to probe validity. It is defined as "a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study" (Creswell & Miller, 2000). It is evident that there is no consensus with regards to the definition and the use of triangulation in qualitative research (Bryman, 2004).

It has been suggested that the research quality and validity is undermined if one fails to reach data or theoretical saturation (Fusch & Ness, 2015). Evidently, there is no magical number at which point data saturation is reached. A large sample size does not guarantee data saturation, nor does a small sample size prohibit it. Instead, the sample selection and the sample's characteristics are determinative (Fusch & Ness, 2015).

Data saturation is reached when three conditions are met:

(1) There is enough information to replicate the study;

(2) No new information can be extracted; and

(3) Further coding is no longer feasible ((Fusch & Ness, 2015).

Importantly, data saturation is not reached simply because the researcher has exhausted all resources. Put differently, data saturation is not about volumes of data, but rather, about the depth of such data (Fusch & Ness, 2015). In the context of interviews, it is critical to ensure that participants answer the same questions, failing which, data saturation is virtually impossible (Fusch & Ness, 2015). Finally, it is worth noting the relationship between data triangulation and data saturation. Specifically, the former is a method for the achieving the latter (Fusch & Ness, 2015).

3.5.2. Data Quality Applied

The following measures were implemented to ensure that the data collected enabled the researcher to address the research questions:

(1) Validity was achieved through the use of semi-structured interviews which are regarded as the most suitable method to extract data that is not only rich in depth, but also, in context. Given the nature of the research problem and research questions, it is submitted that no other method would be more effective in addressing the research problem.

(2) Reliability was achieved by ensuring that interviewees were asked the same questions. This allowed for triangulation techniques to be employed, the net result being that theoretical or data saturation could be achieved. Furthermore, verification strategies were employed such as ensuring methodological coherence, appropriate sampling and researcher responsiveness (Morse, Barret, Mayan, Olson & Spiers, 2002).

(3) Reliability, and trustworthiness, was further established by ensuring that interviewees were all highly experienced in the industry and associated with some of the key stakeholders in the Cape Town CBD. All interviewees were objectively trustworthy and credible as all of the interviewees held Director level positions at various leading real estate companies. In the context of the case, these respondents had significant experience in the industry, with a specific focus on the Cape Town CBD, providing them each with the requisite authority to speak to performance, developments and insights into the reuse of commercial building for residential in the Cape Town CBD.

It is acknowledged that the small sample size is a potential objection. It is however submitted that any concerns in that regard are far outweighed by:

(1) The high quality of data provided by the respondents;
(2) The depth and richness of data extracted through the semi-structured interviews; and
(3) The use of triangulation that resulted in data saturation.

It is therefore submitted that the respondents were regarded as trustworthy and reliable and accordingly, data was of a high quality. This enabled the researcher to successfully address the research problem.

3.5.3. Data Collection Process

Given the researcher's relationship with the various respondents, initially the researcher sought to obtain the respondents approval as to:

(1) Whether they are comfortable that the researcher contacts them and interviews them as to the specific case of the conversion of Triangle House; and
(2) Whether they would participate in the research as an interviewee.

Once permission was obtained, the researcher contacted the respondents to establish whether they would be willing to participate in the research.

Once they had agreed to participate, the researcher contacted them directly to highlight the research problem and questions being researched. Emphasis was placed on the fact that any responses would be both anonymous and confidential. Upon confirming their willingness to participate, each was sent a consent form which they each duly signed and returned to the researcher.

Thereafter, the interviews were conducted telephonically and via face-to face meetings at a time and date that suited the respondent. Given that the interview was semi-structured, respondents were advised that the process would take approximately thirty minutes, although in all cases, it proved to be longer. Given their respective responsibilities and roles, the timing of the interview was crucial, since a rushed or distracted respondent would be less willing to engage and provide the necessary depth of insight. To facilitate analysis and

to ensure that no useful insights were overlooked, interviews were recorded with the respondents' consent. During the interviews themselves, the researcher made detailed notes to facilitate a richer analysis.

To ensure that the participants provided responses relevant to the research questions, an aide memoire was created to serve as an interview guide. This ensured that a number of key questions were asked to all participants, allowing for triangulation methods to be employed, leading to data saturation.

3.6. Data Analysis

3.6.1. Overview

Data analysis amounts to "examining, categorising, tabulating or otherwise recombining evidence to address the initial proposition of the study" (Yin, 1994). Whichever strategy is adopted for the purpose of data analysis, the underling goal is to "to treat the evidence fairly, produce compelling analytic conclusions, and rule out alternative interpretations" (Yin, 2003).

Turning to different methods of analysis, thematic analysis is one technique used to identify, analyse and report on patterns (or themes) of data (Braun & Clarke, 2006). Through the interpretation and analysis process, researchers seek to uncover patterns or themes which emerge. Critically, there are no established guidelines as to how one defines a theme, save to mention that they should emerge on the basis of prevalence and relevance. Finally, specifically for interviews, it is important to distinguish between questions pertaining to the research objective as opposed to questions asked during interviews. In the case of the latter, these are not necessarily representative of themes, but rather, the analysis of the data produced by the question forms the basis upon which a particular theme is capable of being identified (Braun & Clarke, 2006).

3.6.2. Thematic Analysis

Researchers adopting a thematic analysis must furthermore determine whether to follow either a deductive or inductive analysis approach. In the case of the former, it amounts to a process of assigning data into a pre-existing framework, allowing the research question to

emerge through such a process. By contrast, the latter tends to focus on specific questions identified in existing themes in the research and is usually concentrated on an area of interest for the researcher (Braun & Clarke, 2006). Following from the above, researchers must similarly determine whether themes will be established on either a semantic or latent level. Semantic level themes are those established at face value. By contrast, latent themes are those that emerge through interpreting data for underlying meanings and subtext beyond what was stated (Braun & Clarke, 2006).

Within thematic analysis, Braun and Clarke (2006) argue that there are primarily six phases to data analysis:

(1) Familiarising yourself with the data;
(2) Generating initial codes;
(3) Searching for themes;
(4) Reviewing themes;
(5) Defining and naming themes; and
(6) Producing the report.

Specifically, in the context of interviews, it is advisable to attempt analysis soon after the interview to ensure that the ideas remain readily accessible in the researcher's mind. It is also recommended that if a researcher employs recorded interviews, one should make notes while transcribing to foster greater interpretation. This leads to an overall improvement in the quality of analysis. Finally, the literature argues that it is best for an interview transcript to be produced verbatim. Pauses, hesitations, sighs and the like offer grounds for additional analysis beyond that which is surface-level (Wengraf, 2001).

Hsieh and Shannon (2005), provide a useful outline of the preferred data collection process:

(1) Read all data to achieve immersion;
(2) Derive codes from the data;
(3) Make notes on the side to document thought processes;
(4) Sort codes into categories based on how different codes are related;
(5) Group codes into meaningful clusters, ideally between 10 and 15;
(6) Develop a tree diagram by organising categories into hierarchical structure; and

(7) Identify the relationship between categories and subcategories further based on their concurrence, antecedents or consequences.

3.6.3. Selection of Approach

In the context of this qualitative research, namely: a single case study methodology comprising semi-structured interviews with stakeholders involved with the case, a thematic analysis was regarded as most suitable.

Furthermore, a mixed analysis approach was adopted that incorporated both deductive and inductive aspects. To the extent that existing literature on the topic was relatively in-cohesive and incomplete, an inductive approach was favoured to allow themes to emerge. However, on the basis that the broad, over-arching trends in real estate technology were fairly well-known and documented a deductive approach was adopted.

Finally, a latent level analysis was favoured to ensure that relevant beliefs and opinions expressed were evaluated within the context of the interview and not at face-value or in isolation.

3.6.4. Thematic Analysis Applied

Having concluded the semi-structured interviews, these were then transcribed into a format appropriate for thematic analysis. Each respondent was assigned an anonymity code and transcribed for thematic analysis. Thereafter, each interview was scrutinised and coded according to central and subsidiary themes that emerged from the data. The themes and sub-themes provided a hierarchal tree upon which the data was analysed and interpreted. This formed the basis for analysis and interpretation.

Importantly, all collected data was transcribed and available in textual format to ensure that it could be analysed methodically. The semi-structured interviews sought to address specific broad topics and in doing so, created the necessary nodes through which themes and sub-themes could emerge. Furthermore, to the extent that a respondent was moving towards areas that weren't relevant, the semi-structured nature of the interview and aide memoire allowed the researcher to direct the conversation and to probe specific issues. In doing so, one could ensure all interviewees answered the same key questions and ultimately, that data collected was relevant to the research questions.

3.7. Ethics

3.7.1. Overview

Ethics refers to norms of behaviour that polarise the conduct from being either acceptable or unacceptable (Resnik, 2011). Specifically in the context of research ethics, these refer to codes or guidelines to help reconcile value conflict (Gillespie, 2014). Naturally, individuals may interpret, apply and balance these norms in a number of competing and different ways, giving rise to ethical disputes. Data collection is one of the key areas where ethical issues arise. Ethically constructed research requires that permission is obtained to gather process and use the information (Jefferies, 1999).

While confidentiality refers to protection of actual information, anonymity pertains to the protection of an individual's identity (Wengraf, 2001). Where possible, it is preferable to include the respondents' identities to facilitate more meaningful analysis. However, anonymity may be beneficial in circumstances where either the subject or the identity of the informant is sensitive (Yin, 1994).

3.7.2. Research Ethics Applied

All responses in this research were both confidential (as to the information shared) and anonymous (from both an organisation and individual level). To this extent, each candidate was requested to sign a consent form that outlined the purpose, procedures and potential benefits of the research. Furthermore, it also confirmed the confidentiality of the information and the anonymity of their responses.

Once interviews were conducted, each was assigned an anonymity code and transcribed in order to be suitable for thematic analysis. Each interview was then carefully interrogated for relevant information and was coded according to general themes that emerged through the interrogation of the data. These themes were then linked back to the interviewee through an anonymity code schedule. The confidential information contained in the interview transcripts and recordings was held in a secure password protected folder.

It is submitted that any potential ethical risks relating to the disclosure of sensitive commercial information were adequately guarded against by ensuring that all participants' responses were anonymous and confidential.

3.7.3. Limitations

In the context of this research, there are a number of key limitations:

(1) Research methods: Semi-structured interviews - It is well-documented that where interviews are the primary method of inquiry, an inherent risk of interviewer bias exists (Mills, Bonner & Francis, 2006). There are conceivably a number of ways to mitigate this risk such as scheduling the interviews at a time and place of the participant's choice, favouring a fairly flexible, unstructured approach to questioning to permit participants to drive the direction of the conversation, by sharing one's personal understanding of the key issues being investigated and by assuming an open-minded attitude towards the informant (Mills *et al*., 2006);

(2) Research methods: Single case study - These inevitably face the difficulty of generalisability (Willis, 2014);

(3) Time – The limited time availability of the respondents meant that some respondents did not provide any comments on certain aspects of the conversion decision. Given other commitments and their senior role within the business, it was not possible to secure additional time in the circumstances. It is likely that further and deeper insight would be achievable in the absence of any time constraints;

(4) Sample size – Small sample size can potentially limit the generalisability of the research findings;

(5) Restricted account – While every attempt was made to address all notable factors that affect the successful conversion of a commercial building, it is conceivable that this research does not necessarily address all existing aspects that play an important role.

To address those limitations capable of being mitigated, the following measures were implemented:

(1) Interview bias - The semi-structured nature of the interviews mitigated the risk of interview bias since the respondents were able to drive the direction of the conversation to a large extent. Where possible, the researcher expressed a view on a particular issue and sought to have an open-mind with regards to the types

of responses obtained. Finally, each of the interviews was conducted at a time and date chosen by the respondents. Cumulatively, these factors sought to mitigate the risk of interview bias;

(2) Research methods: Single case study – Through the strategic selection of a credible, high-quality case, it is submitted that the issue of generalisability was overcome, further expounded upon in Justification for a Case Study Approach Combined with Semi-Structured Interviews;

(3) Sample size – The composition and quality of the participants provided the depth of data required, thus mitigating issues in relation to the sample size; and

(4) Restricted account – In an attempt to mitigate this issue, the researcher consulted just short of two hundred resources to minimise the risk of omitting important factors that encourage conversion of commercial buildings.

3.8. Concluding Remarks

This chapter outlined an analysis of the research paradigm and over-arching theoretical context of this research. Based on prevailing literature, interpretivist and constructivist ideologies were adopted, further based on the assumption that human nature is deterministic. The topic suited a qualitative approach and a combination of convenience and purposive sampling was employed prior to collecting data through semi-structured interviews of the case's stakeholders.

4. CHAPTER 4: RESEARCH CONDUCTED AND ANALYSIS

4.1. INTRODUCTION

The previous chapter dealt with the methodology and research methods used in this study. The qualitative and quantitative data collected will be the basis of analysis into the ability to re-use commercial buildings in the Cape Town CBD to meet the growing demand for residential units.

This chapter builds on the theories established through the literature review. The research starts with an overview of the Cape Town CBD commercial property market which focuses on the relationship between the rental rate growth and the prevailing vacancy rate for commercial properties as both play an integral role in determining when private developers will enter the market. This is followed by an analysis of the growth of the Cape Town CBD residential property market so as to provide background and context as to why the conversions of commercial buildings are becoming increasingly common. As the first two sections will be primarily focused towards private developers, there is a section dedicated to the Public entities role in stimulating urban development in the Cape Town CBD. This section details the role of the CCID, UDZ and how housing can be encouraged in the CBD. The final section analyses the relationship between the commercial and residential market and how they are intimately intertwined with each other.

The research proceeds to an analysis of three significant conversion projects that were competed in Cape Town CBD over the past 20 year, namely: Mutual Heights, Cartwright's Corner, and Triangle House. The information contained in this chapter is the result of the collection of data from numerous sources and includes, but is not limited to, published documents and semi-structured interviews. Once the data was collected, it was coded and analysed into key emerging themes and sub-themes, which formed the basis for the conclusions reached in chapter 5.

4.1.1. Defining the Cape Town CBD

The Central City is the traditional CBD or 'downtown' of the Cape Town metropole, and lies within a 1.62km² area managed by the Cape Town Central City Improvement District (CCID). The Central City's geographical boundaries are bordered to the northeast by Table Bay harbour (Port of Cape Town) including the V&A Waterfront and the largely residential

suburbs around the remainder of its perimeter known as the Atlantic Seaboard (to the northwest), the City Bowl (to the west and south), and District Six and Woodstock (to the southeast). This Central City area is shown in the figure 5.

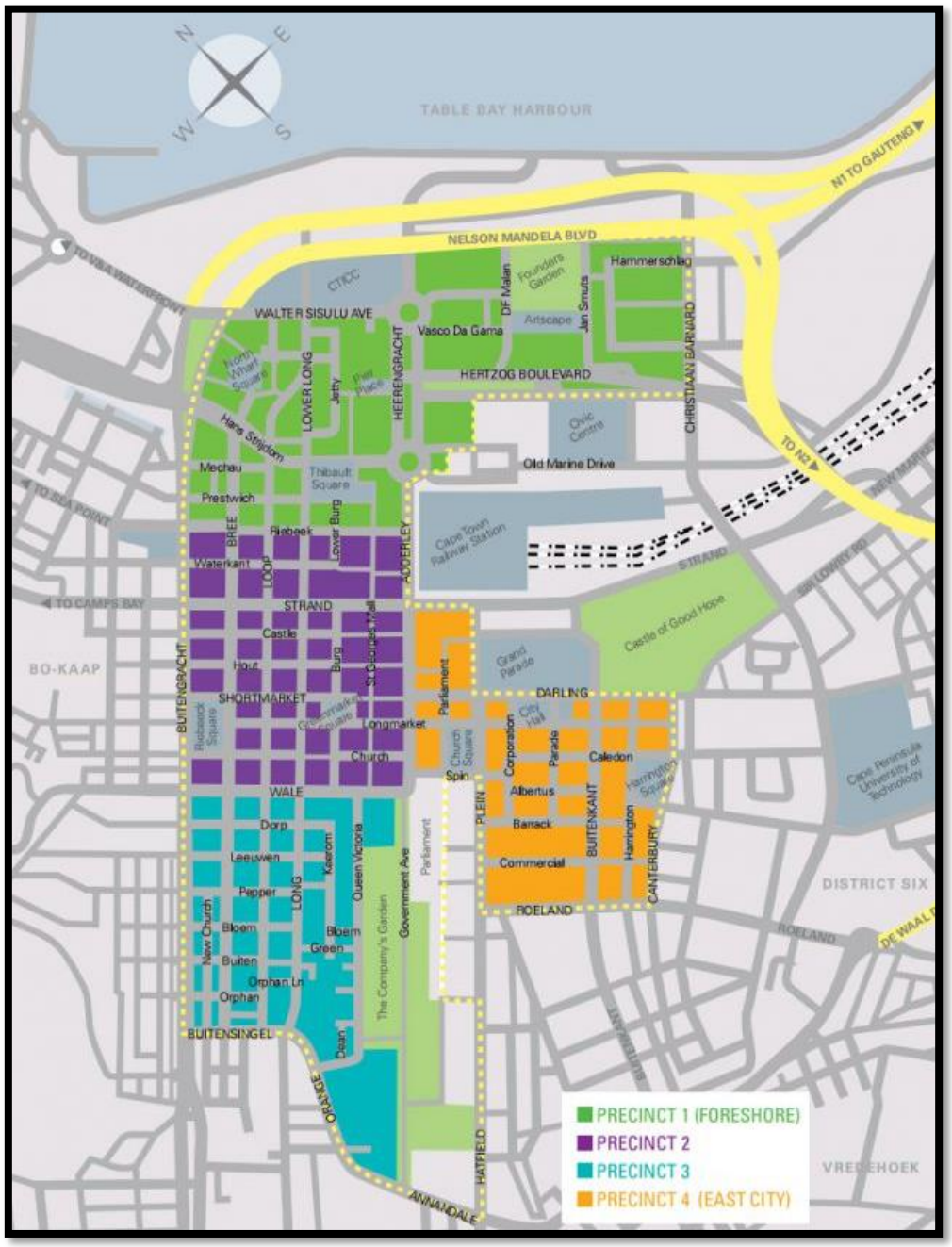


Figure 5: The Central City of Cape Town (*Source: Cape Town CCID*)

The Cape Town CBD is where all the main road and rail transportation links begin in the Western Cape Province, including the N1 highway to Gauteng and the N2 that travels along the southern cost of South Africa to KwaZulu-Natal and beyond. Cape Town International

Airport lies 19km from the Central City on the N2 highway. This all makes the Central City the epicentre for transport across the metropole.

