

BUQS7009 Research Proposal

Exploring the Viability of Converting Commercial Real Estate to Social Housing: The Post Pandemic Experience



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Declaration

I declare that this Research Report is my own, unaided work. It is submitted in partial fulfilment of the Masters in Building in the field of Property Development and Management at the University of the Witwatersrand, Johannesburg.

It has not been submitted before for any degree or examination in any other university.



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What is more important - the journey or the destination?

The company.

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Abstract

The COVID-19 pandemic triggered far-reaching socio-economic disruptions in South Africa, significantly affecting both the commercial real estate and housing sectors. Office vacancy rates surged due to widespread remote working, while the demand for low-income housing intensified amid rising unemployment and urbanisation pressures. This study explores the viability of converting vacant office buildings into social housing as a dual-purpose solution to these interlinked challenges. Focusing on the post-pandemic urban context of South Africa—with specific insights drawn from the Randburg area—the study investigates public perceptions, economic feasibility, and spatial considerations associated with such conversions.

Using a mixed-methods approach that includes interviews with subject matter experts, the research identifies widespread public support for office-to-residential conversions, particularly as a cost-effective and resource-efficient strategy. Findings reveal that while real estate conversions are viewed as a means to reduce urban decay and accommodate low-income populations, concerns persist around zoning restrictions, infrastructure adequacy, and socio-economic integration. The study also highlights alternative uses for vacant commercial spaces, such as student housing and mixed-use developments, reinforcing the flexibility of adaptive reuse strategies. Contributing to policy and practice, this research underscores the potential of office conversions to enhance housing access and urban resilience while promoting spatial justice.

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1. INTRODUCTION

1.1 Background to the study

In response to the COVID-19 pandemic, several countries including South Africa imposed lockdown restrictions as a means of mitigating the spread of the virus and minimising the numbers of COVID-19 related deaths (Dube et al., 2023). The lockdowns did reduce infection and death rates but adversely affected businesses across all economic sectors (Onyeaka et al., 2021). Consequently, South Africa saw a 7.0% drop in overall GDP and a 20.3% drop in GDP for the construction sector which was the hardest hit (StatsSA, 2020). The GDP decrease for the construction sector was attributed to the above-mentioned lockdowns, and the plummeting demand for real estate, especially commercial real estate (Schoenmaker, 2016), brought on by the increasing prevalence of people working from home (Balemi et al., 2021).

As COVID-19 infections subsided and lockdown restrictions were lifted, South Africa did see economic recovery, however the commercial property market (offices especially) is still struggling as several companies have opted to work from home or adopt a hybrid approach making the office market nearly obsolete (Gerard et al., 2021). As a result, the office market has seen rising vacancy rates, increased risk of vandalism and declining property values caused by the lack of rental income.

The office market is not the only market affected by COVID-19 In South Africa. An issue faced by South Africa and aggravated by the COVID-19 pandemic is the housing shortage amongst low-income groups. This issue is a result of rapid urbanisation and influxes of people requiring housing over short periods of time and high unemployment rate. Moreover, the negative economic impacts of the COVID-19 pandemic contributed to the rising housing demand amongst low-income groups (Dube et al., 2023). In South Africa, the unemployment rate rose to 33.5% in the second quarter of 2024, marking the third consecutive quarterly increase (Reuters, 2024). This high level of unemployment has contributed to financial difficulties for many individuals, with approximately 18.4% of residential tenants nationwide being in arrears on their rent payments in 2023 (IOL News, 2023). Housing supply is of great importance for human well-being, social security and economic progress in any country. Housing also provides access to facilities, protection from the elements, privacy and dignity for citizens (Turok & Borel-Saladin, 2016). Arguably, many cities in low- and middle-income countries struggle to provide a sufficient supply of basic housing (Muchangos & Sarmiento, 2017), especially in urban areas. South Africa is no stranger to this as seen by the high numbers of homeless people as well as people residing in shacks. As a means of solving the housing crisis, the SA government implemented a housing initiative called Reconstruction and Development Programme (RDP) (Bag et al., 2018) which provides beneficiaries with a fully built house free of charge. Beneficiaries are only responsible for payment of municipal services e.g., electricity (Eglin & Kenyon, 2016). Although this programme has provided homes to thousands of people, the rate at which these homes are built is far surpassed by the rate of population growth in South Africa. As a result, every square inch of land in townships is occupied and quality of life is declining (Mali-Swelindawo, 2017).

Conversions of commercial buildings have been done in South Africa and globally due to changes in land use demand. Milan and Italy is a significant example of conversion of commercial real estate (office space) to residential real estate driven by the high vacancy rates which have been continuously increasing since the economic crisis in 2008 (Spadaro, 2020). These conversions were also driven by legal, social, economic, typological and location factors which heightened the demand for conversion to residential real estate (Ginelli, 2016). Another example of real estate conversion is the conversions of commercial buildings to student housing in Groningen, Netherlands. These conversions were revitalisation programmes and the intention behind them was to create more resourced living environments and to allocate resources to the highest and best use (Remøy & van der Voordt, 2007).

The perceived viability of converting office space into residential housing—particularly social housing—is influenced by a range of economic, technical, and social factors. In urban centres, especially where office vacancies were high, these conversions were increasingly viewed as a practical response to shifting work patterns and persistent housing shortages (Spadaro, 2020; Ginelli, 2016). In South Africa, this strategy was seen by some as a mutually beneficial solution that repurposed underutilised commercial buildings while addressing the urgent need for affordable housing (Ramphal, 2000). However, concerns around cost-efficiency, building regulations, zoning restrictions, structural limitations, and potential resistance from neighbouring property owners—particularly when conversions involved social housing—affected the perceived feasibility and public acceptance of such projects (Remøy & van der Voordt, 2007). Furthermore, the location of vacant office buildings often raises questions regarding access to transport, jobs, and social services, which were critical to the success of residential developments (Turok & Borel-Saladin, 2016). Thus, while conversions were technically and economically possible in many contexts, their viability continues to be frequently judged through the lens of broader urban planning priorities and prevailing social attitudes toward lower-income populations.

This research proposes the conversion of commercial real estate (vacant office buildings) to residential real estate, specifically social housing. These conversions were proposed as a means of mitigating the issues caused by the declining demand for office space and to address the housing shortage amongst low-income earning South Africans (Ramphal, 2000). This research also assesses the feasibility of these conversions, considering location, cost, conversion time, property value and demand. Finally, the extent to which perceptions of social housing implement property values and hence the feasibility of this proposed strategy was investigated.

1.2 Substantiation of the Problem

The office market remains the most challenged among the three major non-residential property sectors (commercial, industrial, and retail) (Kraag, 2015), grappling with persistent oversupply and high vacancy rates (Rode, 2022). While these challenges predate the COVID-19 pandemic, the widespread shift to remote work has significantly exacerbated the issue. In South Africa, the office vacancy rate has risen to 17% according to the 2024 South African Property Owners Association (SAPOA) property report, reflecting both local and global trends toward more flexible work arrangements. Vacancy poses risks on a social and economic level. Economically, vacancy affects building owners directly due to a loss of income streams. Socially, vacancies present issues of insecurity and social uncertainty and may bring about criminality ranging from vandalism, graffiti, break-ins, illegal occupancy and fires. Vacancies also have indirect impacts through the negative image it gives to the surrounding area and buildings which can lead to deterioration of the area, technical decay, and devaluation of surrounding buildings (Cui & Walsh, 2015; Mallach, 2018).

Numerous studies suggest that a full return to the traditional five-day in-office workweek is highly improbable, as remote work becomes entrenched as the "new normal" (Kaushik & Guleria, 2020; Savić, 2020; The Work From Anywhere Team, 2022). This shift has allowed companies to reduce operating costs, attract global talent, and offer employees greater flexibility, all of which have diminished demand for conventional office spaces (Kho, Cahyadi, Meilani, & Pramono, 2024). Recent studies indicate that remote work has become a permanent fixture in the professional landscape. For instance, the American Time Use Survey revealed that the percentage of employed individuals engaging in remote work remained consistent between 2022 and 2023, underscoring the entrenchment of remote work as the "new normal" (Aratani, 2024).

Simultaneously, South Africa faces an acute housing shortage, particularly for low-income households, with a staggering backlog of 300 000 homes in Johannesburg alone - a crisis intensified by the economic downturn and rising unemployment during the pandemic (SOUTH AFRICA Housing Market Report, 2024). This juxtaposition of underutilized office spaces and an escalating need for affordable housing has prompted attention toward adaptive reuse strategies. Converting vacant office buildings into residential apartments offers a dual benefit: addressing housing shortages while conserving energy and raw materials such as bricks and water (Fianchini & Ferrucci, 2018). However, while early studies highlight the potential of such conversions to alleviate both problems, significant challenges and gaps remain (Ramphal, 2000; Remøy & van der Voordt, 2007). These challenges include significant layout reconfiguration to accommodate residential needs, such as creating smaller units and ensuring functional flow, as well as adapting building characteristics like ceiling heights, load-bearing walls, and structural support. Location concerns also arise, as many office buildings are situated in areas not zoned or optimized for residential use, requiring zoning changes or urban planning adjustments. Furthermore, extensive upgrades to plumbing systems are needed to handle increased water and sewage demands, along with resizing or replacing windows to meet

lighting and ventilation standards for residential living (Pratiwi et al., 2023). In addition to these challenges, notable gaps exist, such as the lack of clear and uniform policies or guidelines to streamline the conversion process, limited financial incentives or funding mechanisms to make such projects viable, and insufficient alignment between developers, municipalities, and urban planners (Pratiwi et al., 2023). For developers to commit to urban renewal projects, a comprehensive and well-coordinated master plan is essential—one that is actively driven and supported by city planners. Additionally, dormant buildings must be integrated into revenue-generating systems, such as rates and taxes, to incentivize redevelopment and accelerate urban renewal programs. Without such strategic alignment and financial support, progress in repurposing these structures remains limited (Currie, 2021).

Recent literature underscores technical, regulatory, and financial barriers that hinder the widespread implementation of office-to-residential conversions. For instance, design constraints such as inadequate natural light or unsuitable floor plans can limit adaptability (Schuetz, 2021). Additionally, zoning restrictions and financial feasibility studies often reveal that conversion projects may not always align with developers' or municipalities' priorities (Heath, 2023). Despite these hurdles, scholars advocate for innovative policy frameworks and public-private partnerships to make such conversions viable. For instance, the City of Tshwane's Sustainable and Better Buildings Programme aims to drive inner-city regeneration by tackling derelict and illegally occupied buildings while providing affordable housing, exemplifying a public-private partnership approach (City of Tshwane, 2024). Similarly, Octodec Investments' conversion of the Prinsproes building in Tshwane into affordable residential units demonstrates how private developers can contribute to urban renewal efforts (IOL Business Report, 2024). However, there is a limited detailed case studies in the South African context that evaluate the success of these transformations or quantify their socioeconomic impact. While some projects, such as the conversion of the former PwC office park in Sunninghill into The Apollo residential complex, have been reported (Buthelezi, 2021), comprehensive analyses assessing the broader implications of such developments remain scarce. Addressing these gaps is crucial for unlocking the potential of repurposing excess office space to meet urgent housing needs.

1.3 Problem Statement

Scholars have reported a shift in work patterns resulting in high vacancy within the office space (Gerard et al., 2021; Kho, Cahyadi, Meilani, & Pramono, 2024; Pratiwi et al., 2023; SAPOA, 2024) coupled with rising housing demand (Smith & Johnson, 2025) post COVID-19 pandemic.

1.4 Primary Research Question

How viable is the conversion of office space to meet the rising housing demand post Covid 19?

1.5 Secondary Research Questions

- i. What is the state of commercial real estate/office during and after the pandemic?
- ii. How office conversion to housing were executed in different context?
- iii. What are the pros and cons of converting vacant office spaces into social housing?
- iv. How conversions from commercial properties to social housing influence surrounding property values and economic growth?

1.6 Research Aim

To explore the viability of office space conversion to housing.

1.7 Research Objectives

- i. To analyse the state of office space and housing before and after the pandemic.
- ii. To critically analyse office space conversions to housing in different context
- iii. To assess the pros and cons of converting vacant office spaces into housing
- iv. To explore the impacts of conversions from office space to housing on surrounding house prices.

1.8 Proposition

Converting commercial office spaces to residential properties has no significant effect on property values, as these are primarily influenced by macroeconomic factors such as interest rates and overall market demand. While localised conversions may lead to depreciation due to reduced commercial activity or appreciation through revitalisation and increased residential footfall, such effects tend to be marginal within the broader economic context.

1.9 Contributions of the Study

The main issues addressed by this study are: the rising housing demand amongst low-income groups brought on by the negative economic impacts of the COVID-19 pandemic (Dube et al., 2023), and the poor implementation of integrated initiatives to counter the spatial segregation

caused by the Land Areas Act of apartheid South Africa. This study will contribute towards the property market as it proposes conversions as a strategy to address vacant offices. Conversions are sustainable alternatives to demolishing existing buildings and erecting new buildings from scratch. This is because they allow for saving on building materials and transportation costs. Conversions also produce less waste than demolitions and newly erected buildings (Remøy & Van der Voordt, 2014). The study is also beneficial to the owners of vacant offices as the study proposes an alternative use for the vacant space which will reduce the vacant properties' exposure to vandalism and declining values. Finally, the study is beneficial to government as the study highlights an opportunity to implement integration and housing strategies at minimal cost since conversions use existing buildings. This approach not only makes use of existing infrastructure but also aligns with sustainable urban development goals, offering a cost-effective solution to the housing shortage while promoting social integration in line with post-apartheid objectives (Fianchini and Ferrucci, 2018).

This study addresses two interlinked challenges in the South African urban landscape: the growing housing demand among low-income groups—exacerbated by the economic fallout of the COVID-19 pandemic (Dube et al., 2023)—and the ongoing spatial inequality resulting from apartheid-era land use policies, particularly the Group Areas Act, which institutionalised socio-economic segregation. Despite post-apartheid efforts to improve housing delivery and promote urban integration, the implementation of integrated housing strategies has been slow, fragmented, and largely ineffective in overcoming spatial disparities. This study makes a timely and critical contribution by proposing the adaptive reuse of vacant office buildings as a viable and sustainable strategy to address these persistent issues.

From a property development and urban planning perspective, the study introduces adaptive reuse—specifically office-to-residential conversion—as a strategic approach to revitalising underutilised urban assets. By offering an alternative to demolition and new construction, conversions contribute to environmental sustainability by conserving building materials, reducing construction waste, and minimising transportation emissions (Remøy & Van der Voordt, 2014). This aligns with global calls for more circular and resource-efficient construction practices.

Economically, the study offers value to property owners, investors, and developers by identifying alternative uses for vacant office space, which has been severely impacted by the rise of remote work and declining demand in the post-pandemic context. Vacant buildings are particularly vulnerable to vandalism, physical deterioration, and declining property values. By repurposing these assets for social housing, owners can secure a return on investment while contributing to broader urban regeneration efforts.

Importantly, the study also presents significant value to public policymakers and local government stakeholders. Conversions can be executed at a fraction of the cost of greenfield housing developments, as they leverage existing infrastructure such as roads, sewage systems, and utilities. This presents a fiscally responsible opportunity for the state to accelerate the provision of affordable housing in well-located urban areas—thereby improving access to jobs, education, and services for low-income residents. In doing so, this strategy supports South Africa's commitment to spatial justice, inclusive urban development, and the principles of the

National Development Plan. As Fianchini and Ferrucci (2018) argue, urban regeneration strategies that repurpose existing infrastructure can promote inclusive development while avoiding the displacement of vulnerable groups. Conversions, particularly when directed toward social housing, offer an opportunity to reintegrate marginalised populations into well-located urban areas—thereby directly addressing the legacy of apartheid spatial planning.

Overall, this research contributes to the discourse on sustainable urban transformation, equitable housing provision, and post-pandemic recovery strategies. It offers practical, cost-effective, and socially responsive solutions that address multiple challenges simultaneously—housing shortages, urban decay, environmental degradation, and spatial inequality—positioning adaptive reuse as a powerful tool for integrated urban development in South Africa and comparable contexts.

1.10 Limitations

The study has the following limitations:

1. The South African context means that the results and findings will only be applicable to South Africa.
2. This research focuses solely on properties located in northern Johannesburg, primarily due to constraints related to time, travel, and finances, despite the prevalence of high office vacancy rates in these areas.
3. Although interviews were conducted with experts in the field working on various projects across South Africa, a case study will be utilized to evaluate the impact of the conversion.
4. The COVID-19 pandemic is still relatively novel and information regarding the extent of its effects (especially long term) are not fully known.
5. Conversions of vacant office buildings to residential buildings to counter the high vacancy rates brought on by COVID-19 is a new concept with limited literature due to the novelty of the pandemic.
6. Not all office buildings can be converted to residential because of the way they are designed (e.g., office buildings generally have an open floor plan with one or two bathrooms per floor which is not the case for residential buildings)

1.11 Assumptions

The following assumptions were made when conducting the study:

1. The sample size is large enough to provide adequate data regarding perceptions of social housing in northern Johannesburg.
2. The sample (people interviewed) is representative of the larger Johannesburg population.
3. Only office buildings were considered for conversions.

1.12 Chapter Summary

This chapter introduced the research on the conversion of vacant office buildings into social housing as a response to the dual challenges of high office vacancy rates and a growing housing shortage in South Africa, both of which were exacerbated by the COVID-19 pandemic. It began by discussing the economic impact of the pandemic, which led to a decline in demand for commercial real estate, particularly office space, due to shifts in work patterns such as remote and hybrid work models. The office market experienced rising vacancy rates and declining property values, while the housing sector, particularly for low-income groups, faced increasing pressure due to rapid urbanization and high unemployment.

The study highlighted South Africa's ongoing housing crisis, marked by a significant backlog in affordable housing and a rising need for new solutions. Converting vacant office buildings into residential properties, especially social housing, was proposed as a strategy to address these issues. The chapter also discussed the feasibility of such conversions, considering factors like location, cost, property value, and demand, while recognizing the technical, financial, and regulatory challenges that could affect the success of these projects.

The chapter outlined the primary and secondary research questions, objectives, and research approach, focusing on evaluating the practicality of office-to-residential conversions in the South African context. It acknowledged the limitations of the study, including its geographic focus and the limited existing literature on the subject. While office-to-residential conversions had been implemented globally, the South African context remained underexplored.

In conclusion, this chapter set the stage for investigating the viability of converting vacant office buildings into social housing as a means of addressing both the oversupply of commercial properties and the urgent need for affordable housing in South Africa.

2. LITERATURE REVIEW

2.1 Introduction to the Literature Review

The purpose of this chapter is manifold and discusses the current landscape for conversions of commercial real estate properties in South Africa and the feasibility of doing so. This literature review explores conversions of commercial real estate, focusing on the office market, to social housing. It will provide background to the study and explore implementations of such conversions in South Africa and internationally. It has also discussed the theoretical framework that underpins the study.

2.2 Methodology of Literature Review

Literature related to social housing, conversions, urban regeneration and economic impacts of COVID-19 on office markets are collected and reviewed. The papers were critically reviewed and the purpose of the study, the limitations and the key findings were identified. The literature review was conducted using two primary sources: Google Scholar and the WITS Online Library, which provided access to a wide range of academic databases, journals, and research papers. The search focused on articles related to social housing, office-to-residential conversions, urban regeneration, and the economic impacts of COVID-19 on office markets. Each selected article was reviewed to assess its purpose, methodology, limitations, and key findings. The review process aimed to identify the main themes, gaps, and insights from existing research, with a focus on studies that were relevant to the South African context or comparable settings.

2.3 South African Landscape

The South African real estate market/sector is very unique in nature in that it is strongly influenced by a racist and unequal past. In 1948, the National Party (ruling party of South Africa at the time) enforced apartheid which was a racially driven policy of separate development. This policy separated people of different races spatially, culturally and economically and the ripple effects of this institutionalised inequality and division are still seen and felt in South Africa today (Turok, 2001; Charlton & Kihato, 2006). Under the apartheid policy was the Land Act of 1913 which was a means of spatially dividing racial and tribal groups. The Land Areas Act allocated 13% of South African land to 80% of the population and the remainder of the land to white citizens (Massey and Gunter, 2020). This resulted in non-white South Africans living in poverty, far from work opportunities and with poor qualities of life. Despite the Apartheid policy not being implemented currently and efforts being made to rectify the issues caused by the Land Areas Act, South Africa is still ranked as the number one most unequal country in the world (Heynes, 2020). It is common in South Africa for poor

townships and affluent suburbs to be separated by just a street (e.g., Deinforn and Diepsloot or Sandton and Alexandra township) and this inequality is driven by the repercussions of the Apartheid system and the spatial divides caused by the Land Areas Act (Nattrass & Seekings, 2001).

After becoming a democratic country in 1994, South Africa experienced high rates of urbanisation which had major economic, social, and environmental impacts. One of the social implications of urbanisation was the poor living conditions caused by the supply of housing not matching the high demand. Turok, and Borel-Saladin (2014) explored the correlation between urbanisation and poor standards of living. They found that properties in areas previously known as “black” or “coloured” areas are associated with low property values, being far from services and work opportunities, poor standards of living and limited access to basic services such as water and electricity. Many non-white citizens have moved into cities, but the majority still live in these areas today under the same conditions. South Africa did experience rapid rates of urbanisation when democracy was implemented, however, most cities could not cope with the rapid urbanisation rates and hence most of these people ended up living in townships and squatter camps on the outskirts of urban areas or finding themselves homeless (Turok & Borel-Saladin, 2014). Little progress has been made to rectify this issue as it is still persisting and worsening due to population growth. South Africa is also plagued with a high and ever-increasing unemployment rate as well as stagnant salaries and wages which make home ownership near impossible for the majority of South Africans. In South Africa, only 35.3% of citizens own homes and approximately 200 000 South Africans are homeless (Statistics South Africa, 2022). The percentage of homeowners is only expected to decrease and the homelessness to increase due to the current economic landscape in South Africa.

The SA government has implemented initiatives to address the homelessness and poor living standards caused by urbanisation. One of these initiatives is the RDP housing initiative, which was formed as part of the Growth Employment and Redistribution Strategy (GEAR) of 1996 (Manomano, 2013). The RDP housing initiative provides beneficiaries with a fully built house free of charge. Beneficiaries are only responsible for payment of municipal services e.g., water and electricity. Low-income households were the primary concern in implementing RDP as the intentions were to provide affordable housing, access to basic services and a sense of community/empowerment to beneficiaries.

South Africa’s housing shortage is a staggering 2.4 million units, and the yearly housing demand is 220 000 homes which increases in line with the growing population (StatsSA). Rapid rates of urbanisation also contribute towards the rising housing demand and as a consequence, every open piece of land in South African townships is occupied by shacks, irrespective of the suitability of the land and the limited access to water, sanitation and electricity (Eglin & Kenyon, 2016). Manomano (2013) investigated the feasibility of the implementation of the programme through an exploration of the extent to which RDP was meeting the rising demand for residential accommodation in SA. The investigation showed that although the programme has provided homes to thousands of people, the rate at which these homes are built is far surpassed by the rate of population growth in South Africa. As a result, every square inch of land in townships is occupied, and quality of life as well as property value

is declining in these areas. The waiting list for RDP homes is extensive and growing, and very few homes are allocated yearly as it takes time for documentation to be processed. In addition, financial and building resources for RDP houses are generally limited (Manomano, 2013). The investigation showed that prevalent issues faced by residents of RDP homes were poor roofing, windows, floors and walls, poor service delivery, limited access to clean water, poor spacing and low security (Manomano, 2013). Evidently, although the RDP initiative has addressed the housing problem to an extent, the issue of poor living standards is still prevailing.

The Reconstruction and Development Programme (RDP) is currently only implemented in low-income areas which aggravates the issue of income disparity and inequality from a spatial perspective (Moyo & Mamobolo, 2014). There is a demand for the South African government to rectify the income disparity and spatial segregation issues caused by the Land Act through integration of racial groups in residential areas (Rothstein, 2015). Due to the large income disparities between different racial groups and the stagnant salaries and wages in South Africa driven by poor economic growth, the only means of racial integration is through supplementation of living costs for previously disadvantaged race groups through social housing initiatives in low-, middle- and high-income areas to address the imbalances of the past. (Della Spina et al., 2020).

The South African real estate market, particularly in the wake of urbanisation and the lasting impacts of apartheid, faces challenges that cut across all property sectors (Turok & Borel-Saladin, 2014). While much focus has been placed on addressing the housing shortage, other segments, such as office space, also reveal significant inefficiencies (Pratiwi et al., 2023). The legacy of spatial segregation, combined with shifting economic trends and the impacts of the COVID-19 pandemic, has led to high vacancy rates of 17% in the office market, presenting both challenges and opportunities (SAPOA, 2024). These vacant office spaces are not only an economic burden but also an underutilized resource that could contribute to addressing the broader spatial and housing inequalities that persist in South Africa. Understanding the factors influencing the location of office spaces, and how they can be repurposed, is crucial in tackling the broader challenges of integration and the unequal distribution of resources in the country.

In South Africa, racial segregation resulted in uneven urban development, with commercial real estate in black areas being minimal and often of poor quality. While there was some commercial property in these areas, it existed on a small scale and often lacked the necessary infrastructure and amenities. In contrast, the offices that are most suitable for conversion into residential spaces are typically found in former "white" urban areas, where there are greater employment opportunities and better access to amenities. Consequently, the issue of real estate development was not limited to housing alone but extended to broader urban and economic inequalities (Turok & Borel-Saladin, 2016; Rogerson, 2001).

2.4 Background on social housing and the housing shortage in general

Social housing refers to rental housing provided at affordable rates to individuals and households that cannot secure adequate accommodation in the open market due to financial constraints. It is typically funded and regulated by the state, non-profit organisations, or housing associations, with eligibility determined through income thresholds and social vulnerability criteria (Scanlon, Whitehead & Fernández Arrigoitia, 2014). The goal of social housing is not only to provide shelter but also to promote social inclusion, reduce inequality, and ensure access to decent living conditions.

Globally, social housing originated in Europe during the late 19th and early 20th centuries in response to industrialisation and urbanisation, which led to overcrowded and unsanitary living conditions in rapidly growing cities (Czischke, 2009). Countries like the United Kingdom, the Netherlands, and Austria were early adopters of public housing initiatives. Over time, the concept evolved into broader social and affordable housing programmes designed to integrate marginalised populations into the urban fabric. In countries such as the Netherlands and Sweden, social housing accounts for a significant proportion of the total housing stock, contributing to greater income integration and spatial equity (Haffner et al., 2009).

In the short term, social housing initiatives typically address immediate housing shortages and homelessness by providing physical shelter and stability. In the long term, they contribute to improved health outcomes, greater educational attainment, and enhanced employment opportunities among residents (Van Ham & Manley, 2012). However, the success of these programmes is highly dependent on policy coherence, effective funding mechanisms, and integration with urban planning strategies.

The housing shortage is a global phenomenon driven by rapid urbanisation, population growth, economic inequality, and insufficient housing development. According to UN-Habitat (2020), over 1.6 billion people globally live in inadequate housing, and approximately 100 million are entirely homeless. In low- and middle-income countries (LMICs), urbanisation often outpaces the supply of formal housing, resulting in the proliferation of informal settlements and slums. These settlements are typically located on marginal land, lack basic services and infrastructure, and are highly vulnerable to environmental hazards (Gilbert, 2016).

South Africa's housing shortage reflects many of these global trends but is compounded by its history of spatial segregation and socio-economic exclusion. Although state interventions such as the RDP programme have provided housing to millions, the rate of population growth and urban in-migration continues to outpace the development of new units. This mismatch has not only led to overcrowding and informal settlements but has also entrenched spatial inequality, as low-income groups are often confined to peripheral areas with limited access to jobs, schools, and public services (Charlton & Meth, 2017).

In recent years, the concept of social housing in South Africa has evolved beyond the basic shelter model. The Social Housing Act 16 of 2008 aimed to expand rental housing opportunities for low- to middle-income groups in well-located urban areas through accredited Social Housing Institutions (SHIs). The aim was to promote spatial restructuring and create more

integrated and equitable cities (Department of Human Settlements, 2009). Social housing developments are now positioned as key instruments of urban integration and economic upliftment, though challenges such as limited funding, weak capacity of SHIs, and community resistance continue to hinder implementation (Rust, 2012).

Thus, social housing serves not only as a response to inadequate housing but also as a mechanism for advancing socio-spatial justice, particularly in regions where systemic inequalities continue to shape urban realities. The persistent shortage of affordable housing—combined with the inefficiencies in urban land use—underscores the importance of exploring alternative strategies for urban integration. One such strategy is the adaptive reuse of underutilised commercial properties, particularly offices, which are often situated in well-located urban areas with existing infrastructure and access to amenities. Repurposing these vacant or underperforming spaces into social housing offers a unique opportunity to address structural housing deficits while contributing to more inclusive and sustainable urban development. This potential becomes even more significant when viewed in the context of the post-pandemic-built environment, where shifts in work patterns and real estate demand have left many office buildings functionally obsolete or financially unviable.

2.5 Impact of COVID-19 on Commercial Real Estate

COVID-19 was declared a global pandemic due to the rapid rate of spread of the novel coronavirus on a global scale (Mushebenge et al., 2023). The COVID-19 pandemic caused devastation to countries globally from a social, psychological, health and economic perspective. One of the greatest challenges faced by all leaders was striking a balance between saving lives and saving livelihoods. This motivated leaders to impose lockdowns to limit the spread of the virus and hence limit the rates of severe infection and death and to avoid health care systems collapsing as a result of heightened pressure. Whilst these lockdowns were able to limit the spread of the virus (Pickering et al., 2023) and save several lives globally, they had devastating economic effects due to businesses across all sectors being unable to operate for extended periods of time (Onyeaka, 2021).

A sector adversely affected by the pandemic and lockdown restrictions globally was the real estate sector (Dube et al., 2023) especially commercial real estate (industrial, retail, office, and residential properties). Balemi et al. (2021) explored the COVID-19 impact on commercial real estate markets. They described the coronavirus pandemic to be symbolised by vacant office buildings, malls and apartment buildings due to tenants having a decreased ability to make rental and/or mortgage payments (Balemi et al., 2021). Tenants were less able to make rental payments as the lockdown restrictions reduced income as businesses were unable to operate.

Also, unemployment rates rose as many people were retrenched as a result of business operations being adversely affected by the lockdown restrictions. The economic impact was so severe that the global real GDP for 2020 was -5.4% (more than -10% in some countries) and several countries are still working to achieve pre-COVID GDP levels especially countries with economies that were struggling even prior to the pandemic. South Africa, which was already

dealing with high levels of unemployment and a sluggish economy before the pandemic, found its real estate market increasingly challenged by the growing vacancy rates and reduced rental income (Turok & Borel-Saladin, 2016). Also, liquidity rates for commercial properties declined by approximately 16% in 2020 as a consequence of the pandemic and lockdown restrictions (Balemi et al., 2021).