The City of Cape Town's most recent official property valuation report (as at 2016-17) shows that the overall nominal value of all property in this CBD to be R30 billion. In addition, to this, there is currently R12 billion of property currently under construction (planned or proposed) for the Central City, to be completed by 2020 (CTCCID, 2016) – of which only R3bn is attributed to residential projects. This exponential growth in property valuations in the CBD is clear:

> *INT02: "The Central City property values have gone from 2006, at about R6-billion up to R30-billion in the last Rate's Bill. That's just our specific City area."*

In terms of residential offering, there are currently a total of 57 residential complexes in the Central City, including those under construction as at December 2016. In 2016, a total number of 228 units were sold, at an average size of only 71sqm, against a total value of R533m. This equates to R2.4m per unit and an average rate per square metre of R33,921 (CTCCID, 2016) which is a considerable increase to historic rates. This is primarily due to increased demand since 2014. From only around 750 residents a decade ago, the CBD's residential population is estimated to be in excess of 7000 people in 2016 – which is considered very low given the total floor area of the Central City.

Commercial and retail space totals approximately 1,042,605m² of rentable area (excluding Government buildings) in the CBD (SAPOA: 2016). This commercial space in the CBD can be further broken down by the four primary grades which are defined by SAPOA as being:

- **Premium Grade:** Top quality, modern space which is generally a pace-setter in establishing rentals and which includes the latest or recent generation of building services, ample parking, a prestige lobby finish and good views, or a good environment
- **A-Grade:** Generally not older than 10 years, unless renovated; prime location; high-quality finishes; adequate on-site parking; air-conditioning.

- **B-Grade:** Generally older buildings, but accommodation and finishes close to modern standards as a result of refurbishments and renovations from time to time, air-conditioned, on-site parking.
- **C-Grade:** Generally 20 to 30 years old, unless renovated; in fairly good condition, although finishes are not up to modern standards; good location; may have onsite parking; unlikely to be centrally air-conditioned.

When analysing the Cape Town CBD as per the above definitions, the commercial space offering can be summarised in Figure 6 as being made up of the following GLA per grade:

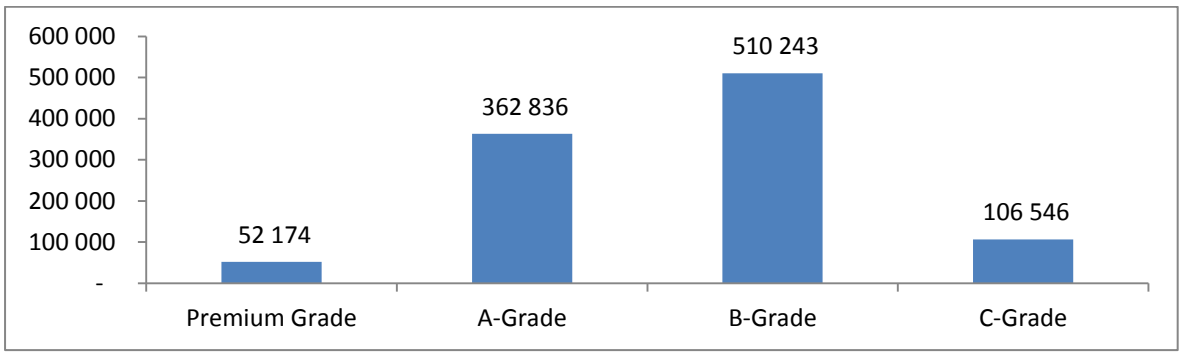


Figure 6: GLA (sqm) per Commercial Grade in CT CBD (*Source: SAPOA Office Vacancy Survey Q4:2016*)

Figure 6 shows that the vast majority of commercial space in the Cape Town CBD is made up of A and B Grade space. This contributes to the average asking rental rates by Landlords for their commercial buildings as the rental rate would be affected by the Grade of the building. Therefore, when reviewing the average asking rental rates per commercial grade it is confirmed by INT01 that the following rental rates can be applied per grade as at 2016:

- **Premium Grade:** R185 per square metre
- **A-Grade:** R133 per square metre
- **B-Grade:** R105 per square metre
- **C-Grade:** R75 per square metre

These variances in rental rates per grade of office shows that the diminishing financial returns that a building produces as it ages and becomes more obsolete when compared to new buildings. This has the likely effect of diminishing the financial return for the landlord throughout time as the building deteriorates in its grade.

Therefore, due to the large scale of the commercial buildings in the Cape Town CBD being the 'cheaper' B & C Grade buildings, it is expected that developers/investors should focus on these older buildings as opportunities to adapt to the prevailing demand from the market as they offer greater financial upside.

4.2. THE COMMERCIAL PROPERTY MARKET OF CAPE TOWN CBD

4.2.1. The Historic Performance of Commercial Property in the Cape Town CBD

The Central City, as with all global CBDs, has experienced periods of fluctuating rental rates due to the ever changing commercial vacancy rate. In times of GDP growth and a lack of satisfactory supply of commercial space to satisfy a growing demand, the rental rates being achieved in the Cape Town CBD across all grades have increased. This growth in the average rental rate across P and A Grade buildings being achieved in the Cape Town CBD can be summarised in Figure 7:

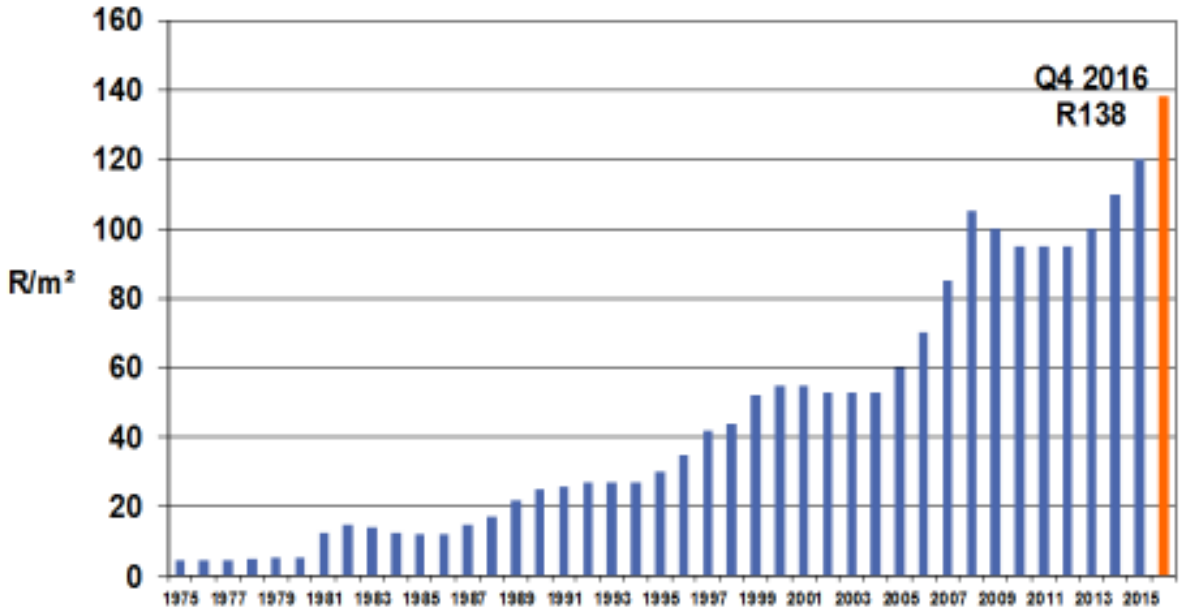


Figure 7: Cape Town CBD 'A' and 'P' Grade Average Rentals: (*Source: Baker Street Properties: 2016*)

Figure 7 depicts the growth in the average gross rental rate from 1975 through to 2016 for combined A and P Grade rentals. It shows the periods of steep rental growth (e.g. 1995 to 2000, 2005 to 2008) which are followed by periods of relatively flat rentals. This changing rate of rental growth is typical of the commercial property market cycle throughout the world's cities – periods of increasing rental rates are followed by periods of stagnation, or

even declining, rental rates. This fluctuating commercial cycle is further confirmed by a respondent's comments:

> ***INT01****: "Office rentals from 2005 to 2008 basically doubled and then the world corrected at the end of 2008 with the crash. Office rentals only started to show a downward trend from 2009. I think a number of landlords were in denial, that this wasn't really happening and this was a short term blip and that they would soon be back up to the rentals they were achieving in 2008. But rentals actually came down from the peak in 2008 to 2011 by 15% to 20%. Buildings that were achieving R110 to R120 per square metre were suddenly faced with R95 to R100 per square metre."*

This reduction in rentals during this period of 2008 to 2011 would've improved the feasibility of repurposing the buildings that were experiencing high vacancies. However, it is interesting to note that in the following years the CBD experienced rental growth but it was not necessarily as a direct result of the increasing strength of the commercial property market as conversions removed large commercial buildings from the market:

> ***INT01:*** *"We have had office rental growth, talking average rentals, of R115 per square metre in 2014 and we are averaging R146 per square metre today (2017). So we have recently seen good, respectable rental growth in central business district A-grade rentals. Combine that with the limited development that is taking place, which is very, very limited, in fact there is not a lot happening at all. But something to bear in mind what happened with Mutual Heights in 2003, Cartwrights Corner in 2005 and Triangle House in 2015, the CBD experienced a reduction in the commercial space through these conversions. Those buildings have been taken out of the market and the existing tenants were forced into the market so we had a top-up of vacant space. But then we removed those offices from the market as well, so it had a double whammy effect on the city centre."*

This removal of significant commercial space in the CBD through the removal of large commercial buildings had a dramatic effect on vacancy rates in the CBD. This is because the commercial property market cycle can be extrapolated into the relationship between these average rental rates and the prevailing vacancy levels that were experienced in the Cape

Town CBD throughout these periods. Specifically, the vacancy rates over the same period are summarised in Figure 8 below:

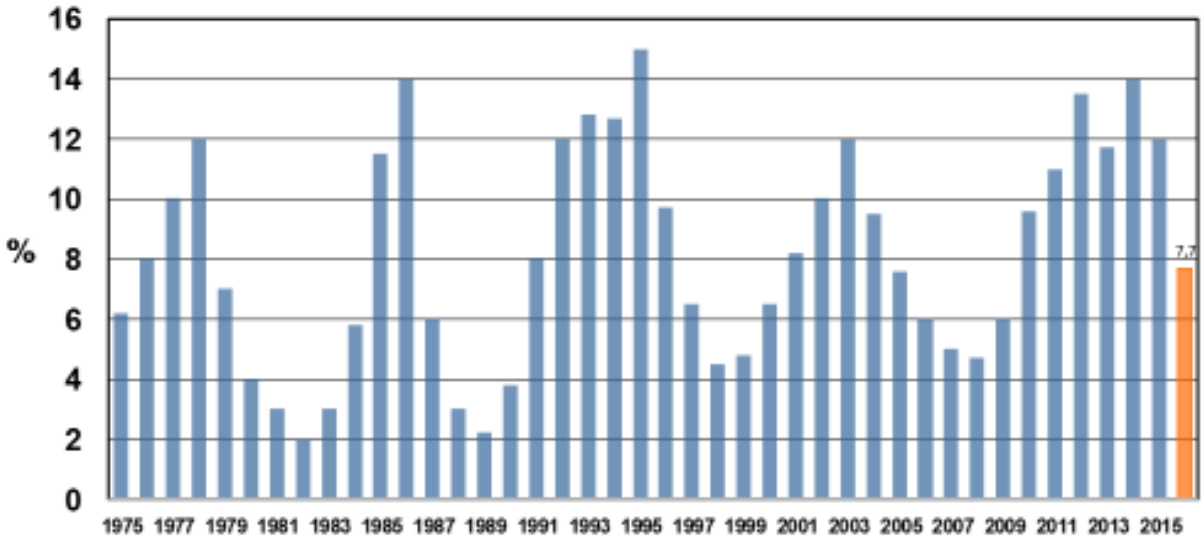


Figure 8: The combined CBD 'A' and 'P' Grade Office Vacancies: (Source: Baker Street Properties: 2016)

Through the comparison of these two graphs, namely the average rental rates (fig. 7) vs the vacancy rates (fig. 8), it can be inferred that an inverse relationship exists between these two metrics. Thus a negative relationship exists between vacancy rates and average rental rates. As the above graphs go 40 years back, this relationship means that developers can expect that as vacancy rates decrease the average commercial property rental rates will increase – this increasing rental rate will in turn make new commercial development projects increasingly feasible.

Given this relationship between vacancy rates and rental growth, there is a natural vacancy level where new commercial developments will become viable. This is through the ability of developers to achieve higher rental rates due to the increased demand, and lack of supply. This vacancy level is seen as historically being experienced when the prevailing vacancy level falls below 7.5% as confirmed by a respondent:

> ***INT01:*** *"New speculative office developments are expected to occur, or become viable, when the prevailing vacancy rate in the city moves to a 7.5% vacancy level - with 5% being an absolute given. This is because vacancies drive rentals, i.e. low vacancies lead to higher rentals or increasing rentals. Higher vacancies mean static*

or reducing rentals. As new commercial developments take place when they are feasible, the rentals that can be achieved drive the feasibility of the project. So it is right in theory that on a reducing vacancy level we are going to see increasing rentals. On the back of increased rentals, new development feasibilities work, and therefore new developments will occur."

This relationship the INTO1 refers to is shown in the Figure 9 below that compares the long term vacancy rate against the year on year growth rate of the asking rentals of the National Office Market.

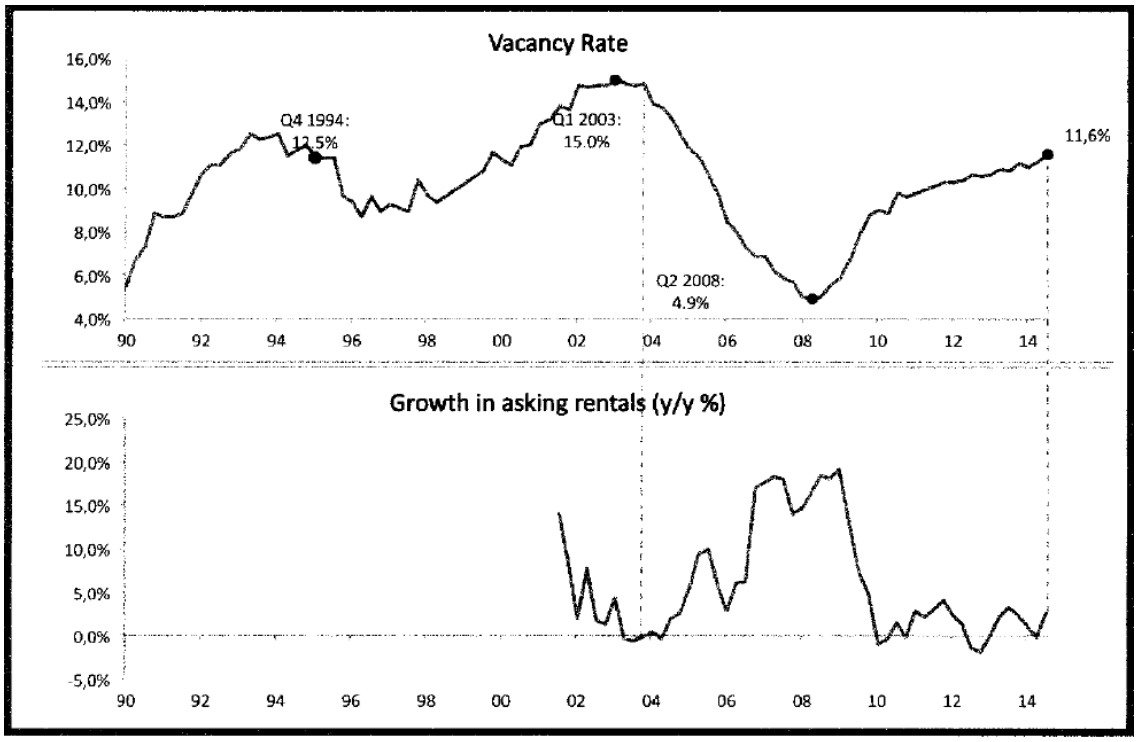


Figure 9: Long term vacancy rate compared to the year on year growth rate of rentals for South Africa's National Office Market (*Source: SAPOA National Office Vacancy Survey Report for Q3:2014*)

It is clearly seen that in the early 2000s there was a high prevailing vacancy rate which translated to low growth in rental rates. Then as the vacancy rate began to decrease between 2003 and 2008, the growth in asking rentals accelerated during the same period.

It should be noted that in two large commercial buildings, Mutual Heights and Cartwright's Corner, were converted from offices to residential units in 2003 and 2005 respectively when vacancy rates were relatively high in the CBD. These two conversions aided the reduction in

the vacancy rate in the Cape Town CBD as significant GLA was removed from the commercial market. INT01 recalls this period:

> ***INT01:*** *"In the early 2000's we had a situation where commercial vacancies were high in the city and rentals had been low or static, no growth for a number of years. But we saw the first conversion taking place, which was the Old Mutual Head Office in Darling Street, which conversion was done by Louis Carol. That is where it started and the success of that conversion project was quickly moved to Cartwrights Corner where the following year, the office tenants were booted out and they did a residential conversion. This started a flurry of conversion projects in the City between 2003 and 2008 that dramatically reduced commercial vacancies."*

So the combination of the conversion of office space and the growth for demand for office space resulted in the significant reduction in the average vacancy level of the CBD. As vacancy levels reduce it is very likely that the city will experience new commercial development occurring as the viability for developers improve. This is further confirmed by INT01 who details the period leading up to 2008 where vacancy levels in the CBD were reducing annually:

> **INT01:** *"In the period leading up to 2008 there was a massive upward correction in office rentals that saw the conversion of existing commercial buildings stopped because the higher office rentals made office developments more feasible once again."*

Therefore, as commercial rentals increase, it is expected that the City's total commercial GLA will begin to increase as commercial developments become more viable. This increase in commercial development activity will ultimately again drive the vacancy levels experienced in the City upwards.

The result is that developers experience a period in the property development cycle when conversion projects of commercial buildings become increasingly feasible as office space is consolidated into prime buildings in prime areas and lower grade buildings are left with higher vacancies. This consolidation of tenants will drive improved returns for landlords and

make commercial building development attractive once again through higher rental rates being achieved.

It is important to note that since 2008 the vacancy level in the CBD increased which was the result of increased commercial development and low economic growth in the macro environment. This increasing vacancy level, together with flat rental rates, indicated that the property cycle would evolve again and conversion projects would once again become feasible.

4.2.2. How Vacancies in Commercial Buildings Trend to Macro-Economic Drivers

The South African macro-environment continues to face significant challenges and a number of key drivers of office sector growth remain under pressure. It can be inferred from Figure 10 below that the rate of real economic growth slowed to approximately 1.0% year on year for the years 2001 and 2014. In both periods, this had a negative impact on the office sector as there was also a slowdown in the rate of growth in the financials and business services during these years (SAPOA: 2014). This is depicted in Figure 10 where South Africa's GDP growth rate is tracked over the last 16 years.

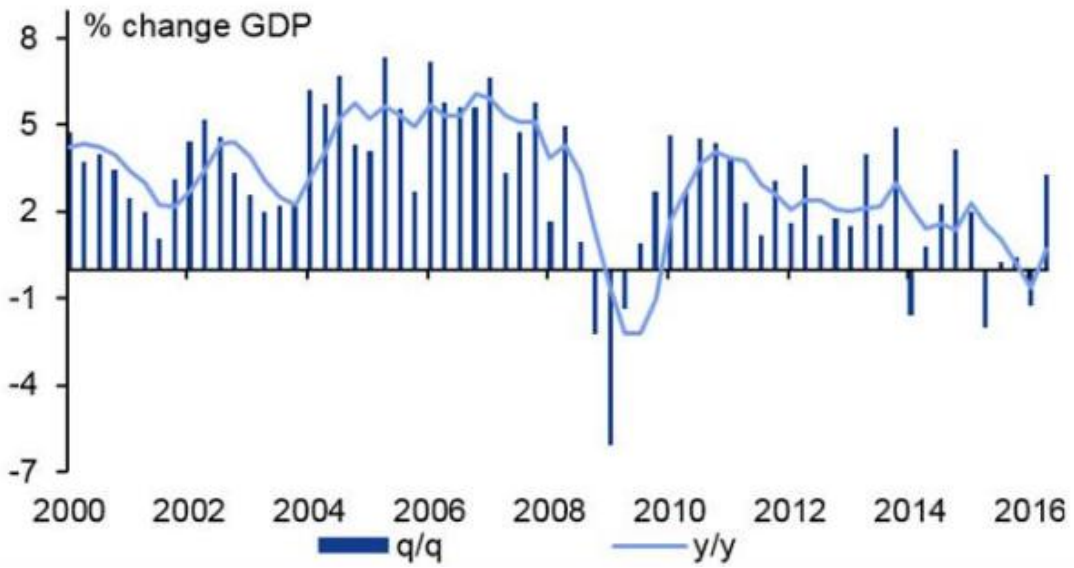


Figure 10: Percentage change of South Africa's GDP growth rate (Source: SARB, Stats SA)

The lack of GDP growth in South Africa for the years 2001 and 2014 caused stagnation in the demand for commercial space. This stagnation in demand and the slowdown in GDP growth closely trend with vacancies increasing. This trend between GDP growth and vacancy rates in the office market is considered to be strong and is echoed in the interviews:

INT01: *"It goes back to economic growth which would stimulate demand which would in turn result in increased office space requirements from existing users and hopefully new users coming to the Cape Town central business district."*

Furthermore, business confidence for the quarter ending September 2014 came in at 46 (with 50 being neutral) – meaning overall sentiment in the business community was still on the negative side and would have hampered the take-up of new office space. It is interesting to note that this coincided with the time of high vacancies in the Cape Town CBD. This historic overview of South Africa's business confidence as is shown in Figure 11.

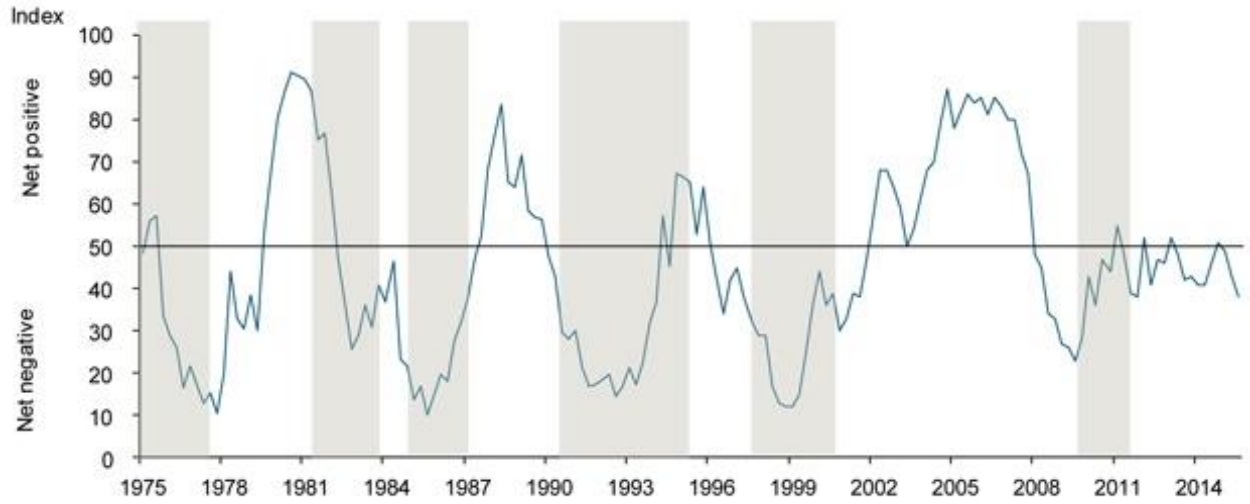


Figure 11: Business Confidence in South Africa (Source: BER, SARB)

Figure 11 shows those periods of economic downswings are normally preceded by a negative change in business confidence. This fall in business confidence is an indicator that the GDP growth rate will fall over the years to follow, which will likely mean that vacancies in commercial properties will increase. This constantly changing GDP growth rate and business confidence index impacts the vacancy levels in cities but a respondent identified that the migration of businesses, as a result of the economic climate, is also a driving force for vacancy levels.

INT01: *"if the economy doesn't show the kind of growth that would increase demand, then office space take-up could be achieved through the relocation of existing businesses from areas such as Johannesburg and Durban to Cape Town. This domestic migration in conjunction with new international businesses - as we have seen, particularly in the Business Processing Outsourcing (BPO) / Call Centre area*

where we have seen international players like Tele-Performance, Capita, EXL and Web Help - opening up new operations in the Cape. It is this positive net migration of domestic and international businesses that have resulted in quite a substantial take up in good quality commercial space in the Cape Town city centre.

Therefore, it is a combination of economic growth in the macro environment together with an increase in the demand for commercial space through companies entering the Cape Town commercial market.

4.2.3. The Current State of Cape Town CBD's Commercial Property Market

As at December 2016, SAPOA reported that 105,319m² was available or vacant in all P, A, B and C grade buildings in the Cape Town CBD. This translates to a 91% average occupancy rate across all grades of commercial property in Cape Town's CBD in 2016 - although this is slightly higher than at the end of 2015.

The City of Cape Town continues to have the lowest office vacancy rate of all South African municipalities (as at Q3 2016), at 7.6% (CTCCID, 2016). This state of the commercial property market in the Cape Town CBD is further confirmed by INT01 who states:

INT01: *"The central business district is very healthy at this time in terms of demand and the take up of vacancies, which is always the true reflection of how good the market is. In the last three years the vacancy levels have started to reduce and on the back of that reduction in vacancies we have seen an increase in office rentals in the city."*

However, when reviewing the SAPOA Q2: 2014 document, it is seen that the overall Cape Town vacancies increased to its highest point of 10.4% in Q2:2014 as a result of two new buildings coming on stream, namely; Portside and Roggebaai Place. At this point in the market it is stated that some space had been vacant for long periods and shown little chance of being filled as some landlords continued to ask rentals above market expectations. Furthermore, the bulk of these vacancies were in the secondary office market as the vacancies in Cape Town's B-Grade buildings reached 13.7% and the C-Grade buildings at 26.9% (SAPOA: 2014).

When the respondents were asked about the main reasons why the commercial vacancies have been decreasing in the last there years, the following factors were attributed:

> ***INT01:*** *"There is a twofold reason for the decrease, one of them being the conversion of existing office buildings into residential, namely the Triangle House Office Building, some 24,000m² of office space was to be converted and the tenants in the building had to find a new home which resulted in a number of tenants in the central business district market, filling up a number of the existing vacancies. But that decrease in vacancies has also been complemented by the increase in demand coming from the Call Centre sector and the serviced-office space sectors, where we have seen a lot of new international players coming into the market, and the growth of existing local players too."*

Therefore, the commercial vacancies in the Cape Town CBD have been reducing for the past three years to get to the current 7.6% level and this overall level of 7.6% can be further broken down into where the bulk of these vacancies exist. The city's vacancies can therefore be divided into commercial grades to give better context. This difference in the commercial grades is depicted in Figure 12.

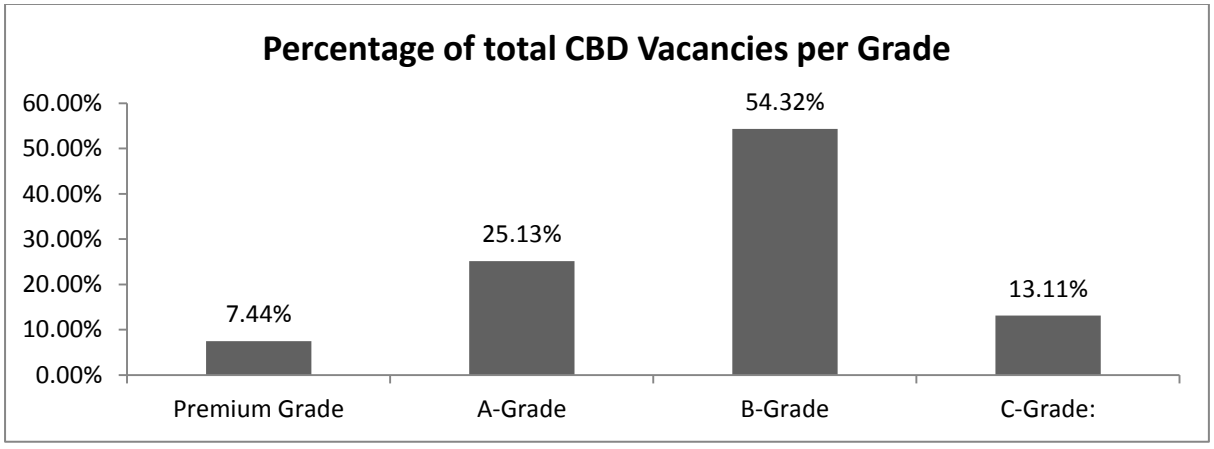


Figure 12: Percentage of total CBD vacancies per Grade (Source: SAPOA Office Vacancy Survey Q4:2016)

From Figure 12, it can be inferred that the majority of the commercial vacancies sit within the A and B Grade commercial buildings. These two grades have a combined 75% portion of the CBD's vacancy. This majority portion is relative due to these two grades equating to 85% of the CBD's total GLA of commercial space. Therefore, whilst the fourth quarter of 2016

saw vacancies sit at 9.4% overall, the vacancies can be further analysed per grade so as to create deeper insights around these vacancies. The findings were that:

- the most significant drop in vacancy rates in the CBD has been in the premium grade, which has declined significantly year on year from 25% in 2015 to 13.8% in 2016 – the reason cited for this being that there has been a migration of commercial users from B & C-Grade space towards Premium and A-Grade space due to the stagnation of commercial rental rates across the Grades.
- There has also been a notable drop in the vacancy rate of A-grade buildings from 9.1% to 6.7%
- Interestingly, C-grade vacancies have fallen from 16.4% to 11.9%. However, INT02 is of the view that this is due to the conversion of C-grade space into residential and hotel accommodation over the course of the last 18 months – INT01 agreed with this statement and said that this is a trend that is set to continue in 2017.

Given the above, and the macroeconomic drivers in the commercial property market, it is expected that the landlords of B and C Grade buildings will still be under significant pressure to deliver financial returns from their properties and will be increasingly looking at alternative options so as to improve the returns of largely vacant buildings – an option being the adaption of the building to include residential.

4.3. THE RISE OF RESIDENTIAL PROPERTY IN THE CAPE TOWN CBD

4.3.1. Historical Performance

Prior to 2013, residential values in the Cape Town CBD had stagnated for many years. This period of stagnation was after a developers' boom in the mid-2000s that saw the rapid uptake of residential units by leveraging investors hoping for short-term and highly profitable turnarounds. However many of these investors were struck by the burst of the "property bubble" that was felt across the globe during the 'credit crunch'.

It has, therefore, only been since 2014 that downtown 'pioneers' looking for an urban lifestyle have begun to see the CBD as a true 'live, work, play' destination and, more importantly, as a long-term investment. While the rental rate per square metre value

continues to climb steadily in line with the demand for Central City units (CCID, 2016), and well above the average residential growth rates seen in South Africa as a whole. The year on year increases of average residential sales have slowed somewhat as the CBD market stabilises, particularly when comparing these to the low base of the market back in 2013 (CCID, 2016).

Research, conducted by FNB Household and Property Sector Strategist John Loos, who used Deeds Office data across various sub-regions in the Cape Metro, confirmed that the average prices of property in Cape Town have more than doubled since 2012, and are up nearly sevenfold since 2001. And there's no sign of a slowdown with it still experiencing good growth of 13.2% in the fourth quarter of 2016. This average year on year growth in the Cape Metro is broken down to prominent areas and these average growth rates are shown in Figure 13 below.