Dijk et al. (2020) explored the global and USA impact of the pandemic on the CPPI (Commercial Property Price Index) and identified the trends shown in Figure 1:

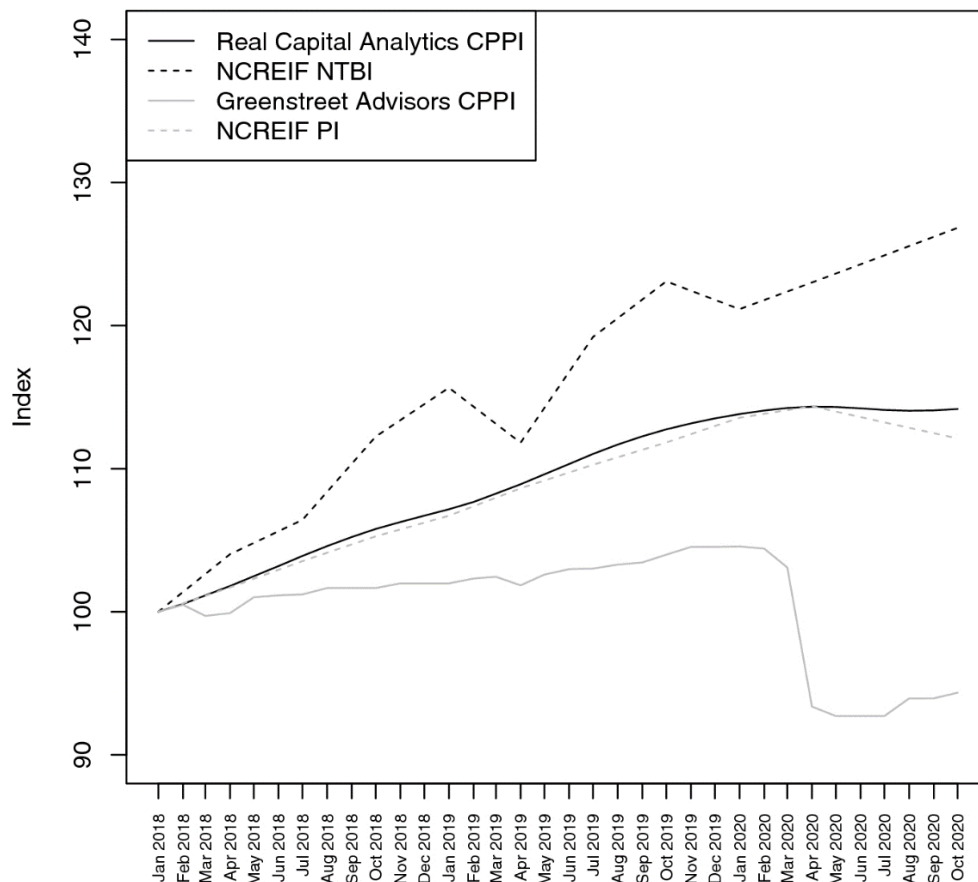


Figure 1: Price index movements for commercial real estate indices from 2018- 2020. (Balemi et al., 2021, pp.495-513).

It is evident from Figure 1 that the CPPI decreased considerably in March 2020 as a consequence of the COVID-19 pandemic. This means that the number of commercial property transactions and appraisals dropped due to the economic decline brought on by the pandemic. These property indices were however stagnant or growing at slow rates even prior to the pandemic indicating that the pandemic aggravated an already existing issue of redundancy in the commercial real estate market (Dijk et al., 2020).

Several studies have also examined the impact of COVID-19 on the commercial real estate market, given the significant consequences the pandemic had on this sector (Balemi et al., 2021; Gerard et al., 2021; Hoesli and Malle, 2021; Ling et al., 2020). Ling et al. (2020) explored the COVID-19 impact on commercial real estate prices from an asset level perspective. They focused on commercial real estate assets owned by listed USA equity Real Estate Investment Trusts (REITs) (Ling et al., 2020). The motivation for assessing the COVID-

19 impact from this perspective was (i) having a view of long- and short-term future expected cashflows from the asset portfolio since REITs are required to only invest in income-producing real estate, (ii) the high sensitivity of highly liquid stock markets to the effects of the pandemic (Ling et al., 2020). The market indices assessed included the S&P 500, the Russel 2000 and the FTSE-NAREIT from 2015 to April 2020. These indices declined by 16%, 23% and 26% respectively in March 2020 indicated a severe decline in rental income for commercial real estate properties. A deep dive into the NAREIT sub-indices showed the movements in returns for the various commercial properties (offices, industrial, retail, health care and resorts/lodges). Figure 2 shows the movements in FTSE/NAREIT indices across the various commercial real estate sectors:

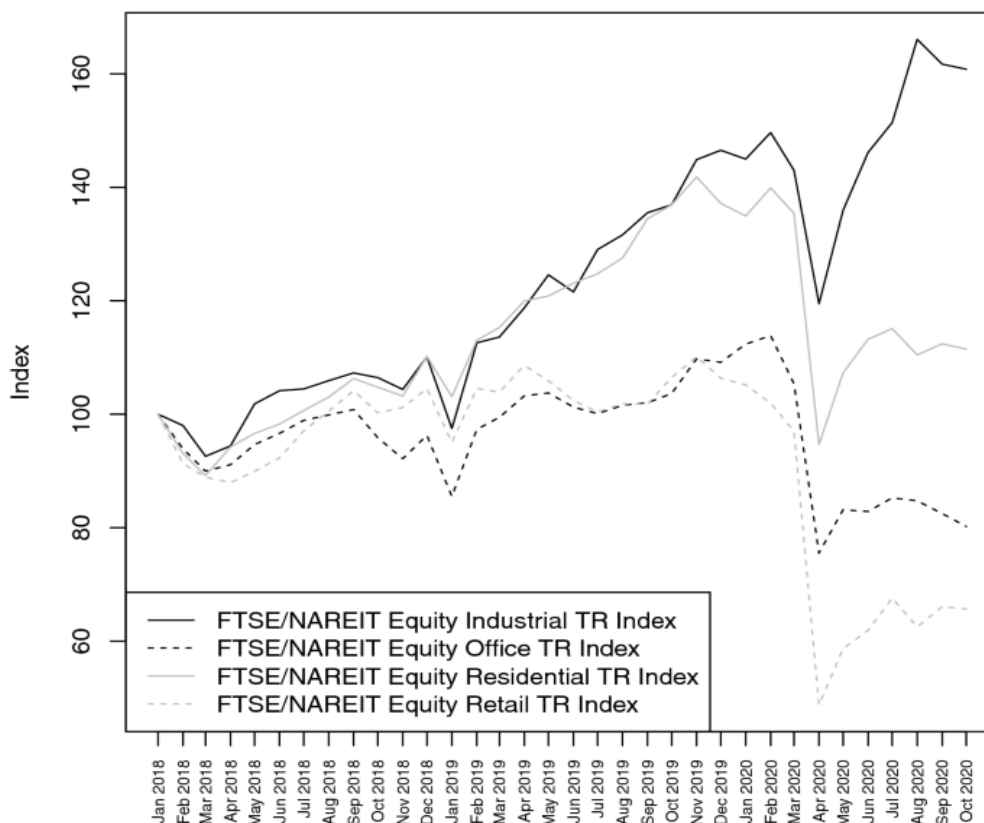


Figure 2: Comparison of REIT indices in the USA between January 2018 - October 2020 (Balemi et al., 2021, pp.495-513).

Figure 2 shows a sharp decline in the FTSE/REIT indices across all commercial real estate sectors in March 2020 (the onset of the pandemic). After March 2020, these indices increased sharply then started to stabilise around August 2020. The return index declined by a cumulative 49% across the real estate types. Office and residential real estate were the hardest hit and saw return index declines of 25% and 26% in March 2020. This was due to the lockdown restrictions which adversely business operations (especially businesses requiring face-to-face interaction with clients/customers) and tenants being unable to make rental payments due to retrenchments and/or salary cuts. As a consequence of the pandemic, several commercial real estate properties are vacant and high vacancy rates are expected to continue due to behavioural changes (work-from-home trends) which make office space redundant and retrenched employees still being unemployed and unable to re-occupy previous rental properties (Ling et al., 2020). Office spaces are becoming increasingly redundant with the rise in digitisation and

hence the demand for office space is plummeting. As a consequence, the property values are rapidly declining, and these properties are more at risk of vandalism and dilapidation. There is an urgent need to occupy these vacant buildings to avoid property values from declining to irrecoverably low rates (Gerard et al., 2021).

Hoesli and Malle (2021) analysed the pandemic's effects on the commercial real estate market in Europe. They also assessed the type-specific impact on the European commercial real estate market i.e., retail, hospitality, office, residential and industrial. This paper took a similar approach to that explored by Ling et al. (2020) in that the trends in commercial real estate prices were assessed over time and the worst affected subtypes were identified and the drivers of the declines were also identified but in a European context. The paper also used time series analysis methodologies to forecast expected future trends in real estate prices. Hoesli and Malle found that real estate prices dropped considerably at the start of the pandemic with the retail and hospitality properties being worst affected. These commercial subtypes were worst affected as they rely on face-to-face interaction with clients/customers and hence business operations were severely affected by the pandemic and the lockdown restrictions imposed. The office subtype was also affected due to people working from home and the heightened realisation of the redundancy of office buildings especially for businesses with minimal dependency on face-to-face interaction with clients e.g., law firms, banks, consulting companies etc. The residential and industrial sectors were least affected. The future trajectory of real estate prices is expected to vary across the real estate subtypes but generally the prices are expected to return to pre-COVID levels. Slower recovery rates were expected for retail and hospitality subtypes since these were hardest hit and due to the dramatic behavioural changes seen amongst people in Europe (Hoesli and Malle, 2021). These global trends resonate with the situation in Africa, including South Africa, where industrial properties showed relative stability compared to the more volatile office and retail sectors.

In South Africa, like in many other countries, the commercial real estate market faced considerable strain. Businesses, particularly in office spaces, retail, and hospitality, struggled to maintain operations as the lockdowns persisted. In the retail and office markets, many tenants found it difficult to keep up with rental payments as their income sources dwindled due to reduced business activities (Balemi et al., 2021). Additionally, high unemployment rates contributed to a decrease in demand for office space, as many companies adopted remote work models (Gerard et al., 2021). The trend of increased vacancy rates, especially in office buildings, has led to heightened concerns regarding property values. The rapid decline in office space demand, driven by changes in working patterns, accelerated the redundancy of office buildings (Ling et al., 2020). These trends were mirrored in several African countries, where commercial real estate markets similarly saw a steep decline in demand, further exacerbating the challenges faced by the sector (Dube et al., 2023).

The impact of COVID-19 on commercial real estate has contributed to significant urban decay, particularly in areas where office, retail, and hospitality spaces remain vacant. These underutilized properties often fall into disrepair, becoming neglected and attracting crime, which leads to a deterioration in the surrounding urban environment (Balemi et al., 2021). The reduction in property values, driven by widespread vacancies, also results in decreased tax

revenues for municipalities, affecting public services and infrastructure maintenance (Gerard et al., 2021). Consequently, cities may experience a cycle of economic stagnation and social deterioration, where businesses struggle, unemployment rates rise, and areas become increasingly unappealing for both residents and investors (Ling et al., 2020). The long-term effects of these trends include exacerbated housing shortages and growing social inequality. In some cases, the potential to repurpose vacant commercial properties for social or affordable housing is hindered by economic difficulties and declining property values (Hoesli & Malle, 2021). This creates a gap between the demand for housing and the availability of suitable spaces for conversion (Dube et al., 2023). Furthermore, the psychological impact of visible urban decline can contribute to feelings of insecurity and social unrest (Pickering et al., 2023).

Addressing these challenges requires innovative urban regeneration strategies, including adaptive reuse of commercial spaces, financial support for struggling sectors, and comprehensive approaches to rebuilding both the economy and communities (Mushebenge et al., 2023). In this context, retail properties, which have seen reduced foot traffic, present opportunities for transformation into e-commerce distribution centers, fulfilment hubs, or even green spaces, thus aligning with broader urban regeneration efforts (Hoesli & Malle, 2021; Gerard et al., 2021). Such transformations are not merely a response to shifting market dynamics but also offer the potential for more sustainable and adaptable urban environments. The repurposing of vacant commercial spaces can help meet pressing housing needs, stimulate local economies, and foster environmental sustainability, thus playing a pivotal role in the long-term revitalization of urban areas in a post-pandemic world (Balemi et al., 2021).

As office spaces become increasingly vacant due to changing work patterns, the potential for converting these properties into residential units presents an opportunity to address the growing demand for affordable housing (Balemi et al., 2021; Dube et al., 2023). This approach not only helps repurpose underutilized office buildings but also aligns with urban regeneration goals such as densification and sustainable development (Gerard et al., 2021; Mushebenge et al., 2023). Exploring the feasibility of such conversions in prime locations is key to revitalizing urban areas and making better use of existing infrastructure (Hoesli & Malle, 2021).

2.6 Office Location and the Potential for Conversion to Residential Use

There are several factors that are considered when determining the location of offices. Office location is not merely a matter of convenience but rather a strategic choice affecting various aspects of a business including productivity, proximity, cost, and accessibility (Samani et al., 2023). Productivity is an important determinant of office location and business success as offices need to be in areas with a pool of talent that is relevant to the industry. Offices need to be in close proximity to their customers and/or clients to provide better services. Also, the success of an office development depends on proximity to the established town centre as workers usually like to visit shops, banks etc. Lastly, accessibility needs to be considered as offices need to be in areas with good road networks to efficiently transport goods and public transport for ease of commuting employees (Samani et al., 2023).

Similar factors are considered when determining the location of residential properties. Proximity to the workplace is one of the primary factors influencing residential property location as people often seek homes that minimise their daily commute to save time and reduce stress. Transport accessibility is also a key factor as employees require easy access to public transportation, highways, and major roads to be able to commute to work and to access various services and amenities (e.g., shops, schools, hospitals, recreational facilities, places of worship etc.) which enhance their quality of life (Shapiro et al., 2019).

While the location of office properties plays a crucial role in their initial value and functionality, their potential for alternative uses, such as conversion to residential properties, also requires careful consideration. This potential use must be evaluated with respect to planning permissions, as well as the broader impact on the surrounding area. Specifically, it is important to assess whether the conversion will not only enhance the value of the office property itself but also positively contribute to the character and dynamics of the neighbourhood. Since offices are already in residential areas, they are close to essential services and amenities (Shapiro et al., 2019). From the conversion of offices to residential there are numerous advantages from a location and social perspective. These advantages include:

1. Enhanced walkability: People can easily access amenities and services. This enhances quality of life, promotes a healthier lifestyle, and contributes to a greener urban environment as the reliance on cars and consequently the amount of traffic congestion reduces (Baobeid, Koç & Al-Ghamdi, 2021).
2. Reduction of commute time: Many office buildings are situated close to transportation hubs which allows individuals to live closer to work thus reducing commute times (assuming they do not work from home) (Berger et.al.,2014).
3. Social benefit: Conversions, specifically to social housing, allow for diversification which caters to various income levels and lifestyles. This promotes inclusivity and affordability in desirable urban areas (Shapiro et.al., 2019). This is especially important in a South African context because the effects of spatial segregation (long commutes to work, inability to afford housing in upmarket areas and enjoy certain services) are still evident today. These conversions will therefore provide these opportunities to those who have previously been excluded or never been given an opportunity to do so.

While the conversion of vacant office buildings to residential use—especially social housing—has gained traction, it is important to consider alternative perspectives that support either retaining office properties or repurposing them for other non-residential functions. In some cases, offices still hold significant long-term strategic value, particularly in anticipation of economic recovery and future demand for hybrid workspaces. Studies have shown that office environments contribute to collaboration, innovation, and company culture in ways that remote work may not fully replicate (Waber, Magnolfi & Lindsay, 2014). Moreover, converting commercial property to residential use may involve high retrofit costs and zoning complexities that make such projects financially unviable in certain locations (Archer & Smith, 2022). Instead, vacant offices could be converted to other community-oriented functions such as co-working hubs, educational facilities, or healthcare centres—uses that may better align with local urban development goals (Lehrer & Laidley, 2008). Mixed-use developments, which

combine retail, office, and public service spaces, can also revitalise underused commercial districts while preserving their original commercial character. Furthermore, over-saturating the market with residential units in traditionally commercial zones may destabilise existing land-use balances and strain municipal infrastructure not designed to support dense permanent populations (Dunning, 2020). These alternatives highlight the need for a nuanced, location-specific approach rather than viewing residential conversion as a universal solution for underperforming office real estate.

2.7 Office Space Conversions as a form of Urban Regeneration

There is a close relationship between real estate conversion and urban regeneration. Urban regeneration is the process of reversing economic, social, and physical decay to bring back underutilised assets and to redistribute opportunities, increasing urban prosperity and quality of life. Urban regeneration can either be economic, social/cultural, or physical/environmental in nature (Enel, 2023). Part of the reason this study is referring to urban regeneration is because post the COVID-19 pandemic, several commercial properties saw rising vacancy rates and property owners consequently saw severe declines in rental income (Pratiwi et al., 2023). Post the pandemic, several commercial properties are still vacant and there is uncertainty regarding the most feasible methods to re-occupy these spaces. This situation may cause urban decay and presented an opportunity for urban regeneration. Converting vacant commercial is part of urban regeneration process.

Conversions are a form of economic and physical urban regeneration and have been used for decades across the globe to meet changing demands for land use and to avoid declining property values caused by high vacancy rates. Economic regeneration helps to achieve growth by stimulating economic activity while physical regeneration on the other hand is concerned with refurbishing obsolete buildings in derelict neighbourhoods to transform them into attractive areas (Tyekela, 2018). Properties have been converted from industrial to commercial or vice versa and from commercial to residential. Several studies have been conducted to assess the feasibility of these conversions in different countries (Fianchini and Ferrucci, 2018; Ginelli, 2016; Mesthrige, 2018).

An example is a study that was conducted in Kwun Tong, Hong Kong which assessed the feasibility of a conversion from a previous industrial hub to housing. It was found that the revitalisation programmes (conversion and redevelopment programmes) did not increase the value of other residential properties in the vicinity but brought positive enhancements to the converted buildings themselves (Mesthrige, 2018). The study also reinforced that the benefits of revitalising a single property are significantly less apparent than revitalising an area of multiple properties (Mesthrige, 2018).

Ginelli, 2016, investigated the adaptative reuse of vacant office buildings in Milan. The high vacancy rates were caused by the ripple effects of the 2007/2008 financial crash and the oversupply of office buildings which were expected to worsen over the years. The paper considered the conversion of vacant office buildings to residential buildings to address housing

insecurity and to rehabilitate vacant stock (Ginelli, 2016). The paper illustrated the correlation between economic downturn and demand for change in land use and parallels can be drawn between the economic downturn caused by the financial crash and the COVID-19 pandemic. The conversion projects highlighted in the paper were characterised by being functional and catering to people from different socio-economic backgrounds, while rehabilitating existing buildings (Fianchini and Ferrucci, 2018) and stimulating the regeneration of their urban context. The investigation illustrated that converting vacant office buildings to residential property improved the energy performances of the existing buildings of the city and the feasibility of implementation of adaptive reuse strategies as a means of countering negative effects of economic downturn (Ginelli, 2016).

Remoy & Voordt, 2014, revealed conversions were a potential strategy for addressing the issue of vacant offices in the Netherlands. They identified that property investors tend to view residential and commercial property separately due to their functionality differences. As a consequence, they identified that commercial investors were hesitant to invest in residential property and residential investors were hesitant to invest in commercial property. They also saw that the conversion possibilities were not clear or apparent to owners and investors. The four strategies identified to address high office vacancy rates were: renovation, consolidation, demolition and functionality conversion. Also, according to them, commercial property value is based on potential rental yield rather than book value which is why investors tend to incur losses (Remoy and Voordt, 2014). Conversions are beneficial socially and financially because they are cheaper than erecting new buildings and they make the most of the structure and location of existing buildings (Geraedts et al., 2018). It was therefore established that it is vitally important for architects and developers to incorporate adaptability and changes in functionality when designing commercial buildings (Remoy and Voordt, 2014).

Živković et al. (2016) investigated urban and architectural conversion as a means of addressing the pressure for new housing in USA, Canada, and England. They saw that conversions were sustainable initiatives for revitalising vacant and obsolete buildings while addressing the high demand for housing. Conversions also allow for adaptability and non-rigid functionality which is a vital component of urban renewal. A key finding was that there was untapped potential in terms of maximising the use and functionality of obsolete buildings and potentially the “recycling of facilities” (Živković et al., 2016).

Converting vacant office spaces to residential units, especially for low-income groups, offers a viable solution to addressing housing needs in urban areas. Social and affordable housing can be provided by both the government and the private sector, with the primary goal of ensuring that disadvantaged populations have access to secure, adequate housing. In South Africa, the provision of affordable housing is enshrined in Section 26 of the Constitution, which guarantees the right to adequate housing for all citizens. However, the government is required to balance this right with its limited resources, making it essential to explore innovative and cost-effective housing solutions such as adaptive reuse of commercial buildings (Tissot, 2019). By repurposing vacant office spaces, it is possible to not only address the growing housing demand but also conserve valuable land and resources. These conversions can provide

affordable housing options without relying on the expansion of new developments and can thus play a crucial role in both urban regeneration and social sustainability (Whitehead et al., 2020).

Fianchini and Ferrucci (2018) investigated the conversion of vacant office buildings into sustainable social housing in Naples, Italy. They found that it would be easy to adapt office buildings to buildings with residential functionalities. They also saw that these conversions would allow for the social housing demand to be met without utilising any additional land (Fianchini and Ferrucci, 2018). Conversions as an alternative to new developments allows for energy to be preserved and limits the need for new raw materials as these are already embodied in the existing infrastructure. Fianchini and Ferrucci (2018) identified that vacancy duration and reason as well as the market, building, location or municipal policy were the major dependencies for transformation. Transformation is however only possible and feasible if the underlying demand is appropriately met (Fianchini and Ferrucci, 2018).

Hoogendijk (2019) assessed the applicability of office space conversion to social housing as an urban sustainability initiative in the Netherlands. It was identified that the urban development landscape was challenged from a social, environmental and economic perspective while also battling a high vacancy rate and housing insecurity amongst low-income individuals. It was established that conversions were a means of consolidating these challenges while honouring stringent environmental standards. Also, conversions eliminate the socioeconomic threats associated with vacant buildings, increase access to affordable housing and limit energy consumption. It was however also established that conversions were beneficial from a social standpoint but not from a political standpoint due to the appetite for social and economic development being greater than the appetite for meeting long-term environmental needs (Hoogendijk, 2019).

Arrigoitia (2018) investigated the gentrification of social housing which poses a risk of reduction in social housing and displacement of low-income individuals. It was explained that gentrification is a process of contemporary capitalism that involves revamping an area to attract individuals with higher financial and social capital. Gentrification lessens the availability of affordable housing for those most in need of housing. The main detraction from investment in social housing is the complexity of the associated housing and planning policies which are misaligned with politically driven gentrification practices. Whilst investment in social housing is not an economically favourable investment, losing public housing increases homelessness and vulnerability which is socially detrimental for any country (Arrigoitia, 2018). Investment in social housing exposes the trade-off between establishing a country's economic vs social well-being and hence explains the ongoing detraction from investment in such initiatives.

Della Spina et al. (2020) also investigated the decision-making process linked to investment in social housing. They identified that investment in social housing requires for social, economic and environmental feasibility and sustainability to be assessed and aligned. The paper assessed a decision model implemented when deciding whether investment in urban redevelopment programs was a feasible option. The main focus areas during the development of the model were: investor profit, trade-in value and maximum share (Della Spina et al., 2020). Upon assessment of literature, it was identified that there is a great demand for housing in urban areas across several countries globally. There is also an issue of high vacancy rates amongst

commercial properties which were aggravated by the economic downturn brought on by the COVID-19 pandemic. Conversions of these vacant office buildings to social housing is a highly viable and favourable means of addressing housing demand, high vacancy rates and social challenges faced by urban areas. It is however not favourable from an economic and political perspective hence the detraction shown by governments from investing in social housing initiatives in the countries mentioned in this chapter.

2.7.1 Conversions in developed countries

Conversions of office buildings into residential properties have become a prominent strategy in addressing housing shortages and revitalizing urban spaces in developed countries. As cities face increasing housing shortages, the repurposing of vacant or underutilized office spaces offers a promising opportunity to meet this demand without the need for extensive new construction. This section explores the office-to-residential conversion efforts in England and the Netherlands, as discussed in the paper Office Conversion to Residential: Innovation in Housing and Urban Vulnerability by Pratiwi et al. (2023). It focuses on why these conversions were undertaken, why specific buildings were selected, and the associated challenges and opportunities.

2.7.1.1 Conversions in England

2.7.1.1.1 Motivations for Conversions

In England, most buildings are converted to apartments. One of the main reasons for the surplus number of offices, and consequently the conversions, is the ineffective planning in the earlier eras and an underperforming urban built environment towards technology trend. In addition, the motivation for office-to-residential conversions stems from the persistent housing shortage in urban areas and the economic impact of underutilized office spaces (Pratiwi et al., 2023). These conversions were done prior to the pandemic and not because of the pandemic however these conversions have continued post the pandemic due to the rising office vacancy rates which proved to be beneficial due to the rising office vacancy rates post COVID-19 (Pratiwi et al., 2023).

2.7.1.1.2 Factors Influencing Building Selection

Buildings selected for conversion in England often possess structural features conducive to adaptation, such as open floor plans and robust infrastructure. Proximity to public transportation, existing amenities, and strong local housing demand also influence the choice of buildings (Pratiwi et al., 2023). The paper looked at 3 conversions in England including: (i) an office building converted into apartments at 1 and 4 New Horizons Court, Brentford; (ii) an

office building converted to studio apartments 1 - 5, Central Business Centre, Iron Bridge Close, London and (iii) a mixed land use building converted to Madison Heights apartment, 17 - 27 High St, Hounslow. These converted buildings are shown in Figures 3, 4 and 5.



Figure 3 : Converted office building into apartments at 1 and 4 New Horizons Court, Brentford, England (Pratiwi et al., pp. 439-454).

The apartments at 1 and 4 New Horizons Court were converted from commercial offices in Brentford, an area primarily zoned for commercial and industrial use, with no residential areas within a 10km radius. The main challenge of this conversion was updating the façade, as the building had an outdated appearance. Due to the building's location in a commercial and industrial zone, there were limited open and green spaces, so an inner court was created to enhance thermal comfort and allow natural light to penetrate the space. A double-loaded corridor was also added to improve air circulation. Other façade improvements included replacing the existing louvres with full-height windows, incorporating grey zinc glazing, and adding openings tailored to the specific apartment units. This conversion highlights both the challenges of location and aesthetic appeal when transforming commercial buildings into residential spaces, as well as the opportunity for innovation to create a more residential atmosphere (Pratiwi et al., 2023).



Figure 4 : Converted office building to studio apartments 1 - 5, Central Business Centre, Iron Bridge Close, London, England (Pratiwi et al., pp. 439-454).

The conversion of 1–5 Central Business Centre, Iron Bridge Close, from offices to studio apartments faced challenges typical of London’s commercial-only areas, particularly its proximity to a highway and surrounding strictly commercial buildings. One of the primary difficulties was creating a residential appeal, as access to private or communal facilities was limited. Additionally, several units faced north, resulting in poor sunlight, a particular challenge in the northern hemisphere. However, the building allowed for the creation of small units, which attracted a middle-class demographic. To meet residential requirements, additional plumbing shafts were added to each room. The main opportunity of this conversion was introducing residential properties to an area previously restricted to commercial use, thereby contributing to a more mixed land use and revitalizing the neighbourhood i.e., urban regeneration (Pratiwi et al., 2023).



Figure 5 : Converted mixed land use building to Madison Heights apartment, 17 - 27 High St, Hounslow, England (Pratiwi et al., pp. 439-454).

The conversion of the Madison Heights building, located on a busy main road in a mixed-use area (commercial and residential), involved transforming the 3rd to 9th floors from offices into 1- and 2-bedroom apartments. Several challenges arose during the conversion. The apartments lacked access to private or communal amenities, and the unit sizes were smaller than standard residential sizes. Additionally, the building had low maintenance, which posed further difficulties. Although the main structure of the building was preserved, additional shafts were required in each room to meet residential needs. To optimize space, the circulation was designed as double-loaded corridors, which, while efficient, limited the amount of natural light in each apartment. This conversion underscores the opportunity to adapt land use and innovate in design, ensuring that converted buildings not only have a residential atmosphere but are also structurally suitable for residential purposes (Pratiwi et al., 2023).

2.7.1.2 Conversions in Netherlands

2.7.1.2.1 Motivations for Conversions

In the Netherlands, the motivations for office-to-residential conversions are driven by housing shortages and the desire to create sustainable urban environments. Like England, the shift to remote work during the COVID-19 pandemic resulted in increased office vacancies. Urban planners aimed to repurpose these spaces to meet housing demands while avoiding the need for new construction (Pratiwi et al., 2023).

2.7.1.2.2 Factors Influencing Building Selection

In the Netherlands, buildings chosen for conversion are often located in high-demand urban areas with strong connectivity and access to amenities. The chosen conversion is dependent on the location and associated demand. Structural adaptability, such as adequate ceiling heights and flexible layouts, is a key criterion. Additionally, supportive regulatory frameworks and incentives, such as streamlined planning approvals, have facilitated these conversions (Pratiwi et al., 2023). The paper looked at 3 conversions in the Netherlands including: (i) De Enk Building, an office building converted to residential apartments units; (ii) Wilhelminastaete Building, an office building converted to special housing for the elderly and (iii) Granida Building, a mixed-use building converted to commercial and luxury apartments in Eindhoven. These converted buildings are shown in Figures 6, 7 and 8.



Figure 6 : De Enk Building. Office building converted to residential apartments units in Netherlands (Pratiwi et al., pp. 439-454).

The De Enk building, constructed in 1965, was converted from commercial offices to apartments in 2006. The opportunity for conversion was driven by its prime location near the city and its low purchase cost. A key challenge in this conversion was the need for additional vertical shafts for electricity, water, and plumbing, as apartments require more infrastructure than office spaces. Furthermore, to enhance the building's aesthetic appeal and marketability, the façade was updated with colour accentuation and additional glass for the windows. Additionally, since office windows were fixed and did not open, modifications were made to accommodate this feature for residential use (Pratiwi et al., 2023).