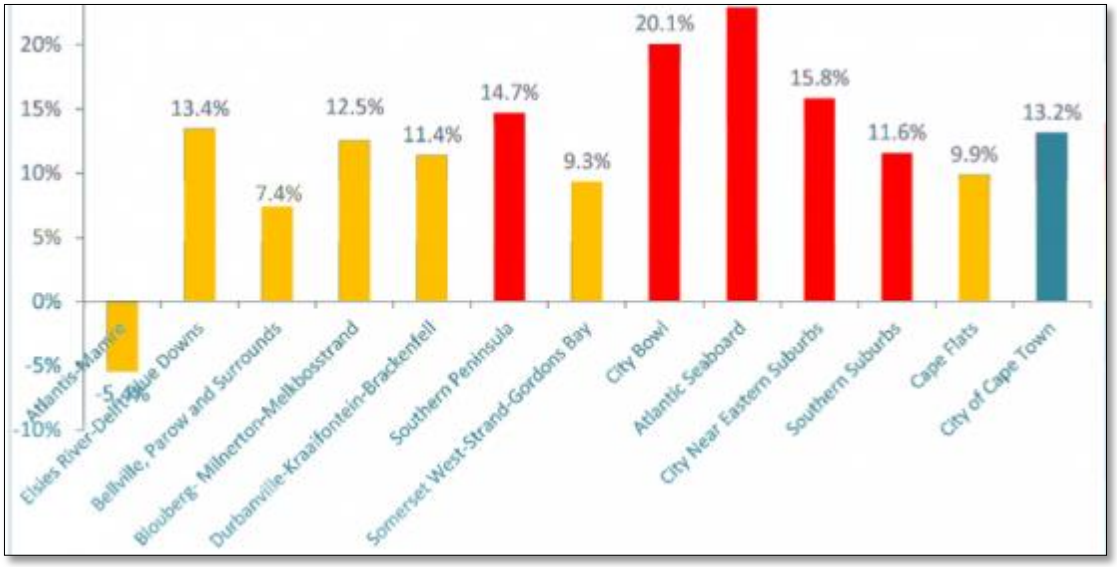


Figure 13: Average Year-on-Year House Price Growth by Cape Town Sub-Region (Source: FNB, Q4:2016)

However, the Western Cape and especially Cape Town has "significantly outperformed" the rest of the country, says the FNB report. The trend of 'semi-gration' to the Cape from Gauteng has certainly helped drive this demand. He also points to the topography as one of the major supply-side drivers, but adds two others: the city's "growing traffic congestion challenge" as well as "the fact that some of the city's prime business and employment nodes, most notably the CBD and Claremont, are in close proximity to the mountain".

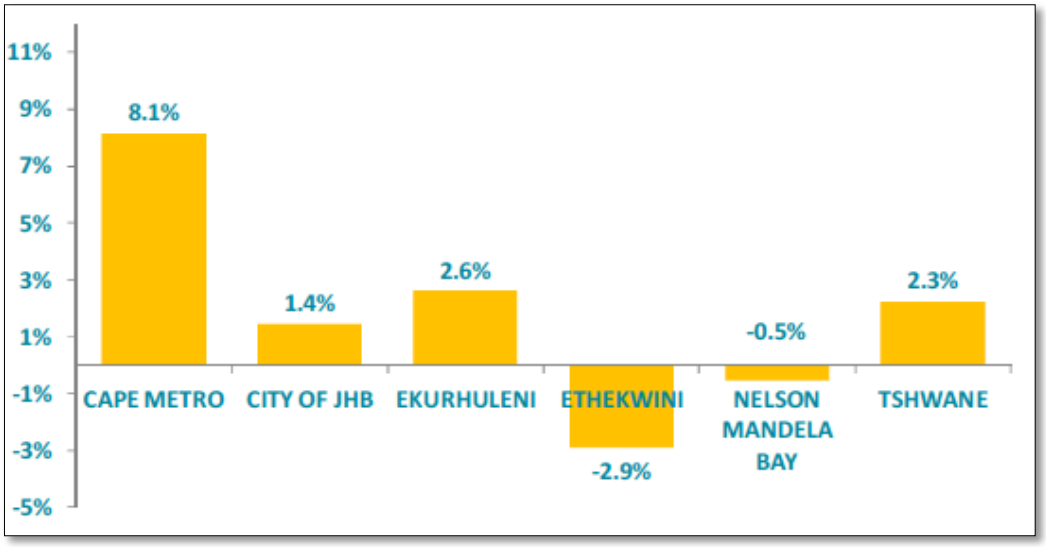


Figure 14: Major Metros House Price Inflation Year-on-Year (Source: FNB, Q4:2016)

What is significant, however, is that the average residential unit size in the Cape Town CBD is becoming significantly smaller than those built in the early 2000s, following the international trend towards smaller units in popular urban areas – and again showing stabilisation against global standards (CTCCID, 2016).

The report showed that the comparative selling price of units against what they originally listed for is also decreasing (-2.5% in 2016 versus -4.8% in 2015), although the average number of days that units spent on the market has risen marginally (47 days in 2016 versus 45 in 2015). One of the reasons why 2016 saw a significant increase in the number of units sold (228 in 2016 against 185 in 2015) was due to the transfer of many of the 169 residential units that make up the commercial property-to-residential conversion, by Signatura, of the multi-storey office block Triangle House in Riebeck Street into the Radission Blu and Residence complex.

When the respondents were asked as to whether they thought that there was sufficient residential space in the central business district now, their responses were clear:

> ***INT01:*** *"No, we can accommodate more and I think City Council would support and encourage that. The success of residential in the city has been confirmed through the appetite that the market has for the developments that have taken place so far with many sold out."*

However, as vacant land in the CBD is becoming increasingly sparse and property values continue to rise, the ability to meet this demand for residential space efficiently is becoming increasingly difficult. In order to meet this pent-up demand for residential units, developers need to consider the value of re-using existing buildings as the way that people live evolves:

> ***INT01:*** *"The provision of residential in the CBD has to be through looking at existing buildings where large vacancies or substantial vacancies take place, but bearing in mind that the property itself has to lend itself to conversion."*

Therefore, it can be inferred that developers in the Cape Town CBD will continue to convert poorly performing commercial buildings into residential units so as to improve the financial returns of the asset – especially given the current contra trends in the residential prices when compared to commercial rentals. This ability to re-use existing buildings enables the CBD property offering to adapt to the prevailing market demand and support the efficient provision of residential in the CBD.

However, it is not just the poorly performing buildings that need to be re-engineered to appeal to the residential market. The whole Cape Town CBD needs to be adapted to appeal more to the residential market.

> ***INT01:*** *"Bear in mind that the city was never designed for residential, the Town Planners developed it as a commercial centre, so going forward the City has got to start building the open spaces and recreation areas that people can go to which we currently don't have in the city because it was never designed for residential apartment blocks."*

This means that private developers need to work closely with the City of Cape Town to ensure that the residential conversion projects that are being approved by the City complement their town-planning strategies of how they will make the Cape Town CBD increasingly attractive for residential users. It is through this holistic view that the City of Cape Town can continue to experience the continued growth in the demand for residential units situated within the Central City.

4.3.2. Key Factors for the Increasing Demand for Residential Space in Cape Town CBD

According to the CTCCID's 2016 report, the number of people residing within the Cape Town CBD has increased exponentially over the last decade and is currently greater than 7000. When asked why the Cape Town CBD population has increased over the years, the following reasons were identified by the respondents as being motivating factors that attracted people to live in the Cape Town CBD:

> ***INT02:*** *"I think there are quite a few reasons why people are moving to the CBD. I think;*
>
> 1. *The City is doing very well. We have a Municipality that is firing away, more effective and more responsive and easier to deal with than any other Municipality in the country, so I think that's a big thing.*
> 2. *The Central City Improvement District (CCID) has really driven people or driven the City into the space where it is safe, clean, and caring. The message that the CCID drove over the last 15 years has been that the City is open for business. So, that drives a lot of call centres and a lot more people into the City, so that's been a very positive element.*
> 3. *But the other side is one of congestion – people are travelling and spending longer times in their cars to get into the City. If you look at London – just a key thing for people is actually, your travel time and Cape Town is almost a victim of its success. Congestion is now an issue and peoples' travel time is becoming more and more of an issue. So, if you can offer somebody an apartment in Town, it might be quite expensive but then you need to factor in that they can walk to work instead of driving to work. They already get a parking bay, so they don't need to rent a parking bay and they've got no travel time. That's very compelling for people and particularly young people.*

It is this congestion attribute of a city that seems to play a significant role in driving residential demand in the CBD:

> ***INT01:*** *"The benefits of increasing the number of residential units in the CBD are many, straight away I think of one of the big issues we have in Cape Town is traffic congestion. You know residential in the CBD will go some way to alleviating traffic*

congestion if people can live, work and play in the city. The knock-on effect to the retail sector of people living here will be significant too."

So once this congestion factor is felt, the knock-on effect to the retail sector has further implications as the new offerings and services attract further millennial consumers to live in the CBD:

INT02: "*There's the whole millennial drive. That's what driving the City now. The last wave was much older people but this wave is about young people wanting to live within the CBD. There are a lot more apartments coming on-stream in the CBD, you don't have to go and do a shop 'once a month' and load up your car - you can walk down there pretty much as and when you need it. It's on the way home so you just walk into the shop and you buy your food for the day. This is the lifestyle that Millennials want to live."*

It is this changing demographic within the Cape Town CBD that is playing an important role in generating demand for residential. This millennial generation has been identified as the 'new wave' of people moving into the city because:

INT02: *"There's a lot of energy here and Cape Town, and City Centre is really attracting high-tech individuals. You go past all these bars and restaurants, its Thursday night and town is happening. So, it's a nice place for people to be and they're enjoying the kind of coffee shop culture. The Cape Town CBD also has a lot of heritage buildings and people underplay what that means to an environment - it's nice to walk around the city because the buildings are beautiful, so it's almost an intangible benefit for the City which further encourages this coffee culture amongst millennials."*

Therefore the creation of this 24/7 environment within the CBD is making the city more appealing to these millennials as it is creating a trend of living in the CBD environment through an ever-improving retail offering:

INT02: *"They say, and I've never managed to find out where it comes from, but they say when you have 8 – 10 thousand people living in your city, or in a sort of tight, geographical boundary, like your CBD. That's the tipping point in terms of shops*

staying open all night. All your restaurants stay open. Once you get the 10-thousand people staying here it changes the nature of your retail and it becomes like Paris or London, where every shop is open until 22h00. That's where we are very close to now, so I think the underlying driver is confidence in the City."

However, at the moment this 24/7 environment in the CBD is not yet there and private developers and the municipality need to be cognisant of this in order to encourage the development of this 24/7 environment.

INT01: *"The idea of a 24/7 city like you have in London or New York is achievable in Cape Town. This 24/7 Cape Town would be encouraged by formalising a link between the city and the Waterfront."*

This formal link between the Waterfront and the Cape Town CBD is heavily influenced by the City Planners and the City's vision for the CBD. This importance of cohesive planning for a Cape Town CBD that favours pedestrians was highlighted by a respondent:

INT01: *"The formalising of the link between the central business district and the Waterfront would encourage more residential development on the back of demand going forward. However, the biggest issue I think pedestrians have is how they get across 8 lanes of traffic? There is one bridge that takes you to the middle green space but then you have to take your life in your hands crossing the road on the other side. So I think the further completion of that bridge or tunnelling or something would be good to connect the Cape Town CBD to the Waterfront."*

Therefore, through the successful delivery of a diverse mix of residential units together with adequate town-planning measures to enable the easy, safe movement of pedestrians around the Central City and the Waterfront will further enhance Cape Town's ability to offer a 24/7 city environment where social interactions, commerce and culture can thrive. This mix in a central location will appeal to the growth demographic of the Millennials.

4.4. HOW PUBLIC ENTITIES ARE SUPPORTING RESIDENTIAL DEVELOPMENT

4.4.1. The Impact of the Central City Improvement District (CCID)

The Cape Town Central City Improvement District (CTCCID) is a private–public partnership formed by the property owners of a defined geographical area, the Cape Town CBD, so as to provide top–up or complementary services over and above what the City of Cape Town provide. Since its establishment in November 2000, the CCID has become an internationally acclaimed model of public-private partnership between property owners and businesses, supported by the City Council. The formation of the CCID was a significant event for Cape Town, because it was the first major city in South Africa to implement a fully constituted, legally bound Improvement District covering the entire core of the Central City:

> ***INT01:*** *"Cape Town is in very good shape and it has been complemented by the activity levels of the CCID which have assisted in making it the success that it is today."*

> ***INT02:*** *"The CCID kicked off in the late 90's, and it essentially started off with a bakkie and some security guards, and then it just kind of grew, and the process was really one of zero tolerance, so improving safety was the focus."*

This focus on improving safety in the Central City has dramatically improved by the CCID ensuring that it was a safe environment for people to transact and live in. Once the safety had started to improve, the CCID was able to grow significantly:

> ***INT02:*** *"The first thing was really just to try to reduce crime. Then it was cleaning and then we started a social development line because really, crime and social development are one of the same things. Most of the guys, who are sitting on the street, they're begging because they're hungry. If you take away the hunger, you're probably going to take away the begging. So, the CCID has also done an incredible amount of rehabilitation of homeless people. The CCID put them back in the community and that took 5-years to sort of bring under control and that's when the real hard jobs were done. Since then the CCID has been growing and getting more sophisticated and more organised and bigger and bigger. The CCID's annual budget is now about R57million and employs 620 people.*

In order to address the stated requirements of property owners, 50% of the CCID's annual budget is spent on security, approximately 21% on cleansing, 7% on social development and 11% on communications and marketing. The remainder of the budget goes towards operational and administrative costs of the CCID.

It is this focus on creating a CBD environment that is safe and encouraging higher numbers of pedestrians on its streets that goes a long way in making the CBD the strong residential node of the Cape Town metro that it is today.

4.4.2. The Urban Development Zone as an Incentive for Private Developers

The Urban Development Zone (UDZ) is a South African Revenue Service (SARS) tax incentive that rewards developers/property owners with a tax deduction based on a special depreciation allowance on investments made in either upgrading existing properties of building new ones within demarcated urban areas (including the Cape Town CBD). Originally established in 2003 and recently revised, the incentive will be accessible until 31 March 2020.

The UDZ applies equally to new development and refurbishments, and also extends to the residential market (the latter of these creating opportunities to convert vacant C-grade buildings into the additional residential unit's downtown such as the Cape Town CBD require).

In essence, the incentive offers investors who refurbish an existing building the opportunity to deduct 20% of the refurbishment and upgrade costs over five years once the building is in use, enabling the owner to write off these costs over a five-year period. Only the initial purchase price of the property does not qualify for the UDZ incentive. The demarcation of the UDZ in Cape Town CBD is depicted in Figure 15.

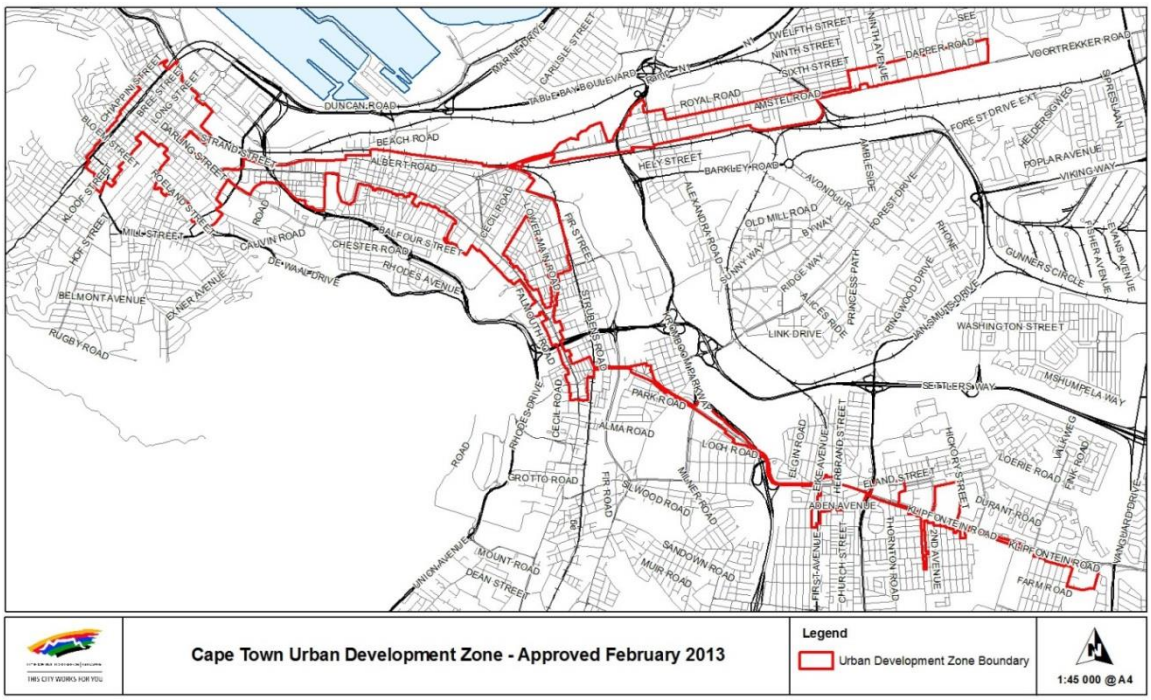


Figure 15: Cape Town Urban Development Zone (*Source: City of Cape Town*)

An example of the UDZ being used in the central city is the Portside building development, now officially Cape Town's tallest building. Built at a cost of R1.6 billion, the owners were able to write off 20% of the building costs in year one and 8% a year in the remaining 10 years for income tax purposes. This incentive dramatically improved the viability of this large commercial development in the CBD and FirstRand, RMB and Old Mutual, co-investors of the Portside development, cited the tax savings acquired through the UDZ incentive as one the reasons why they committed to investing in the Cape Town CBD.

Therefore, the UDZ could be used so as to incentivise a developer to transform what used to be a run-down or neglected office block to a mixed-use residential block, catering for rental tenants. In Figure 16 below the UDZ allowances are detailed. It is interesting to note that low-cost residential units are given their own allowance amounts which are higher than other residential units. It is inferred that this is one way that the City is encouraging the provision of low-cost residential units.

New / improvement	Use	Allowance
Erection / extension / addition	Commercial / residential	20% year 1 8% years 2 – 11
	Purchased from a developer	Deemed cost = 55% of purchase price (deductible over 11 years as above)
	Low-cost residential unit	25% year 1 13% years 2 – 6 10% year 7
Improvements	Commercial / residential	20% years 1 – 5
	Purchased from a developer	Deemed cost = 30% of purchase price (deductible over 5 years as above)
	Low-cost residential unit	25% years 1 – 4

Figure 16: UDZ tax incentive overview (Source: South African National Treasury)

So while the UDZ incentive has spurred increased investment from the professional property sector in the central city, it's important to note that the UDZ applies to the low-cost property owner in the Central City as well. However, it is viewed that more could be done for the ordinary property owner:

> ***INT01:*** *"I think any incentive, and obviously the UDZ from a tax incentive point of view is great. However, I would like to see Province being more proactive in rather than tax breaks throw in rates concessions to make it more attractive for developers and low-cost private owners."*

Therefore, it has been noted, that the potential of the UDZ is significant, if used as a tool to undo the spatial legacy of apartheid South Africa in the central city, to create a more inclusive city in terms of residential accommodation. However, it is argued that, while the UDZ incentive is important in accelerating urban regeneration and development, its ambit needs to be seen in a broader context which includes changing zoning schemes, social housing subsidies and a range of other tools that could assist smaller property developers and owners. Beyond the encouragement of large scale investment in commercial property developments, the UDZ could be an important tool to incentivise large property developers to develop innovative low-cost housing in the central city. This is echoed in the interviews with the respondents:

> ***INT01:*** *"The UDZ when you strip it down and look at the benefits to the smaller purchaser of a sectional title one-bedroom apartment is not sufficient to make you want to do it. It is not a motivating factor. I think it is when someone like RMB developed that portion of Port Side and get the UDZ benefit back that the UDZ becomes a motivating factor.*

Also, it was identified that these UDZ incentives do not always produce the desired effects due to the differing motives of why property development occurs:

> ***INT02:*** *"The difficulty with incentives is how to marry the incentive to what the City may want to force Private Developers to build because they'll take your incentive and they'll still build an upmarket, residential complex which is not what the City wants. So, often with those sort of incentives, you get perverse outcomes or unattended consequence, where it doesn't really work the way you think it does. I think there's a much simpler model where the City can just define what is going to be allowed to be built there."*

The respondent further confirms the key theme in the provision of affordable accommodation by private developers:

> ***INT02:*** *"It's got to be financially viable for the private guys."*

Therefore the role of the UDZ tax incentive scheme has certainly encouraged development to occur in the Cape Town CBD but it is an enabler of the free market and the private developers are able to utilise the UDZ to improve the financial viability of a development in the UDZ area. This 'highest and best-use' principle is sometimes not what the City needs to create a more inclusive city centre.

4.4.3. The City's Role in the Provision of Affordable Housing in the Cape Town CBD

A key theme emerging from the research was the importance of having the appropriate mix of residential offering in a city with specific reference to the provision of affordable

accommodation. When this was discussed with the respondents various views were expanded on:

> ***INT02:*** *"At present, it is only private developers who are actively pursuing residential projects in the CBD and it's quite contentious as to what the Cape Town City should, or could, be doing to encourage the provision of affordable accommodation. Because generally, they (the Cape Town City) are very good but the reality is the success of the Cape Town CBD has been together with the partnership with the CCID who have improved the CBD. The success of the CCID has driven property values enormously to an extent where it's no longer viable to buy a building and convert it into affordable housing. It just doesn't work. Your basic layout cost is just too high, so then you've got to go one step removed because you're a private developer – the numbers just don't work and you can't force a private developer to buy a building and convert it to something that he doesn't want to do. He just won't do it."*

Hence, the affordable accommodation in the CBD needs to be driven by the Government and the City:

> ***INT01:*** *"I think that the role of government and council and province on the residential side is more to the affordable housing, social housing perspective. We need to find a way that we can let the workers such as, the blue-collar workers or the necessary workers who cannot afford to be in the city, we have got to create an opportunity for them to be here."*

However, as the residential values and the rental rates in the CBD have been increasing dramatically, it is becoming more difficult to provide residential options for these blue-collar workers or necessary workers. So it was put to the respondents as to what affordable residential units in the Cape Town CBD would look like:

> ***INT02:*** *"There is a hole in the market for people like your call centre operators, your bank employees. You know, you're kind of lower to middle-income office workers who at the moment, and there's a term for them, by Francois Viruly, and I think it's a very good term, 'The forty, forty, forties.' Those are the people who really struggle*

and the provision of affordable accommodation should target this segment of workers."

(The 'forty, forty, forties' that INT02 refers to are described as people who live 40kms away from their employment, live in 40sqm accommodation and spend 40% of their disposable income on transport.)

INT01: *"Affordable to me is just whatever is affordable to the people that are needed in the city. Where do the teachers live, where do the firemen live, where do the policemen live? You know if they are living out in Langa and Ottery and the likes, and it is taking them an hour plus to get to work in the morning, that is the kind of profile of a person you want to see in the city. And those are the people that should be able to afford to live in the city."*

This is an important aspect of affordable housing provision; the City must establish who this type of housing is targeting and what the social externalities are from the type of development that occurs in the CBD. The core focus from the City should be to ensure that the heart of the city is a social space and development should focus on creating a central social district where people come first and commerce second.

This creates a dilemma for the City though as this ability to develop housing at an affordable rate is something that private developers are not able to do given that the land values, and conversion costs, for buildings located in the CBD are already too high. So what can be done to encourage the provision of affordable housing within the close vicinity of the CBD?

INT02: *"So then what can be done and if you look at the City and Province, it owns a huge amount of land and buildings in the City and I think it needs to look at some of those pockets of land and buildings and say, 'okay we're going to allow this to be converted to affordable housing' and they could put in constraints that enable that to happen. In this scenario, the City could say, "okay we're going to put this [property] on auction but this is what you have to build and you can rent it for no more than so much." Then you're going to force the developer to buy the land and do a certain size, and shape of development which is much cheaper because he knows he can only*

rent it for so much. Therefore, the tender price or the auction prices are going to come in at much less but that's the only way you're going to achieve it."

This statement is in addition to INT01's view that:

> ***INT01:*** *"If the rental is pitched right you will get a full range of workers coming to live in the central business district. So I think it is more rental driven than, than specific to job."*

This means that it is likely that any affordable accommodation offering in the CBD, or its periphery, would need to be rental orientated with the government or City applying rent control conditions to certain buildings. This rent control would certainly dilute the feasibility of these projects for private developers. But, there are alternatives to the provision of affordable housing without the enforcement of rent controls:

> ***INT02:*** *"The other alternative is that the City enters into an agreement with a developer where they do a 20-year lease-back, so he has to build it and he has to rent it at a certain rate and after 20-years he has to give it back to the City and all of the private developers would do their numbers and say, 'okay the land is not worth R100, it's worth R50 and that's what they'd pay for it but then you get the affordable housing in. So, in order to encourage affordable residential to be developed it's got to be financially viable for the private guys."*

This view is echoed by the other interviewee, who states:

> ***INT01:*** *"The commercial developers are always going to look at profit; he has got to look at his reason for doing it. So really the role of government in housing in the city is through affording housing where they can release their existing properties or release their existing land on basis that it can be developed in a way that it is affordable."*

The provision of 'affordable' units would need to be through a public-private partnership between private developers and the City due to the City not making a good developer. What they do have though, is land. Both respondents agreed that the City should consider selling some of their land in the Central City on a 20-year lease and after the 20-years the land and

its improvements would revert back to the City. This lease-back strategy would reduce the value of the land but it will force developers to build what the City needs and not what they want to build in order to achieve the highest return. This is reiterated by INT02:

> ***INT02:*** *"As long as they can make money, the developers will do it. It's when you force developers to pay top dollar for land and then you say, 'Oh, by the way, we want you to build affordable housing.' That guy is not going to do it."*

Based on this, the provision of affordable housing in the Central City is reliant on the City playing a role that will help to reduce the cost of land when a developer is determining his highest and best use for the land. This reduction in cost for the land is able to be supported through the awarding of the tender to the proposed development that best meets the City's objective of a more inclusive Cape Town CBD.

4.5. IDENTIFYING WHEN TO CONVERT A COMMERCIAL PROPERTY

The previous sections have detailed how the private developers in the commercial and residential markets in the Cape Town CBD are intertwined through the changing of the demand and supply cycles in each of the asset classes. This supply and demand function is aided by the public entities through incentives and initiatives that improve the financial viability of projects so as to stimulate development.

Through identifying the phase that the market is experiencing, developers are able to improve profitability of their project. The specific characteristics that help to identify opportunities for conversion of commercial buildings into residential units were highlighted by the respondents as being:

> ***INT01:*** *"It makes financial sense when the commercial vacancies are stubbornly high and there is little chance of those vacancies reducing. On the back of them not reducing the rentals are static or reducing which decreases the return for the owner. This net income from the property is getting squeezed all the time. So over a 3 year period of static rental growth and high vacancies that is the time when people will be looking at conversions because you can probably buy the building at the right price to make the conversion justified and profitable."*

This insight into the relationship between commercial vacancies and the conversion of commercial buildings is further confirmed by:

> ***INT02:*** *"The office cycle and the residential cycle are not in tandem. They're sort of, when one is strong the other is usually weak, so if you can work out when that inflexion point is then you can actually do very well."*

It is this inflexion point of the property market that developers try to predict and time successfully. Through an understanding of the various indicators of the property market, a developer is better placed to successfully acquire the right commercial building for his conversion project at the appropriate time of the market.

> ***INT02:*** *"So if you can time your acquisition of a commercial property to when vacancies are quite high there's an opportunity to acquire those buildings at below the market level and profitably convert to residential. So, you need to be buying your*

buildings at quite a cheap rate, so it's very difficult to buy a full office building, where people are paying market-related rentals and trying to empty that. You need to buy a more distressed building and that's where the opportunity lies."

However, it is not just the commercial vacancy rate that drives the opportunity to successfully convert commercial buildings to residential units:

> ***INT02:*** *"The astute developer would need to pick up on the key variables that are going on in the office sector but you obviously also need to be keenly aware of what is happening in the residential sector as well. So, you need good timing because what you want to achieve is, the essence of property development, to satisfy the demand."*

Whilst the timing of the conversion project is important, this timing is purely an indication of the market changing the 'highest and best-use' of the building in its life stage due to the prevailing demands in the market. It is this that makes conversion attractive to developers:

> ***INT02:*** *"You know property development is just one thing. It's satisfying demand. If you do that, you stay in business, if you don't, you're out of business."*

This ever evolving demand of the market, and its effect on the highest and best use of commercial buildings in the Cape Town CBD, is to be considered with other property fundamentals when analysing whether to pursue a conversion project.

There other considerations as to why a developer would choose to convert an existing building as opposed to demolish and build a brand new building. Some of these reasons were detailed in the literature review section, however in practice, the reasoning in the Cape Town CBD, as identified by INT02, comes down to:

- **Speed** – the ability to convert an existing building within 13-months. The ability to re-use an existing building is usually significantly faster than demolishing and building a new more efficient building. So, whilst a converted building may not be the most efficient, it has the ability to improve profitability of a project through being able to be completed much faster.

- **Town-planning** - Limitations can be tough so the zoning and town-planning needs to complement the proposed conversion project. Heritage regulations form part of this and these have the ability to delay a project for a lengthy period that causes the proposed conversion to become unfeasible due to the perceived risk.
- **Cost** – the building cost of developing new buildings is increasing. This increasing cost is causing the re-use of large existing buildings to become increasingly viable due to the cost to rebuild eroding the financial returns of the project. It is noted that this usually only applies to sites where significant buildings are erected and not a lot of extra bulk is able to be realised in the redevelopment.
- **The building's design** – The design of an existing building relates directly to the return of a successful conversion project. This is due to aspects like: a developer is happiest when a column spacing of a building is 7.5-metre wide as this is because he can get 3 parking bays in easily.
- **Location** - location is very important. The location of the development directly relates to the required provision of parking, the preferred residential unit sizes, the standard of fit-out of the units and the ability to meet the City of Cape Town planning laws.

However, even in the event of a conversion project commencing, that project is not guaranteed to be a success. The main reasons why developers fail with conversion projects are highlighted as being:

1. The developer mispriced the acquisition price of the commercial building
2. The completion of the converted project missed the market
3. The other thing is people not understanding what the conversion costs really are. There are lots of hidden costs in a conversion project so there needs to be a sizeable contingency fund for the project so as to ensure that the project is delivered within the development budget. The management of these hidden costs is essential to achieve the financial return project at commencement.

4.6. EXAMPLES OF SUCCESSFUL CONVERSIONS OF HIGH-RISE COMMERCIAL BUILDINGS TO RESIDENTIAL UNITS IN THE CAPE TOWN CBD

Historically, the Cape Town CBD has already experienced a number of its once-prime office buildings being converted to residential accommodation of which three significant ones were Mutual Heights, Cartwright's Corner, and Triangle House. These three conversion projects will be detailed below so as to give the reader insight into previous large-scale re-use projects in the Cape Town CBD

4.6.1. Mutual Heights:

Mutual Heights opened in 1940 as the headquarters of what is now the Old Mutual insurance and financial services company. At that time, the "Mutual Building" was reportedly then the tallest building in Africa apart from the Pyramids in Egypt. It is considered to be one of the first conversions of an office building to residential use in the central business district of Cape Town.

The building was completed in 1939 but within 20 years, Old Mutual began to vacate the building, moving in stages to new offices at Mutual Park in Pinelands, Cape Town. By the 1990s, only assorted tenants remained, the last of which departed in May 2003.

At this point in time, due to the lack of demand for large office-space in the Cape Town CBD, Old Mutual had taken the decision to moth-ball its landmark, art deco, inner-city headquarters in late 2002. 'Moth-balling' had been familiar terminology in the

Johannesburg inner-city where mass-capital flight had rendered some of its landmark buildings instantly worthless. The Mutual Building's windows would be boarded up, the A/C plant shut down and the lights put out until some point in the city's uncertain future when an investor might come to give the building the investment it required to appeal to the commercial tenant market.

It was in December 2002 that Louis Karol Architectural advised Old Mutual Properties that the Cape Town inner city, though at an all-time commercial low, was ready for residential re-development and that, although building apartments were not necessarily profitable, it was necessary to attract talented, young individuals back into the inner city.

The building is 84m high but has only 10 storeys above ground level in the main part of this tall building (excluding the three levels of basement car parking, and the additional levels in the tower). With the principle areas excluded due to the Heritage protection of the building, the remainder of the building's interior spaces could be regarded as high quality, but generic. Exceptional characteristics of this generic office space included the 4.8m high ceilings, maple woodblock flooring and floor-to-ceiling triangular bay-windows, all of which were preserved and utilised as enhancements to the layouts of the new apartments. The architects opted for drywall construction over brickwork, in an effort to minimise the disturbance caused by wet trades to fragile existing finishes. While dry-wall construction is common practice today in most first world markets, Mutual Heights probably qualifies as one of the first ever applications of dry-walling for separating walls in a South African apartment development.

Also, it should be noted that the large spacing between floors was originally intended to achieve the greatest possible overall height for the building without exceeding the city planning limitation of 10 storeys. However, it was this large, 5m, spacing between the floors that was a key factor in the successful conversion of the building to apartments.

Upon completion of the conversion to residential, the name of the building was changed by the developers to Mutual Heights. The Mutual Heights project was financed to the tune of R100m by the Old Mutual Life Assurance Company of South Africa – an incredibly brave show of confidence in the city's future. When the Mutual Heights units first came onto the market in May 2003, they were eminently affordable as the owner (Old Mutual) wanted to

ensure that the first phase was attractive to this 'new' residential market due to the 'riskiness' of this project. The starting prices for 54sqm units were from R300,000 (approximately R6000/sqm). Two years later, and those same flats were reselling for around R600,000.

It is now generally agreed that this conversion was the first in a series of projects that helped to re-invigorated the central business district of Cape Town and has subsequently been the subject of a number of architecture and design awards.