Figure 7 : Wilhelminastaete Building. Office building converted to special housing for the elderly in Netherlands (Pratiwi et al., pp. 439-454).

The Wilhelminastaete building, originally constructed in 1969, was converted into special housing for the elderly in 2007 after a feasibility study indicated that this was the highest local demand. The building's location had become unsuitable for office use, leading to its functional and technical obsolescence, which ultimately resulted in vacancy. During the conversion, several changes were made to adapt the building for residential use. The floor area was expanded from 6,700 square meters to 8,500 square meters, and the existing façade was altered to reflect a more residential character. These changes included adding an additional floor, accentuating colors, and modifying the windows to accommodate balconies. This conversion underscores the potential for buildings to serve different demographics by adapting their function and land use, highlighting the challenges and opportunities in such transformations (Pratiwi et al., 2023).



Figure 8 : Granida Building. Mixed use building converted to commercial and luxury apartments in Eindhoven, Netherlands (Pratiwi et al., pp. 439-454).

The Granida building, originally constructed in 1958 for the City Health Office, was converted into residential apartments in 2005. After serving as a government office from 1995 until it became vacant, a feasibility study determined that the building was best suited for conversion into upper-class residential apartments. To enhance the building's value and contribute to the urban environment, commercial spaces, including pharmacies and health facilities, were added to the podium. These luxury apartments were later acquired by a commercial housing company. The building's façade was altered to give it a more residential and upscale appearance, with extensions to the balconies and the addition of a secondary skin. This conversion illustrates the potential for mixed land-use projects that not only cater to a broader demographic but also generate additional income for the building.

Office-to-residential conversions have emerged as an effective solution to housing shortages in developed countries, particularly in England and the Netherlands. These conversions are driven by factors such as vacant office buildings, housing demand, and the environmental and economic benefits of repurposing existing structures. Both countries have faced similar challenges, including the need to update outdated façades, enhance natural light, and add necessary residential infrastructure like plumbing and electrical systems. Additionally, buildings in commercial areas often lack green spaces, requiring creative solutions to improve comfort and liveability.

Despite these challenges, the conversions offer significant opportunities. They contribute to urban regeneration, introduce mixed land use, and provide diverse housing options. These projects not only meet housing demand but also revitalize neighbourhoods and create spaces that appeal to a broad range of residents. Ultimately, the conversions in both England and the Netherlands demonstrate the potential of adapting office buildings for residential use to address housing shortages and improve urban environments (Pratiwi et al., 2023).

2.7.1.3 Perspectives from other scholars

The case studies in England and the Netherlands presented by Pratiwi et al. (2022) highlight the innovative and policy-driven approaches to office-to-residential conversions. Their analysis provides valuable insights into the regulatory frameworks, design adaptations, and challenges involved in repurposing commercial real estate to address housing shortages. However, their work is part of a broader conversation among scholars who examine office conversions from various angles, including architectural design, financial models, and the applicability of European approaches to different regions. The following section critically reviews the perspectives of two key scholarly works that have engaged with Pratiwi et al.'s research, shedding light on both the strengths and gaps in their study.

Ilgin and Aslantamer (2024) investigate the challenges of converting office skyscrapers with prismatic designs into residential spaces, focusing on spatial reconfiguration and engineering modifications. They argue that office buildings typically have expansive, open-plan floor designs optimized for commercial operations, which makes partitioning into functional living spaces challenging. To address this, they propose creative partitioning techniques that maintain adequate natural light and ventilation, emphasizing the importance of facade improvements—an aspect also highlighted by Pratiwi et al. (2022). Additionally, Ilgin and Aslantamer (2024) examine the complex retrofitting required for building services, such as reconfiguring plumbing systems and repositioning HVAC and mechanical cores, which are originally designed for commercial functions. This aligns with Pratiwi et al.'s (2022) observation on the extensive structural adjustments needed for successful conversions. However, Ilgin and Aslantamer (2024) critique Pratiwi et al.'s study for its lack of financial assessments. They argue that without a detailed cost-benefit analysis, the feasibility of these conversions remains uncertain, particularly for high-rise buildings where retrofitting costs are substantial.

From a financial and policy perspective, Hlekane and Okoro (2024) emphasize the critical need for sustainable financing models for housing conversions, particularly in African contexts. They highlight the significant barriers to conversion projects due to the lack of affordable financing options. Unlike the Netherlands case study in Pratiwi et al.'s (2022) research, where financial incentives and regulatory support have facilitated higher-quality conversions, African countries face more substantial funding challenges. Hlekane and Okoro (2024) propose solutions such as tax incentives, public-private partnerships (PPPs), and soft loans to encourage conversions while maintaining affordability for low-income earners. While they commend Pratiwi et al. (2022) for their exploration of policy innovations, they argue that the paper insufficiently addresses the affordability dimension, which is a critical factor in the African housing landscape. Hlekane and Okoro's (2024) insights underscore the importance of adopting financing models tailored to local economic contexts, a gap that Pratiwi et al. (2022) could have explored more thoroughly.

Both scholars collectively contribute to advancing the discourse initiated by Pratiwi et al. (2022). Ilgin and Aslantamer (2024) enrich the architectural and engineering dimension, highlighting the design complexities and structural considerations for skyscraper conversions.

Hlekane and Okoro (2024), on the other hand, broaden the financial and policy perspective, emphasizing the importance of equitable financing mechanisms and locally adaptable strategies. Together, their insights suggest that while Pratiwi et al. (2022) present valuable case studies from England and the Netherlands, a more comprehensive framework is required to address the financial, architectural, and socio-economic complexities inherent in office-to-residential conversions across different regional contexts.

2.7.2 Conversions in developing countries

Conversions in developing countries, including South Africa, have gained traction as a strategy to address urban housing shortages and the underutilization of office buildings. Rapid urbanization, coupled with an increase in vacant commercial properties, has made office-to-residential conversions an effective solution to repurpose these spaces. In Jakarta's central business district, for instance, the office vacancy rate reached 20% post-COVID-19 due to lockdown restrictions, shifts in work patterns, and a decrease in rental demand. The recovery to pre-pandemic vacancy rates has been slow, prompting Indonesia to explore office-to-residential conversions, similar to those in the Netherlands and England. This approach aims to mitigate the impact of the pandemic on the commercial property market and reduce the risks associated with prolonged vacancies (Pratiwi et al., 2023).

This trend has also been observed in cities like New Delhi, India; Brasília, Brazil; Mexico City, Mexico and Johannesburg, South Africa where developers have undertaken these conversions to address housing shortages, revitalize underutilized spaces, and create vibrant, mixed-use urban environments. In New Delhi, India, the decline in office occupancy has prompted a shift toward converting office buildings into residential spaces. A notable example is the conversion of the Oberoi Towers in the Connaught Place area, which has been repurposed into residential apartments (Singh, 2023). This conversion was part of a broader initiative by the Delhi Development Authority (DDA) to turn commercial properties into affordable housing. The project aims to meet the growing demand for housing in the city while making use of vacant commercial spaces (Singh, 2023). The redevelopment of these buildings also supports urban regeneration, contributing to the revitalization of the central business district.

In Brasília, Brazil, office-to-residential conversions have been a response to underused commercial spaces, especially in the wake of the pandemic. One notable project is the conversion of the Centro Empresarial Torre do Plano, an office tower in the city's administrative centre, which has been transformed into a mixed-use development with residential units. This project is part of a larger effort by the Brazilian government and private developers to repurpose commercial buildings in underutilized areas of the city to create housing opportunities and boost the local economy (Silva, 2024). The conversion has helped alleviate housing shortages in a city known for its sprawling, low-density urban development.

In Mexico City, the conversion of office buildings into residential properties has become a significant trend, especially in the Reforma and Polanco areas. A prominent example is the

conversion of the Torre Reforma, a skyscraper originally built for office use, into a mixed-use building that now includes luxury apartments. This project, completed in 2022, reflects a broader push to repurpose office buildings to address the growing demand for housing in one of the most populous cities in the world. Government incentives have played a role in encouraging such conversions, supporting developers in transforming commercial spaces into residential units while also integrating retail and recreational areas into the designs (Pérez, 2023).

Finally, in South Africa, the conversion of office buildings to residential spaces has become a key strategy to address housing shortages, particularly in Johannesburg. The BlackBrick development in Sandton is one of the most prominent examples, where an entire office building has been transformed into a co-living space designed to cater to the growing demand for affordable housing. The project, which opened in 2020, offers flexible, high-quality living arrangements with amenities aimed at young professionals and students (Joubert, 2021). In Cape Town, a similar approach has been taken with the conversion of several office buildings in the Central Business District into residential apartments, part of the city's efforts to address the urban housing crisis. These conversions not only provide more living space but also contribute to the regeneration of previously neglected areas, making the city centre more accessible and vibrant (Gordon, 2022). In South Africa, there is significant potential to transform derelict buildings into social housing units, but each project should be evaluated individually. It is a misconception to assume that every existing structure can or should be preserved. The most suitable candidates for office-to-residential conversions are those that maximize usable space. Narrower buildings with a total width of 12.5 to 15 meters are preferable, while wider and older buildings (20 meters or more) are less ideal. Fortunately, many buildings across South African cities meet these criteria and are well-suited for social housing. A critical starting point is ensuring that conversions are both financially sustainable and fit for future residential use. This often involves upfront investments in essential infrastructure such as plumbing and drainage. For developers to commit to urban renewal projects, city planners must support these efforts with a comprehensive and well-coordinated master plan (Kenealy, 2021).

It is evident that the office-to-residential conversion trend in cities like New Delhi, Brasília, Mexico City, and Johannesburg illustrates how developing countries are adapting to the changing needs of urban populations. These conversions help address housing shortages, rejuvenate underused commercial spaces, and create mixed-use environments that enhance urban liveability. The projects in these cities highlight the potential for transforming office buildings into much-needed housing, contributing to sustainable urban development and urban regeneration.

2.8 The impact of conversions on the surrounding property values

The conversion of office buildings to residential spaces, often referred to as office-to-residential (O2R) conversions, has shown a notable impact on surrounding property values.

Research indicates that the transformation of commercial real estate into residential units can drive positive changes in local property markets, both through direct effects on nearby residential properties and broader economic revitalization (Cox, 2021).

Firstly, office-to-residential conversions often lead to an increase in the desirability of the surrounding area. By introducing residential options into areas traditionally dominated by commercial properties, the conversion can contribute to greater vibrancy, attracting new businesses, amenities, and residents (Koh et al., 2020). For example, areas with successful O2R projects have reported increases in property demand, leading to rising property prices as the neighbourhood improves its liveability and appeal (Smith and Lee, 2022).

Moreover, these conversions can stimulate gentrification, a phenomenon that may lead to increased property values but also the displacement of lower-income residents (Wang, 2019). In some cases, this can result in a shift towards higher-income residents and businesses, further driving up property values in the vicinity. Conversely, there are concerns that rapid changes in property prices might price out long-term residents or businesses, leading to social inequalities (Baker and Lee, 2023).

Additionally, the financial benefits for property owners are substantial. The demand for residential properties in urban centers has been on the rise, particularly in cities recovering from the pandemic where office space vacancies remain high. In this context, O2R conversions offer property owners an opportunity to capitalize on the growing demand for housing, thereby boosting property values both in the converted buildings and the surrounding areas (Jones and Robinson, 2021).

2.9 Office Space Conversion as a Solution to the Rising Housing Demand

There are several case studies or studies from different countries on the conversion of office space to residential and more so social housing. In South Africa, there is two types of housing for the low-income communities. This is social and affordable housing. Affordable and social housing are related concepts, but they have some key differences:

Affordable housing refers to housing units, whether for rent or purchase, that are priced at a level that is affordable to individuals and families with moderate or low incomes. Various governments and organisations often have programs in place to promote and subsidize affordable housing to ensure that people with limited financial means have access to safe and decent housing options (Leishman and Rowley, 2012).

Social (or public) housing refers to housing units that owned or operated by the government or non-profit organisations and are provided to individuals or families with low incomes at below-market rents. The primary goal of social housing is to ensure that people who may not be able to afford adequate housing in the private market have safe and affordable living conditions (Granath et al., 2019).

The key differences between affordable and social housing are outlined in the table below:

Table 1 : Key differences between affordable and social housing (Home in Place, n.d.)

Affordable Housing	Social Housing
Can be privately owned or operated by both public and private entities.	Owned or operated by government agencies or non-profit organisations.
Rental rates are typically below market rates but can vary depending on the program and location.	Rental rates usually set well below market rates and are heavily subsidised by government or non-profit organisations.
May include a range of income levels i.e., not limited to very low-income households. Can also involve private entities.	Targeted at individuals and families who are vulnerable and disadvantaged and have the greatest need for housing.

Due to the rapidly increasing vacancy rates of offices brought on by COVID-19 in South Africa, some property developers have seen an opportunity to convert vacant offices to residential spaces for which there is currently a high demand. This is due to companies adopting work-from-home or hybrid models. Property developers have therefore been converting vacant offices to residential spaces, specifically lifestyle living, conducive for people working from home. This means that the residences include Wi-Fi for online meetings, desk spaces and access to facilities such as gyms, running tracks, laundry and cleaning services, restaurants, pet services and entertainment. This is due to the heightened demand for live-work-play areas brought on by the work-from-home trend (The Work From Anywhere Team, 2022). There is however still a great housing demand, especially amongst low-income people that these converted properties do not cater for. This is due to unaffordability which can only be accounted for through government subsidisation of these properties i.e., social housing. The conversion of vacant office spaces to social housing will therefore cater for the work from home trends while simultaneously addressing the need for housing amongst low-income individuals (Hoogendijk, 2019).

Social housing is a means of providing housing to low-income individuals. It is a form of housing tenure where the property is owned by a central or local government authority which subsidises rental payments to improve property affordability and to encourage integration across various income groups (Granath and Lundgren, 2019). Social housing has been used globally, and especially in South Africa, as an integrated urban development framework and a means of shifting to individuals and private sector entities providing houses rather than the government. The social housing initiative is aligned with Section 26(1) of the Constitution of South Africa which states that:

“Everyone has the right to have access to adequate housing and that in order to realise this right, the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right.”

2.10 Theoretical Framework

This section outlines the theoretical framework which underpins the concepts discussed in this study. The three main theories upon which the study is based are the Probability Theory, the Theory of Evolution and the Fuzzy Sets Theory. The Fuzzy Sets theory is a research approach that deals with ambiguous, subjective and imprecise judgments, and is used to add a quantitative element to decision making (Shan et al., 2015). It is used for decision making support systems. For this study, the Fuzzy Sets Theory is applicable to the varying behaviours amongst different groups. Specifically, variations in perceptions of conversion to social housing are expected to be observed amongst the different interview participants. Variations in feasibility of conversions (especially to social housing) according to location and underlying social constructs are also likely to be observed. The fuzzy sets theory implies that there will be uncertainty regarding the behaviour of various groups/sets. The fuzzy nature comes in due to the novelty of this initiative and uncertainty regarding its feasibility which also causes variations in the way these conversions are likely to be perceived by various groups.

The Theory of Evolution by Charles Darwin is a scientific theory relating to how species change over time. Changes in species over time is highly variable, but most of them can be described by the idea of natural selection. The theory of evolution was the first scientific theory that put together evidence of change through time and explained the process of how it happens (ThoughtCo. 2023). Darwin also introduced the term *survival of the fittest* which suggests that organisms best adjusted to their environment are the most successful in surviving (Paul, 1988). This theory is applicable to this study because it links to evolution and adaptation which has parallels with property conversions as a means of adaptation to behavioural changes brought on by the COVID-19 pandemic. The nationwide lockdowns imposed created a work-from-home culture which caused office buildings to become increasingly redundant. Given that the demand for office space is decreasing while the need for housing is increasing, there is an opportunity for office property owners to consider conversions to avoid redundancy and the risks associated with prolonged high vacancy rates. Simply, there is an opportunity for them to *survive* and *adapt* to the new normal way of work.

Probability theory is a branch of mathematics concerned with analysing random events. Under this theory, an outcome of an event is unknown prior to its occurrence but its occurrence is a subset of a range of possible outcomes (Siegmond, 2023). This theory relates to the study in the sense that the impact of conversions to social housing on the property prices is unknown. Also, due to the novelty of the work-from-home culture, the likelihood of office buildings becoming redundant is also determined by chance.

2.11 Conceptual Framework

Charles Darwin's theory of evolution, introduced in the 19th century, emphasizes species' ability to thrive over time through adaptation to environmental changes. While primarily a biological concept, its core principles—adaptation, survival, and selective pressures—are broadly applicable, including to the evolution of urban spaces (Darwin, 1859).

Darwin's theory highlights how selective pressures drive adaptation. Species unable to adapt risk extinction, as they lack traits necessary for survival in a changing environment. This idea can be analogously applied to the South African real estate market, especially post-COVID-19, where a shift in work culture and urban needs has profoundly altered demand. The rise of remote work has reduced the need for office spaces, leaving many commercial properties obsolete in their original function (Smith, 2023). At the same time, growing urban populations and a persistent shortage of affordable housing have increased demand for residential spaces (Statistics South Africa, 2024). Repurposing office buildings into residential properties represents a response to these new “selective pressures.” By adapting underutilized spaces to meet evolving societal needs, developers ensure their relevance in a post-pandemic society (Brown et al., 2022).

Focusing specifically on housing, converting office spaces addresses two major challenges: alleviating housing shortages and revitalizing areas facing economic stagnation. Adaptive reuse of commercial properties ensures the survival of physical structures while fostering sustainable urban development. This approach aligns with Darwin’s principles of survival and adaptation, emphasizing the importance of evolving in response to shifting conditions (Jones, 2021).

The term "survival of the fittest," later coined by Herbert Spencer after studying Darwin's work, stresses that species most suited to their environment are more likely to thrive, while those unable to adapt risk extinction (Spencer, 1864). Similarly, office spaces face obsolescence as demand for them continues to decline, contrasting with the rising need for residential housing. Adaptation, in this context, requires creativity and innovation. The diversity of vacant office buildings offers opportunities for varied housing solutions, such as social housing and student accommodations (Ngwenya & Khoza, 2023). By reimagining these spaces, developers can address housing shortages while breathing new life into unused structures.

This strategy also reflects a commitment to sustainability—a core theme of Darwin’s theory. Adaptations often lead to greater efficiency and resource optimization. By repurposing existing buildings, developers reduce the need for new construction, minimizing resource consumption and environmental impact (Green & Patel, 2023). This forward-thinking, sustainable approach to urban development addresses immediate housing needs while promoting long-term resilience.

Just as species must evolve to survive in changing ecosystems, buildings and urban spaces must transform to remain functional and relevant. Declining demand for office spaces alongside increasing housing needs highlights adaptive reuse as a key survival strategy for the built environment. This transformation not only ensures the ongoing relevance of structures but also addresses societal challenges such as affordable housing and urban renewal. Ultimately, converting office spaces into residential properties is a practical embodiment of evolutionary principles, promoting resilience and sustainability in a post-pandemic world (Johnson et al., 2025).

Diagram 1 shows the flow diagram of the conceptual framework based on Darwin's theory of evolution applied to the adaptation of urban spaces. It illustrates the connection between the theory, selective pressures, environmental adaptation, and the transformation of office spaces into residential properties in response to post-COVID-19 challenges.

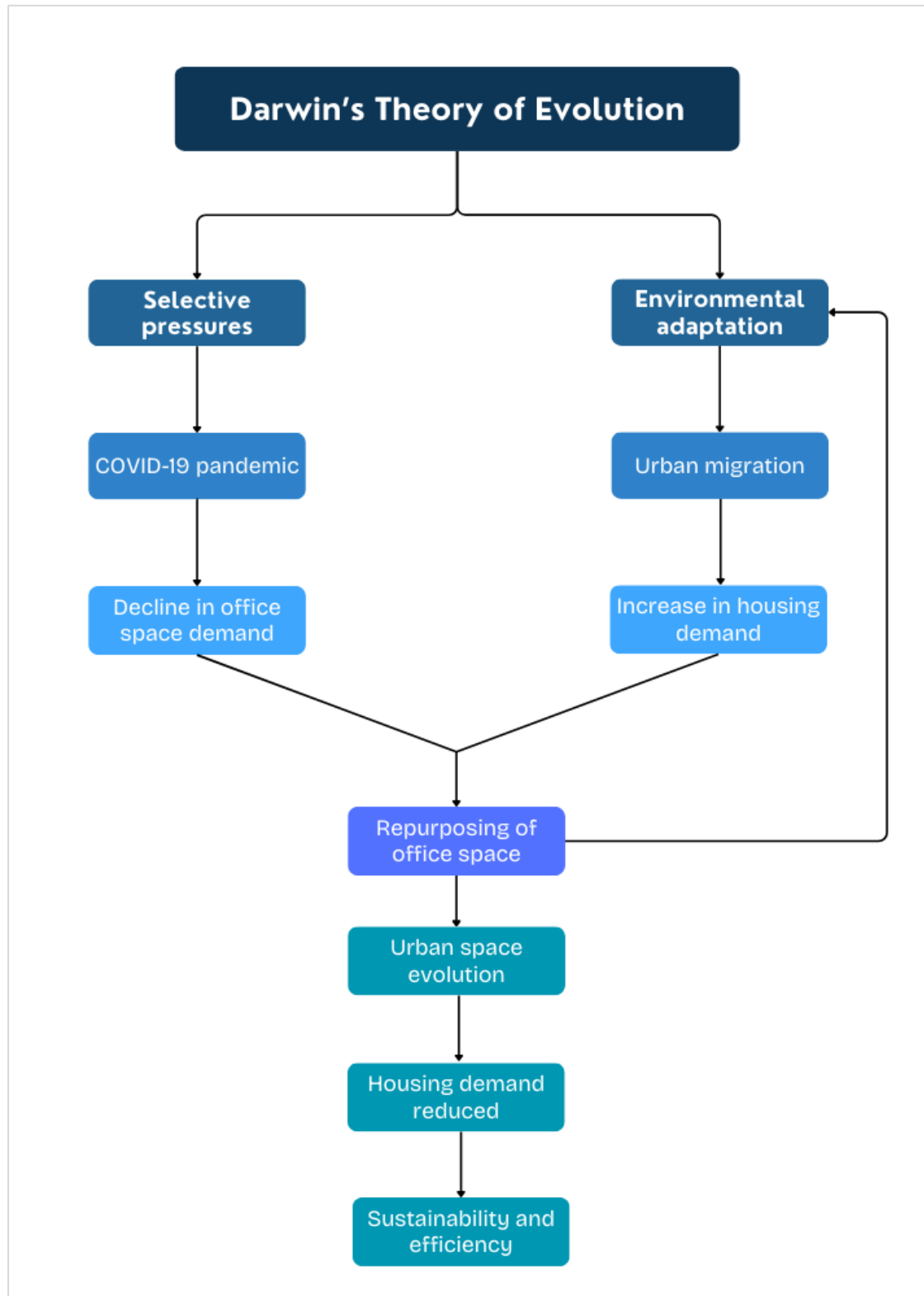


Diagram 1 : Flow diagram of conceptual framework

2.12 Chapter Summary

This literature review examined the various dimensions of office-to-residential conversions, particularly in the context of South Africa. It began by analysing the historical impacts of the apartheid-era land policies and the limitations of the RDP initiative on the South African real estate market. This historical context laid the foundation for understanding the current spatial challenges in the country. A comprehensive background on social housing was provided to contextualise its purpose, evolution, and implementation both globally and in South Africa. The section explored how social housing functions as a response to systemic housing shortages and socio-spatial inequalities, particularly in post-apartheid South Africa. It also highlighted the structural challenges and limitations of current housing strategies, establishing a strong foundation for understanding the role of adaptive reuse and innovative housing solutions. The review then shifted to the impacts of the COVID-19 pandemic on commercial real estate, specifically focusing on the rise of vacancy rates due to changes in work patterns and the performance of property-related financial instruments like REITs. These developments have created an increased availability of commercial spaces, setting the stage for potential conversion projects. Alternative perspectives and adaptive reuse strategies were examined to present a balanced counterargument and to ensure a more nuanced, holistic understanding of the potential and limitations of office-to-residential conversions.

Next, the review explored the key considerations for office-to-residential conversions, particularly the importance of location. Proximity to essential services and amenities is critical for ensuring the success and attractiveness of these converted spaces. Conversions, when strategically located, can act as a tool for urban regeneration, revitalizing vacant or obsolete buildings and contributing to the revitalization of urban areas. The review also highlighted examples from both developed and developing countries, showcasing the challenges and opportunities associated with these conversions. These case studies revealed that while the process can be complex, it offers significant potential benefits, such as improved property values and positive effects on local communities.

Further discussion focused on how office-to-residential conversions can address the growing demand for housing. In particular, these conversions can provide a solution to the shortage of affordable housing, which is a pressing issue in many urban centres, including South Africa. By transforming underutilized commercial spaces into much-needed residential units, these conversions offer a way to meet housing demand while simultaneously contributing to urban revitalization.

Finally, the review incorporated theoretical frameworks to explain the broader implications of these conversions. Drawing on scientific theories, including Darwin's theory of evolution, it emphasized the importance of adaptability to shifting work patterns and evolving urban needs.

The literature suggests that office-to-residential conversions present a viable solution to the dual challenges of underutilized commercial real estate and rising housing demand. These conversions, when strategically implemented, can revitalize urban areas, increase property values, and provide much-needed housing, especially in the context of South Africa's evolving

socio-economic landscape. However, successful conversion projects require careful planning, consideration of location, and alignment with broader urban development goals to fully realize their potential.

3. RESEARCH DESIGN

3.1 Introduction

This chapter describes the research methods adopted for the study. The first section outlines the research philosophy, approach, research strategy and research design of the study. The second section discusses the sampling procedure and sampling design adopted for the study. The third section then describes the survey measurement instrument used for data collection from respondents (real estate agents, property developers, architects, town planners and representatives from the Social Housing Regulatory Authority (SHRA)). Section four then discusses the data collection and analysis process employed. Finally, the ethical research considerations were outlined.

3.2 Research Philosophy and Approach

Research philosophy is governed by a set of beliefs which control how reality is interpreted and investigated. The appropriate research philosophy for a given investigation depends on the knowledge being investigated (Kirongo & Odoyo, 2020). The five major research philosophies are: positivism, interpretivism, critical realism, post modernism and pragmatism (Saunders et al., 2015). The two main philosophies identified in the western tradition of science are positivism and interpretivism (Saunders et al., 2015).

3.2.1 Positivism

Positivism regards the world as largely objective and measurable in terms of the use of numbers (Aminuddin, 2019). In positivist science the researcher is the sole possessor of knowledge and initiator of action (Kirongo and Odoyo, 2020). Positivists believe that reality is stable and objective (Levin, 1991). Positivists use existing theory to develop a hypothesis and research and measure what is observed. Positivism is linked to a deductive approach whereby the researcher cannot impose their beliefs, and observations and measurements are key.

3.2.2 Interpretivism

Interpretivism suggests that the world is largely subjective and can be viewed/interpreted in a variety of different ways (Wahyuni, 2012). Interpretivism separates human beings to physical objects by our ability to create meaning and understanding of social worlds and contexts. Interpretivism is rooted in subjectivity and focuses on complexity and richness of knowledge

and a deep understanding of complex concepts (undertakes an in-depth investigation of phenomena) (Saunders et al., 2015).

3.2.3 Rationale for Choice of Approach

For this research, the philosophical stance draws on both positivism and interpretivism, reflecting a pragmatic and mixed-methods orientation. Positivism views reality as objective, stable, and measurable, and is commonly associated with quantitative research. Under this paradigm, the researcher is seen as a neutral observer who formulates hypotheses and systematically tests them using empirical data (Kironko & Odoyo, 2020). This approach is appropriate for examining patterns, trends, and potential correlations—such as the measurable impact of commercial-to-residential conversions on property values.

In contrast, interpretivism holds that reality is socially constructed and subjective, acknowledging that people experience and interpret the world in different ways depending on their social, historical, and cultural contexts. This philosophy is aligned with qualitative methods and allows for a deeper, contextual understanding of lived experiences, meanings, and perspectives. It is particularly useful in exploring how stakeholders—such as residents, property developers, and urban planners—perceive and experience the conversion of office buildings into residential units (Al Riyami, 2015; Creswell, 2007).

By integrating both approaches, this study benefits from a dual philosophical grounding. The deductive element, rooted in positivism, enables the development and testing of hypotheses about the impacts of adaptive reuse on property values and urban dynamics. The inductive element, rooted in interpretivism, facilitates the generation of insights and themes from participants' narratives, contributing to theory-building grounded in specific social realities (Thomas, 2006; Peacock, 2016).

This philosophical pluralism allows the study to balance generalisation with contextual understanding, thereby capturing both the measurable outcomes and the nuanced social dimensions of converting commercial spaces into social housing within post-apartheid South African cities – specifically in the northern Johannesburg suburbs.

3.3 Research Strategy and Design

This study adopted a mixed-methods approach, combining both qualitative and quantitative data to develop a more comprehensive understanding of the research problem (Dmochowski, 2016). The rationale for this approach lies in its ability to draw on the strengths of both paradigms: quantitative data provides measurable, generalisable insights—such as trends in perceptions or demographic patterns—while qualitative data offers depth and context, allowing for a richer exploration of lived experiences, motivations, and meanings that cannot be captured through numbers alone (Creswell & Plano Clark, 2011).

The qualitative component consisted of semi-structured interviews and open-ended survey questions, while the quantitative component was embedded within the same online survey using structured, closed-ended questions. The survey was distributed across four case study areas located in the northern suburbs of Johannesburg, as outlined in Section 3.4.2. This method was selected for its efficiency in gathering broad responses from a larger number of participants, enabling preliminary analysis of general trends.

Data collection followed a sequential design: the online survey was administered first, generating both quantitative metrics and qualitative insights through open-ended responses. However, given the often-limited detail in written responses to open-ended questions, interviews were subsequently conducted using the same core questions to probe deeper and clarify ambiguities. This step ensured that any gaps in the survey data—particularly in understanding complex or context-specific experiences—were effectively addressed.

The use of interviews allowed for follow-up questions, personal narratives, and elaboration on issues such as the social impacts of adaptive reuse or personal experiences with converted properties. In line with Tuli (2010), the qualitative data helped uncover dimensions of the research problem that are not directly observable, such as perceptions of spatial inequality, housing satisfaction, and institutional challenges in conversion projects.

Ultimately, the integration of both data types not only enhanced the validity of the findings through triangulation but also enabled a more nuanced analysis that accounts for both measurable outcomes and subjective experiences—crucial in a context as socially and historically complex as post-apartheid urban South Africa.

The quantitative component involved secondary data on property trends in the Randburg area. The area was selected because conversions of commercial real estate to affordable housing had already been completed there.