4.6.2. Cartwrights Corner:

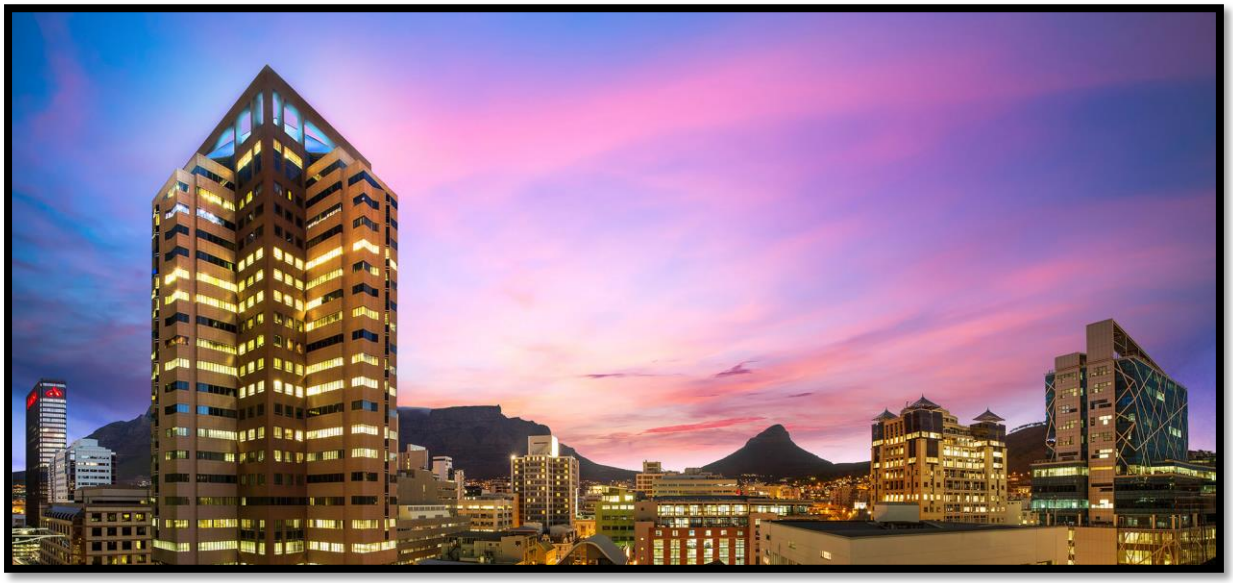
Following the successful sell-out of apartments in the former Old Mutual head office in Darling Street (Mutual Heights), Old Mutual Properties decided to add nearby Cartwrights Corner to the inner city residential market in a R120 million conversion project that would reuse the 22,000m² of modernist office tower. The plan was for Cartwrights Corner to have 108 one and two bedroom apartments and eight penthouses spread over its 18 floors of

office space and that this project would further contribute to the rejuvenation of the Cape Town CBD.

Cartwrights Corner, as with some other high-rise buildings, had not been in strong demand as an office address for a significant amount of time so the conversion into apartments made sound investment sense due to the success of the Mutual Heights project. Therefore, these apartments at Cartwrights Corner came to the market priced from R320 000 to R1 250 000.

The sales of these units were incredibly successful and further emphasised the ability to create value through the reuse of commercial buildings in prominent CBD locations.

4.6.3. Triangle House



4.6.3.1. Background

During March 2014 an entity called Vaxogen Pty Ltd acquired erf 148030 Cape Town (known as Triangle House). Vaxogen Pty Ltd acquired the property from Old Mutual Properties for R240m. The property provides a total GLA of 24,000m2 and 357 parking bays. The property was registered on 11th July 2014.

The subject complex, Triangle House, is located in the heart of the Cape Town CBD district, a dynamic area of Cape Town offering a diversified mix of retail, offices and residential housing and a prime location in Cape Town for companies and business tourism.

The location of the site holds a strong competitive advantage for the upcoming CBD development, with streets such as Bree Street and Loop Street increasingly viewed as an up-and-coming area of the CBD. Not only were these streets becoming known as a corporate investment hub but also as a food and wine hub. The upper areas of Bree Street have a number of popular restaurants and bars, which were being increasingly sought after by central city residents.

The property was initially built to A-grade specification to meet the needs of the major tenant at the time, Safmarine, who occupied nearly 50% of the building. By 2014 the building had a large vacancy but over time had deteriorated to the level where it was achieving B-grade rentals. At the time of acquisition the property had a large 43% vacancy factor and an aggregate gross rental rate of R85/m2 which was considered to be 'average' in the prevailing market. A contributing factor to the large vacancy factor was that the parking ratio of 1.4 bays per 100/m2 restricted the leasing potential of the building as the demand from commercial tenants was for 3 to 4 bays per 100/m2. This poor parking ratio was due to the building being initially developed by Old Mutual for Safmarine as their Corporate Headquarters. This building was customised by them to meet their requirements at that time. This tenant subsequently relocated to the V&A.

The owner, Old Mutual Properties, decided not to increase the parking ratio due to it not being feasible because of the high cost. This parking ratio, whilst still not ideal in terms of current commercial requirements, was, however, adequate to accommodate a change in use to residential/hotel in terms of required legislation.

Vaxogen, which later become Stonehill Property Fund (Pty) Ltd, initially had the intention to secure a large Government tender to convert the building to part commercial and part residential. The arbitrage opportunity was that the acquisition cost of R10,000/m2 (including parking) was to a large discount to replacement cost.

The existing leases at the property, save for one, all had a re-development clause in their agreements which enabled the new owner to consider other uses for the building so as to improve the net yield from the property. Given this, Vaxogen advised the tenants of their intent to re-develop and had given the required notice to vacate. In some instances, they have managed to decant the tenants into properties owned by the group which further improved the indirect yield from the property for the owner.

Consideration was given to the conversion to a 100% apartment block or alternatively a portion of commercial and the balance residential. Whilst both options were considered feasible, the cost of providing additional parking eroded real value as the prevailing commercial rental rates being achieved in the city were stagnant. Similarly the combination of residential and commercial historically has proven problematic for administration of Body Corporates and these types of mixed-use offerings were viewed as often trading at a slight discount to market due to these additional expenses.

Fortunately for the new owner, the Rezidor Hotel group had been seeking the correct opportunity to open a Radisson Blu branded hotel within the CBD as a direct challenge to the existing offering by their primary competitors. After extensive research Rezidor had identified the need for a hotel offering of +/-200 beds in the Cape Town CBD with Triangle House being included on their short-list.

The complication was that Rezidor SA did not want non-residential tenants in the building and required that the balance of the building be converted into residential apartments. This proved to be the catalyst for the owner of the building to develop a bespoke mixed-use property combining a hotel with upmarket residential apartments so as to secure a long term management agreement with the international hotel operator. The additional benefit of this option was that the residential units would have the unique positioning that residential owners would share the benefit of communal hotel facilities that include restaurants, bar facilities, swimming pool, gym and room service – an unusual offering for residential units in Cape Town.

In terms of situation, a hotel would benefit from a good central location within the CBD of Cape Town. The location of the hotel is strategic to key corporates whilst relevant proximity to the CTICC will also hold an advantage. The height and width of the hotel's façade create

excellent visibility for the hotel. The single building is entirely detached and free-standing from the surrounding buildings, which makes the hotel highly visible even from a distance, whether coming from the East or the West. The site is a few steps away from Buitengracht Street, which is the primary access route to the CBD from the N2 and N1 national highways.

The proposal then progressed so that the existing commercial property would be converted to 3 distinct components to provide the following assets:

Floor 1 - 11	4 star Radisson Blu Hotel	214 rooms
Floor 12 - 22	166 apartments	84 x 1-bed, 76 x 2-bed, 6 x 3-bed
Floor 23	2 x Penthouses	2 x 3-bed penthouses

As Vaxogen Pty Ltd had no prior experience in the residential market they sought a developer to develop the apartments. A successful residential development company called Signatura Homes (Pty) Ltd was identified as the developer of choice for the 166 upmarket apartments and penthouses.

4.6.3.2. The Building prior to conversion

Triangle House was originally an A grade high rise office "skyscraper" building offering various floor spaces, which could be designed according to tenants requirements. The total GLA is approximately 25,000m2 with 367 parking bays. It is located on Riebeek Street between Long and Loop Streets in the Cape Town CBD, and is within walking distance of all public transport and the main business area of the Cape Town CBD. The position enjoys easy access to all main routes in and out of the city, as well as to the Waterfront and De Waterkant precincts.

The overall state of repair of the premises at the time of acquisition can be summarised by the valuation on an Income Cap Market Value of R240m as at March 2014.

- The Seller — Old Mutual Life Assurance Company
- The Purchaser — Vaxogen Propriety Limited
- Date of Sale & Signature — 28th February 2014
- Purchase Price — R 240 000 000
- Date Of Transfer — 1st August 2014

However, the actual vacancy level based on the lease agreements was a large 43.00% which was the basis for the building being acquired at R10,000/m².

4.6.3.3. Prevailing CBD Environment prior to conversion

In the precinct where Triangle House is found there had been the development of good infrastructure in and around the Cape Town CBD since 2010 e.g. the upgrade of the Cape Town station, the first phase of the integrated rapid transit system, pedestrian walkways and public open places which in general has a positive impact and long-term benefits for landlords and tenants in the CBD.

4.6.3.4. How the building lent itself well to the conversion to residential apartments

- The cruciform shaped building provides shallow office space with natural light, ventilation and views from all work spaces – this shallow office space enables residential units to incorporate natural light in their layout. This is considered to be desirable by the potential purchasers.
- The building received the Fulton Commendation from the Concrete Society of South Africa in 1994 and the Award of Merit from the Institute of South African Architects and is therefore perceived as being a unique building and holds architectural value in the Cape Town skyline.
- The exterior finish is precast concrete cladding with polished and flamed granite at the base which is considered to be desirable as a residential façade.
- There are roof terraces on the 22nd and 23rd floors that can be incorporated into the penthouse design to create a unique residential product given the extensive views from these roof terraces.
- External windows on the various floors are able to open allowing residents access to fresh air
- The building has eight passenger-lifts, four of which service floors up to the eleventh level and four up to the twenty third level. Two additional passenger lifts service the four parking floors. This provides great access to every floor in the building.

4.7. CONCLUDING THOUGHTS

The ability of cities to continually adapt and evolve to meet the changing demands of its citizens is essential to the long-term success of that city's CBD. This evolution of a city involves many stakeholders, but the private property developers/investors, together with the helping hand of the Public institutions, mastermind the physical changes that nurture the liveability of a city.

It is through this conscientious development of the physical environment of a CBD that residents, businesses and society can interact and grow together. This combination of people living, working and socialising in the CBD breeds a node that has a rich and diverse culture that is sustainable over the long-term.

However, it is the ability of this desire to create liveable and social CBD's that needs to be weighed against the profitability associated with the property development/adaptation projects. This research that has been conducted goes to show the fine balance that society is facing in how CBDs evolve. Their design cannot be left to purely rely on private developers to chase the most profitable projects but rather this supply and demand function needs to be aided by the public entities through incentives and initiatives that improve the financial viability of projects so as to stimulate the desired development.

The Cape Town CBD has experienced a number of successful commercial to residential building conversion projects over the years and it is now becoming evident that more conversion projects are becoming viable. This improved feasibility has been found to be due to:

- The rising demand for centrally located accommodation which is pushing up the average selling prices in the CBD that developers can now achieve
- A safer and cleaner CBD environment which further increases the demand for centrally located accommodation
- A stagnating Office market where there is a flight of commercial users towards Premium and A-Grade Commercial Buildings
- Greater public incentives for developers e.g. UDZ

- Significantly increased traffic and congestion in the Central City which is causing a further increase in the desirability of centrally located accommodation so that people can be closer to their place of work

Due to the above points, it is expected that the demand for residential accommodation in the Cape Town CBD will continue to outperform other residential areas in South Africa. This expectation is causing private developers to identify centrally located buildings that lend themselves to being converted easily. Other factors that are causing this focus on existing buildings as opposed to demolishing and building new are:

- The ability to convert the building quickly – conversions typically take less than 12 months
- The building cost of developing new buildings is increasing, this is causing the reuse model to become more viable
- Many of the older existing buildings enjoy prime locations in the CBD which improves the desirability of the proposed residential units
- Many of the older buildings have interesting facades (sometimes heritage) and designs which lead them to be unique and can stand out from other new-build developments

Therefore, the adaptation of existing commercial buildings to residential accommodation will be more prevalent in the story of the Cape Town CBD over the coming decade.

In the next chapter, Chapter Six, the focus will be on the conclusion and recommendations based on the findings of Chapter Four and Chapter Five.

5. CHAPTER 5: CONCLUSIONS & RECOMMENDATIONS

5.1. Introduction

In this chapter, the findings of the research are presented and it is submitted that the:

(1) Research problem is validated;

(2) Research questions are addressed; and

(3) Research aims and objectives have been attained.

Finally, based on the research findings, conclusions are drawn and areas warranting future research are highlighted. For the sake of clarity, the problem, question, aim and objective and methodology is briefly set out below.

5.2. Research Problem

As Africa is urbanising at a pace that out-strips developed countries, there is strengthening demand for residential housing in the Cape Town Metropole. This demand has resulted in residential prices in the well-located CBD to exponentially increase as there has been a constrained supply of new-build residential buildings in the CBD. It is for this reason that the conversion of commercial buildings should be investigated as a potential solution to this growing demand for residential accommodation in the Cape Town CBD.

5.3. Research Question

For the purposes of this study, there is a primary question, as well as three secondary questions.

How can the adaptive reuse of Commercial Buildings impact the demand for residential accommodation in the Central Business District of Cape Town, South Africa, an emerging market?

Sub-research questions are:

a) Which drivers encourage residential conversions?
b) What are the barriers for successful conversions in Cape Town?
c) What does a large increase in residential accommodation mean for the Cape Town CBD?

5.4. Research Aim

The purpose or aim of this research is to:

a) Understand what the conversion of office to residential use entails,
b) Understand what the effect of large scale conversion in the Cape Town CBD means for the City of Cape Town
c) Identify the factors that are prohibiting the provision of more residential in the CBD, and
d) Examine the potential solutions to meeting the increasing demand for residential space in the CBD.

5.5. Research Objectives

The research objectives to be achieved are as follows:

a) Determine the effects of the shortage of affordable housing in the Cape Town CBD on the CBD economy and the greater work-force,
b) Determine the prevailing market that Cape Town is in and what is expected to happen in the near future
c) Identify the efficiencies that can be created through easier adaptation of existing buildings

5.6. Research Methodology

Based on prevailing literature themes, a case study of the Cape Town CBD was chosen with specific reference to three example projects where key issues were canvassed with two experienced property professionals in the format of a semi-structured interview.

5.7. Findings of the Research

The findings of the research can be broken down into answering the three main sub-questions as specified in the research question. These sub-questions focus the research on the core findings that the research intends confirm. Each of these sub-questions will be detailed under each of the respective sub-questions:

Which drivers encourage residential conversions?

The Central Business District (CBD) is a place where core economic activities, businesses and employment opportunities often concentrate. The CBD should also be the home for a large number of households and a notable centre for culture that includes theatres, museums and cinemas. Moreover, the CBD is usually seen as the point of maximum accessibility to the city as a whole. Hence it makes the daily journeys to and from work as well as journeys to do other activities such as shopping, accessing schools and colleges, receiving healthcare and going for entertainment tend to be lower as the distance gets nearer to the CBD. All of the abovementioned positive attributes associated to the CBD have made the location closer to the CBD more attractive than location further away. Hence, 'the only spatial characteristic of each location in the city that matters to households is the distance from the CBD' (Fujita, 1989: p. 12). It is important to note that the attractiveness of the location is normally capitalised into land values and subsequently property values.

Given this, the vacancy of buildings can be a problem on multiple levels. Economically, vacancy affects the owner of a building directly. For society, vacancy presents problems of insecurity and social uncertainty and may bring about criminality ranging from vandalism and graffiti to break-ins, illegal occupancy and fires. As such, vacancy also has indirect effects through the negative image that it gives to the surrounding area and buildings. This can lead to deterioration of the area, with rising vandalism, technical decay and devaluation of its buildings. At the same time, the restrictive Cape Town housing market presents a potential demand for these vacant office buildings.

In the research, this was further confirmed by the respondents who echoed these thoughts. Most notably was the emphasis on using the feasibility of adaptive use projects to improve the feasibility of buildings for their owners. It is this drive towards improve profitability for a

property owner that encourages the conversion of a poorly-performing or majority vacant building to residential – as was the case with Mutual Heights project in 2002. The financial success of this conversion project led the way to other successful conversion projects that produced improved financial returns for their owners.

Therefore building conversion is a way of activating and reusing vacant office buildings in an improved financial way. Through this reuse of vacant office buildings, the wider benefit should be that all stakeholders in the CBD environment should reap benefits. The private developer/landlord will experience increased profitability from their building, society will unlock the value that is inherent in the centrally located building and surrounding businesses will experience improved trading and employee happiness.