The objective of adopting a mixed-methods approach was to better understand the dynamics from those involved in office space conversion to residential through surveys and interviews and then see how this affects property values. In this way, the sequencing of data collection ensured that the results of the qualitative study complemented and informed those of the quantitative study, creating a holistic understanding of the research problem.

3.4 Delineation of Study

3.4.1 Study Setting

The study was done in Johannesburg, South Africa. Johannesburg was selected as a study location because it is a business and economic hub with several office buildings and hence would provide a good view of the rising vacancy rates of office buildings as a consequence of COVID-19. The impact of rapid rates of urbanisation are also highly apparent in Johannesburg.

3.4.2 Site Selection

To assess the feasibility of conversion from commercial real estate to social housing, vacant office buildings in the northern suburbs of Johannesburg (Midrand, Bryanston, Sandton and Randburg) have been identified. These offices are vacant, and some may have been vacant even prior to the COVID-19 pandemic as office vacancy was a pre-pandemic issue. Developers may have intended to revamp and revitalise these buildings but the adverse economic effects and introduction of the work from home culture brought on by the pandemic lessened the possibility of doing so and hence other possible and more viable solutions need to be considered as these properties are losing income and value over time. These properties have been identified as properties with potential to be converted from commercial office space to social housing. The Midrand, Randburg, Sandton and Bryanston areas were selected as focal areas to assess the feasibility of these conversions in low-, middle- and high-income areas.

These are some of the existing conversions in the aforementioned areas:

1. Blackbrick (Bedfordview and Sandton)
2. The Landmark (Randburg)

Blackbrick



Figure 3: Blackbrick Apartments (BlackBrick, 2022)

The Landmark



Figure 4: The Landmark apartments

This building (The Landmark apartments) is a conversion that forms part of the quantitative analysis of the study detailed in Section 4.5. The original office building was converted to affordable housing (now called The Landmark apartments).

During a field visit to the northern suburbs of Johannesburg, several commercial office buildings were observed and photographed (by the researcher) with visible “For Sale” or “To Let” signage, indicating vacancy. These properties were selected for illustrative purposes, as they represent potential candidates for adaptive reuse into residential or social housing due to their location, infrastructure, and transport access.

The following are properties identified for potential conversion to social housing:

Midrand (Middle-income)



Figure 5: Proposed Midrand property (Street view)



Figure 6: Surrounding properties

Bryanston (Middle to high-income)



Figure 7: Proposed Bryanston property (street view)



Figure 8: Surrounding properties

Randburg



Figure 9: Proposed Randburg property (street view)



Figure 10: Surrounding properties

Sandton



Figure 11: Proposed Sandton property

3.5 Population of the Study

Property developers, real estate agents in Randburg, Sandton, Midrand, and Bryanston constituted the unit of analysis for the online survey and interview components of the qualitative study. In addition, experts from the field including town planners, architects and representatives from the Social Housing Regulatory Authority (SHRA), who were not necessarily from the identified areas in the Northern suburbs, were included as interview and/or online survey participants. Data from Property24 was utilised for the quantitative analysis of property trends in the Randburg area within a 400m radius of existing property conversions.

3.6 Sampling Design

3.6.1 Sample Size

The sample size for this study was determined primarily by the accessibility and availability of participants with relevant knowledge and experience in the field of adaptive reuse and housing. While a larger sample may have been desirable for broader generalisability, the focus of this research is exploratory in nature, and as such, priority was placed on gathering insights from individuals with direct, practical experience.

The population for the study will comprise of the following:

Online surveys

- 10 Property Developers
- 9 Town Planners
- 8 Architects
- 5 Real Estate Agents

Interviews

- 1 SHRA representative
- 2 Property Developers
- 7 Real estate agents

These stakeholders were selected as they are involved in property and understand property trends from on-site experience. They also have a view of buyer behaviour which added insight to the qualitative aspect(s) of the study. The SHRA representative is involved in social housing development and the regulation thereof.

3.6.2 Sampling Technique

Sampling is the process of selecting individuals from a broader population to generate insights that reflect the characteristics or experiences of that population (Nyoni, 2019). For this study, purposive sampling was used—a form of non-probability sampling in which participants are selected based on specific characteristics, expertise, or experiences relevant to the research topic (Vehovar et al., 2016).

Purposive sampling is especially appropriate for a mixed-methods approach, as it enables the researcher to intentionally select individuals who are most likely to provide rich, relevant, and diverse insights into both the measurable and interpretive aspects of the research problem. In this case, the study explores the adaptive reuse of commercial buildings into residential housing in South Africa, a specialised topic requiring input from professionals such as property developers, urban planners, architects, and real estate agents. These participants possess context-specific knowledge that is essential for answering both the qualitative and quantitative components of the study.

By selecting participants based on their expertise and direct involvement, purposive sampling supports the qualitative strand of the study by capturing in-depth perspectives and experiences, while also benefiting the quantitative strand by ensuring that survey data is informed by those with a grounded understanding of the subject matter.

3.7 Data Collection

Both qualitative and quantitative data were collected in this study to ensure a comprehensive understanding of the phenomenon of office-to-residential conversions. The data collection process began with an online survey, which included both closed-ended and open-ended questions. The use of closed-ended questions was intended to collect structured, comparable data that could be quantified and analysed for patterns across different respondent groups. These questions were particularly useful for collecting demographic information and standardised views on key themes such as market feasibility, policy constraints, and perceptions of demand.

In contrast, open-ended questions allowed respondents to elaborate on their answers and provide contextual and nuanced insights. These responses often captured experiences, opinions, and explanations that would not have been accessible through closed questions alone. This qualitative depth was critical for exploring the complex social, economic, and spatial dynamics involved in adaptive reuse, particularly within South Africa's historically unequal urban landscape. To further explore and clarify the qualitative responses, these same open-ended questions were then adapted and used as a basis for follow-up interviews.

The purpose of combining surveys and interviews was to triangulate findings and gain both breadth and depth of understanding from different stakeholders, including property developers, architects, planners, and real estate agents. All participants were informed about the purpose of

the research, and their informed consent was obtained for both participation and the inclusion of their responses in the final study.

Online surveys were distributed and completed via Google Forms, a convenient and accessible platform that allowed respondents to complete the questionnaire remotely. Once a participant submitted their form, the responses were immediately stored in the researcher's database for analysis. Interviews were conducted in person.

For the quantitative component, secondary data on property sales prices before and after conversions in the Randburg area was collected from Property24, one of South Africa's leading online property listing platforms. Property24 was selected due to its reliability, wide coverage, and up-to-date listings of both commercial and residential properties. It provides historical pricing information, enabling a comparison of property values pre- and post-conversion. The platform's user-friendly interface and filtering options also allowed for targeted searches within specific suburbs and property types, making it a valuable source of market data relevant to this study.

3.8 Measurement Instrument

Measurement instrument refers to various methods through which a researcher obtains data from respondents. For qualitative research, the measurement instrument is the list of questions to be asked when conducting the online surveys and interviews. The questions in the online survey were a mixture of multiple choice and open-ended questions and for interviews, it was semi-structured. The interview questions are presented in the Appendix.

3.9 Data Analysis

Descriptive statistics and thematic analysis were used to analyse data from the online survey. Thematic data analysis was employed in this study, focusing on identifying, analysing, and interpreting patterns of meaning within qualitative data (Braun and Clarke, 2012). The thematic data analysis was applicable to the analysis of interview and open-ended responses from the survey.

Data for the quantitative analysis was sourced from Property24, focusing on property sales trends in the Randburg area. A comparative analysis was used for the secondary data from Property24 to examine changes in property sales before and after the conversions, specifically within a 4km radius of the converted properties. This analysis aimed to determine whether these conversions influenced the values of neighbouring properties, providing insights into the broader economic implications of such developments.

The rising office vacancy rates in South Africa, currently estimated at 17% because of COVID-19, have led property developers to repurpose vacant office spaces into residential properties. This trend has been especially prominent in urban centres where office spaces are concentrated.

Johannesburg, as the economic hub of South Africa, was selected as the focal area for this study. The research investigates recent conversions of vacant office spaces to residential spaces and assesses their feasibility based on the following factors:

1. Costs of conversions
2. Effects of conversions on property values of neighbouring properties
3. Demographics of people occupying these converted properties and whether they align with the intended target market(s).
4. Facilities included to accommodate people working from home.
5. Time taken to complete conversions.
6. Rates and rental costs of these properties.

This integrated approach, combining qualitative insights and quantitative analysis, provides a comprehensive understanding of the viability and implications of converting office spaces into residential properties.

3.10 Ethical Considerations

Ethics in research refers to the individual and communal codes of behaviour that relate to how a study is conducted. Researchers therefore need to anticipate and address ethical issues that may arise during the research process (Creswell, 2007). For this research, data collection commenced once the researcher had satisfied institutional requirements for ethical clearance from the Research Ethics Committee of the University of the Witwatersrand.

The ethical issues that informed the study entailed ensuring that study participants were neither marginalised nor disempowered, succinctly conveying the purpose of the study to them, obtaining their informed consent, and re-assuring them that their rights are protected throughout the data collection phase (Babbie, 2001). The researcher also upheld ethical procedures during data collection by seeking permission from the relevant authorities to access study participants at specified research sites, as well as provide accurate accounts of the empirical data collected during the analysis and interpretation phases (Ware and Dillman, 2014).

Semi-structured interviews and online surveys were conducted to determine perceptions of social housing. Consent to conduct these surveys was obtained from the relevant individuals. Consent to be interviewed and included in the study was granted verbally and in writing. These disclaimers were stated in the online survey. All relevant parties were interviewed voluntarily and were free to withdraw from the study at any point in time. The identity of interviewed parties was concealed and protected i.e., 'Participant A' was used rather than referring to the individual by name. Answers to the interview questions were not fabricated and data is to remain confidential.

3.11 Validity and Reliability

In mixed methods research, ensuring the validity and reliability of findings is essential to establish the trustworthiness and robustness of the study. Validity in mixed methods research refers to the extent to which the findings accurately represent the data collected and the phenomenon under investigation (O'Cathain, Murphy, & Nicholl, 2019). For quantitative data, validity ensures accurate measurement and interpretation, while in qualitative research, it ensures a true representation of participants' perspectives (Creswell & Plano Clark, 2017). Given the combined qualitative and quantitative nature of this research, which includes online questionnaires, interviews, and a quantitative analysis of property trends in the Randburg area from 2015 to 2024 obtained from Property24, specific strategies were employed to uphold validity and reliability.

3.11.1 Credibility

Credibility involves establishing confidence in the truth of the findings based on the research context and participants' perspectives. Techniques such as triangulation, member checking, and prolonged engagement enhance credibility (Lincoln & Guba, 1985). In this study, participants were given the opportunity to review and confirm their responses to ensure that the data captured accurately represented their views.

Triangulation was particularly vital in enhancing credibility. It involves using multiple methods, data sources, or theoretical perspectives to examine the same phenomenon (Denzin, 1978). By comparing and cross-verifying information from online questionnaires, semi-structured interviews, and quantitative property trend data, this research minimized biases and ensured a comprehensive understanding of the viability of converting commercial real estate to social housing.

3.11.2 Transferability

Transferability refers to the extent to which the findings can be applied or transferred to other settings or populations. Providing rich, detailed descriptions allows readers to assess the applicability of the research to their own contexts (Merriam & Tisdell, 2015). In this study, while the online questionnaires were anonymous and lacked detailed contextual information about participants, the semi-structured interviews provided rich, contextual insights into participants' experiences, offering a deeper understanding of their perspectives on the viability of converting commercial real estate to social housing. This interview data were key in providing thick descriptions that could facilitate transferability.

Despite the absence of contextual information for the anonymous questionnaire respondents, the findings from both the online questionnaires and interviews were triangulated with

quantitative property trend data. This integration allowed for a broader and more nuanced understanding, which can aid readers in evaluating whether the findings are transferable to other settings with similar commercial real estate contexts, such as those in major urban areas or those experiencing similar post-pandemic challenges.

3.11.3 Dependability

Dependability focuses on the consistency and stability of research findings over time and across different conditions. It can be achieved by maintaining an audit trail and thoroughly documenting the research process (Lincoln & Guba, 1985). In this study, a detailed audit trail was maintained to record the data collection and analysis processes, including the rationale for data interpretation, and quantitative analysis procedures. Interviews were also recorded and transcribed to ensure transparency. This documentation ensured that the research process was transparent and could be replicated.

3.11.4 Confirmability

Confirmability refers to the degree to which the findings are shaped by the participants rather than researcher bias, motivation, or interests. Reflexivity and audit trails are common strategies for enhancing confirmability (Lincoln & Guba, 1985). To address confirmability, reflexive notes and interview recordings were kept throughout the research process to identify and mitigate potential biases. Additionally, an audit trail recorded all decisions made during data analysis to ensure that findings were based on participant data and objective quantitative insights rather than researcher assumptions.

Trustworthiness is a holistic measure that encompasses the four criteria of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). It evaluates the overall rigor and quality of mixed methods research. By employing the aforementioned strategies, this study ensured the integrity and reliability of its findings. Specifically, the use of triangulation, member checking, thick descriptions, audit trails, reflexivity, and quantitative data validation contributed to the trustworthiness of the research. These efforts ensured that the study provided meaningful and credible insights into the viability of converting commercial real estate to social housing.

By employing strategies to enhance validity and reliability, this study ensured that the findings accurately and consistently reflect the perspectives of participants while integrating quantitative data insights. These measures contribute to the trustworthiness of the research and provide a strong foundation for meaningful insights into the viability of converting commercial real estate to social housing.

4. ANALYSIS AND RESULTS

4.1 Introduction

Chapter 4 presents the analysis and findings of the study emanating from three data sets, namely quantitative data from an online survey, secondary quantitative data sourced from Property24 and qualitative data from semi-structured interviews. In the subsections that follow, each of the data set is presented and analysed separately in line with the research objectives for ease of reference. The latter part discusses the key findings against literature reviewed in the preceding chapters to evaluate its relevance and contribution to the discipline. A comparison of research findings with literature has a potential of pointing out future research projects.

4.2 Analysis and results: Questionnaire/Survey

32 anonymous and consenting participants (property developers, architects, town planners and real estate agents) in Randburg, Sandton, Midrand, and Bryanston constituted the unit of analysis for the online survey. Quantitative data from the survey were processed through the statistical analysis computer package called IBM Statistical Package for the Social Sciences (SPSS). SPSS is a widely used software package for complex statistical data analysis. Among other things, SPSS provides tools for descriptive and inferential statistics, data transformation, reliability tests and regression analysis (Abdey, 2024). The questionnaire comprised of questions that sought data on critical issues such as shifts in commercial property vacancy rates prior to and post the COVID-19 pandemic and the viability of converting commercial real estate into social housing. Furthermore, the questions assessed the perceived economic viability, benefits and risks associated with these conversions.

4.2.1 The state of office space and housing before and after COVID-19 pandemic

The presentation and analysis of the state of office space and housing before and after the pandemic stretch over several items and are examined on the basis of responses from the following research questions: Was the issue of high vacancy rates present prior to the COVID-19 pandemic? What were the main reasons for this? What are the main causes of high office vacancy rates post COVID-19? and What risks do vacant offices pose?

Figure 12 illustrates the distribution of responses regarding whether high vacancy rates was a prevalent issue prior to the pandemic, offering insight into how the timeline and contributing factors behind the commercial vacancies are perceived. From Figure 12, 50.0% of participants said the issue of high vacancy rates is an issue that emerged post pandemic and the remaining 50.0% said it was present prior to the COVID-19 pandemic. This even split shows that high vacancy rates among commercial properties is not a pandemic driven issue.

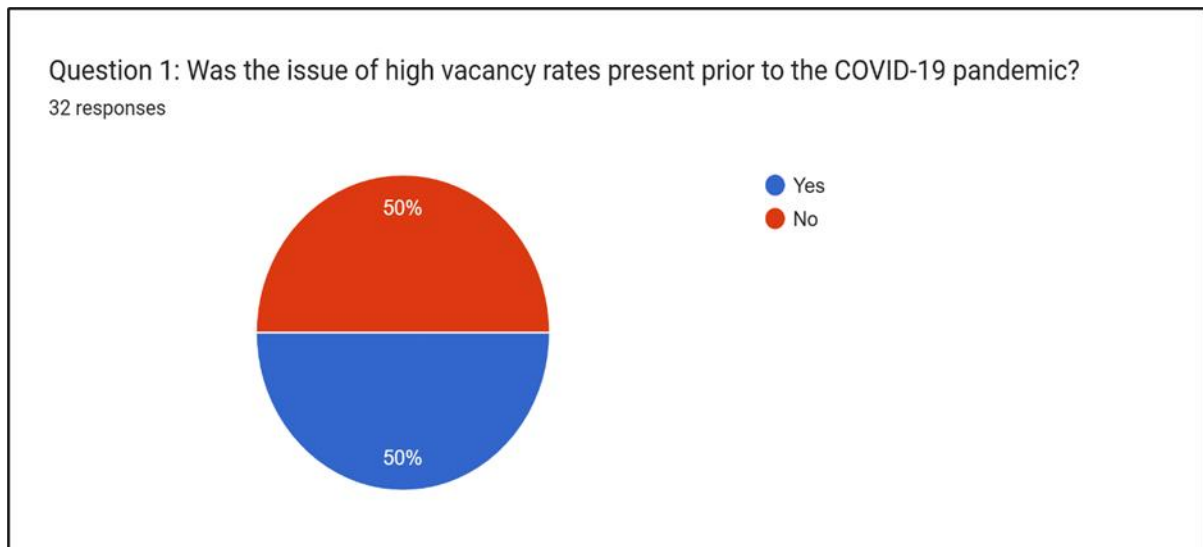


Figure 12: Perceptions of the commercial real estate vacancy timeline

Figure 13 delves into the 50.0% of participants who perceive the high vacancy rates as being an issue present even prior to the pandemic. The main reasons identified were economic fluctuations (10 respondents - 52.6%), oversupply of office space (9 respondents - 47.4%) and shifts in industry trends (5 respondents - 26.3%). Changing work styles also emerged as a contributing factor. These responses suggest that an underlying imbalance in the property market, where demand and supply are not in equilibrium, was present prior to the pandemic. These responses also suggest that economic volatility and an oversaturated market, coupled with evolving industry demands and work preferences were early indicators that the South African real estate sector was experiencing structural pressures well before the emergence of the pandemic. The prevalence of economic fluctuations as a key contributor highlights the sensitivity of commercial real estate to broader market cycles i.e., during periods of economic uncertainty, businesses are more likely to scale back on office space which adversely affects occupancy rates and causes an oversupply of office space. The shift in industry trends and changing work styles highlight evolving workforce dynamics prior to the pandemic driven by the rise in digital technology and increasing flexibility in work arrangements in certain sectors e.g., corporate sector.

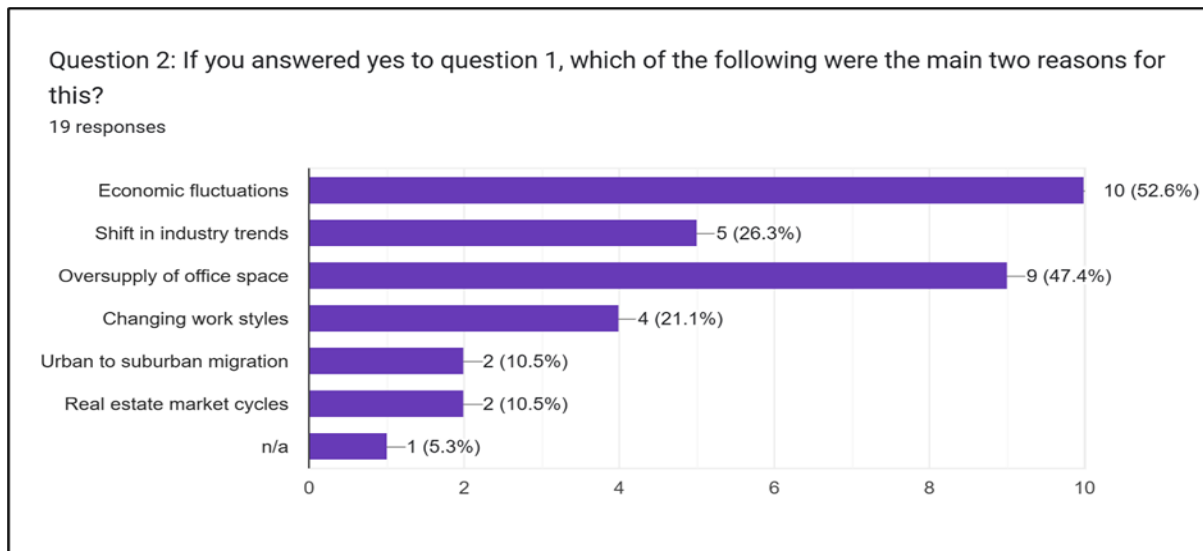


Figure 13: Reasons of high vacancy rates prior to the COVID-19 pandemic

While there was an even split in the distribution of people who viewed the pandemic as a cause or aggravating factor of the high vacancy rates, Figure 14 shows the vacancy rate drivers *post* the pandemic. The data reveals that, according to respondents, the most significant driver of high vacancy rates post COVID-19 was the shift to remote work with 93.8% identifying this factor. Also, an increase in freelancing and contract work was identified by 21.9% of respondents as a driver of high vacancy rates post pandemic. This reflects a clear shift in work culture, where the pandemic catalysed a widespread adoption of flexible and/or remote work models. Economic uncertainty was cited by 43.8% of participants, underscoring the impact of global financial instability on business decisions regarding office space.

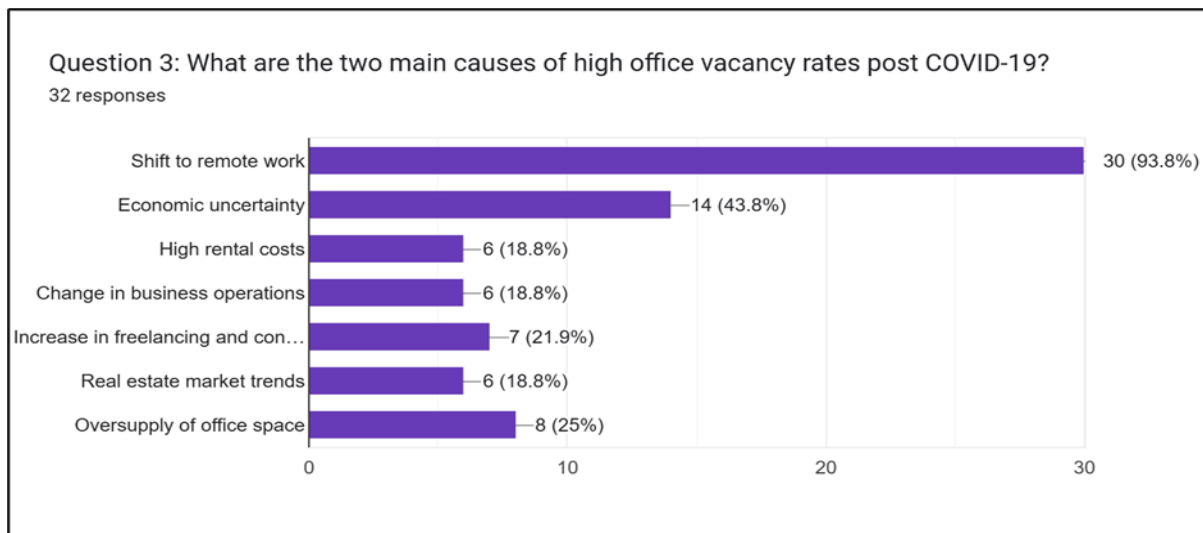


Figure 14: Causes of high vacancy rates post the COVID-19 pandemic.

An oversupply of office space was noted by 25.0%, indicating that even prior levels of demand for office space were insufficient to absorb the existing property supply - an issue exacerbated by post-pandemic trends. These findings highlight two main themes: the rapid transformation in workplace norms and a structural mismatch between office supply and shifting demand

patterns. The overwhelming response pointing to remote work highlights a fundamental shift in how companies view physical office space, with many viewing remote or hybrid work as viable and cost-effective alternatives. This trend aligns with the increased emphasis on flexibility and adaptability within the workforce which is also reflected by respondents identifying increased freelancing and contract work as a vacancy rate driver. These drivers indicate that the pandemic did not simply *cause* high vacancy rates, but rather accelerated an already existing trend, intensifying the need for adaptive strategies within the commercial real estate space.

Figure 15 highlights the emerging risks associated with the rising vacancy rates. 28.1% of participants highlighted declining property values as a major risk associated with rising vacancy rates. Declining property value is a direct consequence of supply surpassing demand which aligns with the issue of oversupply of office space which is a theme that emerged previously amongst respondents. This also highlights the economic impact that underutilised buildings have on surrounding properties as they lower neighbourhood appeal and detract investment. The majority of participants (53.1%) said all the risks presented (i.e., vandalism, theft, declining property values and hijacking of buildings) were key risks associated with vacant office space. This suggests correlation between these risk factors and an intersection between economic, social and security challenges.

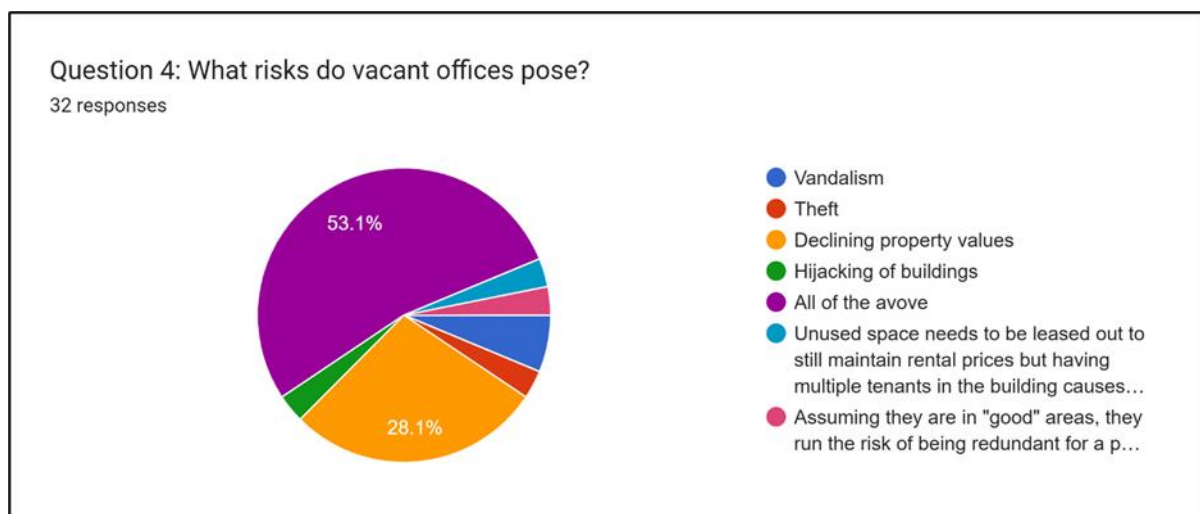


Figure 15: Risks associated with rising vacancy rates

Two participants identified additional unique risks and considerations in relation to vacant office space. The first participant brought to light that while leasing unused space could aid in sustaining rental prices, the introduction of multiple tenants into the same building raises potential security and data privacy risks, complicating the leasing strategy. The second participant identified that vacant spaces, even in well-suited areas, could suffer from prolonged redundancy, leading to extended periods without rental income. These insights show the nuanced and complex nature of the risks posed by vacant properties and show that short and long-term impacts need to be considered along with security and tenant management.

4.2.2 Demand for housing/housing shortage and possible solutions

Building on the analysis of office vacancy rates and their rise during the COVID-19 pandemic, this section shifts focus to the pressing issue of housing demand in South Africa. It explores the relationship between population growth and the escalating need for housing, highlighting the successes and shortcomings of current initiatives, such as the RDP, in meeting these needs. Furthermore, it examines the social and economic consequences of the housing shortage and assesses public perceptions regarding the potential of repurposing vacant commercial properties as residential spaces. This adaptive reuse approach is evaluated as a possible solution to mitigate housing demand while addressing the challenges associated with surplus office space.

Figure 16 presents how participants rated the effectiveness of efforts to address the housing issue in South Africa. The distribution of responses is skewed to the right, with the majority of the participants giving low ratings. The most common rating was 4 out of 10 (37.5% of respondents), indicating a general perception of inadequate progress in addressing the country's housing challenges. The range of ratings is 6 with the highest rating provided being 8 out of 10 and the lowest rating being 2 out of 10. This range coupled with the skewness of the distribution suggests a wide range of sentiments regarding the effectiveness of initiatives and efforts implemented to address the housing shortage in South Africa.

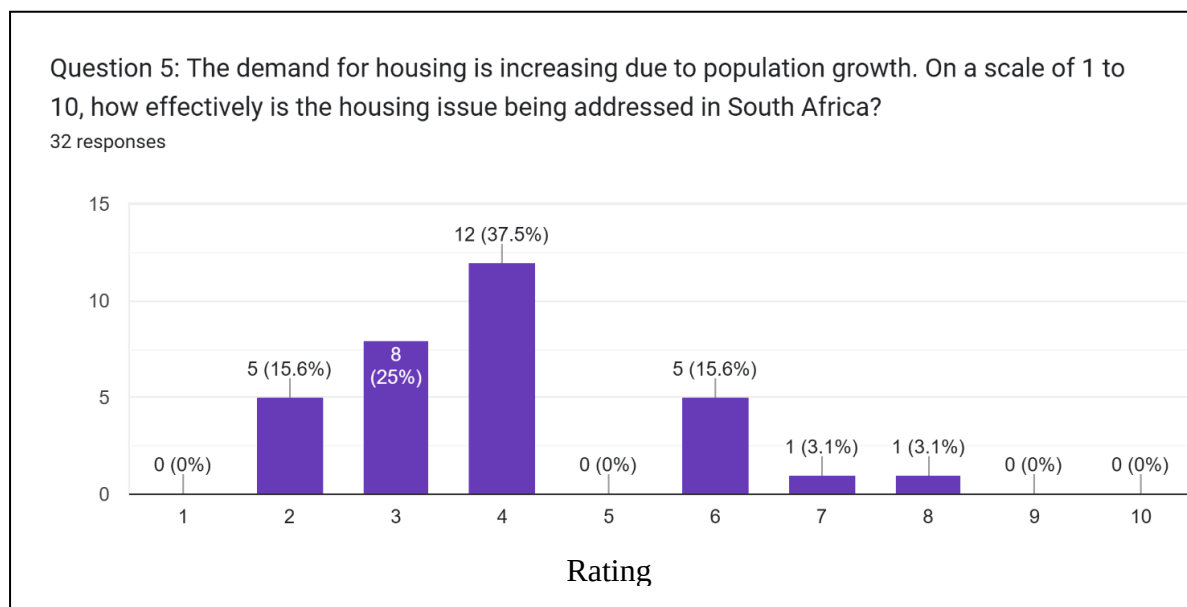


Figure 16: Distribution of perceptions of adequacy of housing initiatives

A well-known initiative implemented in South Africa to address the country's rising demand for housing was the RDP. Figure 17 illustrates participants' views on whether the RDP has successfully addressed South Africa's housing demand. A significant majority of participants (84.4%) do not believe that the initiative has been successful, and the remaining participants (15.6%) indicated otherwise. This distribution suggests a widespread dissatisfaction with the RDP initiative's effectiveness in addressing the housing shortage.