However, at present it is primarily the financial feasibility of a conversion project that is the main driver of whether the project is pursued and advanced. This profitability is affected through a multitude of other factors that include:

- The developer's ability to access finance at competitive rates so as to further improve the viability of adapting existing buildings to meet residential demand.
- Whether the building lends itself to being easily converted and the current state of the building's structure. The structure and layout of an existing building is what determines the budget required to successfully adapt the building from one use to another. This physical makeup of the property drives the cost to convert as it determines the feasible uses, number of units, layout of units and ability to provide parking facilities in the property. These factors play a dominant role in the financial success of a conversion project. Therefore the research confirmed that the careful understanding of how a building lends itself to another use is vitally important in improving its returns.
- The stage of the commercial and residential property market that is being experienced in the Central City. The research concluded that vacancy rates in CBDs play an important role in establishing when to consider converting existing B&C Grade commercial buildings. The natural vacancy rate for commercial property in the Cape Town CBD was confirmed as 7.5% and that, when vacancy rates in the CBD move towards 14%, can present an opportunity to acquire largely vacant buildings at

a discounted price. This discounted price for an existing building leads to improved feasibility for a conversion project. This is especially evident in the B&C Grade buildings where vacancies tend to be higher than average when GDP growth is slow.

- Public incentives available to improve the viability. Tax incentives, such as the UDZ in Cape Town, can be used by the City of Cape Town to encourage more lower-cost residential to be incorporated into the wider CBD area. This is achieved through reducing the conversion costs and encouraging more positive externalities generated as a result of increased investment in focused areas of the CBD.
- Town-planning regulation and turn-around times – specifically in terms of heritage laws that protect certain buildings. This heritage aspect can lead to delays in conversion projects which will ultimately decrease the financial returns of the project. This said though, some of the respondents noted that, when incorporated correctly, heritage aspects of properties can add value to developers as it can be viewed favourably by purchasers.
- The location of the subject property that is being considered to be converted plays an integral role in analysing the ability to successfully adapt. In the projects that were detailed in the research, the common factor was their prominent locations that incorporated the amenities and services in close proximity as a driver of demand for the units. Favourable locations on converted buildings enable would-be residents to avoid congestion, travel expense and greater access to services offered in the Central City. This was especially evident amongst the millennial generation who, the respondents confirmed, as being the largest demographic that is demanding residential accommodation closer to the Cape Town Central City. It is this increased demand from this type of consumer that is improving the feasibility for more affordable residential accommodation in the Cape Town CBD.

Through careful consideration of the above aspects, and others, a developer will be able to ascertain the potential success for a conversion project. It is ultimately this financial success of a project that is ultimately the deciding factor as to whether an adaptation project is pursued.

What are the barriers for successful conversions in Cape Town?

Building conversion is a well-known phenomenon; inner city buildings lose their function, and adapt to new use. Building conversion is a way of coping with vacant office buildings. The alternatives are consolidation, renovation or upgrading, or demolition - eventually with new construction on the site. Most owners of vacant office buildings choose consolidation; to do nothing, but to wait for better times. This choice is often not based on rational reasoning. The value of office buildings is based on rent value, not on the value of the building itself. Hence, the sale of a vacant building brings less than the sale of an occupied building and as the building will not be sold in accordance with its book value this means a potential loss for the seller.

For housing market investors and real estate developers, high asking prices is a reason for not converting vacant office buildings into housing. The different real estate markets are separated; office market actors have little knowledge about the housing market, and vice versa. Therefore among the stakeholders on the real estate market there is a general lack of knowledge about conversion processes (Remøy, 2007).

This lack of knowledge about building conversion is coupled together with little knowledge about the chances and risks of building conversions given the few that have been done in Cape Town. These two factors around knowledge ultimately lead to the developers feeling uncertain about the true financial feasibility of a project. Therefore through this lack of clarity, developers and landlords err on the side of consolidation of buildings and keeping them in their current use.

Therefore, it is expected that, as conversion projects become more prevalent in the Cape Town CBD, the greater knowledge of the adaptation of buildings will lead to improved accuracy of financial feasibility studies. This improved reliability of the feasibilities will hopefully provide the developers/investors with the comfort that they are seeking when deciding whether to pursue a conversion project.

What does a large increase in residential accommodation mean for the Cape Town CBD?

As the Cape Town CBD continues to evolve and develop to meet the demands of its citizens, it will need to incorporate an ever increasing amount of residential accommodation options so as to ensure the CBD remains a vibrant and an inclusive part of the metropolitan area.

It is only through a thorough understanding of the relationship between the commercial property market and the residential property market that developers and investors will be able to seize opportunities in unlocking value in buildings that can be repurposed.

There lies an enormous opportunity in Cape Town for the successful conversion of commercial buildings to residential due to:

- The increasing urbanisation of the greater metropolitan area which exaggerates the demand for centrally located accommodation options
- There are various B and C Grade properties in the Cape Town Central City that lend themselves strongly to conversion given their large floor plates, wide column spacing, prominent locations and high vacancy rate (or expiring lease profile)
- These same buildings are expected to experience the majority of vacancies when new commercial buildings are developed. This increased vacancies in these buildings will make conversion more feasible
- The Cape Town CBD is improving through the help of the CCID and is viewed as a much more attractive place to reside. This improved perception of the CT CBD has fuelled the growth of the night-time economy (restaurants, bars, cafes) which in turn attracts more people
- The economy is not experiencing significant growth so it is expected that the demand for commercial office space will remain subdued, whilst the residential demand is increasing. This means that further landlords will consider converting their commercial buildings to residential as the financial feasibility of these projects is continuing to improve.

It is said that the Cape Town CBD currently has approximately 7000 residents which is a significant increase from a decade ago. It is expected that this growth in the CBD population will continue and the higher population in the CBD will further drive up residential values.

Therefore, through the active engagement of private and public stakeholders the Cape Town CBD can go from strength to strength as it evolves away from a purely business-orientated district to a mixed-use node. In this adapted mixed-use node there will be a view that it has evolved from a Central Business District to a Central Living District. It is this concept of a Central Living District that will ensure the sustainability and success of the Cape Town City Centre.

5.8. Future Research & Possibilities

The scope of this research was limited and serves to identify a number of key questions warranting research and investigation into the future. These include:

(1) How will technology affect the demand for residential units in CBDs?

(2) How will Central Business Districts' role evolve over the next 20 years?

(3) What is the role of the government in enabling the conversion of vacant commercial buildings become more feasible?

(4) The affect that urbanisation is having on the type of residential accommodation that is expected to be demanded by citizens?

(5) Do UDZs in South Africa produce the desired results?

(6) What is the relationship between the size of a residential unit, price and distance from the CBD – what is the preferred mix of these three aspects of residential units?

(7) The social benefits and costs of changing departments into apartments

Arguably, one of the key reasons for future research into the conversion of commercial buildings will be primarily to provide insight into how an affordable residential offering can be provided in the CBD of a city. Through understanding the private and public levers that make the provision of affordable accommodation in a CBD feasible enables a city to make more efficient use of the services that are provided in the central city. This is an important focus area of future research, especially in emerging markets such as South Africa, due to the historic difficulty of ensuring that larger portions of the wider population benefit from investment in the CBD e.g. new hospitals and new schools.

5.9. Concluding Remarks

The research that has been conducted has attempted to provide insights into the ability to sustainably adapt existing commercial building into residential units in the Cape Town CBD. The research has incorporated a literature review of various academic papers and sources together with in-depth interviews with two of Cape Town leading property professionals that know the subject of converting properties intimately. To analyse actual examples, three buildings in the Cape Town CBD were used as examples for conversion projects. The mix of these various forms of research allowed key themes to emerge and for these themes to be exploded so as to establish a view on whether conversion projects are here to stay.

It can be concluded that conversion projects within the CBD area of cities are only going to become more frequent as the financial feasibility of these conversion projects improves. This, together with a growing wealth of knowledge amongst developers and investors, encourages the provision of significantly more residential units in the central city.

This increase in the central city population is expected to have many positive benefits for the city on a social, cultural and economic level. It is for these benefits that Public organisations are now slowly putting their weight behind encouraging the adaptation of vacant and problem commercial buildings. The proactive focus on diminishing the number of obsolete buildings in prime central locations is a key trait of a successful CBD.

This research has therefore highlighted the real role that CBDs should play and how the physical environment that forms the CBD plays such an integral role in the formulating the culture of a city. Cities should be exciting central places where people interact, that supports the sharing of ideas, and nurtures the cultural fabric that gives a city its soul.

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7. Appendix A – Sample Consent Form

CONSENT FORM

UNIVERSITY OF CAPE TOWN

CONSENT TO PARTICIPATE IN A RESEARCH

Research Topic: An investigation into the adaptive reuse of commercial buildings in satisfying the demand for residential in the Central Business District of Cape Town, South Africa, an emerging market

Dear potential participant;

You are being invited in a research study conducted by Michael Russell, a MSc student at the University of Cape Town. The research is supervised by Associate Professor Kathy Michell of the University of Cape Town and the results of the study will be presented to the Department of Construction Economics and Management in fulfillment of the requirements for the degree of Masters in Property Studies.

If you have any question or concern about the research, please feel free to contact me, Michael Russell, anytime at +27 723456773 or russell017@gmail.co.za. The research supervisor, Associate Professor Kathy Michell, may also be contacted at Kathy.Michell@uct.ac.za.

Purpose of the study

The primary aim of the study is focused on the trend of the adaptive reuse of commercial buildings in the Cape Town CBD – with specific reference to the conversion of commercial buildings to residential. The study will identify how the Cape Town CBD can benefit from these conversion projects, the potential pitfalls of these conversion projects, the relationship between the commercial property market and the feasibility of conversion projects, and what the main drivers are for the residential boom that is being experienced in the CBD.

Your participation in this study is voluntary. If you volunteer to participate in the study, we would consult you to agree a time that would be suitable for a face-to-face interview. Pre-established probing as well as emergent questions will be asked that will be used to supplement data gathered from document analysis under a case study research setup.

Potential benefits to participants

At your request, the research findings will be shared to you.

Confidentiality

Every effort will be made to ensure that subjects are anonymous and safeguard any proprietary information. Confidentiality of any information is maintained. The information gathered through the interview process will be used solely for this research purpose. The raw data of the interview will only be revealed to personnel directly related to the supervision and marking of this thesis.

Participation and Withdrawal

You may choose to withdraw from this study at any time of your wish. You may also refuse to answer any question that you do not want to answer.

Rights of research participants

You may withdraw your consent at any time and discontinue participation without any penalty. This study has been reviewed and received ethics clearance through the University of Cape Town Research Ethics Board.

Signature of Research Participant/Legal Representative

I have read the information provided for the research "An investigation into the adaptive reuse of commercial buildings in satisfying the demand for residential in the Central Business District of Cape Town, South Africa, an emerging market" as described herein. My questions have been answered to my satisfactions, and I agree to participate in this study. I have been given a copy of this form.

_____

Name of Participant (please print)

_____

Company of Participant

_____

Signature of Participant

8. Appendix B – Aide Memoire

The following questions were formulated as part of the semi-structured interview schedule and were used as the main method of research in this case. The questions were developed with the Research problem, Questions, Aims, Objectives and Proposition in mind to ensure validity.

	NO.	SEMI STRUCTURED INTERVIEW QUESTIONS
Background	1	What is your background and can you tell me a little bit about yourself?
	2	What is your involvement in Cape Town CBD?
Market Insight: Commercial	3	What is your view on the current Commercial Property Market in the CBD
	4	What are the drivers that would stimulate growth in commercial property market?
	5	At what point in the commercial property market have you experienced an increase in conversion projects?
	6	How does the conversion of Offices to Residential affect the Office Market in the CBD?
	7	What has historically happened to the commercial market when large office blocks have been converted?
Market Insight: Residential	8	How has the residential market in Cape Town CBD changed over the past 10 years?
	9	Do you think there is enough housing in the Cape Town CBD?
	10	In your view, what is the most efficient way that private developers can meet the housing shortage/surplus?
	11	What do you think the impact of increased residential units in the Cape Town CBD is?
Residential vs Commercial	12	Who do you think should be responsible for ensuring that there is sufficient affordable and appropriate housing for people in the Cape Town CBD and why?
	13	What is your opinion of government/municipality's involvement in addressing the shortage?
	14	How would you define affordable housing in a Cape Town CBD environment?
	15	How would you like appropriate residential accommodation to be provided in the CBD?
	16	What do you think some of the challenges are that prohibit provision of residential accommodation in the CBD?

Conversion of Buildings	**17**	Do you feel that there is a business case for Private Developers to convert commercial buildings into residential in the CBD?
	18	What aspects of a building allow it to lend itself well to a conversion project?
	19	Are you aware of any conversion projects or programmes that are successfully providing residential in the Cape Town CBD?
	20	Why do you think they are successful?
	21	What should be done to encourage more of these projects to commence in the CBD?
	22	Are you aware of any re-use projects that are/have been unsuccessful in the CBD?

Future	**23**	In 2030 - what is your view of the Cape Town CBD and how has the role of the CBD changed?

9. Appendix C – Sample Transcript

INTERVIEWER: What is your involvement in Cape Town CBD?

INTERVIEWEE: Okay, my education is I'm a civil engineer training and I've got an MBA. So, I've worked on construction sites down in the Links and also design stuff. Then an MBA and then I moved from that into Property Broking for a few years and the money I made from that I started doing developments. Then the money I made from that I bought a small portfolio in Pretoria and then I grew that over a period of 5-years and then listed the company, it was R1.3-billion and then I grew that up to, in the middle of 2015, into R5.5-billion, which is about 350.000 square metres.

It was mainly commercial but quite a bit of industrial and retail and then I retired from that, so it's almost 2-years ago exactly actually. But prior to the listing, I did a lot of re-developments, particularly in the City Centre of Town by mainly Brownfields, so buying fairly tired, old buildings and upgrading them and we did quite a lot of conversions. About 10 or 11 conversion buildings in the City Centre and in Pretoria, so that's kind of my background. Then I'm Chairman of the City District.

INTERVIEWER: So, when you acquired your buildings in Pretoria was conversions in the back of your mind?

INTERVIEWEE: Pretty much so, I think probably the ones in Pretoria were more upgrades. The ones down here are probably more relevant, which were conversions from office buildings to residential and probably the biggest one was the Decks, which is most of a city block just off Green Market Square, and that was 18-levels in total and that I specifically bought that and I bought other buildings with a view to converting them to residential.

INTERVIEWER: How did you identify the market for the conversion of buildings?

INTERVIEWEE: A lot of is the sort of office cycle and the residential cycle are not in tandem. They're sort of, when one is strong the other is usually weak, so if you can work out when that inflexion point is then you can actually do very well because I bought buildings in and around Green Market Square for R2.300 a square metre, which sounds ridiculous. I converted them and this is years and years ago, and we're selling them at R11.000 a square metre, and some of them have got much higher figures, so if you can time that, to when you sort of vacancies are quite high there's an opportunity to acquire those buildings at really, kind of below what the market level is, and then convert them to residential.

The residential costs are surprisingly high. Probably, at the moment you're in at around R22.000 a square metre and people are honest about it and they factor in your professional fees and your holding costs, and all the other hidden problems that you never when you go in. So, you need to be buying your buildings at quite a cheap rate, so it's very difficult to buy

a full office building, where people are paying market-related rentals and trying to empty that. You need to buy a more distressed building and that's where the opportunity lies.

INTERVIEWER: So, vacancy rates are important then, for when identifying a building for conversion?

INTERVIEWEE: Generally, higher vacancy rates are correlated to B or C grade buildings, so they're the cheaper buildings, so on a rate per square metre you're buying your land cheaper.

INTERVIEWER: How do you identify when to acquire a commercial property with conversion in mind?

INTERVIEWEE: It's a real, sort of mixed bag because of that kind of picks up on the key variables that are going on in the office sector but you obviously, also got to be keenly aware of what is happening in the residential sector as well. So, you need good timing and that has just been happening, you know the last two to three years we've seen that going on, so that boom happened in the early 2000's and you've got another boom happening now because what you want is obviously, the essence of property development to satisfy the demand. That's kind of all you do and there is a huge desire for people to be in the City and live in the City now, and that's what's driving the viability or conversion.

INTERVIEWER: Why do you think people want to live in the City now? Why is there that demand?

INTERVIEWEE: I think there are quite a few things. I think one's City is doing very well. We have a Municipality that is firing away, more effective, and more responsive and easier to deal with than any other Municipality in the country, so I think that's a big thing. (2) I suppose I would say this, it's the City Premium District. It has really driven people or driven the City into the space where it is safe, clean, and caring. The message that we drove over the last -years and that's mainly that Investment Report, has been that the City is open for business.

So, we knew 5-years ago that the City was safe and clean, and it was running well but we weren't actually talking to business so that document there is all about us talking to business. To say to people, 'come and have a look – this really is a safe place to be,' and that's driven an enormous demand. Property values have gone from 2006, at about R6-billion up to R30-billion in the last Rate's Bill. That's just our specific City area.

So, that drives a lot of call centres and a lot more people into the City, so that's been a very positive element. But the other side of one is congestion – people are travelling and spending longer-longer times in their cars to get into the City. If you look, and I'm sure your research, I'd love to see it. If you look at London – just a key thing for people is actually,

your travel time and Cape Town is almost a victim of a success. Congestion is now an issue and peoples' travel time is becoming more and more of an issue.

So, if you can offer somebody an apartment in Town, it might be quite expensive but then you need to factor in that they can walk to work instead of driving to work. They already get a parking bay, so they don't need to rent a parking bay and they've got no travel time. That's very compelling for people and particularly young people, there's the whole millennial drive. That's what driving the City now. The last wave it was much older people but this wave is about young people wanting to be there.

INTERVIEWER: Is congestion is a push-factor as in the travel time that they're normally spending, so they're pushed to the CBD?

INTERVIEWEE: Yes, I think there's a lot of energy here and Cape Town, and City Centre is really attracting high-tech individuals and a mate of mine runs an IT Business and I said to him, "Why are you here?" And he said, "Because all the IT guys and the coders want to be in Cape Town." That's where they want to be. It's an attractive place to be and I was in town…

You know André Krige launched his hotel and town is full. You know you go past all these bars and restaurants, it's Thursday night and town is happening. It's difficult to find parking in this place even at night, it's extraordinary. So, it's a nice place for people to be and they're enjoying the kind of coffee shop culture and we've got a lot of heritage buildings and people underplay what that means to an environment.

But you know, when you go to London and Paris, and places like that, the reason it's nice to walk around is because all the buildings are beautiful and we have those in the City, so it's almost an intangible benefit for the City. It's just that environment and you'll get a nice coffee shop, it's in an old heritage building. People would far, rather go to that coffee shop than one in a new building and they won't necessarily pick-up why they prefer it but they will do. Those shops will do better.

INTERVIEWER: What effect does people feeling safe walking around in the City, during the day and at night, have on residential demand?

INTERVIEWEE: Yes, the funny thing is, with the research we've done, you're probably safer walking around Cape Town, City Centre streets than you are anywhere else in the country. A couple of years ago we did a study and we found that 80% of people felt safe, day or night in the City Centre, and I gave that same presentation to all these businessmen and they were all seated at set tables, and often I said, "How many of you guys feel safe walking around your leafy neighbourhoods at night?" I tell you, it wasn't 80% of the people, so it is actually environment. We live in South Africa, so take that into consideration.

INTERVIEWER: Is there a point where the success of the Cape Town CBD drives residential accommodation demand?

INTERVIEWEE: Yes, they say, and I've never managed to find out where it comes from, but they say when you have 8 – 10 thousand people living in your city, or in a sort of quite a tight, geographical boundary, like your CBD. That's the tipping point in terms of shops staying open all night. All your restaurants stay open. Even now a lot of restaurants are open but not every, single one. Then if you look at Pick 'n Pay and Food Lover's Market, they all shut down early evening, at 19h00. Once you get the 10-thousand people staying here it changes the nature of your retail and it becomes like Paris or London, where every shop is open until 22h00. That's where we are very close to now, so I think the underlying driver is confidence in the City.

INTERVIEWER: Why is it attractive for private developers to convert existing buildings?

INTERVIEWEE: Just making more money. You know property development is just one thing - it's satisfying demand. If you do that, you stay in business, if you don't, you're out of business. So, the Cities job is not really to guide people or tell them what to do, or warn them away from stuff. It's our job to put a platform there and that document picks up trends that we see and that we think are going to happen. But it's really the developers who are looking at that document and saying, "Okay, I need to invest and I want to invest in residential," or "I think maybe I should be doing retail because the next wave is a better and more substantial retail offering."

If you look at the City what you've got a Shoprite/Checkers down in Golden Acre, but there's very little retail. I've got Picbel, where we've got Pick 'n Pay and we're getting them to upgrade their store, materially, and we're going to put in Clicks or Diskem underneath there. Where else is there? It's very difficult to get retail into the City but the retail will do very well. Pick 'n Pay's turnover is staggering, really and they're good operators but it has to come but they do a very, very good turnover. The City could absorb quite a few more of those without too much effort.

This is because customers go in to these retail shops on their way home and they'll do their shopping for the night and they'll go home. So, it's not big trolleys. I'm not even sure if you can get a big trolley in Pick 'n Pay but you can get handheld baskets. It's just all convenience stuff.

I think there are a lot more apartments coming onstream in the Cape Town CBD and once they're all there, you don't have to go and do a shop 'once a month' and load up your car. You can walk down there pretty much as when you need it. It's on the way home you just walk into the shop and you buy your food for the day.

INTERVIEWER: So, with these new residential projects that you talk about, coming to the City Bowl. Why would a developer choose to convert an existing building as opposed to demolish and build a brand new building?

INTERVIEWEE: Okay, that's an interesting one.

1) Is speed.

2) Is your town-planning. Limitations can be tough.

3) Is cost.

You know, if you buy that site for about R5.5-thousand a square metre and then you've got your conversion or your building cost on top of that, which for that building now are pretty chunky. If you look at what Abland are doing at 35 On Lower Long, I mean their gross revenue is coming in at plus R260 a square metre, so if you work that back to conversion cost, it's actually really expensive and residential construction is more expensive than offices. So, if you worked that back to square meter it still makes sense to actually buy existing buildings.

It's also the speed. You know, you can convert an existing building within 13-months. You can't build from scratch, so you might buy a building and then what do you do, do you demolish it, which you must also look at cost attached to it? Then you start from the ground up. So, your Brownfields, you get a more inefficient building because you don't really get the column spacings that you want. You don't necessarily get the depth from the windows that you want and things like that but it still makes financial sense to do that.

INTERVIEWER: So, when you're looking at a Brownfields site for a conversion what are the essentials that you look for in that building?

INTERVIEWEE: I suppose the first is your location and then what are you paying cost per square metre? It's interesting – I bought Picbel with the specific view of converting it to residential because the column space in that building is just mouth-watering, from a construction point of view. But I didn't do it because the construction costs were coming in too high as to what I thought I could sell that building for, so that's why I've kept it as commercial.

Also, I went to chat the office tenants and they said, "No, we love it here. We don't want to go anywhere."

INTERVIEWER: I presume that that gives you the opportunity in the future to convert.

INTERVIEWEE: Yes, I think so, but I've taken the decision on that building that, look I think I missed this wave of residential development, so if I had bought that building 12-months before, I may have gone for it but yes. So, location is very important. If you could find anything on Bree Street now it would just fly out the doors, it really would.

The interesting thing in that report is if you look at the different precincts and you can see if you're going to do something and there is precinct, you know you need a lot less parking than if you're doing it in Precinct 1. So, there's a difference between Precinct 1 and Precinct 4. There's a very different offering, so you need to come in on Precinct 4 at a much cheaper rate per square metre but you don't need as much parking.

So, those anomalies are in the City and you can quite easily pick those up but Precinct 2 is a very, strong people centre. Especially from way down to where Investec's offices are, that's the prime sort of people area that people like to live in.

INTERVIEWER: Are column widths important in the existing building when establishing feasibility?

INTERVIEWEE: Yes, because that just comes down to your costs - can you put parking in the building and parking is heavily dependent on your column spacing because your kind of happiness is a column spacing of 7.5-metre width. If you've got that then you can get 3-bays in there nice and easy. If it's 7 metres, you can't actually put 3-bays in there, so you only put in 2-bays, but you're still buying the same square meterage, so that's a bit frustrating. Then also just what does the building look like? Can you make the building look attractive? Then it just comes down to money and what you can afford.

INTERVIEWER: There's a lot of talk on affordable housing in the CBD and currently it looks like private developers are the only ones doing or actually pursuing residential projects.

INTERVIEWEE: Yes, it's quite contentious and obviously, as a subsidiary you've got to be careful in terms of what you tell the City to do or not. Generally the City is very good but the reality is, what's the success of the CID in this partnership with the City? We've driven property values enormously to an extent where it's no longer viable to buy, for instance, this building and convert it into affordable housing. It just doesn't work. Your basic layout cost is just too high. You've got to go one step removed because your private developer – the numbers just don't work and you can't force a private developer to buy a building and convert it to something that he doesn't want to do. He just won't do it.

You can't do that because developers will go somewhere else. They'd go to Woodstock, Bellville or London, so you can't force private guys to do that. So then, okay, what can be done and if you look at the City and Province, it owns a huge amount of land and buildings in the City and I think it needs to look at some of those pockets of land and buildings and say, 'okay we're going to allow this to be converted to affordable housing' and they could put in constraints that enable that to happen.

When they auction a piece of land next to Investec's Head Office, and they take the highest bidder. Then the purchaser is forced to maximise the value he can extract out of the site. Whereas if the City were to have said, 'okay we're going to put this on auction but this is what you have to build and you can rent it for no more than so much.' Then you're going to

force the developer to buy the land and do a certain size, and shape of development which is much cheaper because he knows he can only rent it for so much. Therefore, the tender price or the auction prices are going to come in at much less but that's the only way you're going to achieve it.

INTERVIEWER: Do you think that there could be another form of an incentive, to encourage private developers? Whether it berates rebates or whether it be extra bulk density or bulk?

INTERVIEWEE: The difficulty with that is how do you marry that to what you force them to build because if you're not careful they'll take your incentive and they'll still build an upmarket, residential complex which is not what you want. So, often with those sort of incentives, you get perverse outcomes or unattended consequence, where it doesn't really work the way you think it does.

I think there's a much simpler model where the City can just define what is going to be allowed to be built there. If you take the Good Hope Centre, do you know how big that site is?

It is and you could do a good few thousand affordable housing units there. Maybe you sell it to a developer and you do a 20-year lease back, so he has to build it and he has to rent it at a certain rate and after 20-years he has to give it back to the City and all of us would do our numbers and we'll say, 'okay the land is not worth R100, it's worth R50 and that's what they'd pay for it but then you get the affordable housing in. So, it's got to be financially viable for the private guys.

INTERVIEWER: With the residential values and the rental rates in the CBD increasing dramatically. In your view, what is an affordable house in the CBD?

INTERVIEWEE: No, it's just so unaffordable here. You talk to Ndifuna and guys like that, they'd probably have a different of what affordable is but where I see the gap, but even the word gap has its own connotations but where there is a hole in the market is people like your call centre operators, your bank employees. You know, you're kind of lower to middle-income office workers who at the moment, and there's a term for them, and I think it's a very good term, 'The forty-forty forties.' Those are the people who really struggle but if you go back to Good Hope Centre, and there are lots of other examples, Culemborg is a brilliant example but that's National Government, which is again another far more difficult nut to crack.

But if you could build a large amount of housing… If you get a large amount of housing you could put in a little retail offering there. Then you can put in a crèche because one of the horrible things at the moment is because people don't earn much, both parents work, so they perhaps leave their kids in unsafe environments. So, if you're building a large complex you can have a crèche, so people who go to work and their children are safe.

Do you know what that does? It turns our society over time and if part of the problems we've got are all these kids come out of such awful circumstances, and then we expect them to come into the City Centre and behave themselves. They're just not interested.

So, even if we could break that cycle, it would be a really good thing to do. I would love to see more affordable housing in the City, whatever affordable is.

INTERVIEWER: Does the provision of affordable accommodation aspects rest on the City to unlock and would they be best or should they do JV's with private developers as opposed to just developing themselves?

INTERVIEWEE: I don't think the City would make a good developer and they will admit it. If you walk down there, they'll tell you now 'they can't manage a book of reckless stock – they're just not good at it.' What they do have is they do have land, so I think they should sell the land on a 20-year lease and after the 20-years it reverts back to the City. It will reduce the value of the land but it will force developers to build what we need and not what they want to build.

As long as they can make money, the developers will do it. It's when you force them to pay top Dollar for land and then you say, 'Oh, by the way, we want you to build affordable housing.' That guy is not going to do it.

INTERVIEWER: Okay, so looking forward, let's say throughout to 2030, which is 13-years from now. Let's say the City gets involved in the affordable aspect. What does the Central City look like in your view?

INTERVIEWEE: I think the Centre of City would look… There'd be a lot more densification, a lot more, taller buildings but the CBD as you know it, you can walk around and see it. I don't think it's probably going to change much but around the periphery is enormous opportunity to bring in lower income rental stock and I think maybe we need to get away from the thought that everyone needs to own their own house.

You know, in Germany the percentage of people who own their own house is actually tiny. People will rent their entire lives and be happy renting and maybe that affordability is not right. The RDP Housing Model produced such inequalities and that's a whole other topic but it just did not work. So, I think if we could just give people good, safe accommodation, close to their place of work and anywhere in Woodstock or District Six – there's a staggering opportunity there but the trouble is no private developer has got the stomach to do that because (1) they're scared of land claims and (2) guys like me it's just bad karma.

I just don't want to go and develop where there's been so much sadness. I just don't need that in my life but most people are just scared because if I had to be onsite and somebody said, "You know what, my grandfather lived there?" So, the only person, the only organisation that can take control of that is the City. They're the only people that can do it.

INTERVIEWER: I presume that because as a developer I suppose, all you want is consistency and a framework that you know you can operate within.

INTERVIEWEE: Yes, just manageable risk and the City has done a superb job but there are just so many unknowns. Places like District Six, you've got to be nuts to build there. The only people who have built there is Cape Peninsula University and Technology. They're the only guys and they just go and they build and there's a bit of shouting and moaning and then it dies down. Then they build a bit more and a bit more. But just imagine if that whole area was reinstated as decent, affordable housing, lower income housing? All those people could walk to walk.

INTERVIEWER: Have you seen an unsuccessful conversion projects and what made them fail?

INTERVIEWEE: People don't normally talk about those things. They just talk about their success but yes, there have been people who haven't made money. (1) Because they've mispriced it or (2) because they actually missed the market. They thought the market would just carry on forever and that didn't happen. I suppose I shouldn't use this example but maybe Mandela wrote and said, "Hold back 63 units," and it really caused them a huge amount of stress because they thought they could have sold them all out on day one and they thought no, we'll hold back these units and we'll sell them at a later stage. And the bottom fell out of the market, that Global Financial Crisis came and they were left with all these units, which caused a lot of pain for them. The actual development is a very good development. They're nice units, well put together, well built and everything but it caused them a huge amount of hassle.

The other thing is people not understanding what the conversion costs really are. There's lots of hidden costs. If you buy Heritage Buildings, your Heritage process can take you a long time, it's almost as long as a piece of string and that's very scary because with the… I bought four buildings on Green Market Square and I was looking to demolish three of them and then the fourth building was 12 storeys and I put another 6 storeys on top of that, so it was 18 storeys in all. The Heritage just nearly put me under because I actually bought cash for all the buildings and yes, it was hary, so those sorts of things are worrying and it's no surprise if you walk around the city and you look at all the buildings that are run down.

The vast majority are the Heritage Buildings and it's because people are scared to buy them and upgrade them because of the Heritage Restrictions, so the irony is the Heritage Authorities, they've fundamentally got the right idea, but they are trying to protect the heritage but that protection is so tight that it actually makes it a little rundown. If you go and look for all the horrible little cell phone shops and cafes, have a look at that building. I bet you it's a heritage building because they're just run down and people don't know what to do with them and they can't change them and modify them at all.

You need to have the stomach for it because if you bought a Heritage building in 2007, and you want to start building and selling and then in 2008, the Global Financial Crisis came and in 2009 you got your Heritage Approval – you would actually be out of business. So, it's a lot to do with timing.

INTERVIEWER: In your view to 2030, do you think that there will be another conversion stage in years to come?

INTERVIEWEE: Oh, yes, without a doubt. You can just, when you've been in the town for a while you can just feel the ebbs and flows and the cycles happening. So, we'd probably… There are still quite a few apartment blocks planned and so on and I think there is probably a fair few of those will happen, but not all of them and that's probably a good thing. I would have liked to have seen more, lower-priced units come onto the market, so then they've got to be smaller and a bit more compact, but yes, we'll have another cycle. I think there'll be a lot of retail changes coming then the office market will get going again. The economy is struggling, 0.7% growth, you're actually going backwards. You are technically going backwards, so it's not a strong commercial environment but that will change, it's all cycles.

I remember when that 2008 happened, nobody could understand what was going on and I was watching one of the UK programs and they were on the trading floors, in London Stock Exchange, and they were talking to all these young guys – and these young guys were turning around screaming and wailing, 'the world has ended' and there's this like this old codger sitting at his desk typing away on his computer and they walk up to him and they say 'what do you think?' He turned around and said, "It's just another cycle."

It was a bad cycle but we always recover. South Africans are resilient today because there's no safety net here. If you and I don't have a job – we don't eat. In the UK, if you don't have a job, you can go on the dole and you can get by. Here, we don't eat, so guess what, everyone gets up early, everyone's awake and everyone is out to make a buck, so as a Nation, we're quite resilient and people forget that.

Whenever South Africans go to London or the UK, they love us because we just work, we just go for it. I remember one guy saying to me, he said, "you are so ambitious." I remember just being stunned and thinking I'm not ambitious at all this is like a normal day but they perceive that drive to just being blind ambition instead of actually just being in the enjoyment of work and in the enjoyment of business. Yes, but often, South Africans we often look at the dark side.