Question 6: Has the Reconstruction and Development Programme (RDP) initiative been successful in addressing the rising housing demand in South Africa?

32 responses

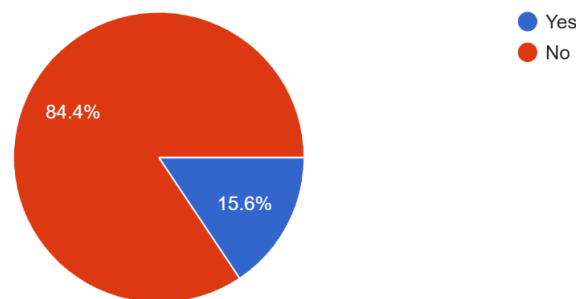


Figure 17: Views on the effectiveness of the RDP initiative

Table 2 delves into the reasonings behind the participants' views on the effectiveness of the RDP program. Among those who view RDP as a successful initiative, the key reasons for this include a reduction in homelessness, improvements in quality of life within rural areas and the fact that many South Africans benefitted from the initiative. These responses, albeit few, suggest that RDP has made some strides in addressing basic housing needs and has had a positive impact on specific communities. The overwhelming majority of participants, however, believe that RDP has not been successful in addressing the rising housing demand. These participants cited reasons such as: a persistent mismatch between demand and supply of homes, with the rate of housing development lagging behind population growth and rising unemployment. In addition, the location of these homes is not favourable as they are often far from economic centres which limits access to work opportunities, services and amenities which has a negative impact on the quality of life of the residents. Several participants highlighted that many people received these homes then sold/rented them to earn income and then moved closer to the Central Business District (CBD) for work opportunities.

Participants also highlighted issues of fraud, corruption and mismanagement of funds showing a general mistrust in the government's effectiveness in implementing such initiatives. Concerns were also raised around poor infrastructure and substandard building materials suggesting that quality issues further inhibit the program's impact. Lastly, some participants highlighted that the initiative is catered to a specific demographic of people which inadvertently aggravates existing social inequalities and impacts of the Land Areas Act. This highlights a need for more inclusive and adaptable housing solutions. These reasonings are summarised in Table 2.

Table 2 : Has RDP initiative been effective?

Yes	No
Homelessness has reduced	Demand is exceeded by supply
Improved lives in rural areas	Rate of development of RDP homes cannot keep up with rapid population growth and increasing unemployment
Many South Africans have benefitted	RDP homes are located outside major areas - away from economic activity
	Fraud, corruption, and mismanagement of funds
	Poor infrastructure and quality of building materials
	Catered for a certain demographic which aggravates existing social issues

Figure 18 addresses participants' perspectives on the consequences of South Africa's housing shortage which was aggravated by the COVID-19 pandemic. The most frequently cited consequence (74.2%) was an increase in informal settlements which is a common occurrence in South Africa as housing becomes increasingly scarce. This trend links directly to concerns of social inequality and unrest, which was also a major response (51.6%), highlighting the potential for heightened social tensions as housing shortages continue to impact vulnerable populations disproportionately. Economic and financial strain was also identified as a significant concern (29%), reflecting the broader economic pressures that the development and maintenance of housing imposes on both individuals and public resources. Additional responses noted the impact of urbanisation pressures and environmental concerns which, though less frequently mentioned, underscore the long-term sustainability challenges associated with the housing crisis. Rapid urban growth caused by migration to the main cities, places pressure and stress on infrastructure and services, while environmental concerns point to the broader impact of unplanned settlements on natural resources and urban ecosystems.

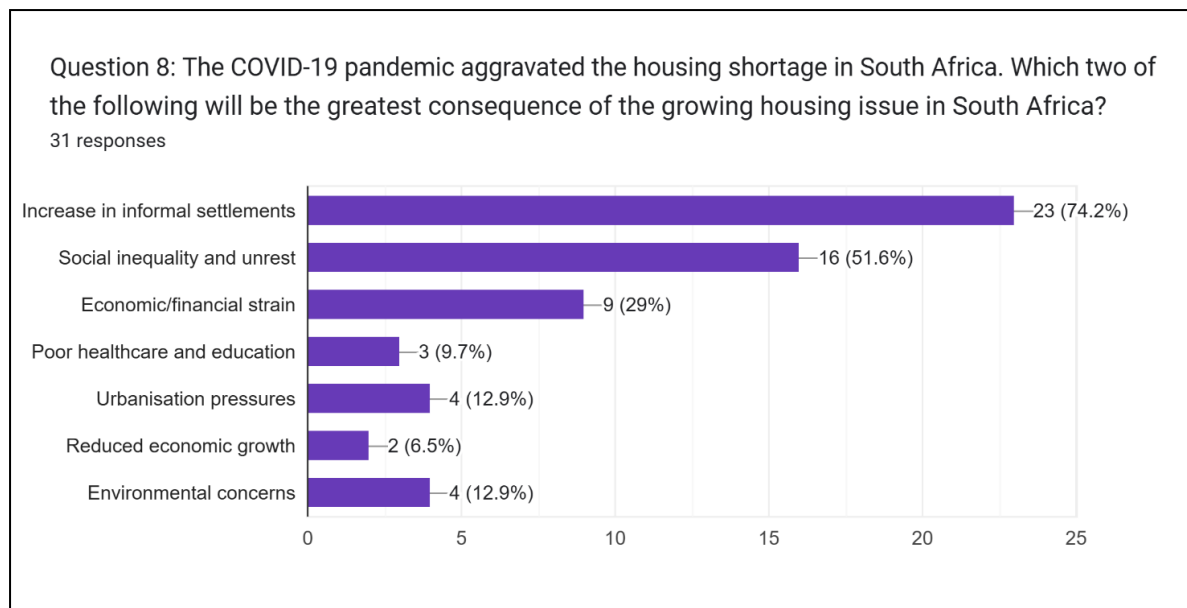


Figure 18: Consequences of the growing housing issue in South Africa

The findings across this section illustrate the complex, interwoven effects of South Africa's housing crisis, with economic, social, and environmental consequences reinforcing one another. The housing shortage is not only a matter of shelter but is also a driver of inequality, social discord, and urban strain. Addressing this issue requires coordinated efforts that account for these multifaceted impacts, including innovative and adaptive approaches to create a more sustainable and equitable housing landscape in South Africa.

4.2.3 Conversion of vacant office spaces into housing and its pros and cons

While current housing initiatives have made some strides in addressing South Africa's housing shortage, significant gaps remain, exacerbated by population growth and urbanisation. These persistent challenges call for innovative solutions that go beyond traditional housing programmes. This leads to the exploration of adaptive reuse, specifically the conversion of vacant office spaces into residential properties, as a dual-purpose strategy to address both the housing demand and the surplus of underutilised commercial spaces. This section delves into the feasibility of such conversions, evaluating their potential to alleviate the housing shortage while considering their advantages and disadvantages. Additionally, it examines the level of awareness and perceptions of real estate conversions among interview participants, shedding light on their attitudes toward this alternative housing solution.

Figure 19 shows responses to the question of whether participants consider conversions of vacant offices to residential real estate to be a feasible solution for alleviating the national housing shortage. A positive sentiment was expressed by the majority of participants with 59.4% responding yes and 34.4% cautiously responding maybe. Only 6.2% of participants responded no. This shows that the majority of participants perceive conversions as an efficient use of idle space that could be used to address housing needs in urban areas. The participants who responded maybe perceive conversions as viable to an extent due to concerns around zoning regulations, costs of conversions and the suitability of office space for residential use.

Similar concerns were present amongst the participants who responded no. These concerns are later detailed in Table 3.

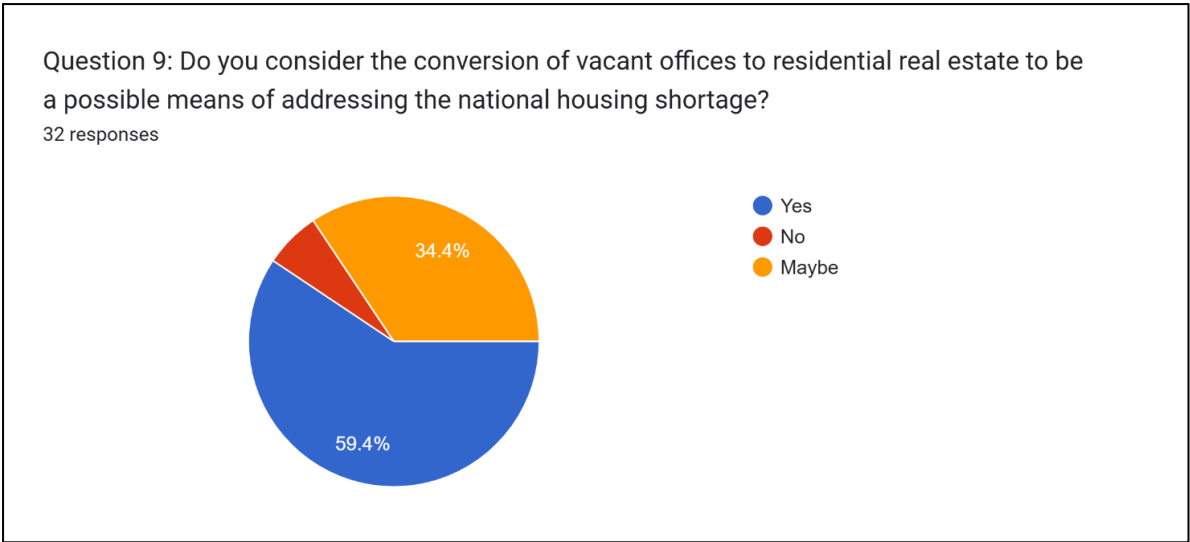


Figure 19: Perceptions of feasibility of conversions from commercial to residential property

Figure 20 shows the advantages of conversions of vacant offices to residential real estate identified by participants. A significant proportion of participants (43.8%) highlighted urban renewal as a primary advantage, suggesting that conversions have the potential to revitalise urban areas by bringing new residential life to underused areas. Additionally, 25.0% of participants saw the removal of vacant and outdated buildings as a key benefit, implying that the repurposing of these spaces could improve the aesthetic and functional landscape of urban areas. Another 15.6% of participants viewed these conversions as an effective strategy to address pressing urban challenges, recognising the potential for these conversions to address both housing shortages and urban deterioration/decline.

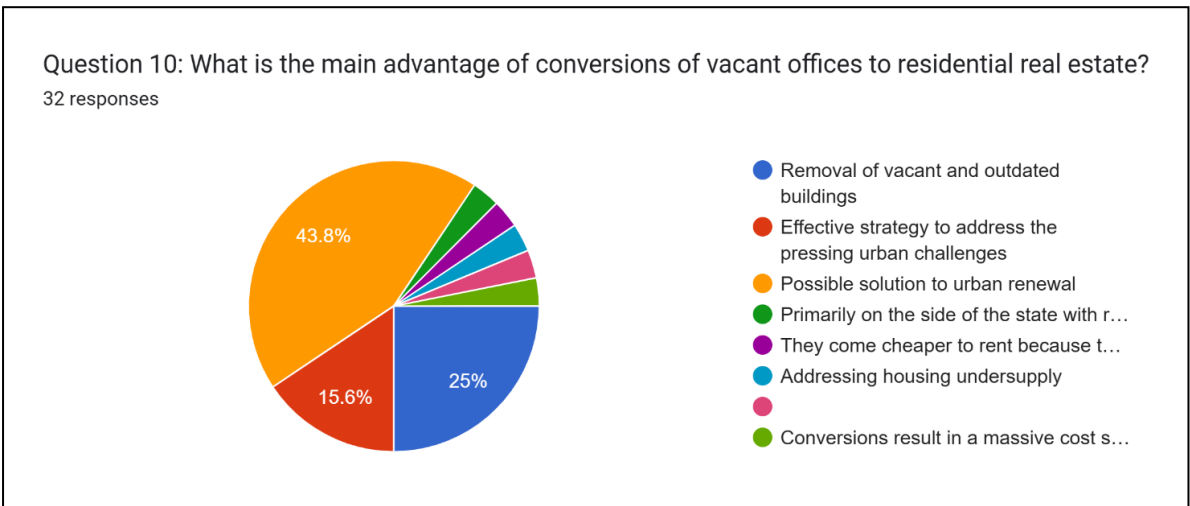


Figure 20: Advantages of commercial to residential property conversions

Additional advantages identified included granting the right to housing which is a basic human right in South Africa. Other participants noted that conversions could offer cost savings as

adapting existing structures generally requires less capital than building homes from scratch, which would make housing more affordable. Lastly, participants pointed out the value of conversions from the perspective of reducing the economic and social costs associated with unoccupied spaces. These perspectives underline the potential of real estate conversions not only as a solution to the housing shortage but also as an effective strategy for urban rejuvenation and cost-saving in areas with a high demand for housing.

Table 3 adds colour to the “no” and “maybe” responses to the question around the feasibility of commercial to residential property conversions (illustrated in Figure 19). It shows the disadvantages of these conversions identified by participants. Key concerns are around economic shifts (i.e., economic activity moving away from the converted area due to the reduced employment opportunities), costs of conversions and maintenance of these converted properties, zoning restrictions which are legal barriers and design and infrastructure limitations since offices were not initially designed for residential use and hence may not have the electrical or plumbing capacity.

Other challenges include a potential decline in property values due to mixed land use, inadequate soundproofing and high conversion costs that may drive up rent prices, limiting the affordability and catering primarily to higher-income groups. Security was also raised as a concern as some buildings that have conversion potential have already been hijacked and that is a risk which would have to be managed prior to redevelopment. Lastly, a participant highlighted that increased living density without amenities can create slums especially without improving infrastructure and services.

Table 3 : Disadvantages of commercial to residential conversions

Number	Disadvantages of commercial to residential property conversions
1	Economic activity moves away from the area
2	Cost of quality conversions
3	Zoning restrictions
4	Design limitations and infrastructure/services capacities
5	Aligning to demand is essential otherwise it could worsen abandonment and vandalism
6	Possible decline in property values due to mixed land use
7	Inadequate sound proofing
8	Conversions in urban areas will cater for higher income groups due to high rent prices
9	Several buildings in Johannesburg with conversion potential have been hijacked

These disadvantages align to what was observed in Figure 20. While participants view conversions as an opportunity for urban renewal and the removal of vacant buildings, these potential drawbacks emphasise the complexity of adapting commercial property to residential use. The financial and regulatory barriers, as well as concerns in and around infrastructure and affordability underscore the need for thoughtful planning to ensure that conversions align with demand and community specific needs. Additionally, a balance must be achieved between revitalising areas and preserving economic activity and existing ecosystems.

Figure 21 illustrates the level of awareness participants have regarding real estate conversions occurring in their local areas. The majority (53.1%) indicated that they were not aware of any conversions while 43.8% reported awareness of such conversions. The remaining participants were aware that conversions were possibly occurring but were not aware of any specific conversions. These findings suggest a general lack of visibility or communication around real estate conversion projects; however, a substantial proportion of participants were aware of such conversions indicating that conversions may be gradually gaining public recognition due to social media or noticeable shifts in the use of spaces.

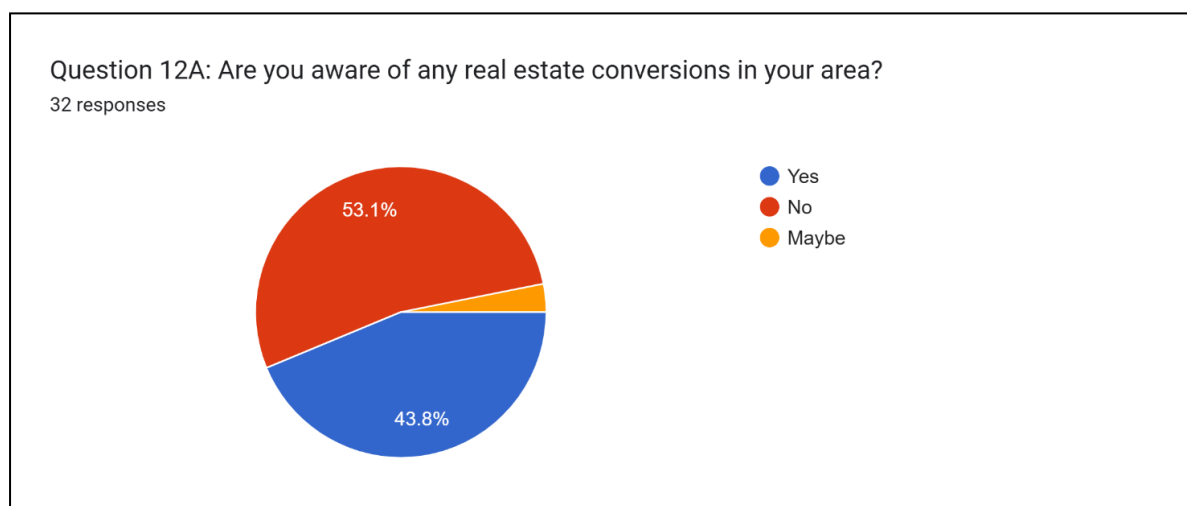


Figure 21: Distribution of awareness around existing conversions

Table 4 shows the conversions identified by participants, their location, and their current and previous use. These conversions reflect a broader trend in Johannesburg of repurposing commercial properties to address housing demands and revitalise urban areas.

Table 4 : Existing conversions identified by participants

Conversion property	Location	Current use	Previous use
Blackbrick	Senderwood	Apartments	Office park
Blackbrick	Sandown	Apartments	South African Breweries (SAB)
Apollo	Sunninghill	Apartments	Office park
Live Easy	Fourways	Affordable housing	Office park
The Onyx	Sandton	Apartments	Office park
The Apex	Rosebank	Apartments	Office park
The Bolton	Rosebank	Apartments	Office park
Empire Road Offices	Braamfontein	Student accommodation	Office park

4.2.4 Impacts of conversions from office space to social housing on surrounding house prices

This section explores perceptions of social housing, focusing on its purpose, effectiveness and potential role within South Africa's urban landscape. It delves into views on the feasibility of converting commercial property to social housing, assessing perceived economic benefits and impacts on property values of surrounding properties. This section also touches on the broader social, racial, and economic implications of social housing, evaluating its viability as a potential strategy to address historical imbalances. Finally, alternative uses for vacant office space(s) are explored.

Figure 22 illustrates participants' understandings of social housing, revealing a range of perspectives on what the term encompasses. A significant portion of participants (43.8%) described social housing as government-subsidised housing, while 28.1% associated it with affordable housing, 12.5% with RDP housing and 9% with mixed income housing.

Beyond these main categories, some participants offered nuanced descriptions of social housing: one participant viewed it as a combination of government-subsidised and affordable housing; another noted that RDP housing is an example of social housing but noted government-assisted initiatives aimed at assisting first-time buyers who meet certain criteria as an example of social housing. A final participant defined social housing as housing for individuals within specific income segments/brackets (typically lower income segments). These varied responses highlight differences in understanding regarding the purpose, structure and beneficiaries of social housing showing the complexity of the term within South Africa's housing landscape.

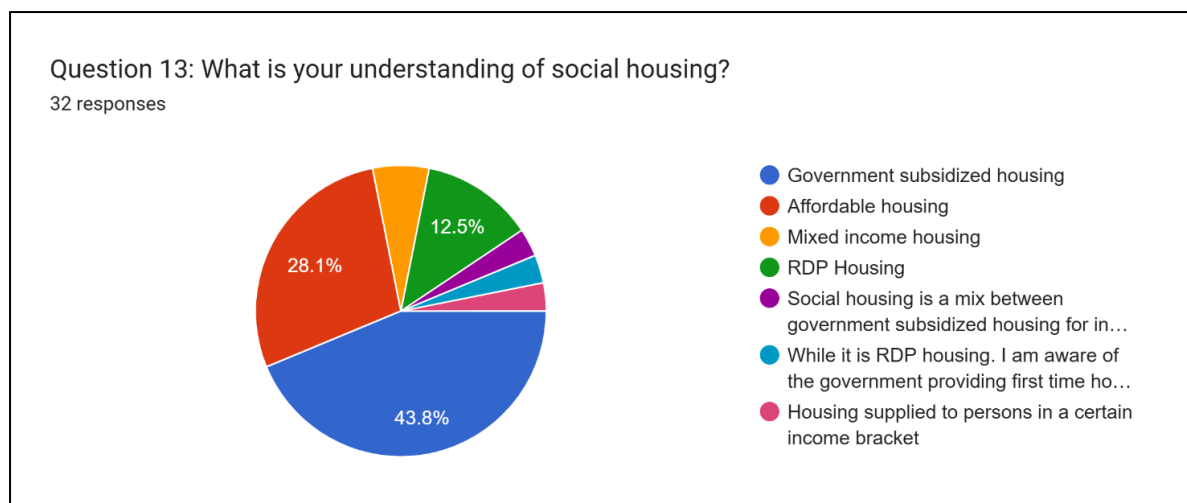


Figure 22: Understandings of social housing

Table 5 explores whether participants perceive social housing as a feasible and effective means of simultaneously addressing the housing shortage and high vacancy rates. It also details the reasonings behind their perspectives. Not all participants responded to this question; however, the participant numbers of those who did provide responses are shown in the table below.

Table 5 : Perceptions of feasibility of conversions to social housing

Feasible (17 respondents - 53.1%)	Maybe feasible (10 respondents – 31.3%)	Not feasible (4 respondents – 12.5%)
Conversions are typically to apartments which is suited to the young population in SA (Participant 27).	Limited funding for conversions and maintenance (Participants 1, 29).	Tension with investors or adjacent property owners if terms are not well considered (Participant 16).
Housing shortage addressed (Participants 3, 15, 18, 23, 26).	Other conversions more feasible (Participants 26, 28).	Economic activity moved away from the area (Participant 4).
Existing conversions have been successful (Participants 13, 24).	Location must be carefully considered (Participants 13, 31).	Private sector developers may prioritise profitability over providing housing to low-income groups (Participants 9, 10).
Reverses the marginalisation impact of the Land Areas act (Participant 18).	Rapid population growth (Participants 27, 31).	
Faster and easier implementation (Participant 15).	Government subsidy required (Participant 5, 11).	
Aligned with growing work from home trends (Participant 12).	Adequate long term planning required (Participant 6).	
Will provide good competition and drive down rental costs (Participant 9).		

Most participants (53.1%) agreed that social housing would be a feasible and effective means of simultaneously addressing the housing shortage and the high vacancy rates. The reasons for this were in and around demand being met as these conversions were perceived to: reduce the housing shortage; align with increasingly prevalent work from home trends since social housing is residential and cater to the needs of young people which is relevant in a country like South Africa which has a young population. Other reasons supporting feasibility were the success of existing conversions, the speed and ease of implementation of conversions and the possibility for these conversions to provide competition and drive rental costs downwards.

A significant portion of participants responded maybe (31.3%) and expressed concerns regarding funding limitations, the difficulty in catering for the rapid population growth and possible mismanagement of funds since government involvement would be required. Other considerations mentioned were location and long-term planning and the fact that other

conversions could be more feasible than social housing. The remainder of participants (12.5%) perceived these conversions to not be feasible due to funding restrictions and the risk of economic activity moving away from the area if the area becomes purely residential. A participant also highlighted the possibility of tension with investors and adjacent property owners if the terms (e.g., rates, taxes, maintenance etc.) are not well considered. One participant did not provide a response. This variation in perceptions and associated reasons further emphasises the nuanced nature of real estate conversions and the depth of consideration required to ensure the success of such initiatives.

Figure 23 shows participants' views on the economic benefits of converting vacant commercial buildings to social housing. The most commonly cited benefit (75.0%) was the cost-effective reuse of existing buildings, highlighting a broad consensus on the financial advantage of repurposing rather than constructing from scratch. In joint second place we had the revitalising of urban areas and promotion of economic participation, suggesting that participants view conversions as opportunities not only for affordable housing but also for community renewal and economic activity. Attracting a diverse workforce was also recognised as a benefit, reflecting the potential for conversions to support varied income groups and promote inclusivity.

Some participants provided additional insights, emphasising factors essential for conversions to achieve their intended economic impact. One noted that conversions need to be matched by adequate services and public facilities to be truly effective, while another pointed out that the cost-effectiveness of conversions may not be immediate due to initial expenses. A third respondent highlighted that an added benefit of these conversions would be their location which would provide inhabitants with access to healthcare, education, and other essential facilities.

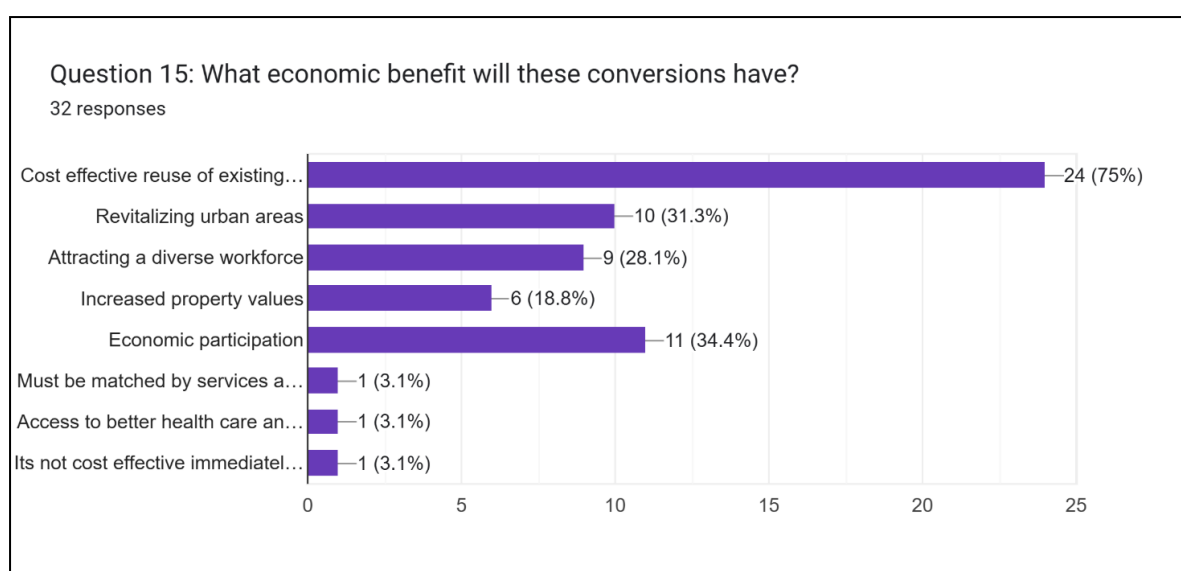


Figure 23: Economic benefits of conversions to social housing

Figure 24 presents participants' views on how converting vacant commercial properties to social housing may impact surrounding property values. A majority (56.7%) anticipated a positive impact, suggesting a belief that these conversions could enhance neighbourhood appeal by reducing vacancy, fostering urban renewal, and potentially increasing property

demand. Meanwhile, 33.3% of respondents expected no impact, indicating a perspective that such conversions would neither elevate nor detract from existing property values. The remaining participants saw a negative impact, possibly reflecting concerns that social housing might lower surrounding values due to factors like perceived density increases, mixed-use effects, or changes in neighbourhood dynamics. These results indicate a generally optimistic outlook on the potential of conversions to add value to surrounding areas. However, the mixed responses highlight that public sentiment on the impact of social housing on property values is complex.

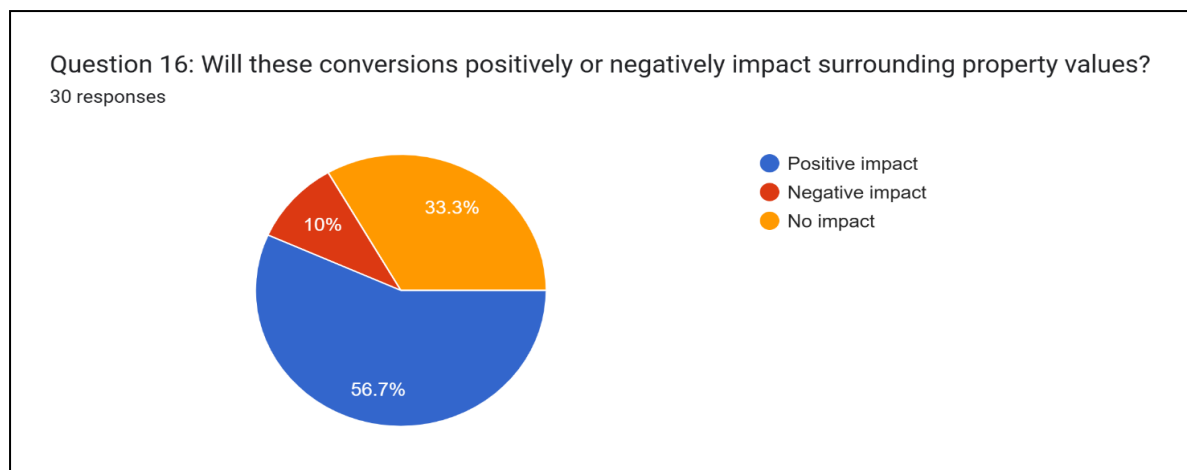


Figure 24: Sentiments around the impact of conversions on surrounding property values

Figure 25 highlights participants' views on the viability of social housing as a tool to implement mixed-income housing as a means of integrating communities to address the social, racial and economic imbalances of the past. A significant portion of participants (56.3%) viewed social housing in this context as 'viable to an extent', suggesting that social housing will contribute to addressing these imbalances however social housing in isolation is not sufficient to achieve all these objectives. 25.0% of participants responded with a definitive "yes," indicating stronger confidence in social housing's potential to implement mixed-income housing and address the impacts of historic imbalances. A small proportion of participants responded 'no' or 'limited' suggesting skepticism around social housing in this particular context.

Additional comments from participants emphasise the complexity of addressing historical imbalances. One respondent noted that while mixed-income housing is a positive step toward integration, it is not a comprehensive solution, underscoring the nuanced and multi-layered nature of tackling social and economic inequalities. This sentiment suggests that while social housing has value as part of a broader strategy, true integration requires additional policies and a nuanced approach to problem solving.

Question 17: There is a demand for the South African government to implement mixed income housing as a means of integrating communities...social housing a viable means of achieving this?
32 responses



Figure 25: Views on feasibility of social housing addressing historic imbalances.

Figure 26 shows participants' views on other feasible conversions of vacant office spaces, beyond social housing, in the South African context. The majority (41.9%) identified student accommodation as the most viable option, reflecting the demand for affordable housing for students. However, one participant noted that this would only be viable if situated near universities, underscoring the importance of location, and meeting the demands of young people since they form the majority of the South African population. Retail spaces and co-working spaces were each selected by 16.1% of respondents, suggesting a perception that these conversions could support economic activity and address the evolving needs of remote and flexible work arrangements. Additionally, 9.7% viewed hotels as a viable conversion option, likely due to demand for short-term accommodation e.g., Airbnb.

Some participants provided broader recommendations, suggesting a mix of the conversions/reuses listed. This highlights the potential for multi-functional conversions that serve diverse community needs and market demands.

Question 18: What other conversions of vacant offices could be viable and feasible in a South African context?
31 responses

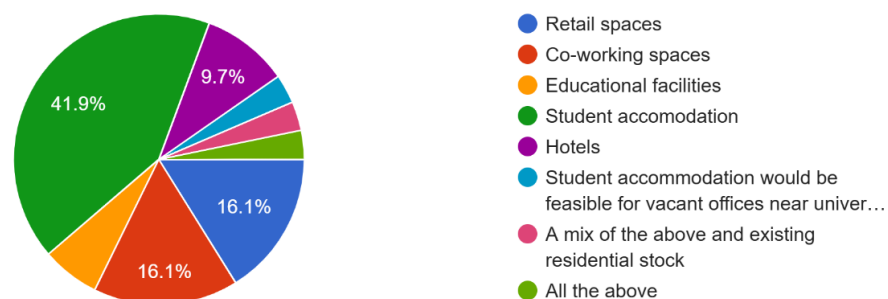


Figure 26: Other conversion possibilities

The quantitative findings presented above provided valuable insights into the interconnected challenges and opportunities within South Africa's housing and commercial real estate sectors. Section 4.2.1 highlighted the impact of COVID-19 on office vacancy rates, emphasizing how the pandemic accelerated shifts in workplace dynamics and left many commercial spaces underutilised. Section 4.2.2 explored the housing crisis in South Africa, revealing the persistent challenges of urbanisation, population growth, and the limited success of initiatives like the Reconstruction and Development Programme (RDP) in meeting the country's housing needs. Building on this foundation, Section 4.2.3 investigated the potential of real estate conversions as a strategy to address the housing shortage. The findings underscored the feasibility of converting vacant office spaces into residential properties, with benefits such as repurposing underutilised spaces, promoting urban revitalisation, and providing more affordable housing options. However, challenges such as regulatory constraints, financial viability, and potential resistance from property developers were also identified. Finally, Section 4.2.4 explored the level of understanding of social housing amongst survey participants and their feasibility, viability, impact and benefits within this conversion context, highlighting its importance in fostering inclusivity and addressing spatial and income disparities.

Together, these findings underscore the urgent need for innovative solutions that integrate commercial real estate conversions with broader housing strategies. To complement this quantitative perspective, Section 4.5 presents a quantitative analysis of property trends in the Randburg area between 2015 and 2024. This analysis aims to evaluate the impact of real estate conversions on surrounding property values, providing a data-driven perspective to support the qualitative findings.

4.3 Analysis and results: Secondary quantitative data from Property24

This section examines property trends in the Randburg area to evaluate the impact of real estate conversions on surrounding property values. The analysis compares property sales data, which includes the number of sales and the average sale prices, from the periods prior to and post these real estate conversions, to provide insights into how these developments may have influenced the real estate landscape within the area. The analysis focuses on sectional title scheme units and erven sales and the analysis covers areas within a 4 km radius of the conversions completed in the Randburg area.

Additionally, the analysis incorporates demographic factors, including the age distribution of buyers, sellers, and property owners to explore the role of population shifts and macroeconomic conditions in driving these trends. By considering both the direct effects of real estate conversions and broader external factors, this section aims to offer a comprehensive view of how such initiatives shape property dynamics within urban districts.

Figure 27 shows the trend in the number of sales and average price of sales for sectional title scheme units in Randburg between 2015 and 2024. The number of sectional title scheme units sold shows a clear decline from 5252 sales in 2015 to 3218 sales in 2020, likely reflecting the dual impact of the COVID-19 pandemic and a period of economic contraction. Sales volumes partially recovered in 2021 and 2022 (4024 and 4249 sales respectively) then declined again in 2023 and 2024. These fluctuations align with the shifts in the broader macroeconomic

landscape, including interest rate changes and inflationary pressures, which significantly affect affordability and buyer confidence in the housing market.



Figure 27: Sectional Title Scheme unit sale trends between 2015 – 2024

(Source: *Property24, 2024*)

The average sale prices, on the other hand, reveal a relatively stable upward trend, increasing from R760 000 in 2015 to a peak of R918 500 in 2022. This suggests a sustained demand or property value appreciation for sectional title units in the Randburg area, even with the fluctuating sale volumes. Notably, during the COVID-19 pandemic, sales prices remained resilient and increased steadily from an average of R820 000 in 2019 to R895 000 in 2021 despite the sharp decline in sales volumes experienced between 2019 and 2020. This resilience possibly reflects a higher demand for sectional title schemes as affordable housing options, or the delayed effect of macroeconomic factors like economic uncertainty or property price fluctuations.

Interest rate fluctuations during this period had an impact on the sale price and sale volume trends identified in Figure 27. The continuously rising interest rates, especially after 2022, reduced borrowing capacity, leading to lower property sale volumes in 2023 and 2024. Conversely, lower interest rates during earlier years, coupled with government and bank stimulus measures during the pandemic (e.g., payment holidays), possibly aided in sustaining property prices despite declining sales. Inflation and changes in consumer spending capacity also likely influenced buyer behaviour, with higher living costs making it increasingly difficult to purchase property due to affordability limitations.

Figure 28 illustrates the age profile distribution for sectional title scheme units in Randburg, providing insights into market dynamics among sellers, buyers, and property owners in this area. A key trend is the significant proportion of property buyers within the 18–35 age group, who account for 613 property sales, the highest number among all age categories. This aligns with South Africa’s broader demographic profile as a predominantly young population and highlights Randburg’s appeal as an accessible and desirable area for younger, first-time buyers due to its location and proximity to shopping centres, medical and sports facilities, schools, and other amenities. However, despite their active presence as buyers, relatively few individuals in

this group are property owners (7 969), suggesting that these individuals are predominantly first-time buyers in the early stages of their wealth accumulation.

In contrast, the majority of property owners in Randburg fall within the 36–49 age group, with 18 144 sectional title scheme units owned. This trend corresponds to life stages commonly associated with career progression, family formation, and increased financial stability, which drive homeownership. Buyers in this age group (605) remain active in the Randburg market, likely upgrading or expanding their property portfolios, while sellers (522) indicate a dynamic phase where individuals may be transitioning to larger properties or selling to accommodate changing family dynamics or changing financial needs.

The 50–64 age group shows a notable decline in buying activity (306 buyers) and a relatively modest seller count (269), suggesting that this age group is less active in the Randburg market as its marketability is generally geared towards younger age groups. However, they maintain significant ownership of 11 044 properties, likely reflecting earlier investments and a preference for retaining property assets.

The 65 and older age group in Randburg shows the highest number of sellers (471) but the lowest number of buyers (209), likely due to lifestyle changes such as downsizing or transitioning to retirement-friendly living arrangements. This age group had only 7 375 properties owned indicating a gradual decline in property ownership due to downsizing to smaller and more practical homes suited to their needs.

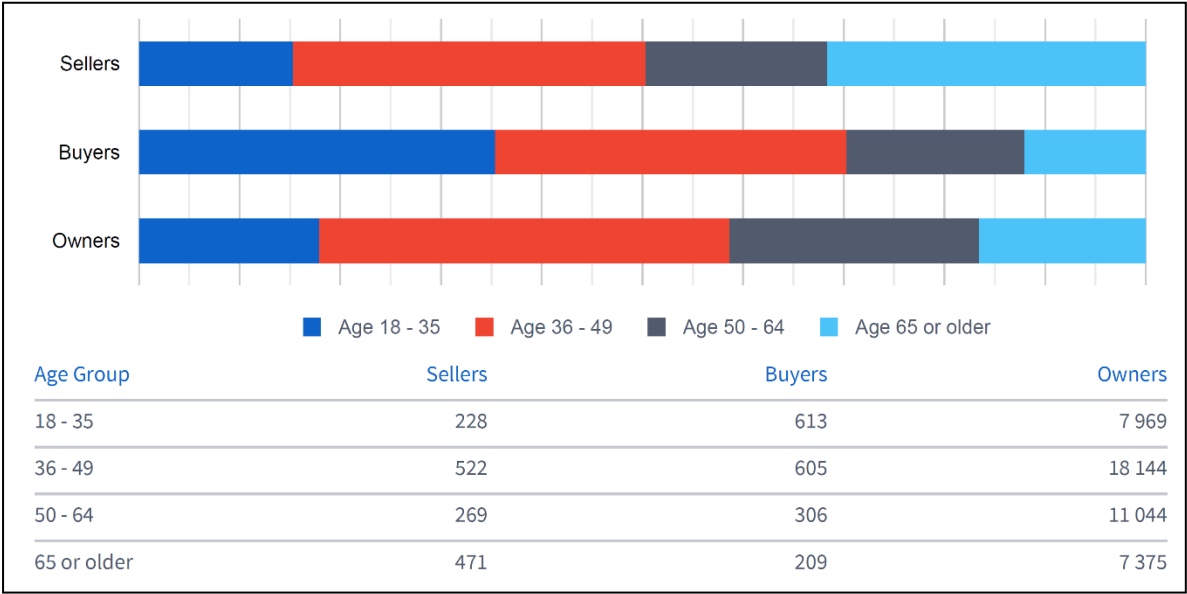


Figure 28: Age profile distribution for Sectional Title Scheme units

(Source: *Property24*, 2024)

These trends underscore the diverse and dynamic nature of the Randburg sectional title market. Younger buyers dominate market entry, leveraging Randburg’s accessibility and opportunities, while the 36–49 age group represents the core of ownership and transactional activity. Older age groups show a gradual reduction in market participation, reflecting shifting priorities. These patterns highlight the need for property developments and conversions in Randburg to

align with the needs of its youthful yet varied population, while also accommodating the long-term housing needs of older demographics.

Figure 29 shows the trend in the number of sales and average price of sales for erven in Randburg between 2015 and 2024. The graph shows a steady increase in average sale prices, increasing from R1.7 million in 2015 to R1.95 million in both 2023 and 2024. This sustained price increase reflects the rising value of erven in Randburg, potentially driven by factors such as increased demand for standalone residential properties, inflationary effects on property markets and/or increased participation of buyers from foreign countries who benefit from an exchange rate perspective.

In contrast, the number of sales has fluctuated throughout the period in question however a significant decline in sales volumes has been observed in recent years. After peaking at 4 495 sales in 2021, the sales volume dropped to 2 822 in 2023 and further to 2 307 in 2024. This decline may be linked to the rising average prices, macroeconomic factors such as increasing interest rates, economic uncertainty, and the lingering effects of the COVID-19 pandemic could have constrained buyer capacity and reduced transaction volumes.

The divergence between rising prices and declining sales volumes highlights a possible supply-demand imbalance, where fewer properties are being sold at increasingly higher prices. This pattern reflects a shift in market dynamics, with erven becoming more accessible to higher-income buyers (especially foreign buyers). Furthermore, the decreasing number of sales in 2023 and 2024 may indicate constrained land availability in Randburg, contributing to the rising value of erven.

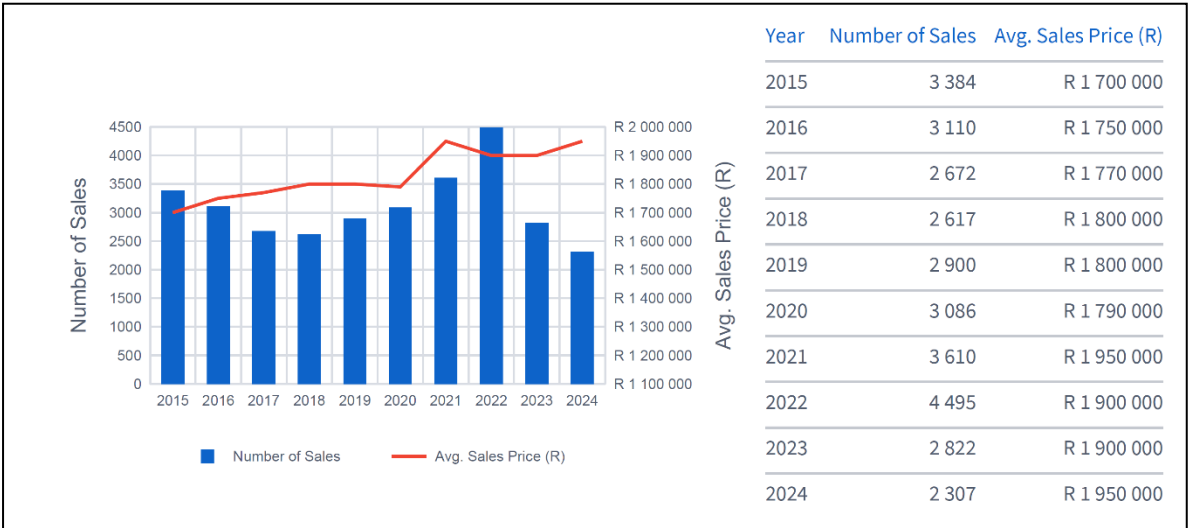


Figure 29: Erven sale trends between 2015 – 2024

(Source: *Property24*, 2024)

Figure 30 shows the age profile distribution for erven in Randburg and highlights the distinct patterns among sellers, buyers, and owners across different age groups. The 18–35 age group is notably active as buyers, accounting for 602 sales, but they represent a smaller proportion of overall property ownership, with only 5 016 erven owned. This trend is consistent with the buyer to owner ratio for sectional title scheme unites observed for this age group. This aligns

with their role as first-time buyers in South Africa’s youthful population, where financial constraints and early career stages limit their property holdings compared to older groups.

The 36–49 age group dominates the erven ownership in Randburg, with 20 982 properties owned, reflecting this life stage as a peak period for homeownership and investment. This group also leads in the number of sellers (582) and buyers (759), suggesting a highly dynamic segment where individuals are upgrading, relocating, or expanding their property portfolios to meet family and financial needs. Their significant presence as both sellers and buyers highlights their central role in maintaining market activity in Randburg.

The 50–64 age group shows a decline in buying activity, with only 225 buyers, but remains active as sellers (430), likely reflecting transitions into retirement or a downsizing trend. Despite this reduced market activity, they hold a substantial share of ownership, with 16 029 erven owned, indicative of earlier investments that have been retained over time.

The 65 and older age group has the highest number of sellers (562) and the lowest number of buyers (203), consistent with lifestyle changes such as downsizing or liquidating assets for retirement. This age group has 8 571 properties owned indicating a gradual reduction in property holdings, likely influenced by decreasing needs for large properties or family homes. These trends reveal a clear lifecycle dynamic in Randburg’s erven market which appears to be consistent with the trends observed in the sectional title scheme unit market. Younger buyers (18–35) are entering the market but hold fewer properties, while the 36–49 age group represents the core of property ownership and market activity. Older age groups (50–64 and 65) are gradually reducing their participation, with selling activity outweighing buying, reflecting the influence of retirement and lifestyle adjustments. These patterns emphasize the need for a balanced property market in Randburg when determining the land use of conversions to support the entry of younger buyers while addressing the changing needs of older age groups.

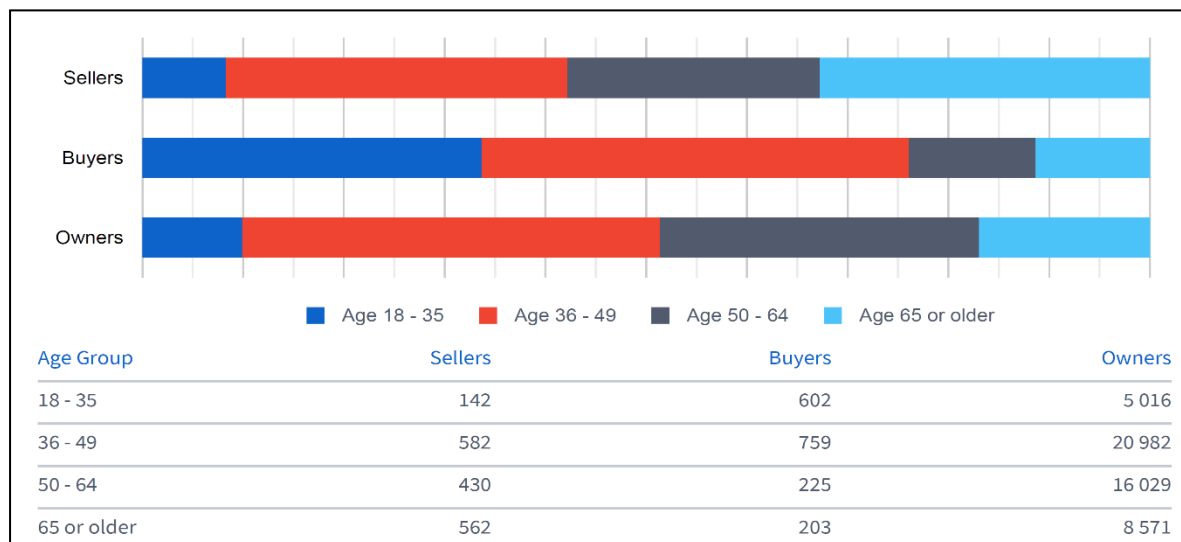


Figure 30: Age profile distribution for erven

(Source: *Property24*, 2024)

Figure 31 illustrates trends in the annual number of sales registered in the deeds office alongside the average sale price and average asking price for all Randburg Property24 listings

between 2015 and 2024. A key observation is the consistent gap between the average asking price and the average sale price, with the asking price typically exceeding the sale price by approximately R200 000 - R400 000 throughout the period. This trend reflects a common dynamic in property markets where sellers set higher initial expectations, and buyers negotiate prices down to align with market conditions and affordability.

The average sale price has shown steady growth over time, indicating an appreciation in property values in Randburg, likely influenced by sustained demand, inflation, and shifts in buyer preferences. This is consistent with the trends observed in Figures 27 and 28. The number of sales registered annually has fluctuated, with notable declines in recent years, particularly between 2022 and 2024. This decline aligns with broader macroeconomic challenges, including rising interest rates, affordability constraints, and a potentially saturated market. The widening gap between asking and sale prices during this period may further signal a misalignment between seller expectations and buyer affordability.

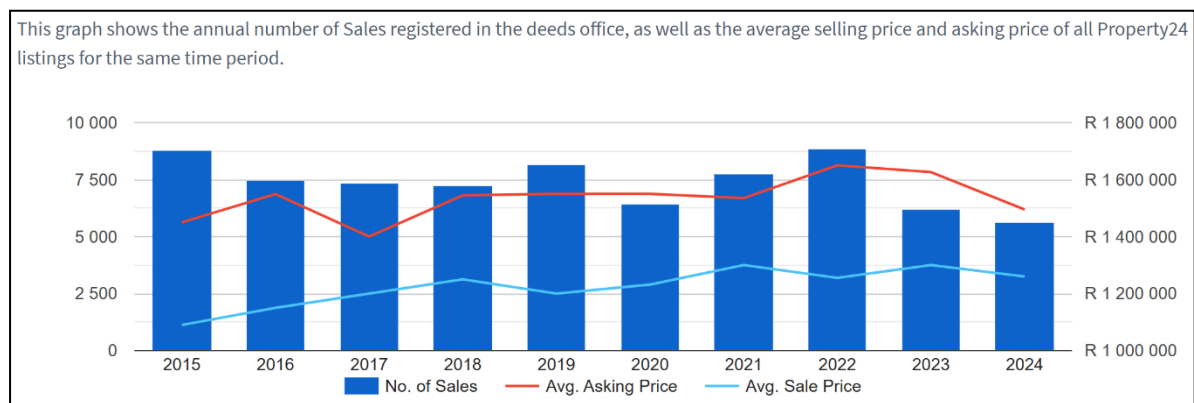


Figure 31: Annual property sale volumes and asking vs selling prices between 2015 - 2024

(Source: *Property24*, 2024)

Figure 32 illustrates the monthly number of properties listed for sale in Randburg, distinguishing between new-to-market properties and those already on the market between November 2023 and October 2024. On average, approximately 1 000 new properties were introduced to the market each month, while the number of existing listings ranged between 5 000 - 6,000 properties. The total number of properties on the market consistently hovered around 7 500, indicating that the majority of properties listed remain on the market for extended periods.

This imbalance, with significantly more existing listings compared to new entries, suggests a slow turnover rate in the Randburg property market. Figure 32 shows that many properties fail to sell quickly, leading to an accumulation of unsold inventory over time. This trend may point to misaligned pricing strategies, where properties are listed at values exceeding buyers' affordability or market expectations, as suggested by the previously observed gap between asking and sale prices in Figure 31. Additionally, the relatively stable total number of properties listed each month implies that market demand is not sufficiently absorbing the available supply. This could be influenced by factors such as high interest rates, affordability constraints, or oversupply in certain property segments, all of which can dampen property sales activity.

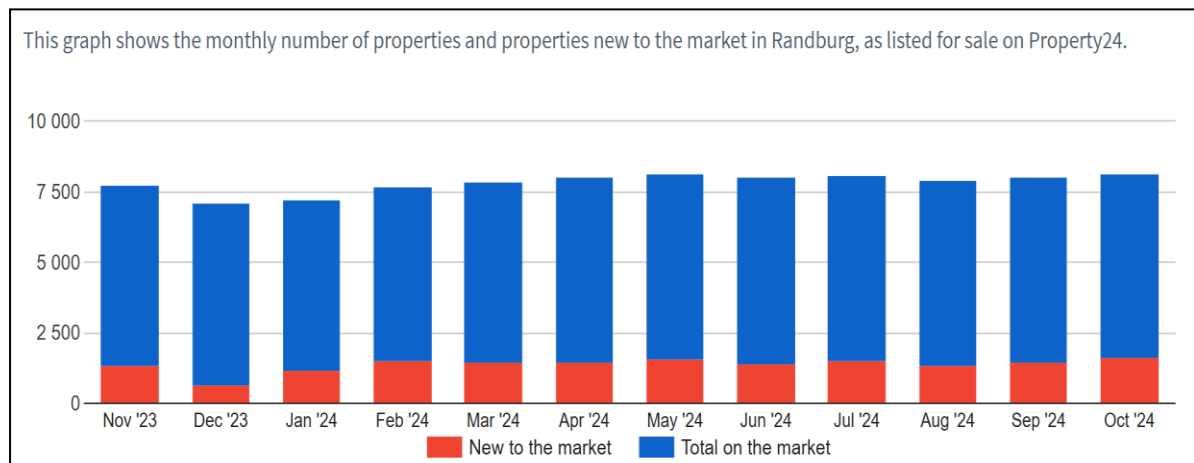


Figure 32: New-to-market and existing properties in the Randburg area.

(Source: *Property24*, 2024)

While these figures do not explicitly show the correlation, if any, between real estate conversions and property sale volume and sale price movements, they highlight the importance of considering affordability, age-dependent demand, and alignment with market conditions in conversion planning. Instead, property prices are driven by macroeconomic factors, housing market trends and imbalances between demand and supply broadly and at an age-specific level. Notable shifts in sale price and sale volume trends would have been observed after the conversions were completed however these trends were consistent and aligned to pandemic impacts and macroeconomic movements. Conversions as a means of addressing high vacancy rates among commercial properties brought on by the COVID-19 pandemic is a fairly new solution and hence the number of completed conversions is still low. While the sale price and volume trends are seemingly driven by macroeconomic factors, it is probable that the impact of these conversions may only be observed over longer time horizons.

4.4 Analysis and findings: Interviews

A group interview and personal interviews with experts in the field carried similar questions covered by the questionnaire for consistency and to probe for answers that are more comprehensive, i.e., town planners, property developers, architects and representatives from the Social Housing Regulatory Authority (SHRA). Qualitative data was analysed through an approach called thematic analysis. McLeod (2024:1-2) states that qualitative thematic analysis is a research method used to identify, analyse, and interpret patterns of shared meaning (themes) within a given data set. It is a useful method for research seeking to understand people's views, opinions, knowledge and experiences. Key aspects of thematic analysis consist of a) Coding (assigning labels or codes to specific data segments that capture a single idea), b), Themes (encompassing multiple codes that share a common underlying meaning or pattern), c) Iterative process (refining codes and themes as their understanding of the data evolves and d) Interpretation (interpreting the identifying themes to tell a compelling and insightful story about the data).

The demographic profile of the group interview was made up of eight participants (one principal agent, one property developer and six estate agents). In terms of participants' gender distribution, half of the participants were male, and the other half were female. With the exception of one participant, those with the highest number of years of work experience belonged to the age group of 50-69 years. In addition, two male participants (portfolio manager and property developer/investor) who were subjected to personal interviews had 8 years and 25 years of work experience in the industry respectively. The two belonged to the age groups 30-39 and 40-49 respectively.

4.4.1 The state of office space and housing before and after COVID-19 pandemic

The very first opening questions of the interview that were asked to participants were issues related to high vacancy rates present prior to the COVID-19 pandemic, main reasons and causes and the associated risks. The qualitative responses from experts in the field are wide-ranging.

Group interview:

My experience is that I used to have a lot of calls before COVID-19 for office space even here. They would ask if it's a house that you can convert it to an office. What I have noticed is that a lot of because of COVID-19 a lot of people started working from home and what we have noticed now and as for the FNB's commercial property finance insights, they actually say her it says....., however what driven demand is unclear what is the survey on a national basis an increased need for office space is not apparent.

Employment in the keys finance and real estate and business services sector of the economy recently been in decline because they have the office space, they have rented their office space to tenants now the tenants are fine but look our staff is still carrying on working they're working from home. They may be now coming one two or three times a week but they've been effective and they are still doing their job.

The initial extracts from the group interview data on the issue of high vacancy rates reflected above confirm the new normal phenomenon of working from home that has taken the world by storm due to COVID-19. Emerging themes:

- Need for office space is minimal.
- Emergence of working from home trend.
- Working from home is productive.

The main cause of high vacancy rates post COVID -19 it's work from home trends and a lot of people were saying that they used to spend like an hour and a half to get off work or they would have to be very early to not be in the traffic. Then the same story coming home. So now they are saying I mean even the banking sector are saying you know we work extra 3 hours a day. So, we actually working longer from home. We're getting more done than traveling to work. But you know that's the next thing is that people will just start moving in.

The extract above further reflects participants' understandings of the main causes of high office vacancy rates post COVID-19 and risks. Emerging themes:

- Working longer from home than traveling to work.
- Illegal occupation of vacant offices.

Personal interview 1:

It wasn't as high. Office use was actually booming before in my opinion before COVID. Offices were being well used and demand was actually good enough. I won't say too high but good enough. I'll say this based on what I've viewed where I've worked and with some of the office buildings we built because I started off as a quality surveyor by profession. So, my opinion with this first question is there wasn't a high vacancy rate. The main reason for that before COVID started offices were being built and you could think of Centurion next to the Irene precinct. There's a new office which has been built in that area, you know, just as an example of what the expectations were because they're building based on demand. So, it wasn't too high.

The above extract from personal interview data explains the declining demand for office space post COVID-19. Emerging themes:

- Vacancy rate was not high.
- Office space was well utilised and in demand before.

The two main causes post-COVID-19 is due to COVID-19 presented different options people needed to pursue so that they could continue the work particularly working from home right so as a result of that it has been some sort of a success in certain industries and sectors right and mostly the sectors which largely make use of office buildings.

As a result, people have turned to hybrid situations or fully working remotely. During COVID working from home was largely used or effective and as a result, companies make use of hybrid and working from home because it benefits the company in the sense of not having to hire offices. But at the same time, it benefits the employees with a lower cost of living to travel to the offices and so forth. Coming to the office twice a week assist with the high the growing cost of living.

I am aware of a vacant office in Rosebank opposite Jan Smarts. I used to work for a company which is a Romanian company. They set up an office in South Africa because we had the expertise they needed. So, in that office I noticed that we were the only people in three floors and we had a small space so the vacancy there was very high you know and we heard before that it wasn't like this before because the standard bank investment section was there you know so that is an example the increase in vacancy rate post COVID.

The above extracts describe the participant's understandings of the main causes of high office vacancy rates post COVID-19. Emerging themes:

- Impact of COVID-19 on the office vacancy rates.
- Benefits of hybrid and working from home arrangements.

As far as the risks are concerned, I think um it's largely financial risk on the developer side because now they built an office 10 years ago with the expectation that they would have tenants there for 50 years to come. That office building was there for years, but since COVID and this hybrid solutions people needed to renegotiate their lease terms and that that's the financial major risk. On the physical side, just generally, when a building is not in use, it dilapidates. The value of the value drops as well and your rates and taxes just increase. And people can see an opportunity to hijack. But with offices, what I've noticed is that even though they're empty, they still have security there.

Concerning the risks associated with vacant offices, the following themes emerged:

- Financial risk on the developer side.
- Dilapidation of buildings and drop in market value.
- Opportunity for hijacking.

Personal interview 2:

Prior to COVID I think there were vacancy rates. There was a concern throughout the property industry and it was mainly caused by the economic growth because there's been an impact of our slow economic growth and the lack of spending. So, there were high vacancy rates even prior. There's slow economic growth since the 2008 economic crisis caused by the issues in the US and all that. So there has been quite a slow..... the graph has been very slow in terms of growth and our own issues of corruption and money being diverted to other things which have resulted in less spend. And obviously the economic growth has been lagging and things like that.

There is a vacant building standing there empty. It's been decaying and it was in a very prominentI think is in Sandton. There was this big office that was empty and overgrown trees so the main risk would be the urban decay and also of lack of economic growth. Vagrant people went in and hijacked and vandalised it. Most of the components are gone. This is a problem.

The above extracts reflect the second participant's understandings of the main causes of high office vacancy rates post COVID-19. Emerging themes:

- There were vacancy rates prior COVID-19.
- Lack of economic growth.
- Vacant building standing empty and decaying.
- Risk of urban decay.

Below is a summary of the identified dominating themes across the interviews regarding the state of office space before and after COVID-19 pandemic:

- There were vacancy rates prior to COVID-19, caused by slow economic growth.
- Office vacancy rates were not as high; office use was actually booming before COVID-19.

- Post-COVID-19, the work-from-home and hybrid mindset and economic effects further increased vacancy rates, however the new working arrangements benefit both the employers and the employees.
- The risks of urban decay, vagrancy, building hijacking, and vandalism associated with vacant offices.

4.4.2 Demand for housing/housing shortage and possible solutions

The discussion with experts around the issue of housing shortage examines the effectiveness of the RDP initiative in addressing the rising housing demand in South Africa, the factors that influence housing demand in South Africa and the effects of South Africa's housing crisis. The RDP initiative is a good source of reference in this matter. South African government implemented the reconstruction and development policy in 1994 with the intentions of meeting the basic needs of people such as employment opportunities, housing, water, electricity, transport, a clean and healthy environment and health care. Subsidised housing programme under the RDP initiative provides indigent beneficiaries with fully built RDP houses free of charge. The qualitative responses from experts in the field are as follows:

Group interview:

Demand for housing is starting to move further and further south. We do get I wouldn't like to call it the low-cost homes, but I would say the entry level and everybody needs an entry level. When I started when I first got married, I couldn't afford a house on stone. So, I bought half a semi and my brother-in-law bought the other side of the semi. I wouldn't say low cost because I can see they already doing a little centers like little strip malls there because you need to Yes, you do travel a little, a bit further maybe to work. But when they start with strip malls, they've got a little pick and pay or checkers or something, then a McDonald's, a garage, eventually you're going to get more people working there. Slowly they will have a business park. So, I would say definitely South Africa is ready for that.

The above quotation from the group interview on the matter of housing shortage generated the following themes:

- Demand for housing is going up.
- There is always a movement of people looking for employment close to new malls.

I'd say government isn't addressing it like I'd say because they do so much but they don't do enough. The population keeps growing and there's never enough houses. I think government is trying to address it but they're not on the same level as the population's growing.

I've also seen where they have started but then they don't finish it. You know that to myself, they spend so much money and it's up to here now. What about the other infrastructure and things like that? Corruption..... they do not finish the projects and get families in? And I saw it on Carte Blanche. I actually think to myself, but why is the government not stopping these people from working because they can't finish what they're doing anything.

The quotations above focusing on the tenacious issue of housing demand in South Africa as well as the accomplishments and limitations of current initiatives yielded the following themes:

- Population growth escalating need for housing.
- Housing projects are never finished due to corruption.

Personal interview 1:

The demand for housing right I would say is growing. it's growing a lot. On a scale of 1 to 10, I would say a solid eight for many reasons. So, one of them is population growth. But it is also the concentration of it thereof in certain areas, particularly urban areas. With Johannesburg, for instance, the population is growing rapidly you know because people are coming to Johannesburg for opportunities and for work and so forth.

The demand is even getting desperate you know for accommodation and housing. We have a situation now where one of the social housing projects that were purchased for social housing got illegally occupied. So, the people living in there were concerned that they won't have any other place to live if they left that building because they won't meet the social housing criteria. Most are international people from other countries in Africa coming to South Africa for opportunities and ideally when they do that they're going to go to urban area. They can't afford the flashy units that you find in Sandton and so forth. So, it's largely CBD which gets overcrowded.

As far as the examination of the relationship between population growth and the escalating need for housing, the following themes emerged:

- Demand for housing is growing due to population growth.
- Population growth is concentrated in certain areas.
- Demand for housing is high among those who do not meet the social housing criteria.

To add, the RDP programme is not successful in addressing the housing demand in South Africa because those people who are awarded their RDP home sell them at some point in time. There is no accountability. Something needs to be sorted out.

The above extract from group personal interview transcription on the limitations of current housing initiatives in addressing the housing demand generated the following themes:

- RDP is not successful.
- RDP beneficiaries sell their houses.
- Intervention is required.

Personal interview 2:

I say now in South Africa the demand for housing is increasing and this is happening due to population growth from people moving from other areas to the economic hubs of the country which obviously results in that population growth but isn't population growth because it's

basically migration. Yes. It has a huge impact. It's not necessarily the birth rate. Yeah. It's migration factors.

The quote above reveals that housing demand is increasing not only due to population growth:

- Demand for housing is increasing due to migration.

The effectiveness of addressing the demand for housing in South Africa is twofold. On the government side, the RDP type that scale is a two out of 10 because it is free, you know, be free. One of them would be as an example, we did consult in the industry from the health department to human settlements. The backlog increases all the time and there isn't really any willingness to address this because if they were they would have service providers appointed. Mega developments are being abandoned for 3 to 4 years without people occupying them. people actually taking off. components from there.

Housing units are standing empty and they're being vandalised and which I think is an absolute waste of money. There's another similar development, houses in Alex. People have actually taken them over without formally allocated. We also hear houses have been allocated to people who don't deserve to be beneficiaries. It's a very slow rate it is people not knowing what they're doing. To a large degree, yes. It's just a lack of implementation and oversight on what is being implemented.

With a national programme like that and the demand we have for housing, it should be a large size office. but we don't and it's as a result of the budget we have. The objective is to get people who live in rural areas and have jobs in urban areas to get them closer to these jobs.

The above quotation is regarding the effectiveness of the RDP, which provides beneficiaries with a house that is built and provided by the government for free of charge. Emerging themes:

- Housing backlog increases all the time.
- Lack of accountability because houses are free.
- Vandalism of unoccupied housing units.
- Lack of oversight.

A summary of the identified dominating patterns across the interviews regarding the demand for housing/housing shortage and possible solutions is reflected hereunder:

- The demand for housing is increasing not only due to population growth but also because of migration to economic hubs, largely CBDs which get overcrowded.
- The government's efforts to address housing shortage through RDP are rated low, at 2 out of 10, due to cancelled projects and abandoned/ vandalised developments.
- The RDP programme is not successful in adequately addressing the housing issues.
- A lack of implementation and oversight as the main reasons for this failure.

4.4.3 Conversion of vacant office spaces into housing and its pros and cons

Interview questions that attempted to discover if participants would consider the conversion of vacant offices to residential real estate to be a possible means of addressing the national housing shortage generated the following responses:

Group interview:

I would rather be very honest and maybe because I'm a sales agent is I would rather sell that those premises to the developer and let him convert that to let's say a one or two- or three-bedroom one bathroom or two-bathroom units and upgrade it I think that's the best way to go. I came across them at Sunninghill, the KPMG building. During COVID it was empty and then we see now that's been developed into res apartments. Not necessarily government because that's nice land there. I mean it's a prime location. I have heard about this kind of project, but not in South Africa. One of the cities that has implemented quite in a great scale after COVID is actually Madrid where vacant offices were converted into a social housing. There is also similar research that was carried out in Sweden and actual conversions due to less demand for office space especially post COVID. It is a good idea, but it has to be done in an orderly way and a very structured way. It would depend on the layout of the offices or the design, infrastructure. If it's affordable and accessible to public transportation, I think it will attract that niche market.

Conversions have to be regulated. It happened in New York many years ago I don't know if it was the council's decision. The same thing with Europe. You look on the outside and you think, "Oh my god, this thing must be over 100 years old. But you walking through that door, it says, Wow. you know, and South Africa can do the same. Bottom line is they first have to fix the infrastructure. The government is not equipped to do it. I suggest they sell that to a developer. But he is also there to make money.

The above extracts on the prevalence and the pros and cons of converting vacant office spaces into housing generated the following themes:

- I would rather sell those premises to the developers and let them convert.
- Several cities have already converted due to less demand for office space, specially post COVID-19.
- Conversions should follow building protocols.

Personal interview 1:

It's a brilliant idea. Opposite here, you'll see there's a building called Thrive. It's a student accommodation. Now, but it was an office. It meets a demand. So, it was very smart to convert it to student accommodation.

The structure is already up, so the cost to complete the works won't be as high. The financial implications of converting these offices would be a good advantage.

The main disadvantage that I could think of is it would depend on the makeup of the building, the specifications of the building might make it a bit more complicated to convert. Another point is what kind of a residential unit you're trying to build. And your town planning, zoning and so forth.

As far as the prevalence and the pros and cons of converting vacant office spaces into housing are concerned, the quotations above from the personal interviews yielded the following themes:

- One office building was converted into student accommodation.
- Financial implications of converting are low.
- Conversions may be complicated by the makeup of the building.

Personal interview 2:

We were commissioned by an entity that wanted to convert. They wanted to convert the building into increase the number of housing units. Yes, there has been examples in in the city center of Joburg where offices have been converted into rental stock, but obvious caters for a certain market. I do believe that conversion of vacant office spaces can work. One example in Bramley. There is a factory there that was subdivided to accommodate people and it's been there for years and it's a community living there. If the conversion was formalised it would solve the problem because kids that grew up there are now old. It would have to follow the bylaws for the private to actually enhance it.

It's cheaper to convert. Um, obviously depending on the life span of the building and the structure. The advantage will be that it will address and the risks of vacant office spaces. It will create economic activity because there will be obviously economically active. It will also help to accommodate people and help the government to address the housing demand.

The extracts above give further examples of cities that converted some office buildings due to less demand post COVID-19. Emerging themes:

- Conversion of vacant office spaces can work.
- There has been conversion of offices into rental stock in Joburg CBD.
- Conversions create economic activity and address the housing demand.
- One factory in Bramley was converted but requires a formal upgrade.

I see. the bylaw or the town planning challenge from legal and regulatory perspectives. If a vacant office is next door to this one, how do you make it such that people can live within the same space? But South Africa is also embracing the mixed-use kind development where they work and play in the same environment. So, I think the challenge would be the rezoning. Converting a building is an engineering exercise which is doable it just requires the right tools and resources to do it. But if the building is dilapidated obviously the solution would be there from an engineering perspective.

The main disadvantage that I could think of is it would depend on the makeup of the building, the specifications of the building might make it a bit more complicated to convert. Another

point is what kind of a residential unit you're trying to build, your town planning, zoning and so forth.

The excerpts above were generated from the interview question regarding the disadvantages of conversions of vacant offices to residential real estate. Emerging themes:

- Adherence to bylaw and town planning.
- Challenge of rezoning.
- Current building specifications vs new residential plan.

Underneath is a summary of the identified leading themes across the interviews regarding the conversion of vacant office spaces into housing and its pros and cons:

- The conversion of vacant offices to residential spaces is considered cheaper than building from scratch, depending on the condition of the existing structure.
- It is seen as a viable solution.
- Conversions are an engineering exercise that is doable.
- It has been done before.
- There are examples of this working in New York in the USA, European cities and Johannesburg.
- Advantages of conversions include addressing the risk of vacant spaces, creating economic activity, and accommodating people.
- Challenges include town planning and rezoning issues.
- Conversions are cheaper.
- Services will need upgrading on the converted buildings.

4.4.4 Impacts of conversions from office space to social housing on surrounding house prices

This section examines the impacts of office conversions to social housing with the aim of establishing its feasibility and effectiveness towards addressing the housing shortage and high office vacancy rates. It is imperative to note that social housing is one of the essential components of South Africa's social programmes to address the housing needs of low-income households. As a nation that is still haunted by the past inequalities, providing this kind of housing solution is vital for promoting social and economic inclusion. Social housing refers to rental housing units that are subsidised by the government with the objective of offering quality, affordable rental housing close to economic opportunities and essential services such as schools, healthcare, and public transport (SHRA, 2024). The interview questions shed some light on the participants' understanding of social housing, their views on the effectiveness of conversions from commercial property to social housing, the economic benefit of these conversions and their impact on the surrounding property value(s):

Group interview:

Social housing is in a certain way to give a better living condition to the people that don't have but in a more affordable way. The difference between social housing and your RDP house is that social housing is subsidised to a to an extent.

Maintenance of property absolutely positively or negatively impact surrounding property values. We need to educate the people that if you're buying a property, even if it's social housing, this is your responsibility to look after it. The infrastructure of the countries is in the state of decay because it hasn't been maintained. You want to do the same with your own home. Even if it's first home, you can start from educating people to look after what's theirs. They're paying for it. Even if they've been subsidised. It is all about initiating the rules for the neighbourhood, for the people that are living there, for the economy, it will be good for everybody.

The above extracts on the impacts of conversions from office space to social housing on surrounding house prices generated the following themes:

- Social housing is subsidised.
- Property maintenance positively impacts surrounding property values.

On the surrounding property values, it will have a negative impact on you as my competitor. You know, if you are building..... if you have expensive units next to mine, it will have a negative impact on you because the demand for my units will increase. But as far as it taking the property value down I'd say it be subjective If I am an affluent person and I live in Sandton, I love the exclusivity of it and so therefore that increases the value of it for me, but to different markets, it may increase value, you know, in terms of building more affordable accommodation in that area, I think for me personally, this answer is subjective to the market. You know, for the more affluent people. Yes. But for the broader market of affordable housing, no, it will only increase it. Social housing particularly made to address these points that you've listed there, the social, racial and economic imbalances of the past.

Social Housing may be a good thing but in certain areas it will be frowned upon, particularly the affluent and more urban exclusive areas. And I think the conversions also have an impact on the rates as well, which go back to the town planning. And your services and so forth. Other conversions could....., I've seen some school in areas that is neglected and it can be turned into training centers. Storage units is also becoming very popular.

On the negative impacts of conversions from office space to social housing on surrounding house prices, the above excerpts generated the following themes:

- Social housing will have a negative impact on other types of housing; however, it aims to address the social, racial and economic imbalances of the past.
- There is bad perception about the mix of social housing with the affluent and more urban exclusive areas.

Personal interview 1:

I think social housing from our programme, our standpoint i's giving you good standard accommodation, a good area for a price which considers your budget, your low to medium income budget. In terms of figures, our rentals consider an income of maximum R22,000. Okay. So, from R700 to R1500. The idea is that it shouldn't cost you more than 35% of your income. I will say that we invest 70% of the total development cost into the development and as a result we demand a cap on these rentals. Other programme in the human settlements would be community residential units for sale at a lower cost, you know, which obviously considers your income as well.

The above extract has to do with the meaning of social housing. Themes generated:

- Good standard accommodation.
- Lower costs associated with social housing.

It's a basic principle of economics, right? The reality is that the demand for offices is lowering right and therefore there will be a high supply. I think it's a simple matter of when people have more money in their pockets they can spend more and with the economy it's important that people are spending so that it circulates. Because of the subsidy that they get people have more in their pockets and also the traveling costs decrease. As far as social housing demand is concerned, it's largely due to the area. You know, but it's because they want to live in those urban areas. to the workplaces, next to these schools, you know, and it just goes on to the knock-on effect the housing demand has in urban areas. It also impacts the demand for schools in urban areas.

I'll give you an example with urban farming. In office buildings, you know, converting them to urban farming which will then be used for markets and at the roof of the building for farming. you put that together with in a space where you already growing your plants yourself and you're using these things to prepare your food and so forth. It is already a trend, e.g., Growth Point.

The excerpts above continue to examine the impacts of office conversions to social housing with the aim of establishing its feasibility and effectiveness towards addressing the housing shortage. Emerging themes:

- Social housing is effective towards addressing the housing shortage.
- Housing demand is high in urban areas because people want to live close to workplaces.
- It also impacts the demand for other services.
- Converting them to urban farming can also work.

Personal interview 2:

My understanding of social housing is that it's primarily made up of rental stock that is built up to accommodate people who do not qualify for your RDPs and also have got trouble getting bonded housing. It's basically meant to enhance the social standing of people in a sense that I would live closer to my workplace. I would live in an area that is much better serviced and

close to schools. People would just get to rent on the income bracket that they are in. Another building or another project that we were involved with was in Marad where you built enough stock to get people closer to the economic um hubs and with the cheaper services and cheaper accommodation.

The excerpts above continue to examine the understanding of social housing. Emerging themes:

- Social housing is rental stock.
- It is meant to enhance the social standing of people.
- It is meant to get people closer to the economic hubs.

The economic benefits would be for I mean would it depends for the occupiers for the beneficiaries, for the occupiers and the area because they can increase economic activity. With the occupiers, they would have easier access to work or even walk instead of paying a monthly train ticket. Yes. And better health benefits as well because walking to work is some kind of an exercise and the owners of the properties will continue to derive income from that. The occupiers again have got more disposable income. Okay, but you will find that the white-owned property owners would have a problem with it. And that they would equate social housing to black occupation, increased crime from that perspective. It's a perception. But from my perspective I think it will positively um impact the surrounding property because now if your property already is vacant, vandalized, neglected, it still has got that negative impact. So having a social community there surely it must have a positive. These conversions are a means of integrating communities to address the social, racial and economic imbalances of the past. Would you say now social housing. Yeah. And you find people have built houses that you can take up to something and help that value go, you know. There's nothing that is there's a community. It is more vibrant because that sense of community getting together regardless of a class. Yes, exactly. So, it will help the government address the housing shortage in South Africa and bring people together.

The above extract is regarding the economic impacts of office conversions to social housing with the aim of establishing its feasibility and effectiveness towards addressing the housing shortage. Emerging themes:

- Increase in economic activity.
- Easier access to work.
- More disposable income.
- Prevention of vandalism and neglect.
- Integrating communities.

What other conversions? Now the focus has been on housing. I would think your social amenities like your gym, your smaller shops that will cater the surrounding communities. But for me, what I see is a mixed-use transit-oriented developments that can be viable but I don't see any other conversion working other than that being catalysed by social housing or residential. Maybe bottom shops. Yeah. Retail and then I mean it's like your gym your put

everything in one place where people can and you can even put offices in. So, it's like you work play in the same and we've seen but obviously it's been new developments that are been seeing popping up in other parts of the world where you they're saying you live within the same building. I'm thinking that social housing would be the catalyst for other conversions from a legal perspective from a compliance viewpoint.

The last excerpt above was generated from the interview question regarding other conversions of vacant offices could be viable and feasible in a South African context. Emerging themes:

- Social amenities.
- Mixed-use transit-oriented developments.
- Co-live and co-work buildings.

A summary of themes that were apparent across the interviews underneath recaps the impacts of office conversions to social housing:

- Social housing is defined as rental stock for low-income earners.
- Social housing comes with responsibility.
- Social housing aims to improve people's social standing, access to jobs, and proximity to services.
- Conversions to social housing can be an effective way to address the housing shortage.
- Economic benefits include increased economic activity, more disposable income for residents, and income for property owners.
- Conversions could positively impact surrounding property values.
- Social housing is a viable means of addressing social, racial, and economic imbalances, and brings communities together.
- Some people might not embrace social housing well because of prejudices.
- Social housing will have a negative impact on you as my competitor.
- Other possible conversions include social amenities, shops, and mixed-use transit-oriented developments like urban farming.
- Social housing can be the catalyst for other conversions.

This qualitative analysis emanating from interviews with experts in the field enhances some of the views that survey participants expressed in numbers. What came out strongly from the experts is that social housing is a viable means of addressing social, racial, and economic imbalances of the past. Although government has provided houses to millions of people since 1994, interview participants extensively expressed skepticism regarding the effectiveness of the RDP initiative. They claimed that the rate at which these homes are built is far surpassed by the rate of population growth in South Africa. They regarded the conversion of vacant offices to residential spaces as a viable solution in fostering inclusivity and addressing spatial disparities. A general agreement was that while the implementation of the human settlements' programmes such as the RDP and social housing initiatives can help address inequality, these must be complemented by economic opportunities and adequate services.

4.5 Discussion

This section attempts to discuss both quantitative and qualitative findings against or in support of literature reviewed in the earlier chapters. The presentation and the analysis of the findings of the study emanating from three data sets provide valuable insights into the interconnected challenges and opportunities within South Africa's housing and commercial real estate sectors. The analysis highlighted the impact of COVID-19 on office vacancy rates, emphasising how the pandemic accelerated shifts in workplace dynamics and left many commercial spaces underutilised. In addition, the findings revealed the persistent challenges of urbanisation, population growth, and the limited success of initiatives like the RDP in meeting the country's housing needs. The findings further underscored the feasibility of converting vacant office spaces into residential properties, with benefits such as re-purposing underutilised spaces, promoting urban revitalisation, and providing more affordable housing options. However, challenges such as regulatory constraints, financial viability, and potential resistance from property developers were also identified. Finally, participants emphasised the importance of office conversions to social housing towards fostering inclusivity and addressing spatial and income disparities. Together, these findings underscore the urgent need for innovative solutions that integrate commercial real estate conversions with broader housing strategies.

4.5.1 Integration of Quantitative and Qualitative Findings

Several converging themes emerge from the quantitative and qualitative analyses conducted in this study. Firstly, there is strong alignment on the issue of housing demand among the youth. Survey responses indicate that individuals aged 18–35 represent the majority of those in need of affordable, well-located housing—often due to job-seeking, studying, or transitioning into early career stages. This is reinforced by interview insights from housing experts and developers, who confirmed that this demographic faces the greatest barriers to accessing formal rental markets due to limited income and lack of rental history. The concentration of demand in this age group highlights the importance of designing social housing strategies that are youth responsive.

Secondly, both data sets point to location as a critical factor in housing preference. Quantitative responses consistently rated proximity to employment, transport, and amenities as top priorities, and qualitative interviews echoed this, with participants emphasizing how location affects not only livelihood opportunities but also quality of life and social mobility. Converted commercial buildings in central areas were viewed positively in both analyses for their potential to meet these location-based needs—especially when compared to peripheral housing developments that entrench spatial inequality.

A third area of convergence is affordability and financial accessibility. Survey respondents overwhelmingly indicated that existing rental options—even in "affordable housing" categories—remain out of reach, and interviewees pointed out that without state subsidies or innovative financing models, repurposed buildings risk being priced above what low-income

earners can afford. This reinforces the notion that adaptive reuse must be paired with targeted affordability mechanisms if it is to serve its intended beneficiaries.

Lastly, the analyses converge around the importance of building quality and safety. Participants from both surveys and interviews highlighted concerns about maintenance, ventilation, natural light, and compliance with safety standards. While many view the conversion of commercial buildings as a promising solution, there is consensus that such conversions must adhere to proper standards to avoid creating substandard or stigmatized housing environments. Trust in the quality of converted spaces is therefore critical to long-term uptake and sustainability.

4.5.2 The state of office space and housing before and after COVID-19 pandemic

Firstly, the findings have provided valuable insights into public perceptions of converting vacant office spaces into social housing as a strategy to address South Africa's housing shortage. Participants reveal that while high vacancy rates in commercial properties were exacerbated by the COVID-19 pandemic, these issues were already present due to factors such as economic fluctuations, oversupply, and shifts in work culture. Whereas half of survey participants said the issue of high vacancy rates is an issue that emerged post pandemic, the remaining half thought it was present prior to the COVID-19 pandemic. The new working arrangements, i.e., working-from-home and hybrid mindset further increased vacancy rates, although benefiting both the employers and the employees. Similarly, Dube et al. (2023), SAPOA (2024) and the Times (2025) report a shift in work patterns resulting in high office vacancy coupled with rising housing demand post COVID-19 pandemic. The data highlights broad public support for adaptive reuse as a means of addressing vacancy issues, with the majority of the participants viewing it as a cost-effective and beneficial solution to meet urban housing demand. Ginelli (2016), Mushebenge et al. (2023) and Hoesli & Malle, (2021) consider conversions as a solution to address housing insecurity and to rehabilitate vacant stock. Adaptive reuse according to Jones (2021) aligns with evolution in response to shifting conditions. However, there is also recognition of the complex risks involved, including the risks of urban decay, vagrancy, building hijacking, and vandalism. Equally so, Balemi et al. (2021), Cui & Walsh (2015) and Mallach (2018) resolved that office vacancies present issues of insecurity, uncertainty and criminality ranging from illegal occupancy, deterioration of the area and devaluation of surrounding buildings.

4.5.2.1 Demand for housing, housing shortage and possible solutions

Literature reviewed earlier discovered that there is a great demand for housing in urban areas globally and in South Africa due to rapid urbanisation and influxes of people. In addition, the rising housing demand amongst low-income groups in particular is attributed to the negative economic impacts of the COVID-19 (Dube et al., 2023; Pratiwi et al., 2023; Singh, 2023; Joubert, 2021). Likewise, the findings of this study conclude that the demand for housing is increasing not only due to population growth but also because of migration to economic hubs, largely CBDs which get overcrowded. In examining the housing shortage in South Africa,

participants widely expressed skepticism regarding the effectiveness of current programmes, such as the RDP, with most indicating that it has not met the growing demand. The majority felt that the initiative is not successful in adequately addressing the housing issues. They cited reasons such as a persistent mismatch between demand and supply of homes, with the rate of housing development lagging behind population growth. The location of the RDP homes is often far from economic centres which limits access to work opportunities, services and amenities. Some participants highlighted that many beneficiaries opt to sell their houses to earn income and then moved closer to the CBD for work opportunities. Issues of fraud, corruption and mismanagement of funds, which show a general mistrust in the government's effectiveness in implementing such initiatives were highlighted. Concerns were also raised around poor substandard building materials of these houses suggesting that quality issues further inhibit the programme's impact. Some suggested that the initiative is catered to a specific demographic of people which inadvertently aggravates existing social inequalities and impacts. These sentiments emphasise the need for alternative solutions, including the re-purposing of vacant commercial properties, to address pressing housing and social equity issues. Public understanding of social housing reflects a mix of accurate and varied interpretations, with a general consensus that while social housing can help address inequality, it must be complemented by economic opportunities, adequate services, and inclusivity to achieve long-term integration.

4.5.2.2 Conversion of vacant office spaces into housing and its pros and cons

Responses to the potential impact of commercial-to-residential conversions were largely positive, with participants anticipating beneficial effects on property values and community renewal. Reviewed literature related to conversions by authors such as Cox (2021), Koh et al. (2020), Smith and Lee (2022) and Jones and Robinson (2021) agree that conversions have shown a notable impact on surrounding property values and often offer property owners an opportunity to capitalise on the growing demand for housing. The conversion of vacant offices to residential spaces is seen as a viable solution by participants. It is considered cheaper than building from scratch and has been done before. Examples include New York in the United State of America, European cities and Johannesburg. Advantages of conversions include addressing the risk of vacant spaces, creating economic activity, and accommodating people. Perceived disadvantages also emerged, such as the potential for decreased economic activity in converted areas and limitations posed by existing building designs. Others mentioned issues of town planning and rezoning and the need for upgrade of infrastructure for services on the converted buildings. There was a strong demand for mixed-income housing to promote community integration, though participants acknowledged that this alone is not sufficient to address deep-rooted social and economic imbalances. Alternatives to social housing were suggested, with student accommodation, retail, urban farming and co-working spaces seen as viable options for repurposing vacant offices, reflecting a public interest in adaptable, multi-functional urban spaces.

4.5.2.3 Impacts of conversions from office space to social housing on surrounding house prices

The participants' understanding of social housing is comprehensive. A significant portion of participants described social housing as government-subsidised housing, while a smaller proportion associated it with affordable housing, RDP housing and mixed income housing. Granath and Lundgren (2019) concur: "social housing is a means of providing housing to low-income individuals. It is a form of housing tenure where the property is owned by a central or local government authority which subsidises rental payments to improve property affordability and to encourage integration across various income groups". Participants further describe social housing as rental stock for low-income earners, adding that irrespective of being subsidised, social housing comes with responsibility. They view office conversions to social housing as one of the effective ways to address the housing shortage and to improve people's social standing, access to jobs, and proximity to services. The economic benefits suggested include increased economic activities that positively impact surrounding property values. Likewise, scholars such as Gerard et al. (2021) and Ling et al. (2020) reflect on the property values that are rapidly declining, hence there is an urgent need for converting vacant office buildings to avoid property values from deteriorating to irrecoverably low rates. Some participants felt that not everybody may be willing to embrace social housing because of prejudices. A significant portion of participants viewed social housing as viable and a catalyst for other conversions, however social housing in isolation is not sufficient to achieve all these objectives to address the social, racial and economic imbalances of the past. Other possible conversions include social amenities, shops, and mixed-use transit-oriented developments like urban farming. The analysis of property trends in Randburg reveals a dynamic and evolving real estate market shaped by various economic, demographic, and structural factors. While the data indicated a steady price increase for both erven and sectional title unit schemes, declining sales volumes in recent years highlight affordability challenges and shifting market conditions, influenced by factors such as rising interest rates and economic uncertainty. The persistent gap between the asking and selling prices and the extended time that properties remain on the market suggest inefficiencies in market liquidity and misalignment between buyer and seller expectations. While the impact of real estate conversions on property prices and sale volumes is inconclusive at a macro level, these initiatives may have localised effects on neighbourhood revitalisation and demand within the area.

The research proposition, "Converting commercial office spaces to residential properties has no significant effect on property values," was confirmed through qualitative findings from online questionnaires and interviews. Participants generally indicated that while conversions offer numerous social and economic benefits—such as urban revitalisation and increased housing options—there is minimal direct impact on property prices.

Key findings revealed that factors such as infrastructure, demand-supply dynamics, and economic stability have a stronger influence on property values than the building's initial purpose. This aligns with literature that emphasizes adaptive reuse as a functional urban solution rather than a property value driver.

5. CONCLUSION

5.1 Introduction

This section presents the conclusion against the aim and objectives, contribution of the study to the discipline and practice, limitations, recommendations and further work. It is sensible to conclude that the conversion of vacant office buildings into social housing is pivotal towards responding to the dual challenges of high office vacancy rates and a growing housing shortage in South Africa, both of which were exacerbated by the COVID-19 pandemic. Furthermore, the quantitative analysis of property trends in the Randburg area provides insights into how these developments may have influenced the real estate landscape within the area.

5.2 Conclusion against the research objectives

The first objective meant to examine the state of office space and housing before and after the COVID-19 pandemic. The research findings found that the issue of high office vacancy rates was already present prior COVID-19 due to factors such as economic fluctuations. On the other hand, some participants alleged that high vacancy rate is an issue that emerged post pandemic. Participants further displayed far-reaching public support for office conversions as a means of addressing vacancy issues, with the majority viewing it as a cost-effective and beneficial solution to meet urban housing demand. The second objective aimed to explore the demand for housing and possible solutions. The findings conclude that the demand for housing, particularly in the urban areas is increasing not only due to population growth but also because of migration, therefore, housing shortage is also seen as a driver of inequality, social discord, and urban strain. While the RDP initiative is meant to create a more sustainable and equitable housing landscape in South Africa, the majority of the participants felt that the programme has not met the growing demand and that it is not successful in adequately addressing the housing shortage. The third objective tried to scrutinise the prevalence of real estate conversions into housing and their pros and cons. Responses to the potential impact of these conversions were largely positive, with participants anticipating beneficial effects on property values and community renewal. The pros of conversions include addressing the risk of vandalism on vacant spaces, creating economic activity, and accommodating people. Perceived cons also emerged, such as the potential for decreased economic activity in converted areas. Alternatives to social housing conversions recommended include student accommodation, retail and urban farming. The fourth objective intended to examine impacts of conversions from office space to social housing on surrounding house prices. When asked what social housing is, participants described social housing as government-subsidised rental housing for low-income earners. They regarded office conversions to social housing as an effective way to address the housing shortage and the high vacancy rates. Some participants noted that office conversions need to be matched by adequate services and public facilities to be effective. The majority further anticipated positive economic impact, suggesting that these conversions could enhance neighbourhood appeal by reducing vacancy, fostering urban renewal, and potentially increasing property demand. Other possible conversions proposed include social amenities,

shops, and mixed-use transit-oriented developments like urban farming including farming-related commerce.

5.3 Identified contribution of the study

Literature reviewed in this study and the empirical research findings highlighted South Africa's ongoing housing crisis and a rising need for new solutions. Converting vacant office buildings into residential properties, especially social housing, is regarded as one of the viable solutions to address the housing shortage in South Africa. First, the study tried to address the challenge of the rising housing demand caused by slow economic growth, the impact of the COVID-19 pandemic and the poor implementation of government initiatives to counter the spatial segregation of the past. The study is therefore a good source of reference for public policy and practice because it is beneficial to government as it highlights an opportunity to implement integration and housing strategies at minimal cost. Second, this study brought to the fore recommendations for alternative conversions which include social amenities and mixed-use transit-oriented developments. Third, the empirical findings of this study were discussed in support of literature reviewed. The review of the existing body of literature is an important component of academic research and integrity.

5.4 Limitations

This study has several limitations. First, the sample size was relatively small, with 32 respondents, which may limit the generalisability of findings to the broader South African population. Some questions also relied on participants' subjective perceptions, which may not fully reflect economic or structural realities. Another limitation is the limited geographical context, as responses may primarily reflect urban perspectives rather than the diverse housing needs across all regions in South Africa. Lastly, the Randburg property data did not explicitly show the localised impacts of real estate conversions and the trends identified in sale price and sale volumes were at a macroeconomic level.

5.5 Recommendations and further work

Future research could build on this study by expanding the sample size and demographic diversity to capture a more representative view of South African opinions on property conversions and housing. Qualitative interviews with key stakeholders, including government officials, and housing advocates, could offer deeper insights into the practical and policy challenges associated with real estate conversions. Additional studies could also explore specific case studies of successful conversions in South Africa or internationally, providing a clearer picture of best practices and potential barriers. Further work could also analyse the economic, social, and environmental impacts of such conversions over time, helping to evaluate their effectiveness in addressing housing shortages, promoting social equity, and supporting urban renewal. Lastly, a more localised analysis of the impact of real estate

conversions could be done to augment the sale volume and price trends which are mainly driven by macro factors.

References

1. Abdey, J. S. 2024. Statistical Research methods. Sage Publications.
2. Al Riyami, T., 2015. Main approaches to educational research. *International Journal of Innovation and Research in Educational Sciences*, 2(5), pp.412-416.
3. Aminuddin, F.A.B., 2019. *The compatibility of dispute resolution mechanisms with national culture in the construction industry-a case study of the Malaysian statutory adjudication regime*. University of Salford (United Kingdom).
4. Armstrong, G., Soebarto, V. and Zuo, J., 2021. Vacancy Visual Analytics Method: Evaluating adaptive reuse as an urban regeneration strategy through understanding vacancy. *Cities*, 115, p.103220.
5. Arrigoitia, M.F., 2018. The gentrification of social housing. In *Handbook of Gentrification Studies* (pp. 262-280). Edward Elgar Publishing.
6. Babbie, E. and Benaquisto, L., 2001. Qualitative field research. *The practice of social research*, 9, pp.298-300.
7. Bag, S., Gupta, S. and Telukdarie, A., 2018. Importance of innovation and flexibility in configuring supply network sustainability. *Benchmarking: An International Journal*.
8. Baker, H., 2020. *The adaptation and demolition of existing buildings on masterplan sites* (Doctoral dissertation, University of Cambridge).
9. Baker, T. & Lee, J., 2023. Gentrification and its effects on local housing markets: A case study of urban renewal initiatives. *Journal of Urban Economics*, 58(2), pp. 56-70.
10. Balemi, N., Füss, R. and Weigand, A., 2021. COVID-19's impact on real estate markets: review and outlook. *Financial Markets and Portfolio Management*, 35(4), pp.495-513.
11. Baobeid, A., Koç, M. and Al-Ghamdi, S.G. (2021). Walkability and Its Relationships With Health, Sustainability, and Livability: Elements of Physical Environment and Evaluation Frameworks. *Frontiers in Built Environment*, [online] 7(7). doi:<https://doi.org/10.3389/fbuil.2021.721218>.
12. Berger, T., Amann, C., Formayer, H., Korjenic, A., Pospichal, B., Neururer, C. and Smutny, R., 2014. Impacts of urban location and climate change upon energy demand of office buildings in Vienna, Austria. *Building and Environment*, 81, pp.258-269.
13. Bethlehem, L., 2013. A new dynamic–urban regeneration in the Joburg CBD. *The Journal of the Helen Suzman Foundation*, 69, pp.17-24.
14. BlackBrick Sandton Two. 2022. Home – BlackBrick Sandton Two. [ONLINE] Available at: https://blackbricksandton.com/?gclid=CjwKCAjw6fyXBhBgEiwAhhiZsmC9m_bdUe-STXoiliE-u804iLHIIJwAg4eOo3WMoadtVbLWolzPjHjxoCkt8QAvD_BwE. [Accessed 18 August 2022].
15. Braun, V. and Clarke, V., 2012. *Thematic analysis*. American Psychological Association.
16. Brown, J., Davis, K., & Lee, M., 2022. Urban adaptation: Trends in post-pandemic real estate. London: Routledge.

17. Buthelezi, L. (2021). PICTURES | Large Sandton office park turned into flats. News24. Retrieved from <https://www.news24.com/fin24/companies/pictures-large-sandton-office-park-turned-into-flats-20210924>
18. Charlton, S., & Kihato, C. (2006). Reaching the poor? An analysis of the influences on the evolution of South Africa's housing programme. In U. Pillay, R. Tomlinson, & J. du Toit (Eds.), *Democracy and Delivery: Urban Policy in South Africa* (pp. 252–282). HSRC Press.
19. City of Tshwane. (2024). City of Tshwane Council approves strategic plan to fight hijacked and illegally occupied buildings in Pretoria CBD. Retrieved from <https://www.tshwane.gov.za/?p=67166>
20. Constitution of the Republic of South Africa, 1996 - Chapter 2: Bill of Rights | South African Government. 2023. Constitution of the Republic of South Africa, 1996 - Chapter 2: Bill of Rights | South African Government. [ONLINE] Available at: <https://www.gov.za/documents/constitution/chapter-2-bill-rights>. [Accessed 21 March 2023].
21. Cox, D., 2021. The impact of office-to-residential conversions on local property values. *Property Economics Review*, 35(3), pp. 102-115.
22. Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and Conducting Mixed Methods Research* (3rd ed.). Thousand Oaks, CA: Sage Publications.
23. Creswell, J.W., Hanson, W.E., Clark Plano, V.L. and Morales, A., 2007. Qualitative research designs: Selection and implementation. *The counseling psychologist*, 35(2), pp.236-264.
24. Cui, L. and Walsh, R. (2015) 'Foreclosure, vacancy and crime', *Journal of Urban Economics*, 87, pp. 72-84.
25. Currie, A., 2021. Building conversions that add value. *IMIESA*, 46(4), pp.48-49.
26. Darwin, C., 1859. *On the Origin of Species*. London: John Murray.
27. David C Ling, Chongyu Wang, Tingyu Zhou, A First Look at the Impact of COVID-19 on Commercial Real Estate Prices: Asset-Level Evidence, *The Review of Asset Pricing Studies*, Volume 10, Issue 4, December 2020, Pages 669–704,
28. Della Spina, L., Calabrò, F. and Rugolo, A., 2020. Social housing: An appraisal model of the economic benefits in Urban regeneration programs. *Sustainability*, 12(2), p.609.
29. Denzin, N. K. (1978). *The Research Act: A Theoretical Introduction to Sociological Methods*. New York: McGraw-Hill.
30. Dmochowski, A.A., 2016. *Examining the Impacts of a New Regional Inner-City Retail Development on Liverpool's Existing Inner-City Shopping Centres and Other Retail Areas*. Liverpool John Moores University (United Kingdom).
31. Dube, K., Mensah, I. and Chapungu, L., 2023. COVID-19, Tourist Destinations and Prospects for Recovery: Volume Two: An African Perspective.
32. Enel X. 2023. What is Urban Regeneration? Definition and types | Enel X. [ONLINE] Available at: <https://corporate.enelx.com/en/question-and-answers/what-is-urban-regeneration>. [Accessed 21 March 2023].)
33. Feinberg, H.M., 1993. The 1913 Natives Land Act in South Africa: Politics, race, and segregation in the early 20th century. *The International Journal of African Historical Studies*, 26(1), pp.65-109.

34. Fianchini, M. and Ferrucci, F., 2018. TURNING EMPTY OFFICE BUILDINGS INTO SUSTAINABLE SOCIAL HOUSING. In *42nd IAHS WORLD CONGRESS The housing for the dignity of mankind* (pp. 1-10)
35. Gerard, K., Killeen, N., Skouralis, A., Velasco, S. and Wosser, M., 2021. COVID-19 and the commercial real estate market in Ireland. *Financial Stability Notes*, 2021.
36. Ginelli, E., 2016, September. Adaptive reuse of vacant office building in Milan. In *Proceedings of the 41st IAHS World Congress, Algarve, Portugal* (pp. 13-16).
37. Gordon, P. (2022). Repurposing commercial real estate in Cape Town: Trends and challenges. *Urban Studies Journal*, 59(4), 1067-1085.
38. Granath Hansson, A. and Lundgren, B., 2019. Defining social housing: A discussion on the suitable criteria. *Housing, Theory and Society*, 36(2), pp.149-166.
39. Green, P. & Patel, S., 2023. Sustainability in Urban Development: Challenges and Innovations. Cape Town: Urban Press.
40. Hargreaves Heap, S.P., 2013. What is the meaning of behavioural economics?. *Cambridge Journal of Economics*, 37(5), pp.985-1000.
41. Heynes, D.V., 2020. An inquiry on the efficacy of structures by South African government to promote intergration of traditional medicine and modern medicine: A case of Mossel Bay, Western Cape Province.
42. Hoesli, M. and Malle, R., 2021. Commercial real estate prices and COVID-19. *Journal of European Real Estate Research*.
43. Home in Place, n.d. Difference between social and affordable housing. [online] Available at: <https://homeinplace.org/difference-between-social-and-affordable-housing>
44. Hoogendijk, A.S.C., 2019. *Using Workplace to Create Social Housing Space: The Applicability of Office Conversion for Achieving Urban Sustainability in the Netherlands* (Master's thesis).
45. IOL Business Report. (2024). Octodec to launch innovative office-to-residence conversion in Tshwane. Retrieved from <https://www.iol.co.za/business-report/companies/octodec-to-launch-innovative-office-to-residence-conversion-in-tshwane-4eab5c5e-ce29-43a1-9982-37ba30fa6732>
46. IOL News. (2023). Almost 20% of SA renters are still finding it difficult to pay their landlords. Retrieved from <https://www.iol.co.za/news/south-africa/almost-20-of-sa-renters-are-still-finding-it-difficult-to-pay-their-landlords-a3b6a819-aa65-4e48-9088-0f71248ef828>
47. Johnson, A., Muller, R., & Singh, T., 2025. Real Estate Transformation in South Africa. Pretoria: FutureWorks Publishing.
48. Jones, H. & Robinson, A., 2021. Office-to-residential conversions in post-pandemic cities: A new approach to urban revitalization. *Urban Planning and Development*, 47(4), pp. 128-142.
49. Jones, H., 2021. *Evolving Cities: Adaptive Reuse in the 21st Century*. New York: HarperCollins.
50. Joubert, M. (2021). The impact of COVID-19 on office space demand and the rise of residential conversions in Johannesburg. *South African Journal of Urban Planning*, 22(1), 45-61.

51. Kaushik, M. and Guleria, N., 2020. The impact of pandemic COVID-19 in workplace. *European Journal of Business and Management*, 12(15), pp.1-10.
52. Kho, A., Cahyadi, H., Meilani, Y. and Pramono, R. (2024). Talent attraction through flexible work anytime from anywhere. [online] ResearchGate. Available at: https://www.researchgate.net/publication/377420713_Talent_attraction_through_flexible_work_anytime_from_anywhere.
53. Kirongo, A. and Odooyo, C., 2020. Research Philosophy Design and Methodologies: A Systematic Review of Research Paradigms in Information Technology.
54. Koh, K., Tan, D. & Wong, C., 2020. Residential conversions and their effect on surrounding property prices: A global perspective. *Real Estate Journal*, 41(1), pp. 32-46.
55. Kraag, A.D., 2015. The added financial value of office conversion into housing.
56. Lehtinen, A. and Simonsen, K., 2021. Moments of renewal: Critical conversions of Nordic samhällsgeografi. In *Placing critical geographies* (pp. 223-245). Routledge.
57. Leishman, C. and Rowley, S., 2012. Affordable housing. *The Sage handbook of housing studies*, pp.379-96.
58. Levin, M., 1991. The reification-realism-positivism controversy in macromarketing: A philosopher's view. *Journal of Macromarketing*, 11(1), pp.57-65.
59. Li, Y., Shan, Y. and Liu, P., 2015. An extended TODIM method for group decision making with the interval intuitionistic fuzzy sets. *Mathematical Problems in Engineering*, 2015.
60. Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage Publications.
61. Mali-Swelindawo, B.L., 2017. South African public sector property management: a performance model.
62. Mallach, A. (2018) *The Empty House Next Door: Understanding and Reducing Vacancy and Hypervacancy in the United States*. Lincoln Institute of Land Policy.
63. Massey, R. and Gunter, A., 2020. *Urban geography in South Africa*. Springer, Johannesburg.
64. McCarthy, J. and Pollock, S.A., 1997. Urban regeneration in Glasgow and Dundee: a comparative evaluation. *Land Use Policy*, 14(2), pp.137-149.
65. Mcleod. S. 2024. Thematic Analysis: A Step-by-Step Guide. DOI: 10.13140/RG.2.2.13084.71048.
66. Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative Research: A Guide to Design and Implementation*. San Francisco, CA: Jossey-Bass.
67. Mesthrige, J.W., Wong, J.K. and Yuk, L.N., 2018. Conversion or redevelopment? Effects of revitalization of old industrial buildings on property values. *Habitat International*, 73, pp.53-64.
68. Michael Page. (n.d.). Dramatic increase in remote working in South Africa. [online] Available at: <https://www.michaelpageafrica.com/advice/insights/latest-insights/dramatic-increase-remote-working-south-africa>.

69. Mseleku, Z., 2023. Neoliberalism and the Downfall of the Growth, Employment, and Redistribution (GEAR) Strategy in South Africa: Key Lessons for Future Development Policies. *African Journal of Development Studies*, 13(4).
70. Muchangos, D. and Sarmento, L., 2017. *Developing integrated and sustainable municipal solid waste management systems in low-income contexts: Lessons from Maputo City, Mozambique*.
71. Mushebenge, A.G., Ugbaja, S.C., Mtambo, S.E., Ntombela, T., Metu, J.I., Babayemi, O., Chima, J.I., Appiah-Kubi, P., Odugbemi, A.I., Ntuli, M.L. and Khan, R., 2023. Unveiling the Inhibitory Potentials of Peptidomimetic Azanitriles and Pyridyl Esters towards SARS-CoV-2 Main Protease: A Molecular Modelling Investigation. *Molecules*, 28(6), p.2641.
72. Ngwenya, L. & Khoza, N., 2023. 'The shift to housing: Repurposing office spaces in South Africa', *Journal of Urban Studies*, 58(4), pp. 320-335.
73. Nyoni, J., 2019. The relationship between strategies and performance in the manufacturing sector in Zimbabwe during economic crisis (Doctoral dissertation).
74. O'Cathain, A., Murphy, E., & Nicholl, J. (2019). The quality of mixed methods studies in health services research. *Journal of Health Services Research & Policy*, 24(3), 189-194.
75. Onyeaka, H., Anumudu, C.K., Al-Sharify, Z.T., Egele-Godswill, E. and Mbaegbu, P., 2021. COVID-19 pandemic: A review of the global lockdown and its far-reaching effects. *Science progress*, 104(2), p.00368504211019854.
76. Paul, D.B., 1988. The selection of the "Survival of the Fittest". *Journal of the History of Biology*, 21(3), pp.411-424.
77. Peacock, G., 2016. *Evaluating the impact of social networking sites on an organisations communication strategy. The case study of improper butter* (Doctoral dissertation, Dublin Business School).
78. Pérez, L. (2023). The rise of office-to-residential conversions in Mexico City: A response to housing demand. *Journal of Urban Development*, 48(2), 312-328.
79. Pratiwi, W.D., Zuraida, S., Margono, R.B., Kurniawati, I., Dorothy, E. and Tang, A., 2022, October. Office Conversion to Residential: Innovation in Housing and Urban Vulnerability. In *International Conference on Indonesian Architecture and Planning* (pp. 439-454). Singapore: Springer Nature Singapore.
80. Property 24. (2024). Recent sales report (Randburg, Gauteng). Property 24. <https://www.property24.com>
81. Rabianski, J.S., 2007. Focus on real estate analysis: comments on the concept and definition of highest and best use. *Real Estate Issues*, 32(1), pp.39-46.
82. Rădulescu, C.M., Ștefan, O., Rădulescu, G.M., Rădulescu, A.T. and Rădulescu, M.V., 2016. Management of stakeholders in urban regeneration projects. Case study: Baia-Mare, Transylvania. *Sustainability*, 8(3), p.238
83. Ramphal, N., 2000. *Social housing as a means to low income housing in the Durban inner city* (Doctoral dissertation).
84. Reeves, P., 2006. *Introduction to social housing*. Routledge.
85. Remøy, H.T. and van der Voordt, T.J., 2007. A new life: conversion of vacant office buildings into housing. *Facilities*.

86. Remøy, H.T. and van der Voordt, T.J., 2014. Adaptative reuse of office buildings into housing: opportunities and risks. *Building Research & Information*.
87. Reuters. (2024). South Africa's unemployment rate climbs for third quarter in a row. Retrieved from <https://www.reuters.com/world/africa/south-africas-unemployment-rate-rises-335-second-quarter-2024-08-13/>
88. Samani, A.R., Mishra, S., Golias, M. and Lee, D.J.H., 2023. What influences the location choice of establishments? An analysis considering establishment types and activities interactions. *Journal of Transport Geography*, 111, p.103667.
89. SAPOA. (2024). Current office developments 85% pre-let, the highest rate in the Office Vacancy Survey's history. Property Wheel. Retrieved from <https://propertywheel.co.za/2024/09/sapoa-current-office-developments-85-pre-let-the-highest-rate-in-the-office-vacancy-surveys-history/>
90. Saunders, M.N., Lewis, P., Thornhill, A. and Bristow, A., 2015. Understanding research philosophies and approaches: Research methods for business students. *Pearson*.
91. Savić, D., 2020. COVID-19 and work from home: Digital transformation of the workforce. *Grey Journal (TGJ)*, 16(2), pp.101-104.
92. Schoenmaker, D.A.J., 2016. Commercial real estate development and valuation in the Netherlands.
93. Shapiro, E., Mackmin, D. and Sams, G., 2019. *Modern Methods of Valuation*. Routledge.
94. SHRA. 2024. Social housing in South Africa: What you need to know. Retrieved from: <https://www.shra.org.za/social-housing-in-south-africa-what-you-need-to-know/>.
95. Siegmund, David O.. "probability theory". *Encyclopedia Britannica*, 8 Mar. 2023, <https://www.britannica.com/science/probability-theory>. Accessed 28 March 2023.).
96. Silva, A. (2024). Office conversions in Brasília: Addressing housing shortages and urban regeneration. *Brazilian Urban Studies Review*, 33(1), 55-71.
97. Singh, R. (2023). Repurposing commercial buildings in New Delhi: A strategy for urban housing. *Indian Journal of Housing and Urban Policy*, 30(2), 215-230.
98. Smith, A. & Lee, P., 2022. The rise of office-to-residential conversions and its impact on urban property values. *Journal of Property Investment*, 24(2), pp. 78-92.
99. Smith, J. & Johnson, A. (2025). Post-pandemic housing and office space trends. *Urban Studies Journal*, 58(2), 145-160.
100. Smith, R., 2023. 'Post-pandemic work trends: Impact on urban spaces', *Real Estate Review*, 45(3), pp. 210-225.
101. SOUTH AFRICA Housing Market Report -2024. (n.d.). Available at: <https://housingfinanceafrica.org/app/uploads/2024/07/V8-National-Property-Market-Report-2024-Final-b.pdf>.
102. Spencer, H., 1864. *Principles of Biology*. London: Williams and Norgate.
103. Statistics South Africa, 2024. 'Housing needs and urban development', *South African Housing Report*, 12(1), pp. 15-30.
104. Tanrıvermiş, H., 2020. Possible impacts of COVID-19 outbreak on real estate sector and possible changes to adopt: A situation analysis and general assessment on Turkish perspective. *Journal of Urban Management*, 9(3), pp.263-269.

105. The Times. (2025). How the property market has changed since 2000. Retrieved from <https://www.thetimes.co.uk/article/how-housing-market-changed-since-2000-lbcsw5mz2>
106. The Work From Anywhere Team. 2022. Work From Anywhere Jobs: The Companies Allowing Work From Anywhere – Remote Work. [ONLINE] Available at: <https://www.wfa.team/work-from-anywhere-jobs-the-companies-allowing-work-from-anywhere/>. [Accessed 17 August 2022].
107. Thomas, D.R., 2006. A general inductive approach for analyzing qualitative evaluation data. *American journal of evaluation*, 27(2), pp.237-246.
108. ThoughtCo. 2023. A Brief Explanation of Evolution. [ONLINE] Available at: <https://www.thoughtco.com/what-is-evolution-1224603>. [Accessed 27 March 2023]
109. Tuli, F., 2010. The basis of distinction between qualitative and quantitative research in social science: Reflection on ontological, epistemological and methodological perspectives. *Ethiopian Journal of Education and Sciences*, 6(1).
110. Turok, I. (2001). Persistent polarisation post-apartheid? Progress towards urban integration in Cape Town. *Urban Studies*, 38(13), 2349–2377.
111. Tyekela, Y.N., 2018. *Mitigation of Displacement Through Rent Control Policy* (Doctoral dissertation, University of the Witwatersrand, Faculty of Engineering and the Built Environment).
112. Van Dijk, D., Kinsella Thompson, A. and Geltner, D., 2020. Recent drops in market liquidity may foreshadow major drops in US commercial real estate markets. *MIT Center for Real Estate Research Paper*, (2)
113. Vehovar, V., Toepoel, V. and Steinmetz, S., 2016. *Non-probability sampling* (pp. 329-345). The Sage handbook of survey methods.
114. Vidal, L., 2019. Cooperative Islands in Capitalist Waters: Limited-equity Housing Cooperatives, Urban Renewal and Gentrification. *International Journal of Urban and Regional Research*, 43(1), pp.157-178.
115. Wagner, D., Woltering, R.O., Downs, D.H. and Sebastian, S., 2022. The REIT conversion puzzle. *Journal of Real Estate Research*, pp.1-30.
116. Wahyuni, D., 2012. The research design maze: Understanding paradigms, cases, methods and methodologies. *Journal of applied management accounting research*, 10(1), pp.69-80.
117. Wang, S., 2019. The social impact of office-to-residential conversions: Gentrification and displacement. *Housing Studies*, 44(1), pp. 123-138.
118. Ware, J.N. and Dillman Taylor, D., 2014. Concerns about confidentiality: The application of ethical decision-making within group play therapy. *International Journal of Play Therapy*, 23(3), p.173.
119. Zhang, C., Dai, S. and Xia, H., 2020. Reuse of abandoned railways leads to urban regeneration: A tale from a rust track to a Green Corridor in Zhangjiakou. *Urban Rail Transit*, 6(2), pp.104-115.
120. Zivkovic, M., Kurtovic-Folic, N., Jovanovic, G., Kondic, S. and Mitkovic, M., 2016. Current strategies of urban and architectural conversion as a result of increased housing demands/ -*Technical Gazette*, 23(2), pp.561-569

Appendix

Appendix 1: Semi-structured interview questions

1. Was the issue of high vacancy rates present prior to the COVID-19 pandemic? What were the main reasons for this?
3. What are the main causes of high office vacancy rates post COVID-19?
4. What risks do vacant offices pose?
5. The demand for housing is increasing due to population growth. On a scale of 1 to 10, how effectively is the housing issue being addressed in South Africa?
6. Has the Reconstruction and Development Programme (RDP) initiative been successful in addressing the rising housing demand in South Africa?
7. The COVID-19 pandemic aggravated the housing shortage in South Africa. What do you think will be the greatest consequence of the growing housing issue in South Africa?
8. Do you consider the conversion of vacant offices to residential real estate to be a possible means of addressing the national housing shortage?
9. What is the main advantage of conversions of vacant offices to residential real estate?
10. What is the main disadvantage (if any) of conversions of vacant offices to residential real estate?
11. Are you aware of any real estate conversions in your area? Please provide example(s).
12. What is your understanding of social housing?
13. Do you believe conversions from commercial property to social housing will be a feasible and effective means of simultaneously addressing the housing shortage and high office vacancy rates?
14. What economic benefit will these conversions have?
15. Will these conversions positively or negatively impact surrounding property values?
16. There is a demand for the South African government to implement mixed income housing as a means of integrating communities to address the social, racial, and economic imbalances of the past. Is social housing a viable means of achieving this?
17. What other conversions of vacant offices could be viable and feasible in a South African context?
18. What are the foreseen challenges of the conversions from commercial to social housing from a legal and regulatory perspective?

Appendix 2: Online questionnaire questions

1. Was the issue of high vacancy rates present prior to the COVID-19 pandemic?
 - a) Yes
 - b) No

2. If so, which of the following were the two main reasons for this?
 - a) Economic fluctuations
 - b) Shifts in industry trends.
 - c) Oversupply of office space
 - d) Changing work styles
 - e) Urban to suburban migration
 - f) Real estate market cycles
 - g) Other

3. What are the two main causes of high office vacancy rates post COVID-19?
 - a) Shift to remote work
 - b) Economic uncertainty
 - c) High rental costs
 - d) Change in business operations.
 - e) Increase in freelancing and contract work.
 - f) Real estate market trends
 - g) Oversupply of office space
 - h) Other

4. What risks do vacant offices pose?
 - a) Vandalism
 - b) Theft
 - c) Declining property values
 - d) Hijacking of buildings
 - e) All the above
 - f) Other

5. The demand for housing is increasing due to population growth. On a scale of 1 to 10, how effectively is the housing issue being addressed in South Africa?

1	2	3	4	5	6	7	8	9	10
Poor					Excellent				

6. Has the Reconstruction and Development Programme (RDP) initiative been successful in addressing the rising housing demand in South Africa?

- a) Yes
- b) No

7. Please substantiate your answer to Question 6.
-

8. The COVID-19 pandemic aggravated the housing shortage in South Africa. Which two of the following will be the greatest consequence of the growing housing issue in South Africa?

- a) Increase in informal settlements.
- b) Social inequality and unrest
- c) Economic/financial strain
- d) Poor healthcare and education
- e) Urbanisation pressures
- f) Reduced economic growth.
- g) Environmental concerns

9. Do you consider the conversion of vacant offices to residential real estate to be a possible means of addressing the national housing shortage?

- a) Yes
- b) No
- c) Unsure

10. What is the main **advantage** of conversions of vacant offices to residential real estate?

- a) Removal of vacant and outdated buildings
- b) Effective strategy to address the pressing urban challenges.
- c) Possible solution to urban renewal
- d) Other

11. What is the main **disadvantage** (if any) of conversions of vacant offices to residential real estate?
-

12. Are you aware of any real estate conversions in your area? Please provide example(s).
- a) Yes
 - b) No
 - c) Maybe
-

13. What is your understanding of social housing?

- a) Government subsidized housing
- b) Affordable housing
- c) Mixed income housing
- d) RDP Housing
- e) Other

14. Do you believe conversions from commercial property to social housing will be a feasible and effective means of simultaneously addressing the housing shortage and high office vacancy rates?
-

15. What economic benefit will these conversions have?

- a) Cost effective reuse of existing structures.
- b) Revitalising urban areas
- c) Attracting a diverse workforce
- d) Increased property values
- e) Economic participation
- f) Other

16. Will these conversions positively or negatively impact surrounding property values?

- a) Positive impact
- b) Negative impact
- c) No impact

17. There is a demand for the South African government to implement mixed income housing as a means of integrating communities to address the social, racial, and economic imbalances of the past. Is social housing a viable means of achieving this?

- a) Yes
- b) No
- c) Viable to an extent
- d) Other

18. What other conversions of vacant offices could be viable and feasible in a South African context?
- a) Retail spaces
 - b) Co-working spaces
 - c) Educational facilities
 - d) Student accommodation
 - e) Hotels
 - f) Other

Raw online questionnaire responses:

https://docs.google.com/spreadsheets/d/1ZheH_SiLUswURYq-kCZNtvSDhhc7IoATPI5vouOZ6pg/edit?usp=sharing

Appendix 3: Consent form

Title of project:

Exploring the Viability of Converting Commercial Real Estate to Social Housing; the Post Pandemic Experience

Name of researcher:

Esther Tumeka Bikitsha

I,, agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.	YES	NO
I understand that I can volunteer to take part in the study.	YES	NO
I agree that my interview responses will be recorded.	YES	NO
I agree that direct quotations from my interview may be used by the researcher in their research report.	YES	NO
I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research report).	YES	NO
I agree that other researchers may use the information I provide in my interview (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on.	YES	NO

..... (signature)

..... (name of participant)

..... (date)

Appendix 4: Ethical clearance



Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

R14/49 Bikitsha

CLEARANCE CERTIFICATE

PROTOCOL NUMBER: H23/11/37

PROJECT TITLE

Exploring the Viability of Converting Commercial Real Estate to Social Housing; the Post Pandemic Experience

INVESTIGATOR(S)

Ms E Bikitsha

SCHOOL/DEPARTMENT

Construction Economics and Management/

DATE CONSIDERED

24 November 2023

DECISION OF THE COMMITTEE

Approved
Risk Level: Minimal

EXPIRY DATE

15 April 2027

DATE

16 April 2024

CHAIRPERSON



(Professor J Watermeyer)

cc: Supervisor : Professor K Ijason

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **A SIGNED COPY** returned to the Secretary electronically. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I/we agree to completion of a regular progress report. For Minimal and Low Risk studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**



Signature

18 / 04 / 2024
Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES