



Cape Peninsula
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A Sustainable Urban Design Approach to Adaptive Reuse Projects in Cape Town

by

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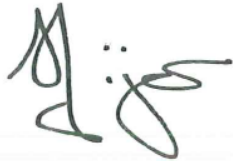
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ABSTRACT

This research is about the spaces between places in urban settings, also referred to as "Interiorscapes", a term coined by Paul Cooper (2003). These spaces are often overlooked by developers and urban planners in their vision of the bigger scheme yet they function as extensions of the habitable spaces in buildings and contribute to the overall structure and understanding of a place. If disregarded these spaces can potentially become neglected and derelict inadvertently sanctioning opportunities for crime. In Cape Town, the proposed developments at the Two Rivers Urban Park in partnership with the Western Cape Government and the City of Cape Town, offer an opportunity to explore the inclusion of Interiorscapes in adaptive reuse projects aimed at creating sustainable commercial urban spaces in Cape Town.

This interpretive qualitative research was conducted by exploring proposals made for two of the districts within the Two Rivers Urban Park area; (1) Oude Molen Ecovillage, currently a mixed-use sustainable neighborhood, and (2) the River Club where planning is currently underway to develop a commercialised recreational hub and tourist attraction. These sites were identified as study areas as they offer the potential for the implementation of Interiorscapes in adaptive reuse projects. Using a Grounded Theory approach, data was collected by interviewing the stakeholders, reviewing the proposals drawn up for these developments and through observations made when visiting the sites. Using the principles of New Urbanism, data has been analysed and the findings are presented as a narrative.

The findings of this research indicate that ultimately the inclusion of Interiorscapes and all they represent is tied up in politics and economic processes monopolised by developers. The construct of Interiorscapes becomes a metaphor for the well-considered, well planned, user centered, '*bottom-up*' design solutions which in the current context may present as a challenging problem which has no apparent solution. Recommendations are made for sustainable design alternatives to the current building and planning practices in Cape Town for adaptive reuse projects through the introduction of Interiorscapes.

KEYWORDS: Adaptive reuse, new urbanism, Interiorscapes, social, environmental, economical sustainability

GLOSSARY

TERMS

DEFINITIONS

Entities, Guides and Charters

The Arup Group

An independent firm of designers, planners, engineers, consultants and technical specialists offering a broad range of professional services. Their vision, put simply, is "to find a better way." (Arup, 2015)

Cape Town Central City Improvement District (CCID)

A public-private partnership established in 2000 by local property owners with a vision for the Cape Town central business district.

The Cape Town Partnership

A non-profit organisation founded in 1999 by the City of Cape Town, the South African Property Owners Association and the Cape Town Regional Chamber of Commerce and Industry, in response to the state of Cape Town's central business district.

The Woodstock Improvement District (WID)

Established in 2000 by local business leaders concerned about the urban decay in the Woodstock. Subsequently in 2005, with the support of City Council, the Woodstock Improvement District was formed; main focuses are security, cleaning and greening of the area.

The Development Action Group (DAG)

A non-governmental organisation working in the urban sector, established in 1986 by a group of built environment professionals and development practitioners to offer technical and professional advice to Civil Society Organisations and community groups threatened with forced removal in the Cape Town area.

General

Adaptive Reuse	Refers to the process of adapting and reusing an object or a space for a purpose other than initially intended, once its initial purpose is no longer valid or necessary. In the built environment, this act is necessary to reduce urban sprawl and the effects several abandoned buildings can have, particularly in an urban setting.
Gentrification	The restoration of run-down urban areas by the middle class resulting in the displacement of low-income residents (Yung & Chan, 2012).
Flood line	A flood line represents the highest elevation that would probably be reached during a storm within a return period of some years. (SRK Consulting (South Africa) Pty Ltd, 2016)
Heritage	Refers to a building, an area, or a ritual. which forms part of a community's cultural legacy or tradition and is passed down from preceding generations and has cultural significance whether tangible or intangible (Baumann et al., 2013; and Hiu et al., 2014).
Interiorscapes	Otherwise known as "small scale infill" or the spaces between buildings, an outdoor space or garden that forms an intrinsic component of a place (in the context of this research). As an extension of the habitable interior, this space operates as a link between the inside and outside of buildings and essentially embodies the principles of New Urbanism and Adaptive Reuse.
Micro-enterprise village	A holistic, inclusive, integrated, partnership development, based on a 'bottom-up' approach founded on innovative solutions, ensuring socio-economic and environmental improvements that benefit local and surrounding communities. (Social Development Resource Centre, 2011)
New Urbanism	A design approach centred on walkable mixed-use urban areas with accessible and functional public spaces (Song & Knaap, 2003; Hodkinson et al., 2016). Song and Knaap (2003) explain that principles of New Urbanism include high-density, mixed-use

neighbourhoods, convenient public transit, bicycles and pedestrian-friendly street networks, strategically placed open spaces geared towards fostering social interaction.

Sense of place	The uniqueness of a particular space measured by the ability to recognise or recall a place as being different from other places because of its character (Lynch, 1992).
Sustainable design	The integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations (NEMA, 1998 and SRK Consulting (South Africa) Pty Ltd 2016).
Transit Orientated Development (TOD)	Mixed-use residential or commercial area designed to maximise access to public transport, and often incorporates features to encourage transit ridership while dissuading the ownership of automobiles.

STAKEHOLDERS

The Biovac Institute	A Private Public Partnership, located in Cape Town, South Africa. A pharmaceutical research and Influenza Vaccine Manufacturing Institute, located adjacent to the Oude Molen entrance on Alexander Road. Maitland.
The Biovac Proposal	The Regeneration Team has proposed a Two Rivers Urban Park development of large proportions. Without capital funding for the project, they now intend starting their development strategy by allocating a large portion of Oude Molen Village for a National Health Laboratory Service (NHLS), Biovac Pharmaceutical Research Institute and Square Kilometre Array (SKA) buildings.
The Oude Molen Ecovillage	The Oude Molen Ecovillage (OMEV) was initiated in 1997 by a group of social entrepreneurs who, together with local and international volunteers, transformed an abandoned and vandalised hospital complex situated near Pinelands into a micro-enterprise village.

Oude Molen Ecovillage Tenant Association	Oude Molen Ecovillage Tenant Association (OMEVTA), the custodians of Oude Molen Ecovillage.
LLPT	Liesbeek Leisure Properties Trust.
NHLS	National Health Laboratory Service.
SKA	Square Kilometre Array
The Two Rivers Urban Park	The Two Rivers Urban Park (TRUP) previously The Black River Urban Park Development Framework, was initiated in July 1998. City officials presented information relating to the study area and outlined the City's vision for the area – that it should be utilised and managed as an urban park (City of Cape Town, 2002).
Wesgro	The official tourism, trade and investment promotion agency for Cape Town and the Western Cape, marketing the destination globally.

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CHAPTER ONE: INTRODUCTION

"What defines character of a city is its public space" - Joan Clos, Executive Director of UN-Habitat (2014)

Interiorscapes are the spaces which connect places; they create a network of safe, sustainable green spaces within and between buildings and in so doing create a sense of place for their users.

The term Interiorscapes was coined by Paul Cooper (2003) in his book; *Interiorscapes: gardens within buildings* (Cooper, 2003). Interiorscapes are a mechanism for linking areas using the networks between places and creating a sense of integration. Interiorscapes present opportunities for interactions; they seamlessly create connections between spaces which ensure continuous human activity and interaction. As such these spaces become an extension of the habitable space and could be considered an extension of the interior. A good example of this is the Greenpoint Stadium in which continuous activity is evident on both the event and non-event days. Redesigning the urban environment by investing in Interiorscapes brings people back out onto the streets and will increase activity in public spaces. Noticeably improving the perception of safety and individual confidence, Hodkinson refers to this as an increase in passive surveillance (Hodkinson, Leyzerovsky & Becky, 2016).

Urban theorists such as Lynch (1984), Jacobs (1996), Montgomery (1998,) Gehl (2006, 2010), and Yung and Chan (2012), have examined ways of creating quality urban environments. Many of their proposals are still relevant today, for the purposes of this dissertation their principles and theories will be referred to as New Urbanism. New Urbanism embraces an environmentally aware approach to the design of public spaces that encompass the three pillars of sustainable design; social, economic and environmental. New Urbanism is a holistic, inclusive, 'bottom-up' approach to design. The core focus of New Urbanism is to design cities or places that are compact, inclusive, mixed-use, transit- orientated, and prioritising pedestrian urban areas with accessible public spaces for all.

This research explores Interiorscapes and New Urbanism lenses through which the fields of sustainable design principles and Adaptive Reuse of buildings can be analysed. Contributing to alternative planning and design methods, for example, a more holistic, inclusive and sustainable approach which considers social, environmental and lifestyle issues in Cape Town specifically, focusing on sustainable community needs. The starting point of this study is to focus on the importance of the inclusion of safe, sustainable green urban spaces to create a sense of place; Interiorscapes.

The academic problem driving this study is to better understand the relationship between person, place and profit. And the extent to which Interiorscapes impact sustainable design solutions in Adaptive Reuse projects in Cape Town.

Environments should essentially be created to provide better lives for all, especially in a financial and socially unequal society. Spaces which are designed for humans should ideally be designed to nurture and build human dignity. Van der Merwe (2016) argues that the challenge to produce these environments lies in how quality spaces can be created but are at the same time still cost effective and allow South Africans to take ownership of and enjoy their surroundings with dignity and pride. In Van der Merwe's (2015) view, the solution to the above concern is not just the design of sustainable places but rather sustainable human environments.

Van der Merwe (2015) supports the view that architects and designers have a major role to play in designing and enabling the human environment. He believes that to improve the quality of human life for most South Africans, better and more functional communal spaces are needed to cater for the 'live, work and play' lifestyle. This lifestyle essentially speaks to the idea that a mixed-use community is made up of residential, commercial and leisure space within reasonable commuting distance or smaller pockets of self-sustainable and resourceful neighbourhoods.

New Urbanism includes sustainable integration of social, economic and environmental factors into planning, implementation and decision-making to ensure that development serves present and future generations. The National Environmental Management Act 107 of 1998 (as amended) points out that there is currently a need to address the legacy of apartheid which Cape Town faces. Apartheid separated cities within a city, whites in the Central Business District, closer to amenities and people of colour segregated to the outskirts of town, further from amenities. Many of these divides still exist, though today the segregating factors are financial and social as opposed to race.

The city of Cape Town has called for a mixed-use approach to community development and upliftment. The Western Cape Provincial Government aims to unlock Cape Town's potential to become a city that serves the needs of all its citizens by implementing a more holistic and inclusive approach to designing and planning through the Cape Town Central City Regeneration Programme (CT-CCRP) (Department of Transport and Public Works, 2010).

For the purposes of this dissertation, areas such as courtyards, green spaces, water gardens and spaces between buildings will be referred to as Interiorscapes. The term Interiorscapes describes the activity, diversity and image of spaces between buildings that were previously underutilised, derelict or unsafe (Cooper, 2003).

New Urbanism argues for a diverse multifunctional city space in which the quality of life is not a luxury, but an essential (Montgomery, 1998). The urban designer is challenged to design not only for the health of citizens but also for the wellbeing of our global environment (Watson, 2004).

Worsley (2011) points out that adequate housing remains the main governmental priority. She adds that the greatest challenge is securing “quality land”, land that has easy access to mainstream infrastructures such as transport, sanitation, water, schools, main job centres and sources of incomes – such as the Cape Town Central Business District. Given these constraints, this research refers to two sites; Oude Molen and The River Club, situated within 8 km of the Cape Town Central Business District (City Think Space, 2012).

1.1 CONTEXT

“Gone are the days where buildings are just for living, playing or working. These spaces become dead zones when not in use – it should serve as a collective space, which we see more and more of in the bigger urban settings” (Van Der Merwe, 2015a).

Van der Merwe's (2015) observes that South Africa is currently experiencing urbanisation at a large scale, consequently this is having an unprecedented impact on the quality of life in South African cities. Hodkinson et al. (2016) also believe that the quality of life experienced by the population determines the global future. According to Watson (2004), Tonkin (2008), Sexwale (2010), Fleming (2014), Joubert and Zandvoort (2015), Hodkinson et al (2016), Clos (2016) and UN-Habitat (2016), many people are relocating to urban areas in search of better employment opportunities at such a rate that an estimated 70% of South Africa's population will be living in urban areas within the next 10 to 15 years. Van der Merwe (2015) goes on to argue that because of this influx, the quality of the urban environment becomes more urgent than ever. Based on the above sentiments this research sets out to analyse what makes an urban space sustainable.

In order to explore urban theories in a local context, two sites were selected as study areas for this dissertation. Both sites are situated in the Two Rivers Urban Park (TRUP) owned by the Western Cape Government and are referred to as Transit-Orientated Developments (TOD). The Two Rivers Urban Park precinct lies North-East of the Cape Town's Central Business District. The total size of the precinct is about 250-hectares. For the sake of illustration, the Two Rivers Urban Park district, the Victoria and Alfred Waterfront (V&A) and Century City are all of similar size (City Think Space, 2012).

The vision for central Cape Town as described in the *Cape Town Central City Regeneration Programme Strategic Framework (2010)*, is a diverse, globally connected and socially inclusive space, encouraging an entrepreneurial culture. It provides a welcoming and inspiring place for socially mixed communities, attracts investors who need 24/7 communications infrastructure and human skills (especially high literacy levels). The infographic included below outlines the *Cape Town Central City Regeneration Programme Strategic Framework*, in association with the *Department of Transport and Public Works (2010)*.

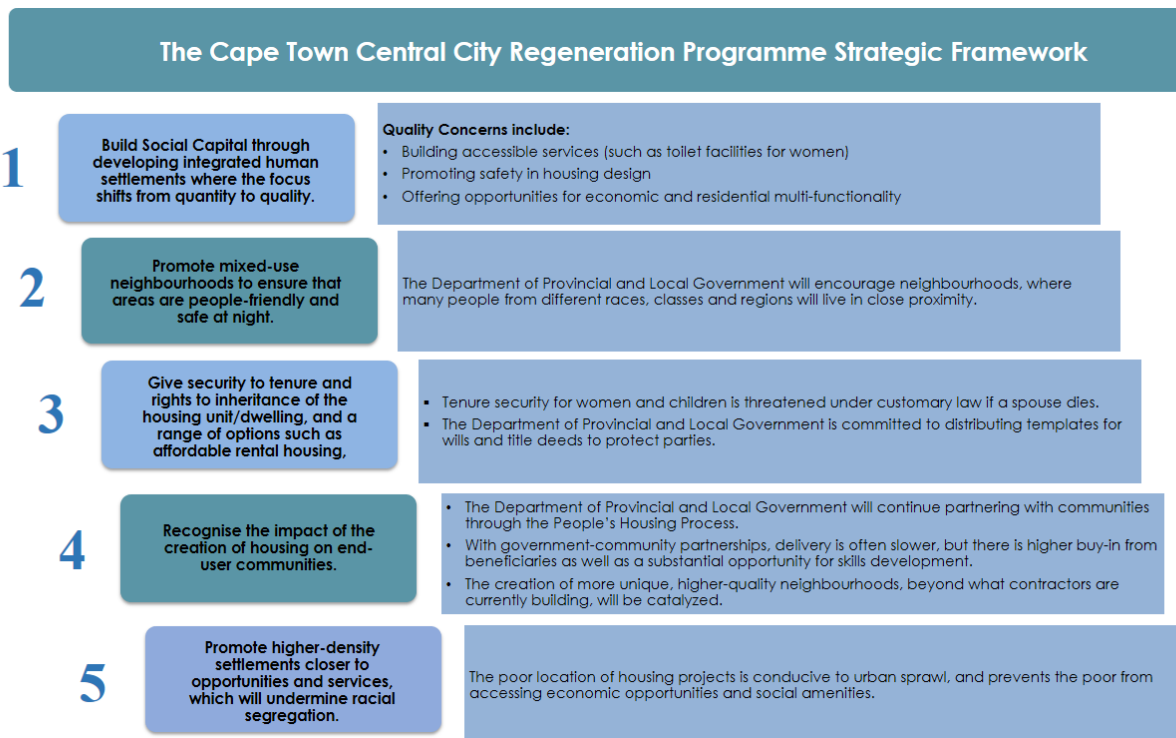


Figure 1.1 A summary of the Cape Town Central City Regeneration Programme Strategic Framework, in association with the Department of Transport and Public Works (2010).

Figure 1.1 shows the five key areas highlighted in the *Cape Town Central City Regeneration Programme Strategic Framework (2010)* and certain quality concerns which should be taken into account when weighing up the proposals discussed in this research. Figures 1.2 and 1.3 show aerial views indicating the positions of sites A and B within the Greater Two River Urban Park District in relation to the city. Site A, on the East side, is the Oude Molen Property which is defined as a 'sustainable neighbourhood'. Site B, on the West side of Two Rivers Urban Park, is the River Club, in which planning is underway to transform the 20-hectare property into a major commercialised recreational hub and tourist attraction.

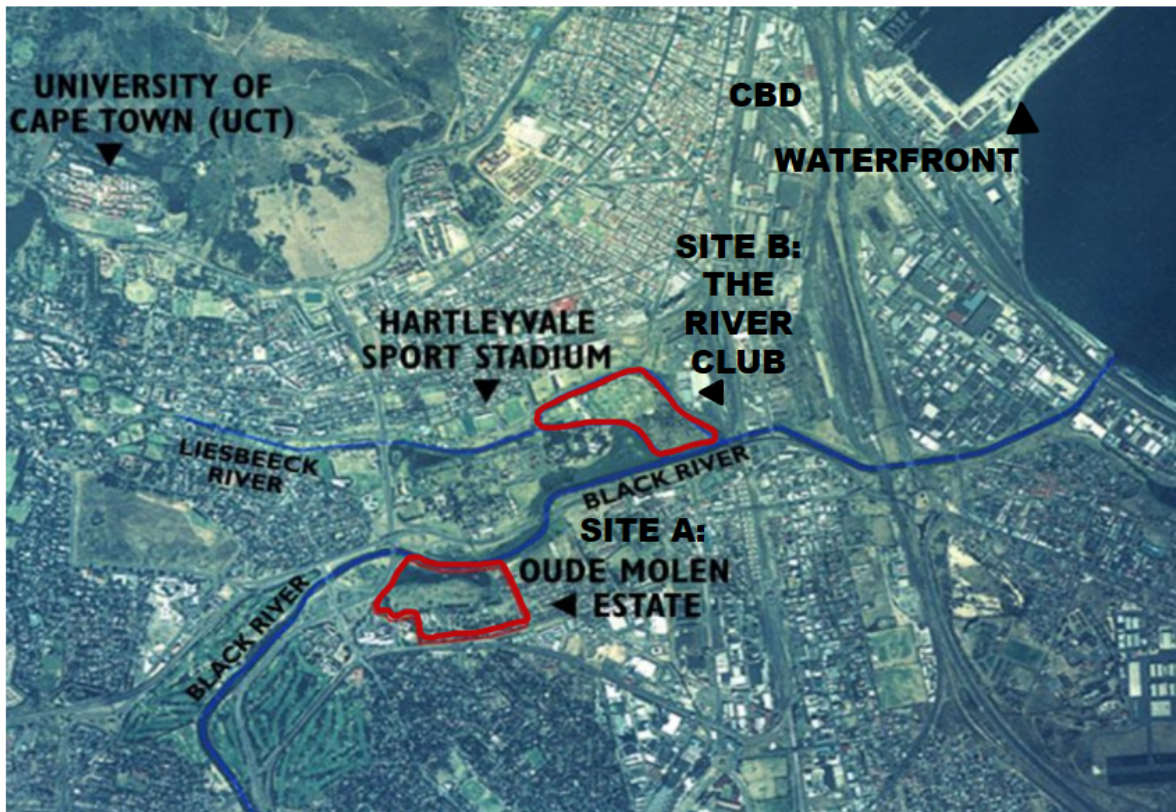


Figure 1.2: Two Rivers Urban Park Aerial View (Two Rives Urban Park, Urban Design 2012)

The Western Cape Provincial Government aims through the *Cape Town City Central Regeneration Program* to; 1) serve the needs of all its citizens as one of the best cities in the world, 2) leverage private sector investment, capacity and expertise, 3) refurbish and achieve savings in the operation and maintenance of its properties and 4) generate an income stream to finance provincial property development and maintenance (City Think Space, 2012 and SRK Consulting (South Africa) Pty Ltd, 2016).

The city's regeneration program sets out to generate economic activity as well as new job and empowerment opportunities. It also aims to develop better access to the city's resources, assist and accelerate social cohesion and at the same time address issues of environmental sustainability and energy efficiency (Department of Transport and Public Works, 2010).

Based on the above vision, two study sites have been selected; it is worth noting that site A, the Oude Molen Site, has two pending and opposing proposals for the future development of the site. Site B, The River Club proposal, is still up for review and public comment. As a result, there are three examples which will be discussed below.

Two Rivers Urban Park		
Site A: Oude Molen		Site B: The River Club
Example 1 - Oude Molen Ecovillage Proposal	Example 2 - The Biovac Proposal	Example 3 - The River Club

Table 1.1: The three examples unpacked

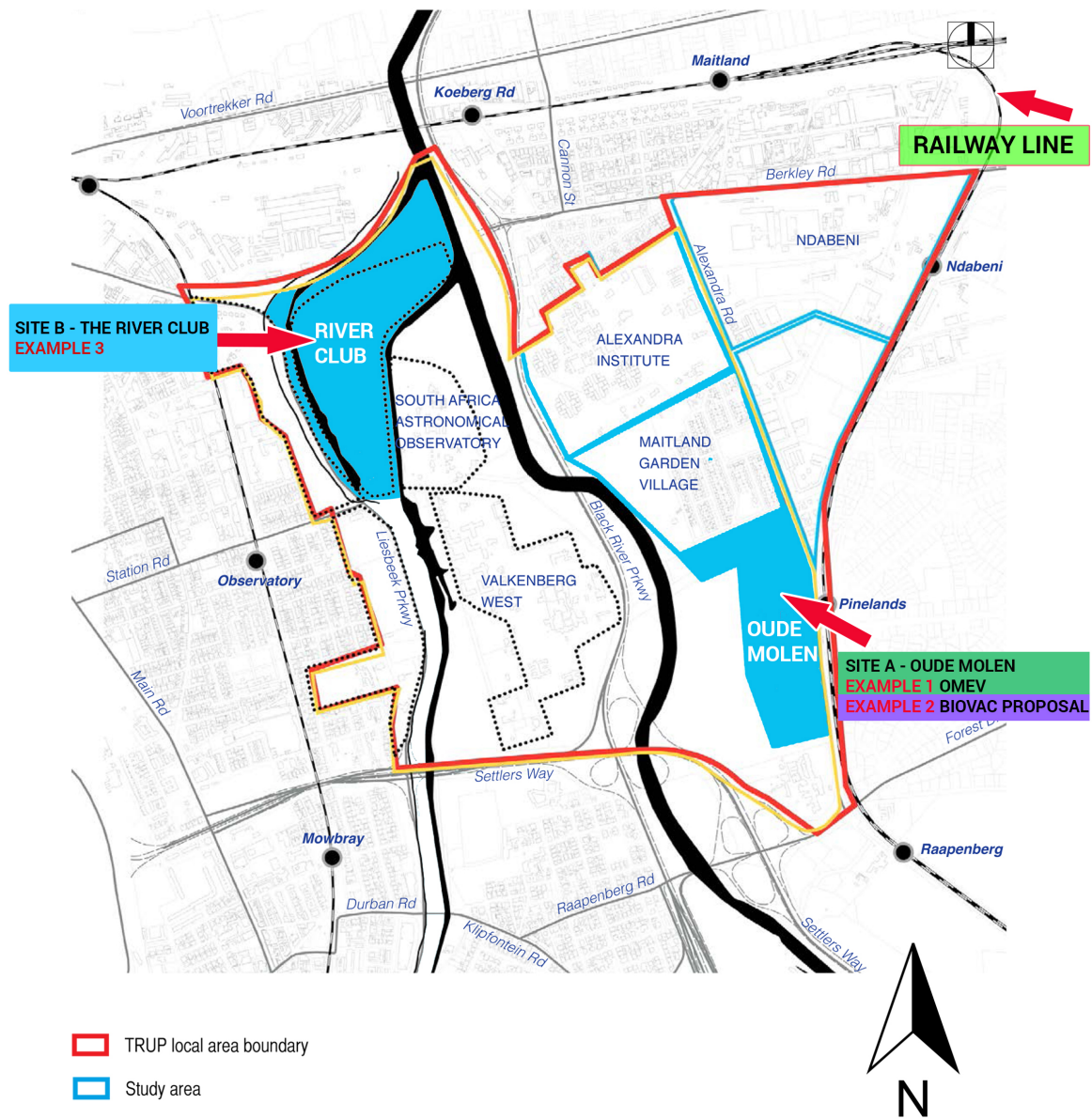


Figure 1.3: Study Area, indicates the position of site A and site B in relation to each other within the Greater Two River Urban Park District (City Think Space, 2012, Baumann et al., 2013).

For the purpose of clarification, these proposals are referred to as:

- Site, A. The Oude Molen which is owned by the Western Cape Provincial Government.
 - Example One: The Oude Molen Ecovillage which is aligned with the *Cape Town Central City Regeneration Programme Strategic Framework*, (Department of Transport and Public Works, 2010; McComb, 2011).
 - Example Two: The Western Cape Provincial Government high-level development proposal, also known as the Biovac proposal. Which is aligned with the Department of Transport and Public Works Urban Design Concept (Wesgro 2016).
- Site B, The River Club, which is owned by Transnet and has secured a 99-year lease, and will align with The Department of Transport and Public Works Urban Design Concept (City Think Space, 2012; SRK Consulting (South Africa) Pty Ltd, 2016).
 - Example Three: The River Club proposal which will see the implementation of a high-density, high income, largely exclusive development.

The three examples used will be compared with the Two Rivers Urban Park vision as set out in *The Two Rivers Urban Park Strategic Development Proposal* (City Think Space, 2012) and then evaluated using Montgomery's (1998) twelve principles of New Urbanism, and Yung and Chan's (2012) principles of Adaptive Reuse. The Two Rivers Urban Park vision, as summarised in Figure 1.4, supports and responds to the principles of New Urbanism and Adaptive Reuse which are further discussed in Chapter Two.

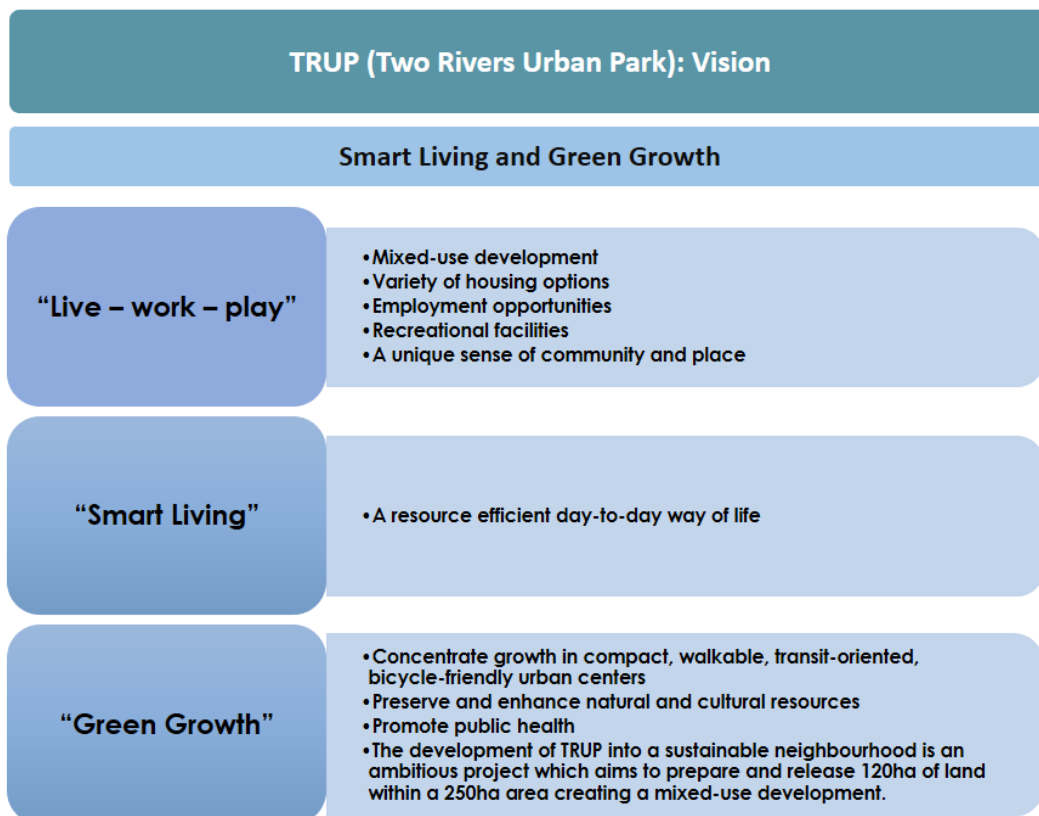


Figure 1.4: Summary of the Two Rivers Urban Park Vision, Jäger (2016)

1.2 PROBLEM STATEMENT

The problem lies in the intersection of person, place and profit which has resulted in a lack of good quality high-density, mixed-use developments. Such developments should offer affordable, safe and sustainable solutions by creating a sense of place through integrating thoughtfully designed Interiorscapes. In short, there exists a need to create around the clock work, live and play environments.

The current urban built environment is not able to address the recent influxes of rural dwellers who are drawn to Central Business Districts all over the country in search of better employment opportunities. Current building practices are also not addressing the social, economic or environmental challenges facing South Africa (Worby 2010, Sexwale 2010, Worsley 2011, Fleming 2014, Van Der Merwe 2015b, and Fleming 2015). These authors all agree that in terms of urban planning and policy making in South Africa, urban sprawl and further decentralisation are not viable options, as sprawling housing developments distance the impoverished from reliable infrastructure, exacerbating an already challenging situation. Further urban sprawl is slowly eating away at potential agricultural land urgently needed to ensure food security (Worby, 2010).

Traditional developments in South Africa will often overlook the potential that the spaces between buildings can offer in terms of how inhabitants interact not only with these spaces but also with each other.

Simply bringing low-income housing developments closer to economic opportunities without addressing any design concerns and making use of current practices will likely not solve any socio-economic and environmental problems, nor will it address sustainability. In an interview Worby (2010) noted of Lynedoch Ecovillage in Stellenbosch, that if urban sprawl is allowed to continue at its current rate, unsustainable low-density settlements will be the result. This, in turn, will cause the destruction of agricultural land, increase infrastructure and transport costs, and force up land prices as it becomes a commodity, contributing to further exclusionary consequences for the poorer urban community.

1.3 RESEARCH QUESTION

- Under what circumstances can Interiorscapes contribute to sustainable design solutions in Adaptive Reuse projects in Cape Town?

In order to answer this question, the following sub-questions are asked and aligned to the main research question:

1. How do principles of New Urbanism and Sustainability impact the quality of life?
2. What is the role of form and function in place creation?

3. What is the reality of Adaptive Reuse and social responsibility in an urban setting?
4. What are the limitations and benefits of policy and strategy in community development?

1.4 RESEARCH AIM AND OBJECTIVES

- The aim of this research is to explore under what circumstances, can the inclusion of Interiorscapes contribute to sustainable urban design solutions in Adaptive Reuse projects in Cape Town.

In order to achieve this aim, the objectives of this research are to:

1. Identify challenges faced by existing Adaptive Reuse projects in and around the Cape Town Central Business District.
2. Identify the influence of Interiorscapes on the way people live, work and play in the city of Cape Town.
3. Provide an overview of the background and status of the two potential Adaptive Reuse sites which have been identified in the Two Rivers Urban Park district, in close proximity to Cape Town Central Business District. This will be accomplished by analysing the three development proposals which are currently being considered for the sites, as examples aligned with the principles of New Urbanism and Adaptive Reuse of property.

1.5 RESEARCH DESIGN

A Grounded Theory approach has been used in this qualitative research. The ontology is interpretive, and the chosen approach is inductive, thereby linked to Grounded Theory. This dissertation is based on the views and opinions of key stakeholders represented by big private businesses, small enterprises, and the Western Cape provincial government. The research field is sustainable design and fieldwork will include in-depth interviews and observations.

A combination of thematic coding, memoing, a narrative of stakeholders and documentation analyses has been used to analyse data (Strauss, 1987 and Wang & Groat, 2013).

1.5.1 Data collection

In order to answer the research questions, data was collected from each of the three examples. This field work included in-depth interviews with stakeholders as well as on-site observations which were captured as a narrative, including photographs, surveys

and research journals. Documentation received from stakeholders formed part of the secondary data. Additionally, precedent studies in Adaptive Reuse projects in Woodstock were conducted. In keeping with a Grounded approach, numerous site visits and continuous observations were made to re-evaluate the physical context of both sites.

Grounded Theory calls for the re-examination of data throughout the research process. This means that aims and objectives of the dissertations cannot be fully explained or resolved on the first data acquired; instead observations, data collection or fieldwork, analysis and coding takes place as a recurring or cyclic process before a theory can emerge (Strauss 1997, Strauss & Corbin 1998, Henning, van Rensburg & Smit 2004 and Wang & Groat 2013) as indicated in the infographic below. In summary, the methodology used is an empirical study to systematically collect and analyse data to develop a context-specific theory (Henning, Van Rensburg & Smit, 2004).

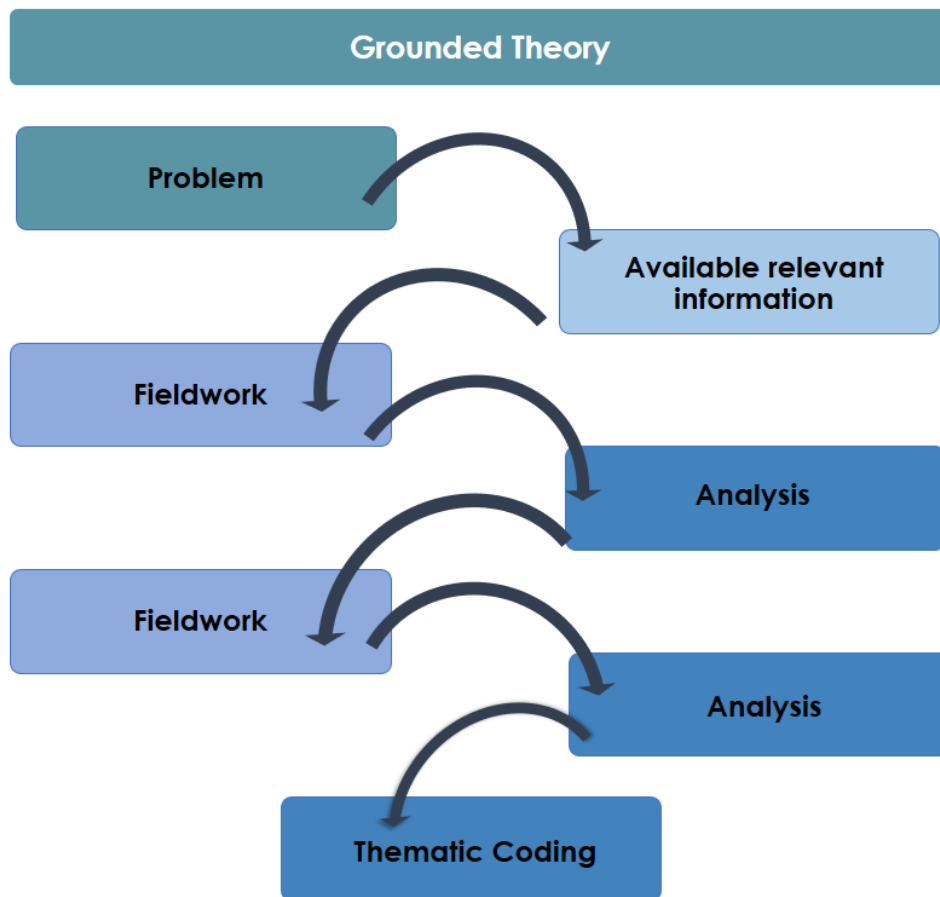


Figure 1.5: Grounded Theory, Jäger (2016)

1.5.2 Data analysis

For the purposes of this study Montgomery's (1998) principles of New Urbanism, as well as Yung and Chan's (2012) guidelines for Adaptive Reuse, will be used as a theoretical framework in which to view the two potential Adaptive Reuse sites which fall in the Two Rivers Urban Park Spatial Development Plan; The Oude Molen site and the River Club. Montgomery's (1998) views on economy, culture and design of urban spaces have some relevance to the development of mixed-use developments needed in South Africa, while Yung and Chan's (2012) guidelines on Adaptive Reuse projects are far more current and applicable to South Africa. The concepts of Interiorscapes and New Urbanism were used as lenses through which data was analysed and thematically coded.

1.6 LIMITATIONS

This dissertation explores two potential Adaptive Reuse sites, situated in The Two Rivers Urban Park area. These sites were chosen as the *Two Rivers Urban Park Spatial Development Framework* (Swilling, 2005) and *Phase one Management Plan* (2005), both agree with New Urban and Adaptive Reuse principles with an emphasis on the importance of creating sustainable public spaces, as such Interiorscapes.

The sites are located near Cape Town's Central Business District, which allow for easy access to the sites and continuous participant observations, as well as ongoing interviews with stakeholders. Only two of the seven precincts within the Two Rivers Urban Park district have been identified and analysed; the reason these two sites were selected over the others was that they are transit-orientated sites with existing infrastructure. This together with the uniqueness and location of the sites provide opportunities for generating revenue through tourism or investment ventures.

For the purpose of this dissertation, sustainability is viewed from a holistic and inclusive perspective. As such proposals or examples have not been evaluated based on the financial cost of establishment, maintenance or future potential revenue generation, but rather on the self-sustainability of the project. It is clear from the respective proposals that the three examples have the potential to generate revenue with the necessary financial backing. The historical background and heritage significance of the district, which dates back to 1665, has also not been addressed in depth other than to retain a sense of place.

1.7 RESEARCH OUTCOME

The outcomes of this research are; a research poster which was displayed at *Cumulus Johannesburg 2014* conference (see Addendum 01). The outcome of which was to; (1)

identify challenges faced by Adaptive Reuse projects in and around the Cape Town Central Business District, which in turn, provides an overview of the background and current status of the two potential Adaptive Reuse sites that have been identified by the City of Cape Town for mixed- use, projects. Based on this, recommendations for the implementation and further areas of study for certain New Urbanism and Adaptive Reuse principles which will contribute to sustainable design solutions by creating live, work and play environment in Adaptive Reuse projects near the Cape Town Central Business District.

1.8 CHAPTER OUTLINE

Chapter One has provided a background to the study and raises some pertinent questions on the construction and nature of developments in South Africa, in particular developments currently in process or with the potential to be developed, with easy access to Cape Town Central Business District. The Two Rivers Urban Park has been identified as such a neighbourhood. In this chapter, I have described the background against which the study was conceived and highlighted the importance of carrying out the research.

Chapter Two reviews relevant literature with particular focus on the principles of New Urbanism and Adaptive Reuse and how they can be tailored to suit a local context. This study briefly addresses South Africa's historical, social and environmental problems with regards to decentralisation and now more recently the attempt of the City of Cape Town to address the economic divide (of the general population) as evidenced in the drive toward urban integration in the Western Cape. Four main themes will emerge from this chapter; New Urbanism and sustainability, form and function, Adaptive Reuse and social responsibility and lastly policy and procedure.

Chapter Three outlines the research design and methods used and presents primary data gathered during extensive interviews and numerous site visits during the research window which lasted for a period of five years from 2011.

Chapter Four evaluates the three chosen sites against the themes identified in Chapter Two. The three sites are used to explore the many facets and dimensions of Adaptive Reuse, New Urbanism, Interiorscapes and Sustainability. Findings are presented in this chapter, and they contribute to the recommendations and opportunities for development discussed in the following chapter.

Chapter Five will discuss recommendations based on the findings discussed in the previous chapter.

Chapter Six will provide conclusions and explore opportunities for further developments and research areas.

1.9 REFLECTIVE NOTES

This research builds on earlier ecological approaches to human settlement, as well as more recent thinking in the fields of sustainable methods, such as New Urbanism and the Adaptive Reuse (Montgomery 1998, and Yung & Chan 2012). Buildings that have been rejuvenated in Cape Town, particularly in Woodstock, have, for instance, fashioned successful creative hubs that bring life back to these once-derelict areas. Two Rivers Urban Park has the potential to do the same as well as incorporating affordable housing with easy access to the city and amenities.

Both sites identified are currently underutilised, however, due to their prime locations both have the potential to become eco-tourist destinations or alternatively attracting local and foreign investment, thereby generating revenue. In the case of Oude Molen, the buildings are generally in a state of neglect, they have been vandalized, and there are illegal tenants on the property. However, Oude Molen Ecovillage provides a real-life context to analyse the approaches for rehabilitation of a historic site and the ways in which social sustainability could be improved.

With this in mind, the research aims to explore a conceptual framework for understanding design and building practices as socio-ecological systems, with regard to mixed-use multi-purpose developments, through the principles of New Urbanism and Adaptive reuse as a catalyst for more sustainable and inclusive design and planning.

Key informants will be interviewed from the business sector, the private sector, the Two Rivers Urban Park, Oude Molen Ecovillage, the City of Cape Town, and WESGRO, in order to gather information that should contribute to a sustainable solution. What the literature and observation should both agree on is that Interiorscapes, safe green spaces within and between buildings create a sense of place (Lynch 1984, Jacobs 1996, Montgomery 1998, and Gehl 2006).

Montgomery (1998) summarises a sense of place as a unique collection of qualities and characteristics; visual, cultural, social, and environmental, which provide meaning to a location. A sense of place is what makes one city or town different from another, but it is also what adds value, activity and diversity to the physical surroundings, which in turn attract potential residents, supporters or tourists.

According to Worby (2010), Van der Merwe (2016), and Fleming (2016), local experts in the fields of sustainable urban planning, the current situation in the City of Cape Town is unsustainable economically, socially and ecologically. As such Cape Town should look to urban integration as a solution to the problem, rather than further exclusion. However, they also concur that few good quality examples exist as how to imagine and build a city differently, despite the urban design expertise we have at our disposal. This is further compounded by national policies that are committed to transformation.

The research sets out to explore how the inclusion of Interiorscapes in Adaptive Reuse projects could create sustainable commercial urban spaces in Cape Town. With this in mind, these principles could be used in potential new or Adaptive Reuse projects; the objectives are to analyse the implementation of these theories with a view to create successful, sustainable, quality spaces.

Figure 1.6 shows an Infographic depicting the key themes and terms to be developed and discussed in the dissertation.

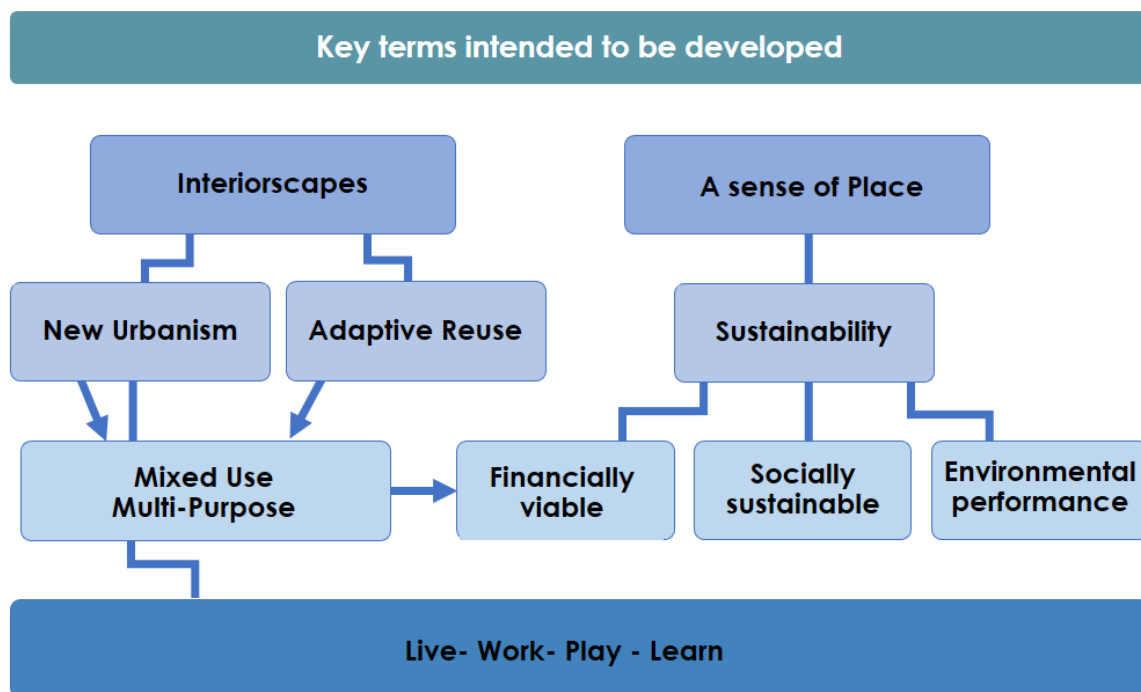


Figure 1.6: Key Terms, Jäger (2016)

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter sets out to analyse the concepts of New Urbanism and Sustainability, form and functionality in terms of social interactions and identity, adaptive reuse and social responsibility, lastly, the policy and strategy which should necessarily be in place to integrate and regulate such developments.

In the 1960s, a critical movement led by thinkers such as Jane Jacobs, David Lynch, John Montgomery and Jan Gehl began questioning the dominance of cars and the decline in human-focused approaches to urban projects (Hodkinson et al., 2016). Jacobs (1961) was the first to explore urban quality from the premise that activity both produces and mirrors quality in the built environment. She identified four essential determinants which govern or set the conditions for activity, namely; a mixture of primary use, intensity, permeability of the urban form and mixture of building types, ages, sizes and conditions (Hodkinson et al., 2016),

Elizabeth Plater Zyberk (1994) is among the more contemporary theoreticians and practitioners frequently cited in this dissertation (along with other theorists such as Lynch (1984), Jacobs (1996), Montgomery (1998), Gehl(2010), Jacobs (1961) and Gehl (1989) who argue that successful urban places are built mainly on street life, and the various ways in which activity occurs in and through buildings and spaces.

Lynch (1984), Jacobs (1996), Montgomery (1998) and Gehl (1989) agree that one of the key factors for an urban space to be sustainable and successful is that an inclusive, 'bottom-up' approach needs to be in place from the beginning of a project, meaning that all design decisions taken are underpinned by the principles of human-focused design.

In his book, *Life Between Buildings*, Gehl (2006) communicates the importance of designing urban public space with the fundamental desires of people as a guiding principle. Gehl (2006) describes essential elements that contribute to people's enjoyment of spaces in the public arena. Both Montgomery (1998) and Gehl (2006) refer to the works and writings of Lynch (1984) and Jacobs (1996). While Lynch (1984), is known for his work on the perceptual form of urban environments, Jacobs (1996) argued that urban renewal did not respect the needs of most city-dwellers.

Montgomery (1998) supports a diverse, multi-functional urban space in which the quality of life is not a luxury but fundamental. The significance of this is that it proposes a move away from zoning and land use separation, fundamentally the traditional planning framework in South Africa that divided land and planned towns. Watson (2004) comments that it has become increasingly evident over the past decades that the universal extents of urbanisation and population growth have reached an

unparalleled threshold. This led to architecture, landscape design and urban planning initiatives being undertaken within the current conditions of the site, landscape and region, such as urban settings.

The value of this section speaks to human focused design decisions that are made with regards to the design of existing urban public spaces as they have a direct impact on the urban quality and street life of the surrounding areas.

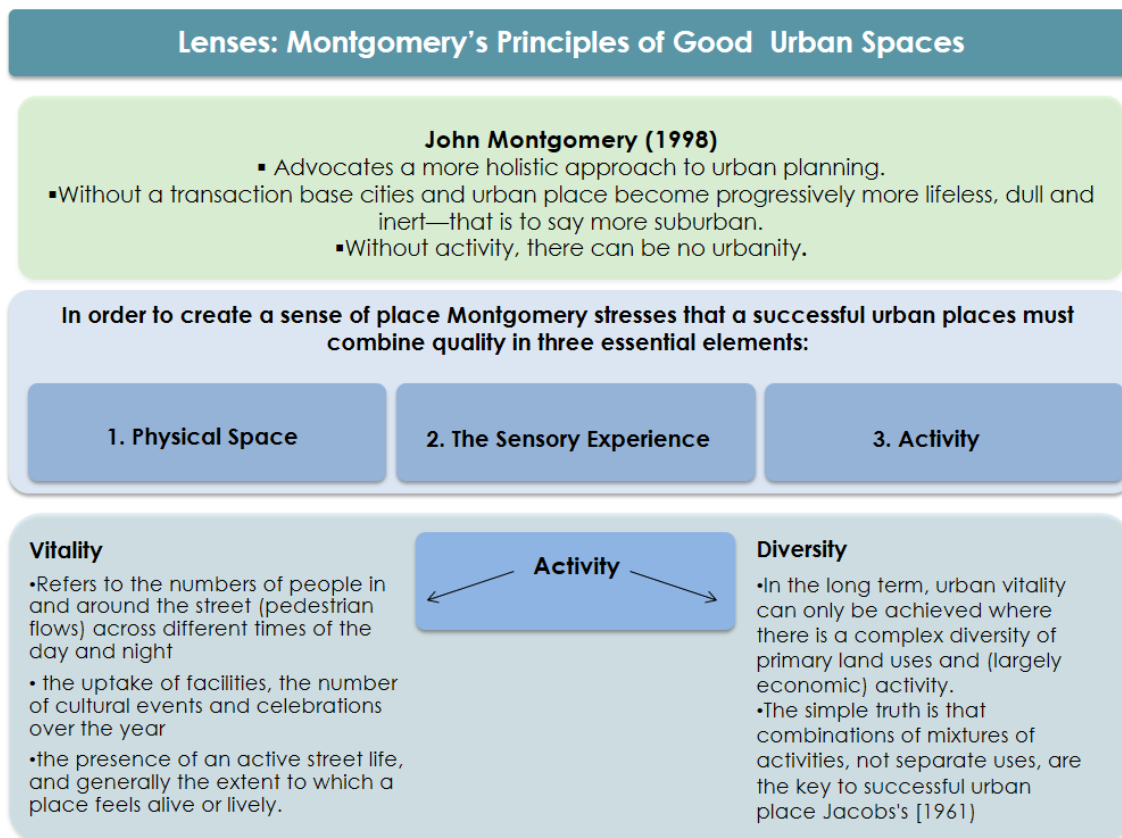


Figure 2.1: Good urban spaces, John Montgomery 1998

Summary of Montgomery's (1998) 12 physical conditions for making a city:

1. Development intensity
There should be sufficient diversity, a mixture of uses and activities, and this diversity should be sufficiently complex to stimulate public contact, transactions and street life. A city district must have a sufficiently dense concentration of people using it for a range of reasons, including residential, for the true urbanity and convenience to be experienced.

2. Mixed-use

It is important for there to be a mixture of uses such as residential and commercial areas which can be adapted as dwellings, shops, studios and offices as needed; this will ensure maximum flexibility of use or adaptability.

3. Fine grain

Within mixed city blocks, smaller units of varying sizes should be provided, often on first and second floors for space such as offices but also on top floors for spaces such as design studios; ground-floor frontages can be used for enterprises which attract customers or browsers from the street.

4. Adaptability

Successful urban areas accommodate complex patterns of diversity, mixture and economic grain. The spaces within these areas should not only be adaptable to the types of activity they can accommodate, but also the levels of intensity of activity. There are many examples of residential accommodations being adapted as offices or studios, even galleries and cafés.

5. Human scale

Human scale is a combination of the ratio of building height to street width, relative distance, permeability and the sense of grandeur or intimacy of space. As such it is closely related to the first point as more intensely developed places will have taller buildings.

6. City blocks and permeability

Permeability is achieved when the street pattern includes alleys and courtyards and therefore its potential 'footfall' is increased. This in turn increases the number of economically viable points for trading. City streets which have shorter blocks tend to be successful at generating more street life, for example back alleyways and courtyards are opened up to active use.

7. Streets: contact, visibility and horizontal grain

Good urban places are judged by their street life, as streets are multipurpose spaces and this is where all the ingredients of city life are combined; public contact, public social life, people-watching, promenading, transacting, natural surveillance and culture. For this to happen, streets need to be active, to accommodate and generate diversity, and they must be permeable. They must also engender a sense of belonging, a familiarity and the respect of users.

8. Public realm

Streets should be a network of spaces in which the public are free to move about, meet and gather. The public realm in a city performs many functions, not only by providing meeting places but also in helping to define the built environment, offering spaces for local traditions and customs such as festivals and carnivals, and representing meaning and identity

9. Movement

Traffic management is achieved by investing in reliable and frequent public transport alternatives, and by establishing networks of pedestrian and bicycle lanes. This can also be achieved by locating major employment areas next to such transport nodes; it is possible to achieve a reduction in traffic.

10. Green space and water space

Public green space and water areas are important for recreation, health and setting. A range of informal and formal playgrounds, fields and gardens make provision for recreation at varying degrees of passive and active pursuits. Human health and wellbeing can be addressed in terms of filtering the noise, light and air quality in the city. And lastly setting and understanding in the sense that these Interiorscapes frame development sites and provide views and landscape image; these areas are often people attractors.

11. Landmarks, visual stimulation and attention to detail

“Nothing is experienced by itself, but always in relation to its surroundings and sequences of events leading up to it, the memory of past experiences” (Lynch, 1960). Public art has become important as it contributes to a greater sense of place by upgrading the quality of the built environment, creating meeting places and talking points, thus coming to represent important points of reference and for its capacity to animate public space.

12. Architectural style as image

City building and city design are not questions of architectural style or the design and appearance of individual buildings. Rather, the essential task is to design the form of the city in such a way as to achieve city diversity, activity and urbanity. Put simply; cities should be places which are diverse, cosmopolitan and cultured.

This research will make use of Montgomery's (1998) 12 principles as a starting point through which to analyse the examples and extract thematic coding; this data will then localise and develop a methodology for applying New Urbanism and Adaptive Reuse in a South African context.

Although the framework of this dissertation is based on Montgomery's principles, current views of New Urbanism are more concerned with the notion of socially sustainable and economic development as well as the importance of generating and protecting the sense of place. This notion leads to inclusive design and Adaptive Reuse principles of Yung and Chan (2012).

Yung and Chan's (2012) principles for sustainable Adaptive Reuse of spaces is more appropriately comparative for South African circumstances. Chang (2015) refers to Adaptive Reuse of buildings as reinforcing relationships between historic buildings and new activities in cities. These theories align with the Adaptive Reuse of buildings used as precedent studies in Woodstock.

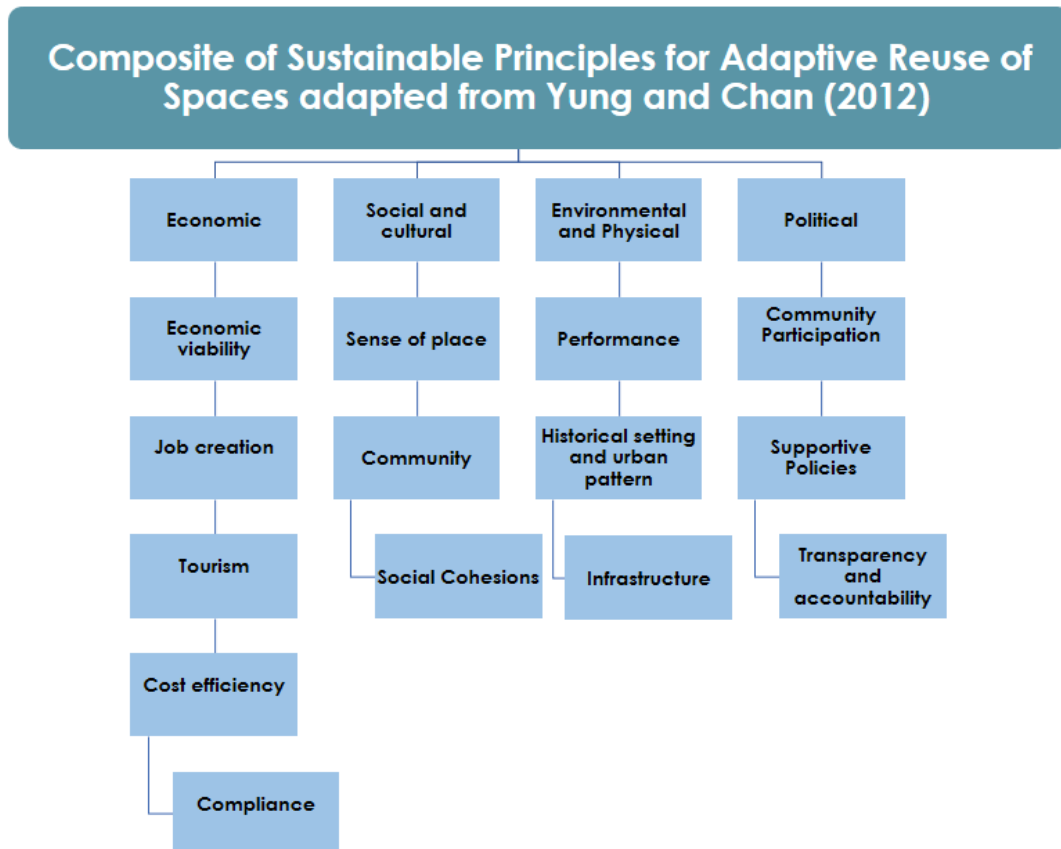


Figure 2.2: Composite of Sustainable Principles for Adaptive Reuse of Spaces adapted from Yung and Chan (2012).

Gehl (1980) stresses the importance of consciously creating and protecting a sense of place. "The task of building a sense of place or a 'piece of city' is a much more complex and sophisticated undertaking than planning a suburban housing estate or even a new town" (Gehl, 1980). Nevertheless, if we are to have more active and better cities, we first need to know how best to manage, develop and design them (Montgomery, 1998).

The significance of this is that it proposes a move away from zoning and land use separation, which is how the traditional planning system in South Africa has divided the land and planned towns. Watson (2004) comments that it has become increasingly evident over the past decades that the universal extents of urbanisation and population growth have reached an unparalleled threshold.

2.2 BACKGROUND

2.2.1 South African context

In her resource book on medium-density housing, Tonkin (2008) states that any green development strategies undertaken in African cities should primarily recognise that development is a key priority for the urban population. The majority of the urban population usually resides in slums and informal settlements which lack the infrastructures, services, urban planning and management to accommodate for such large numbers of inhabitants. Tonkin (2008) goes on to say that;

"The dual goals of green urban development in Africa must be to meet these compelling needs through appropriate urban design, planning and management, as well as through the deployment of sustainable, low ecological footprint, infrastructure and technology. Green development in African cities must thus engage with these dual goals as mutually inclusive priorities."(Tonkin 2008)

Southern Africa has a diverse history of tribal and traditional vernacular architecture, mixed with colonial architectural influences from the 17th to 20th centuries. Government policies of the apartheid area, nationalism, as well as current international influences have all contributed to and shaped architecture and interior design of present-day Southern Africa (UN-Habitat, 2014).

Further consideration should be given to global climate and environmental change, as well as increasing awareness of water, food or energy insecurities, as these too are now starting to shape our understanding of the need for new visions of what constitutes good urban design and management in order to achieve sustainable change (UN-Habitat, 2014).

Fleming (2014), a Cape Town Partnership researcher, observes that given the comparatively late onset of the urban transition in Africa, real opportunities exists for embracing new urban paradigms that are more conducive to both the present and long-term needs of African cities and nations. This also includes greener solutions, climate change adaptations, vulnerability reduction, technological innovation, urbanisation and the economic development of African cities (UN-Habitat, 2014).

A re-imagined African urbanism will likely incorporate certain elements of a Western urban model. This still provides Africa with the opportunity to look for policy and strategic directions which will incorporate long-term sustainability for social, environmental and economic development, ultimately proving more beneficial than the imported urban thought-patterns that have been implemented until now (UN-Habitat, 2014). The report on *The State of African Cities (2014), Re-imagining sustainable urban transitions*, analyses the emerging challenges and risks to which urban and rural Africa are being exposed, with a view to facilitating discussions at regional, national and local levels on

how best to address Cape Town's challenges ahead and apply solutions that are innovative, location-specific and effective.

According to Clos (2014), the Under-Secretary-General, United Nations Executive Director, UN-Habitat, cities are not disconnected from each other. In fact, they form a part of often shared geographical, social, environmental and political settings. There should be a re-imagining of common approaches to urban development and the most operative interventions captured in order to facilitate sustainable urban transitions in Africa (United Nations Human Settlements 2014). Due to the high cost of land, particularly in cities limited options exist for poorer Africans to access urban land, which contributes to urban slum proliferation and will continue to do so unless vigorously tackled.

2.2.2 Historical overview of the Two Rivers Urban Park, Valkenberg and Oude Molen

The Two Rivers Urban park site "has been a significant component of the cultural landscape of Cape Town and reveals a richly layered heritage from pre-colonial times" (Department of Transport and Public Works 2010) The Liesbeeck River marked the Eastern boundary of the colonial settlement in 1657 (McComb, 2007a; Baumann et al., 2013). The area was originally used by Khoi pastoralists for cattle grazing before colonial occupation in 1652, with the confluence of the Black and Liesbeeck Rivers playing an important role in Khoi ceremonies.

In 1693 property along the Liesbeeck River was given for the building of a mill to the Dutch East India Company, later to be known as Molenvliet. With the granting of land to the free citizens, the Liesbeeck Valley became the wheat producing area of the early Cape settlement, providing food to the castle and its citizenry. The first recorded land transfer was that of Valkenberg Farm in 1716. Molenvliet was sold in about 1725, and the mill on it (probably a water mill) was replaced by the Oude Molen windmill, which was the first windmill in South Africa. Eventually, the mill was destroyed by a South-Easter. The farm, however, remained operational (McComb, 2007a; and Baumann et al., 2013).

Significantly, on the fourth of July 1885, King Cetshwayo was captured by the British in Zululand and brought to the Cape. Because of conditions at the Castle, he was kept as "state guest" at Oude Molen while awaiting transfer to England to meet Queen Victoria. Whilst at Oude Molen, the British Princes Albert and George visited him during their stay in Cape Town.

The premises were then used as military quarters until the 1920s when the land was transferred and constructed for use as a 'coloured' psychiatric hospital. It is referred to as such in the Cape Archives concerning the sale of Valkenberg to the City Council in 1943 (McComb, 2007a; and Baumann et al., 2013).

2.2.3 Current status and challenges to development

Despite efforts by the democratically elected government to undo the spatial divides of apartheid since 1994, Cape Town remains geographically and socially separated. One need only look at the quality and location of residential spaces to see proof of this patterned inequality: those fortunate enough to live in upper-class neighbourhoods enjoy lower levels of crime. On the other hand, those unfortunate enough to be living where the previous government put them, continue to experience some of the country's worst levels of violence and crime. One such example is Nyanga, under 30 kilometres from Cape Town's city centre, which has the highest number of homicides *per capita* in the entire country (Fleming, 2015b).

Van der Merwe (2015) supports Fleming's views, in that he maintains that Cape Town is facing substantial challenges in land shortage, which together with climate change will result in food and water shortages, further distancing the impoverished from basic amenities (Van Der Merwe, 2015). Fresher approaches to informal settlement upgrading by companies such as Slum Dwellers International are helping to restructure informal settlements within Africa. However, for areas with pre-existing structures, such as buildings within the Cape Town Central Business District, Van der Merwe (2015) agrees that "it has proven challenging to pair innovative finance with restructured cities". Recognition of the need for densification and mixed-income housing is growing for planning departments across the country. Translating these goals into successful plans of action at a local level will take innovative thought, and new ways of approaching funding and financial strategies focusing on specific neighbourhoods (Van Der Merwe, 2015).

With the focus on meeting the large need for housing in South Africa, certain sustainable ideas have often been sacrificed, such as energy efficiency, passive solar design, water efficiency measures, the use of renewable construction materials, sound solid waste management and good location. In attempting to reduce the housing backlog, the mechanisms to fund housing favour the production of large quantities of houses rather than providing space to enable attention to detail or quality (Van Wyk, 2014).

Fleming (2015) affirms that "the city of Cape Town needs to identify specific, already established precincts that carry the space and infrastructural capacity to handle housing expansion" (Fleming, 2015). These can engender a stronger sense of true community development through a greater return on investment of public and private funds. Fleming (2015) is supported in this view by Sexwale's (2010) statement: "Besides 'spotting' South Africa's landscape with Reconstruction and Development Programme (RDP) housing, the department should also focus on inner-city rejuvenation and refurbishment and densification initiatives" (Sexwale, 2010).

Neighbourhoods in Cape Town such as Woodstock and Maitland are already well-suited to housing expansion, particularly to affordable housing which will make better use of existing community infrastructure. Placing development in existing areas is called 'infill development', this kind of development allows for community resources such as schools, clinics, libraries, parks, in addition to which other government-funded spaces can be supported (Fleming, 2015b).

The Woodstock Improvement District (WID) had a substantial effect on the turnaround of what was once an outsider node; not included in the central business district of the city, considered a point of urban decay and giving way to crime and drugs resulting in an unsafe space. Due to this initiative, as Patricia de Lille (2012) stated, "The city feels safe and alive again" (De Lille, 2012). The Cape Town Partnership, which has driven much of this renewal, has recognised the power of smaller enterprises such as coffee shops when it comes to attracting not only pedestrians but also interacting with the city. The approach, thus far, has been small-scale infill development, with the assistance of municipal programs designed to help 'repopulate' the city. When services, entertainment and social opportunities in cities are concentrated, it enables the search of local contributions and will increase occasions for spontaneous encounters and informal activities, both for locals and tourists alike. Driven by an increasing desire to experience density and 'cityness', the trend of New Urbanism is changing the way people live and move within cities (Hodkinson et al. 2016).

As Fleming (2014) believes, "affordable and inclusive housing is not only possible in the Central Business District, but is necessary". He feels that this would contribute to reversing the history of spatial apartheid which has shaped our social and economic lives. On this basis alone, affordable and mixed-income housing in the Central Business District must become a priority for all spheres of government as well as the private sector.

There are other issues that should be taken into consideration; firstly, people want to live closer to their places of employment (Fleming et al. 2015), secondly, urban sprawl is not sustainable in the long run (Worby 2010), thirdly, there are currently several vacant buildings in and around Cape Town's Central Business District (Sexwale 2010), and finally, our current building practices for low to medium income housing appear to have failed our marginalised citizens (Fleming, 2014). Building sprawling housing developments that distance the impoverished from reliable infrastructure, economic opportunities and amenities is unsustainable (Fleming 2014).

"Environments need to be created to provide better lives for all, especially in an unequal society where the majority of the nation is poor. It comes down to empowerment where spaces should build on the dignity of a nation. The challenge for creating these environments is how quality spaces can be created that are cost effective and allow South Africans to take ownership of and enjoy their surrounding with dignity. The solution to this issue is not just green

buildings, but rather sustainable human environments" (Van Der Merwe, 2015a).

Fleming (2015), argues that South African cities remain stubbornly divided, fragmented, inconvenient for the poor and apathetic even twenty years after the advent of democracy originating largely from the legacy of apartheid (African Centre for Cities, 2014). As observed by Worby (2010), there are quite simply, insufficient resources within poor communities for poor households to be able to survive within these communities without commuting into more affluent communities, "to work, beg or steal".

Urban policy makers are now commending the virtues of the compact city after decades of both planned and market-driven decentralisation of cities and city regions. A successful model which can be considered is that of the traditional European city which is relatively dense and fine grained. The model that is no longer considered sustainable (economically, socially or environmentally) is the sprawl, strip or edge city models, more often than not planned around the automobile (Montgomery, 1998).

In 2013 The Cape Town Partnership won the 2014 World Design Capital bid. The bid was built around designing a more inclusive economic vision for all Capetonians to develop a sustainable city designed to be enjoyed by generations to come, thus an integrated approach to urban planning and development was taken.

In terms of this bid, a healthy walking and bicycle culture in the city will give citizens the chance to experience their city intimately (Hodkinson et al., 2016). Further, Cape Town authorities also understand that the economic imperative is to provide residents with an alternative to travelling by car, especially as it becomes increasingly more expensive and time-consuming (De Lille, 2012).

The biggest challenge to design low-cost housing is usually the shortage of land and limited budget available. As a result, developers resort to straight-row type housing and high-rise blocks of flats, unfortunately this type of design inadvertently creates spaces which do not inspire residents to take pride or ownership of the spaces around them which in turn provides the breeding ground for negative behaviours and as a result crime becomes mainstream and part of everyday life. Waste management is also often inadequate; energy is limited and energy conservation efforts usually non-existent. These developments are not designed to promote positive community interaction or personal ownership of space (UN-Habitat, 2014).

Despite considerable de-radicalisation; including processes leading towards the decreased segregation of lower middle-class suburbs, informal settlements remain mono-functional. They have a single purpose, which negates the mixed-use, live, work and play principle of New Urbanism. This leaves the poor or marginalised vulnerable to a number of risks, including fire, floods, crime and social violence (Fleming, 2014).

A five-year study by the University of Cape Town's African Food Security Unit Network has shown that 12 million South Africans are “food insecure”. Food security refers to the ability to access adequate nutrition – food that is affordable, hygienic and culturally accepted. Although South Africa produces sufficient food for its population, the rising costs prevent the poor, most of them urban households, from getting adequate nutrition. The hungriest people are in Msunduzi, in KwaZulu-Natal (87%) and Cape Town (80%). Building settlements on the outskirts of city hubs means moving people increasingly further away from education, employment and self-empowerment opportunities. This, in turn, creates social problems which, in turn, creates economic problems, leading to residents who struggle with disease, hunger and crime. People do not want to live in these settlements, and more affluent people do not want to be near such settlements (Cape Craft and Design Institute , 2014 and UN-Habitat, 2014).

Low-cost housing presents a unique challenge as the governmental subsidy and tender process paves the road to uniform, imitative dwellings, especially when delivered by developers. Generally, these houses are neither environmentally efficient nor appropriate, which ultimately places a continuous financial burden on the end-user. Well-built housing as a fixed asset with increased longevity can, however, make a substantial contribution to overall environmental and social sustainability (Tonkin, 2008).

There is not one singular approach that leads to resource efficiency; there are in fact many potential solutions to water, sanitation, energy and construction technologies that serve as the production of affordable medium. In order to understand the required design and infrastructure needs it is first necessary to understand basic human needs. Below is a summary of Tonkin's (2008) basic human needs analyses.

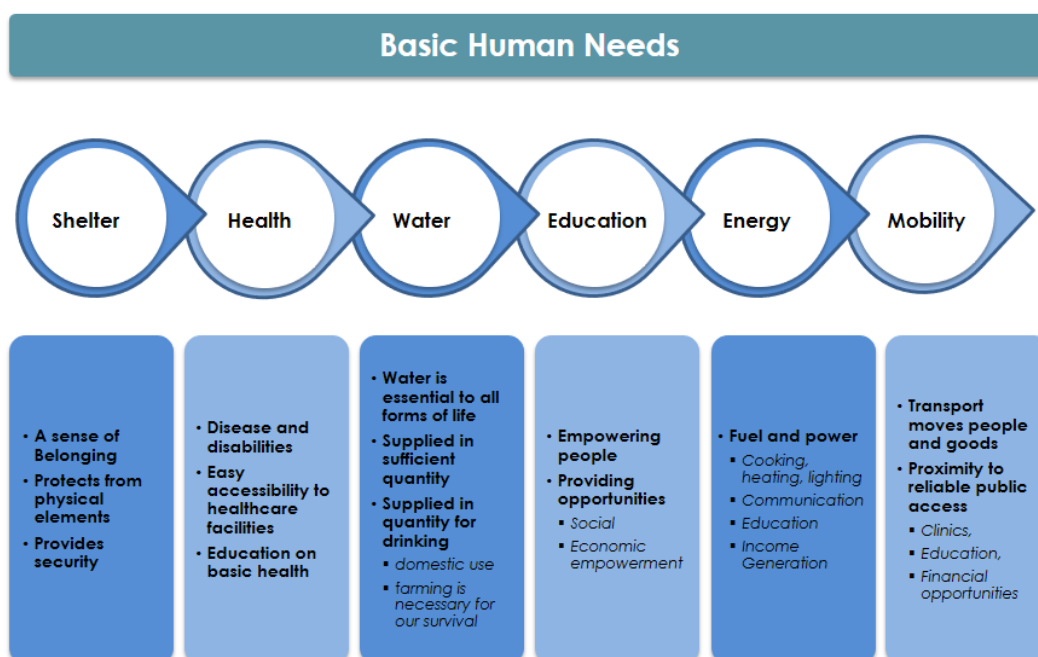


Figure 2.3: Basic Human Needs (Tonkin, 2008; UN-Habitat, 2014)

Tonkin (2008) lists shelter, health, water, education, energy and mobility as basic human needs, unfortunately, low-cost housing developments often do not satisfy every basic human need and ultimately result in an unfavourable living experience for all users, further disenfranchising the already disenfranchised.

2.3 NEW URBANISM AND SUSTAINABILITY

2.3.1 New Urbanism

Plater-Zyberk (2002) defines New Urbanism as the body of knowledge dedicated to the habitat of humanity. New Urbanism implies an opposition to suburban development-in a South African setting and the context of this study, New Urbanism is understood as a spatial planning strategy that aims to recreate the neighbourhoods and communities found in older settlements before the start of urban sprawl, highways and single-use suburbs, as described by Gehl (2011). He examines the positive relationship between well-functioning urban areas and sustainability. However, the success of sustainability is closely aligned with responsible management (Gehl 2011 and Fleming 2014).

a) Urbanisation, sprawl, transport

Traditionally humans lived together in denser communities to create a sense of security or to be closer to important resources such as water or food. They built their homes where they could make a living, or make a life for themselves and their families. Land was readily available as the main source of income, which led to the establishment of stable, accessible economies rooted in agricultural production (Worby, 2010).

However, when the concept of private property emerged, it underpinned the development of the Western world, and geographically fragmented people and their livelihoods (UN-Habitat, 2014). In recent times, however, transit points such as railway stations or ports as well as employment opportunities have been added to this list. The car, amongst other factors, caused many of these denser communities to disperse and suburbia to become the new way of living for many people. This has naturally led to the fragmentation of communities on various levels (UN-Habitat, 2014; and Hodgkinson et al., 2016).

In addition to the destruction or deterioration of once integrated neighbourhoods, sprawl also contributed to numerous other problems, such as single-use zoning laws, the increased distance between home and the workplace, the increased cost of transport infrastructure, increased pollution due to the increase in single-occupant road users, more time spent on the road, and the associated higher stress levels, increased crime rates and environmental dilapidation (Montgomery 1998, Swilling & Annecke 2006, Gehl 2006, and Tonkin 2008).

b) Ecovillages and sustainable neighbourhoods

Ecovillages are defined by two different features; firstly, the input required from the land around the development and secondly the output which the development causes and its direct effect on that land. In terms of input, an ecovillage tries to reduce its reliance on the surrounding earth for necessities such as water, food and energy. In terms of output, it minimises the waste it produces in areas such as carbon dioxide, air pollution and pollution to nearby water sources. Whilst China and America lead the way, there are also ecovillages in Africa, South America and Europe (Groc 2008).

According to Groc (2008) and a study conducted in 2008, there were, at the time, 379 registered ecovillages worldwide. Ecovillages have similar features which create an ecological, cultural and spiritual diversity. These include; some kind of transportation deterrent so as to limit the amount of transport pollution created in the city. They also maximize the use of nature, such as Interiorscapes, within the urban fabric; this benefits the city in several ways for example, the need for heating and air conditioning is reduced. They make use of renewable energy sources such as wind, solar or water, and are usually smaller in size so as to limit the need for transportation. Urban agriculture is encouraged to develop a local food movement and organic eating (Jacobs 1996, Montgomery 1998, Swilling & Annecke 2006, Tonkin 2008, and McComb 2011).

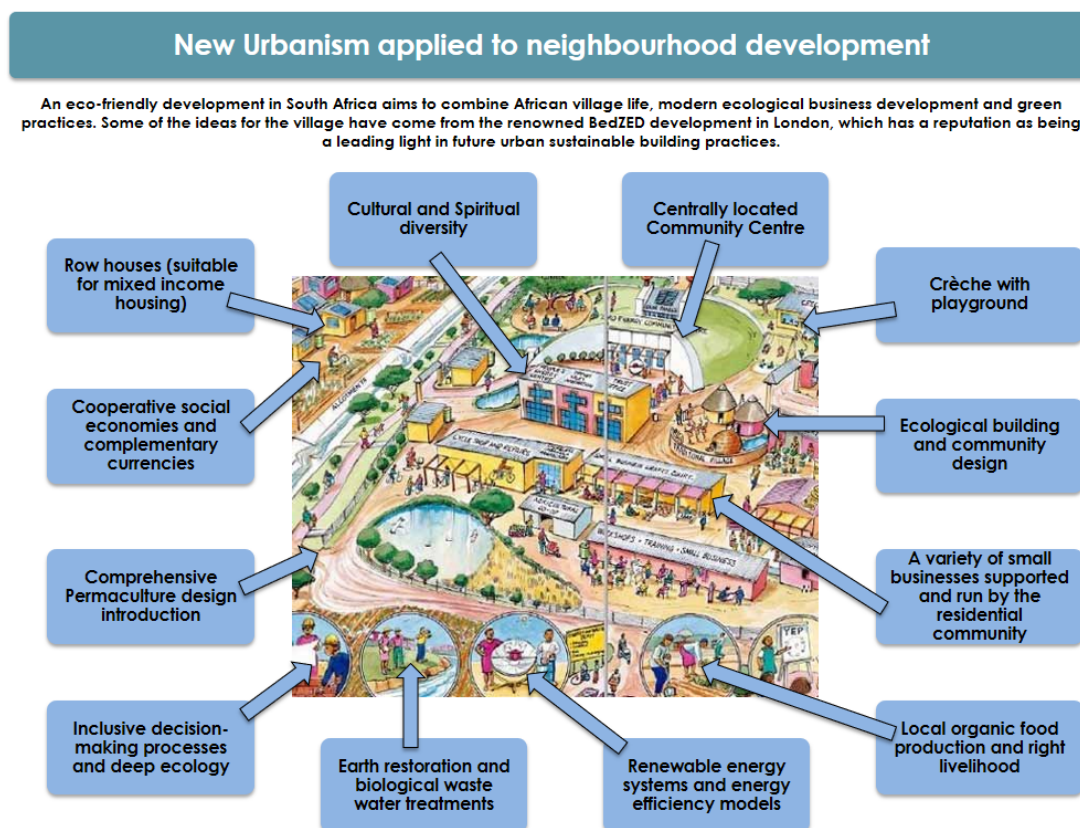


Figure 2.4: New Urbanism applied to neighbourhood development based on the principles of integrated settlement (Tonkin, 2010. Adapted by Jäger 2015).

When the concept of New Urbanism is applied on the neighbourhood scale, it is referred to as Traditional Neighbourhood Development (TND). Traditional Neighbourhood Development is different to standard urban or suburban development as it is based on principles of mixed zoning so that different land uses are found in the same area, such as different housing categories. Typically, streets are narrower and interlinked to allow a range of movement choices and reduce potential jams – *cul de sacs* are seldom used, and main streets are developed as shopping precincts instead of shopping malls.

Traditional Neighbourhood Development and Transit Oriented Development (TOD) are defined as “a comprehensive planning system with the mixed-use neighbourhood as its basic element” (Plater-Zyberk 2002). Figure 2.4 shows a diagram which simplifies the layout of a sustainable neighbourhood. There are many overlaps and similarities to the qualities of ecovillages discussed earlier.

Lynch (1981 & 1992), Platter-Zyberk & Duany, (1994) Jacobs (1996), Montgomery (1998), Gehl (2006 & 2011) as well as Wikström (2010), Yung and Chan (2012) and Weingaertner (2014) present characteristics for sustainable urban design and social cohesion. These will be discussed in the remainder of this chapter, they all have several common principles such as; social justice, human dignity and participation.

2.3.2 Sustainability

Sustainability refers to a resource efficient day-to-day way of life, to preserve and enhance natural and cultural environments by taking into account the use of resources, natural or manmade and the rate at which such resources can be replenished.

What sustainability means may be dependent on one's political and ethical commitments, not a scientific standard. Chan and Yung (2004) reported that between 1990 and 2004, 'sustainability' has come to be the predominant goal of urban planning. However, the conflicts between economic growth, social well-being and ecological environment have frequently been highlighted.

The idea of sustainability can be applied to any aspect of human life, social, environmental and economic. These three sections and their appropriate subsections will be discussed below.

Social sustainability aims to improve the quality of life that humans lead through empowering communities and individuals. Wikström (2010) suggests that social sustainability revolves around two core themes: 'social equity' and the 'sustainability of community' with the latter being connected to social cohesion and social capital, including measurable aspects such as participation, pride or sense of place and safety and security.

Weingaertner (2014) suggest field specific aspects of urban development which mostly have to do with the physicality of a city. These aspects speak to the infrastructure of a city and its buildings and relate to the points discussed below in order to create a sense of community and belonging for users.



Figure 2.5: Exploring Social Sustainability (Platter-Zyberk & Duany, 1994, Montgomery, 1998, Swilling & Anneck, 2006, Tonkin, 2008, Wikström, 2010, Worby, 2010, UN-Habitat, 2014, Weingaertner, 2014, and Hodkinson et al., 2016)

Figure 2.5 lists points which impact social sustainability, some are explained below;

- The ideas of *connectivity and movement*, speak to how pedestrians move through the city, and how public transport channels the flow of human traffic in and around the city.
- *Mixed-use, local environmental quality and amenity*, refers to the types of access to green and open areas in a city, such as Interiorscapes, and the impact this has on the quality of air in the city.

- *Urban design*, has to do with how the design of the city maximises the amount of, but also the quality of, natural light let into the city and how this is used to create attractive and safe public spaces.
- *Decent housing provision*, speaks to the ways in which spaces are zoned for use, to encourage a mixed tenure, and dealing with residential stability versus a high turnover or users.

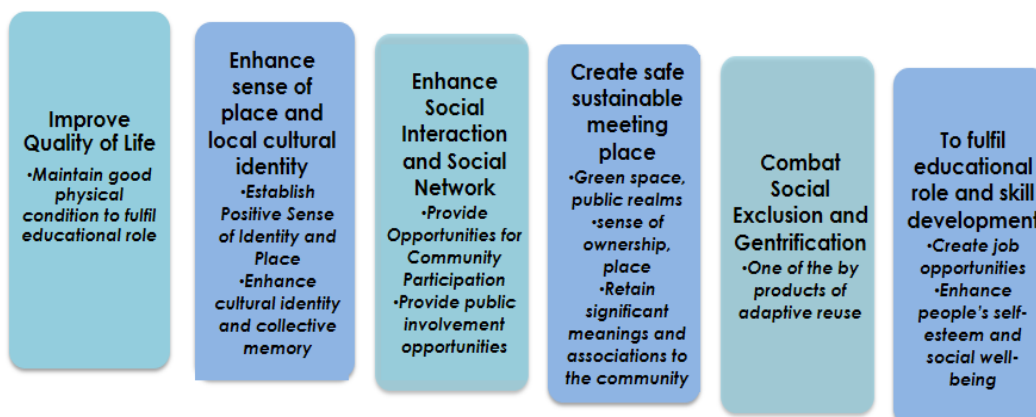
These aspects are part and parcel of urban development, however as a whole it can be argued that they address many issues facing social sustainability in cities. As such, improvements in connectivity and movement patterns, such as strategically laid out pathways, may provide better accessibility. The promotion of mixed-use in regeneration areas might lead to improved safety and security, and investment in local environmental quality and amenity may have implications for health and well-being (Wikström, 2010).

Wikström (2010), Weingaertner (2014) and Hodgkinson et al.'s (2016), are more focused on equality than Lynch (1992), Jacobs (1996) or Montgomery's (1998) whose ideas were focused on empowerment. It may be more holistic to combine both these points of view when attempting to better understand the concept and features of social sustainability.

Apart from specific definitions of social sustainability, Hiu et al. (2014) emphasise broad themes that have emerged ranging from the traditional 'hard' aspects such as employment and social equity to 'soft' and less tangible concepts such as social cohesion and sense of place. The core of social sustainability lies in the continuity of development of a society that fosters quality of life, social integration and interaction. In recent years, policies and practices on enhancing social benefits and contributions in the Adaptive Reuse of spaces.

Underlying Social Sustainability Factors

Through factor analysis, the underlying social sustainability factors that embrace the attributes were derived. In order of importance, the social sustainability factors are:



The Millennium Development Goals represent human needs and basic rights that every person should enjoy:

- End extreme poverty and hunger
- Universal primary education
- Promote gender equality and empowerment of women
- Reduce child mortality
- Improve maternal health, combat HIV/AIDS and malaria
- Environmental sustainability and global partnership for development. (The UN Millennium Goals Website, 2010) Wikström, 2010)

The sustainable livelihoods framework is a useful tool for understanding how poor people support their families. It shows how capabilities (the skills people have) and assets (the resources people have) are used to decide upon certain activities (the things people do) to generate an income.

Livelihood defined: "A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from shocks and stresses and maintain and enhance its capabilities and assets both now and in the future, whilst not undermining the natural resource base."

Figure 2.6: Underlying Social Sustainability Factors (Tonkin 2008 and Hiu et al., 2014).

In this figure Tonkin (2008) and Hui et al (2014) define social sustainability by identifying the underlying factors which have influence, such as quality of life, a sense of place and cultural identity, social interaction and networking, meeting places, combatting social exclusion and gentrification and lastly to fulfil the educational role through upskilling. Essentially Tonkin (2008) and Hui et al. (2014) point out that the sustainability of any space or place is only as long-lived as its community.

a) Economic sustainability

Economic sustainability has to do with the longevity of current consumption patterns and the distribution of wealth within the specific area of interest. The traditional Western concept of what a city is may no longer be the only feasible template for cities worldwide but specifically within the African context, as it is no longer – possibly never was – truly economically sustainable.

Tonkin (2008) points out that planning and financing for sustainable urban growth should be of top priority as such development can generate opportunities of a higher employment elasticity, affordable public services and secure ecosystem services. Sustainable urban growth needs to be addressed as thus far, urban economic growth

in Africa has been mirrored by varying and increasing levels of urban poverty, inequality, inefficiency and concomitant impacts on vital renewable and non-renewable natural resources.

b) Sustainable livelihoods

One of the key components to ensuring economic sustainability in a community is to encourage sustainable livelihoods by maintaining social stability. A sustainable livelihood can survive stress and shock while enhancing capacity and assets; this can be illustrated using the example of micro-trading, for example, a simple 'spaza' shop being run out of someone's home as a subsistence business.

Perhaps the greatest pressure on marginalised Africans is reflected at the household level, in which global changes in the cost of food, water and energy combine with the effects of local interest rate fluctuation to render poor African urban households at risk of economic desolation.

Sustainable, integrated service provision is a necessary cornerstone to ensure that urban household resilience is boosted and that liveability is considered pivotal to the success of urban sustainability (Watson and FAIA, 2003, Lynch, 1984, Yung and Chan, 2012, and Tonkin, 2010a).

A diversity of local-scale economic activities, which draw on existing modes of formal and informal occupations in a supportive and coordinated manner, is required to improve the local level resilience to stressors and shocks such as climate change impacts, changes in the global economy and global resource scarcities, and local market fluctuations (Tonkin 2008, and United Nations Human Settlements 2014).

The Infographic below illustrates a global scale framework of sustainable livelihoods defined by Tonkin (2008).

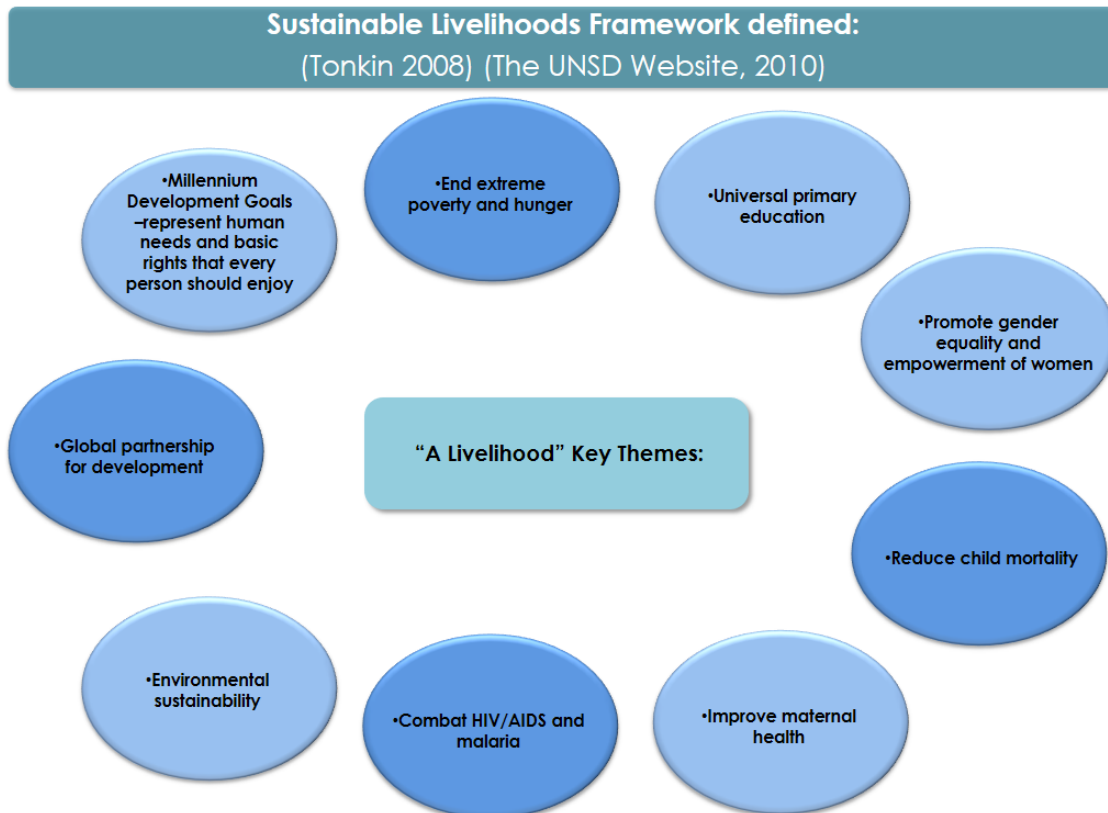


Figure 2.7: A composite of Tonkin and the UN Sustainable Livelihoods Framework Defined (Tonkin 2008, The UNSD Website, 2010, The UN Millennium Goals Website, 2010).

c) Environmental sustainability

Environmental sustainability in this dissertation refers to design which works to reduce the negative effects of the environment and make the most out of social and economic benefits by taking into consideration physical building performance, for example, energy efficiency, waste management, water conservation, and the reuse of building materials.

A growing number of people in Southern Africa are creating housing designs which are loosely termed “eco-design”. They utilise local labour and materials and are designed according to the climatic conditions, incorporating courtyards and open living areas with special focus on alternative energy sources, and ‘off the grid’ water harvesting and waste management systems.

“In the past, building in harmony with nature was essential for survival. Today our sense of ecological responsibility combines with a renewed understanding of how architecture influences personal health ‘and spiritual warmth’” (Pearson, 2005).

d) Sustainable design

Sustainable development is defined as “*development which meets the needs of the present without compromising the ability of the future generations to meet their own needs and aspirations*” (Yung & Chan, 2012).

The South African Property Owners' Association established a Green Building Council to promote environmentally sustainable practices within the property industry in South Africa. They have recently developed a new *Green Star South African Communities* rating tool, which comprises of five categories, namely; economic prosperity, livability, environment, innovation and governance. The tool focuses on the three aspects of sustainability, environmental, economic and social. The aim of the rating tool is to improve the overall quality not only of buildings themselves but also their interiors and exteriors, which provides for the public space between buildings, such as Interiorscapes, and how buildings and spaces interact (The Green Building Council South Africa, 2017).

e) Ecology, health and spiritual awareness

There is a stark contrast between the buildings on which the *Green Star SA Communities* rating tool is used such as the Aurecon building in Century City in Cape Town which was awarded the Green Building Council of South Africa's five-star rating, and buildings such as a row of low-cost housing.

Developers usually dictate how much time and money should be allocated to any housing unit or development; they are also usually driven by maximum profit from their venture. Although the government offers incentives; these are not always as economically appealing as a quick and efficient build. As a result, environmental and social issues such as energy and water supply and usage, waste management, community development and interaction, and aesthetic design decisions are often placed on the backburner leading to environmental and social problems in the long-term which negate sustainable ecological concerns.

A good example of this would be what has come to be known as the *Khayelitsha Struggle* - the City of Cape Town is in a clash with the residents of Makhaza, a high-density neighbourhood in Cape Town. Some Makhaza residents do not have basic sanitation in their homes and have petitioned the city for adequate public toilets to be built for families in and around the community for their daily use.

The struggles of Makhaza's residents illustrates the worst inability of the current low-cost housing system in South Africa to cater for the basic needs of its residents. This inability poses a health risk to residents and areas like this as they become a cesspool of disease and infection. Waste management issues aside there are also fundamental problems with garbage disposal, air pollution and water purification, not only in rural but also in many urban areas in South Africa.

f) Designing with nature

This methodology is regularly used in conjunction with the principles of New Urbanism. The urban designer is challenged to design not only for the health of citizens but also for the well-being of our global environment. Designing with nature means to use nature as a sourcebook to que design decisions in terms of layout, function and materials choices and not only to take ecology into consideration when planning a design but to design for ecology and the environment. The human and natural worlds are interwoven; allowing one to dominate the other would not be sustainable in the long run, as is currently evidenced by climate change.

A potential negative aspect to this method is that it does not provide clear guidelines for the development of environmentally sensitive areas, but if it is used in conjunction with New Urbanism principles it could form a symbiotic affiliation.

"Architecture and landscape design should grow from the climate, topography, history and building practices of the region"
(Platter-Zyberk. & Duany, 1994)

2.4 FORM AND FUNCTION

Lynch (1984) provides a list of characteristics which define a good urban place. These include a myriad of patterns of movement (especially pedestrian), diversity of primary uses, a fine-grained economy, an active street life created by a variety in opening hours, the presence of people attractors, legibility, knowledgeability and imageability. Montgomery (1998) points out that this fit cannot be too precise, as it must allow for flexibility and for a city to grow organically. As he explains, "the point about growing a piece of the city is that it should be allowed to develop a life of its own" (Montgomery, 1998).

2.4.1 Design and image, architecture and spaces designed to foster social interaction

For the purpose of this research, the concept of design is about achieving good levels of diversity, activity and urbanity. Design creates the image of a place, and influence the way people relate to spaces. It is the ultimate vitality of a place – achieved through good design practice, that will make it successful and financially self-sustainable (Wikström 2010).

"Intrinsic to the success of cities and the quality of life they offer is how people move around within them," says Hodkinson (2016) current chairman of The Arup Group. The extent of adequate infrastructure, the proximity of transport and amenities provided in the area, will also determine the success of a city. In the twentieth century, planning for the city was centered on planning for the car.

Fleming (2015a) supports Hodkinson (2016), in his opinion that greater density in urban pockets will lead to a reduced commuting time, smaller incidences of single occupant cars and a reduced need for extended basic infrastructure in cities, such as sewerage, water pipes, roads and drains, all of which cost the city a great deal of money (Hodkinson et al., 2016). He advocates that fundamental to the success of urban cities and the quality of life they offer is how people move around within them and that walkable and cycle friendly cities are more accessible and inclusive for their users.

Good design decisions can work to reduce the negative effects of the environment and make the most out of social and economic benefits. These kinds of design decisions can create an image, or an identity for an urban space through influencing not only the aesthetic of buildings but also creating diversity, activity and urbanity in a city. Put simply; good design should create places which are diverse, cosmopolitan, innovative and cultured.

In order to be self-sustaining, a city needs sufficient diversity, particularly with respect to the mixture of uses and activities found in a space. This diversity needs to be complex enough to stimulate public contact, transactions and street life. A city district should provide a sufficiently dense concentration of people using it for a wide range of reasons, from work, to play to residence. It is this concentration of activities that ultimately produces urbanity and convenience (Lynch, 1992, Platter-Zyberk. & Duany, 1994, Montgomery, 1998, and Hodkinson et al., 2016).

2.4.2 Mixed-use high-density development

In 2008, the Development Action Group published a medium-density housing resource book, which focused on finding sustainable ways to increase the densities in cities, whilst meeting the needs of poorer households. They proposed a variety of building types, ranging from three to four-storey walk-ups as well as semi-detached housing on small pockets of well-located land (Tonkin, 2008 & 2010).

Medium-density is difficult to define in terms of an exact number or percentage of occupancy, Tonkin (2010) suggests that medium-density development refers to 40 to 100 dwelling units per hectare (gross), with many house types including semi-detached housing, row housing and three to four-storey walk-up flats. Medium, as opposed to high-density mixed-use development, will attract a different matrix of users such as families with children who typically stay longer and have an investment in the development of a community.

Historically cities across the world were higher-density and situated close to trade routes, markets, water sources and other opportunities. These cities were vibrant, mixed-use environments in which spaces were created to stimulate human interaction, both socially and economically. Currently, the situation in South Africa is based on a Western model of urbanity and an apartheid legacy which has left us facing urban landscapes

with low-density and nominal race and class integration, meaning that opportunities such as housing and amenities are limited to those who can afford it. Tonkin (2008) advises that to rectify the current situation human-centered approaches to design are needed; (Tonkin, 2010; Yung & Chan, 2011; and Hodkinson et al., 2016)

"It is important that we understand and respond to the conditions required for the design, implementation and management of sustainable and affordable higher-density settlements that are dignified and meet the unique needs of all households. Moreover, the ecological impact of cities necessitates reduced use of land for urban development. This requires consideration of end-user communities and government dynamics" (Tonkin, 2008).

According to Claudio Acioly (2014) Chief, Housing Policy Section, UN-Habitat,

"The assumed benefits gained from the economy of scale and concentration of population which have influenced the densification of towns and promoted the compact city model are now the order of the day. The advocates of the compact city argue that [suburbanisation] did widespread damage with a city model based on low densities, social and spatial stratification and satellite developments which are perverse for the urbanity of cities" (Cape Craft And Design Institute , 2014 and UN-Habitat, 2014).

Acioly (2014) continues, saying that peripheral developments outside cities and imbalance between vacant spaces and building and built-up areas create economic problems related to mobility, transportation and energy consumption. "A compact city with higher densities, mixed-land uses, and a balanced relationship between private and public domains would recover urbanity and sustain the economic recovery of the city" (Acioly 2014).

2.4.3 Interiorscapes, life and spaces between buildings; strategically placed open spaces

Montgomery's (1998) interpretation of 'form' refers to buildings or places and the interlocking spaces between them; such as green space and water space. Buildings are not stand-alone structures; they have an impact on their users and those who interact with the buildings and the spaces between them. Lynch (1984), argues further that a sensible city is organised so that its residents can perceive and understand the cities' form and function – *legibility* and *knowledgeability*. Primary purposes of the building and the 'secondary' activities that take place between the buildings must attract and must ensure the presence of people on the streets and in the spaces across different times of the day.

For urban designers, streets and green infrastructure and the users, pedestrians and residents are the antidote to the car-dominated city (Watson 2003). By shifting the focus from cars to people, urban and transport planning can mitigate impacts and

foster sustainable economic development and environments. Instead of road efficiency, parking and pollution, cities now strive for activity, nature and vibrancy. Existing transport and underground infrastructure are prime examples of Adaptive Reuse, in which cities can create valuable public space without compromising further land areas. Cities with high levels of activity and interaction experience many benefits such as social capital development, a reduction in crime rate, small business development and support.

To use Ferguson's (2015) phrase Interiorscapes are "people attractors" and in so doing activating previously quiet areas, resulting in organic "eyes on the street", whereby citizens passively monitor their streetscape (Jacobs, 1996). In recent years, Jacobs' (1996) theories led to the development of the Crime Prevention Through Environmental Design (CPTED) guidelines, a multi-disciplinary approach that aims to foster the development of an environment safe-by-design (Hodkinson et al., 2016).

The concept of courtyard homes and cluster housing is not new. They have been an important design element for thousands of years across the globe and can be traced back to 3000 BC in China as well as Iran. It is the way people have built and lived instinctively. They are found in many vernacular styles and pertain to the climate and the cultures of these regions. Courtyards and atrium spaces are often used as the organising element of urban spaces, adapting to different climates, cultures and urban functions (Reynolds & Goldsman, 2003).

In his research, *Courtyards: Aesthetic, Social, and Thermal Delight* (2002), Reynolds explores the relationship between environment, inhabitants and energy usage. He supports Pearson's (1989) philosophy that "architecture influences personal health and spiritual warmth" (Pearson, 1989). He goes on to say, "courtyards are special areas that allow the inside and outside to mingle; where rain, the wind, daylight, night darkness, and sound can be showcased" (Reynolds 2002).

According to Reynolds (2002), for urban planners, tightly packed courtyard buildings foster high-density occupation, compared to the individual house-in-the-garden approach typical of traditional suburbia. The courtyard building requires much less land per building because it wraps its rooms around a relatively small outdoor space. This leads to smaller "footprints" than a similar sized building that is surrounded by outdoor space. Yet the building surrounded by open space can reach many floors before the quality of light and access to breeze is seriously compromised on its lower floors.

In his book *Interiorscapes, Gardens within Buildings*, Cooper (2003) reiterates the idea that courtyards offer a sense of security and ownership. He states that plants create the most sensitive and harmonious environments. The planting suggested in this proposal would not be exotic but indigenous, self-sustainable, water-wise, edible and be used for nutritional purposes.

Cooper (2003), refers to Interiorscapes as, "innovative gardens within buildings, ranging from inner sanctuaries for city dwellers to interior gardens as essential elements in green design and sustainable, eco-friendly living." Cooper (2003) suggests considering more than one courtyard to serve differing needs. A large courtyard on a multi-functional site brings air and light into the surrounding building just as successfully as a similarly proportioned but smaller courtyard, the difference is social; the smaller courtyard is more personal and within the user's control. Therefore, where sites allow, several smaller courtyards serving individual users may be preferable to one larger, but less private, one (Reynolds & Goldsman, 2003 and Cooper, 2003).

Older courtyard neighbourhoods which are still standing have often been modified to accommodate many vehicles per household, ultimately sacrificing space between the road and the house where courtyards used to stand. Vehicle focused design decisions and human focused design decisions often present two different sets of priorities; the challenge lies in integrating the two.

Reynolds and Goldsman (2003) explains that water can play a pivotal role in the design and function of a courtyard, water can perform the function of evaporative cooling, cooling the building down on warmer days. The sound of running water can mask conversation or other unwanted noises; this quality is often referred to as 'acoustic perfume' (Reynolds & Goldsman, 2003). In dry climates, the roofs are often arranged to drain towards the courtyard, which then becomes the collection place for all the site's rainwater.

Interiorscapes have been an important design element in South Africa until only recently, in the last few decades mass development was valued over the quality of space and historical knowing and proven building practices (Reynolds & Goldsman, 2003). Interiorscapes create a social and communal living environment, suited to the lifestyle and social issues in South Africa. The garden is part of our living environment associated with comfort, security and family interaction. This sense of belonging and being part of the natural world is essential to the new vision of environmentalism. Yet, South African architecture and landscaping leans more towards the colonial practice of buildings within gardens as opposed to courtyard housing or outdoor areas within structures.

In Cape Town Central Business District, designers and architects often implement the principles of New Urbanism and Adaptive Reuse of buildings around a central plaza or courtyard. These are commercial ventures, such as The Biscuit Mill and the Woodstock Exchange, and do not accommodate any residential units. They have, however, been selected as examples of successful Adaptive Reuse of existing structures, creating collaborations for the users. The intent of this research is to explore the aspects of these developments to introduce the principles into mixed-use, high-density residential and commercial opportunities in a local context. However, these are for the elite; this opens a gap for further research into the integration of similar building methods within low-cost housing projects.

2.4.4 Sense of place and identity

The term 'sense of place' has to do with the feeling of belonging and attachment to a place and creates a common cultural identity.

A building, or a cluster of buildings, or a place is just that, a tangible geographical location. The experience of the space is what creates a sense of place as users assign meaning to a building, a set of buildings or a place. A sense of place has to do with a unique identity that is built, maintained and felt deeply by local inhabitants and visitors to the space. Lynch (1960) points out that no single thing is ever experienced in isolation, rather everything is experienced in context and related to past experiences, meaning that people assign an intrinsic character to a space based on their experience of it.

Lynch (1960) advises that to foster a sense of space designers should allow for active urban spaces, generate a diversity of users as well as use, for the space to engender a sense of belonging. In addition, there should be a familiarity to the user and design decisions should respect the users. Lynch (1984) further elaborates on his plan to create a strong sense of place by saying that it is important for all users to be able to access resources, services and information. When users are able to control the management of their own space a sense of loyalty and belonging is created. He goes on to explain that form, activity and image are interrelated in the process of creating a good place (Lynch, 1960).

2.4.5 Transit-oriented developments

In South Africa, specifically the major cities, roads are regularly congested and public transport unreliable and or unsafe. The poorest typically live furthest from amenities and employment.

This section outlines the transit village as a paradigm for creating attractive and sustainable communities, both in the city and the suburbs, in which rail and bus transport systems are or will be in place. "The most important physical elements of the transit village are civic plazas near train entrances" (Miles, Convero & Bernick 2003).

As a reaction to the perceived declining quality of urban and suburban living, such as traffic congestion, faceless spread, and disconnected land uses, more Capetonians are looking for new and different models of suburban life.

"The transit village offers the opportunity to live in the suburbs without being entirely dependent on the automobile and with the rich variety of activities and services usually associated with cities"
(Miles et al., 2003).

Transit villages are often clustered around a transportation hub which links the village to a public transportation network. In so doing the transit, villages manage to redress

urban problems such as traffic congestion, the shortage of affordable housing and the levels of air pollution. Failed public housing and inner-city privilege programs are among the reasons that different methods of urban revitalization are required (Miles et al., 2003). "Creating attractive urban environments that have good transit access to the rest of the region should, by definition, produce economic benefits" (Miles et al., 2003).

Miles et al. (2003) identify several elements of transit village design. These include the enhanced mobility of users who are empowered through reliable public transport, pedestrian friendly routes which encourage the activation of urban areas, alternative solutions to suburban living and working environments, the revitalization of neighbourhoods, the increase in public safety and lastly the celebration of the public, both the users and the spaces. The alternative that Miles et al. (2003) refers to in terms of suburban living and working environments is a mix of housing solutions not defined by income level; for example, housing that can cater for a range of incomes and lifestyle preferences such as flats, duplexes, single and multi-family homes.

The indirect value of a transit village is that it is limited in size, due the nature of the urban design decisions which created it; users need to reasonably be able to commute to the transportation hub. As the size of the village is limited, the inevitable urban sprawl will also be limited in so far as users are prepared to walk or cycle. New villages can be created without sacrificing the quality of life in existing villages, thus becoming pockets of micro urban development.

2.4.6 Local economic development and job creation in Cape Town

Traditional urban planning principles involve use of individual cars, hence suburbia, highways and national roads, shopping centres and national, often international, chain stores.

There is currently a drive in South Africa to support small businesses, eat organically and to buy not only locally but ethically too. This works hand-in-hand with the principles of New Urbanism and Adaptive Reuse of neighbourhoods.

With the creation of smaller hubs of mixed-use activity subsistence jobs will be created such as artisans, gardeners, bakers, seamstresses, dog walkers, babysitters and teachers. Where previously consumers would have made use of bigger chain stores or national providers to purchase the goods and services needed (Yung & Chan, 2012, Department of Transport and Public Works, 2010, Fornos et al., 2004, UN-Habitat, 2014, and Louw, 2012). One of the pillars of social sustainability is equality, both financially and professionally, the idea of these smaller nodes of development speaks directly to this point.

2.5. ADAPTIVE REUSE AND RESPONSABILITY

Jacobs (1996), says that old buildings need new uses, just as new uses need old buildings. The idea of repurposing an old building which no longer has a use is key to activating any urban space. As mentioned before, vacant space creates environmental opportunities for bad behaviours.

The construction of new buildings consumes significant amounts of raw materials and energy and generates high carbon emissions. Building erection is now responsible for more than 40% of global energy use, and produces one-third of global greenhouse gas emissions (UNEP, 2009). Construction and buildings alone account for approximately 136 million tonnes of waste annually, nearly half of which is from demolition (Yung & Chan, 2012). Adaptive Reuse bypasses the wasteful process of demolition and reconstruction. This environmental benefit, combined with energy saving, carbon emissions reduction, and the social and economic advantages of recycling a valued heritage building, make reuse an essential component of sustainable development (Department of the Environment and Heritage, 2004 and Yung & Chan, 2012).

There is however, growing concern that Adaptive Reuse projects, while generating economic activity and improving the physical environment, also lead to many serious social problems, such as forced eviction and gentrification (UNESCO, 2004 and 2005).

Social responsibility is a basic system which assigns each decision maker, individual, family unit or commercial enterprise, the responsibility to act on behalf of the good of the society, or community as a whole. Sustainability plays a role in the social responsibility ecosystem. Adaptive Reuse of buildings is a form of sustainable urban regeneration, as it extends the building's life, avoids demolition waste, encourages reuse of the embodied energy and provides significant social and economic benefits to the society. Thus, embracing the different dimensions of sustainability (Yung & Chan, 2012).

Urban social sustainability is the ability of a city to function in the long term using the urban structure of yesterday to cater for today and tomorrow's needs, social interaction and communication. Adaptive reuse of buildings in and around the Cape Town central business district should be seen as growth which fosters the harmonious evolution of civil society, building an environment conducive to the compatible cohabitation of culturally and socially diverse groups, and in so doing encouraging social integration and improving the quality of life in many segments of the community.

According to Hui (2014), the lessons learnt through Adaptive Reuse practices can provide insights for other countries who are also undergoing rapid urbanisation and where Adaptive Reuse of legacy or heritage places has become the emerging trend. For Adaptive Reuse of a legacy or heritage venture to be successful, active participation by local communities in different stages of the process is of paramount

importance. Public participation ensures that the needs of the community are best addressed. Montgomery (1989) refers to this as the '*bottom-up*' urban design approach.

Ferguson (2015) from Indigo Property Offices in Cape Town believes that adaptive reuse is a form of sustainable development, both environmentally and financially and that in his own development existing buildings are used whenever possible, buildings that have been partially demolished are dilapidated and or otherwise unsafe and are inevitably bringing down the social capital of the immediate community. In such a case, the open spaces have been used to develop public spaces such as a neighbourhood market, reinvesting in the social capital of the community. Ferguson (2015) continues to point out that markets alone are not enough to build and reinvest in social capital, more community space and interaction areas are needed to facilitate human interaction in-between and around building by creating new walkways, staircases and fire escapes. Social integration is part of their planning and strategy from the onset. It is worth noting that no local residents or tenants were employed in the design and construction of the Old Biscuit Mill, but with the Woodstock Exchange, young artists were commissioned to do various interactive art pieces.

2.5.1 Retaining the historical setting and urban pattern

As pointed out by Hui (2014) in the section above, for Adaptive Reuse to be successful it is vitally important that the social fabric of the community in question is maintained and enriched through the changes made to the built environment. In particular, the urban pattern and character of the community, or context of the building, should be preserved as the use changes to oppose the negative effects of gentrification such as the forced displacement of the local residents and users (UNESCO, 2004, 2005 and 2008; UN-Habitat, 2008 and Hui et al 2014).

Ideally one would like to achieve community support for the adaptive reuse intended for specific buildings and communities as the new venture should have a higher chance of success if the immediate community supports the change and does not view it as a threat to their community values and traditions. Historic districts have been growing in popularity, specifically the movement to adaptively reuse the buildings and uplift the neighbourhood.

As pointed out previously unoccupied building often inadvertently create negative space within a community giving crime and other unsanctioned behaviours a place to anchor. Building occupation is vital to ensure the continuity of the vitality of a community; it also contributes to the cultural significance of a place.

However, if Adaptive Reuse projects are not implemented sensitively other matters can arise such as conflicts relating to the cultural role of heritage and loss of social continuity and community neighbourhood, exclusion of community participation, property speculation, loss of sense of place, urban sprawl and social exclusion (UN-Habitat, 2008).

Thus, there is a pressing need to address the concept of socially sustainable development in the Adaptive Reuse of urban historic districts (Hui et al., 2014).

2.5.2 Social cohesion and inclusiveness

The social sustainability debate within urban development focuses mostly on issues relevant to end-users, the communities that currently live in or will use the urban areas, with little or no regard to life-cycle approaches (Wikström, 2010). There are obviously exceptions, and at times urban developments or developers might give consideration to consulting with local communities before the project begins, sourcing building materials and even employing local users in the building process. However, the concern is that such consideration is not to be expected, and depends solely on the developer or development in question.

It is often assumed that issues of social cohesion and inclusiveness are already embedded in higher level policy documents, and so there is little need for those planning for urban development projects to consider social sustainability in detail. Ideally, to promote social sustainability, the development of urban areas should improve the quality of life for all people and at the same time, foster an environment that encourages integration while allowing for culturally and socially diverse groups to cohabit.

In many cities in Western industrialised countries, the sustainability agenda has been powerfully emphasised as an argument for compact cities, which may suggest that there is a strong link between urban form and sustainability (Hui et al., 2014).

2.5.3 Adaptive Reuse and tourism

Tourist attraction to a large extent determines the economic viability of an existing building's reuse. The extent of tourism revenue generated is highly influenced by the local character of the district (Yung & Chan, 2012). For example, an Adaptive Reuse development in a low-income district mainly comprised of local small business without the adequate infrastructure in the proximity is less likely to attract tourists than a similar project positioned in a high-income district with a large shopping precinct and infrastructure.

Montgomery (1998) points out that successful urban space must combine three essential elements; *physical space*, the building or open space which is being adaptively reused, *a sensory experience*, which will both serve to endear and entrench the memory of the space and will compound the uniqueness of the experience creating a sense of place, and finally, *an activity*, which serves as the ultimate attraction and income generator; what will users do once they are in the space? Montgomery (1998) further points out that for the trifecta of elements to be successful they should each be authentic and relevant to the local context.

2.5.4 Social exclusion and gentrification

Urban renewal programmes often serve as vehicles to displace marginalised citizens from well-located land, making it available for purchase by private enterprise. Through such programmes, wealthy interests consolidate their control over urban centres, while poor, underprivileged and marginalised residents are often victims of expropriation and dislocation. This is known as gentrification. This process usually takes place at the expense of local appeal and causes the property to become unaffordable for local people.

In South Africa, the phenomenon of gentrification is commonly associated with the resurrection of downtown Johannesburg and the rebirth of Woodstock in Cape Town. Both areas share a common denominator for gentrification: a growing middle class with disposable incomes yet both fail to support government's claim that it is creating inclusive cities for all (Watson, 2004; and Tonkin, 2008).

Gentrification is quickly becoming a critical aspect in how cities change and adjust to post-industrial economies. The term was coined by Ruth Glass in the 1960s, who used it to describe the process whereby working-class residents of urban neighbourhoods were being replaced by an influx of middle-class people. Ongoing discussions since then have expanded the term to link it to spatial, economic and social areas.

Due to South Africa's legacy of apartheid, displacement is not a new phenomenon to Cape Town or any urban area in the country. Previously these were often forced evictions under the apartheid government's racial policies; present-day displacements are generally subtle economic progressions that may have a compounded effect over several years. In many cases, the displacement may be an unintentional consequence of sincere attempts by residents and businesses to improve the livability and economy of neighbourhoods (Fataar, 2013).

The key to community rejuvenation without the negative side effects of gentrification may well lie in the policy and strategy of the authorities, whose mandate it is to implement change and foster development in urban areas.

2.6 POLICY AND STRATEGY

The issue of transparency and public engagement has as many views as it has decision makers. The tipping point question is whether transparency is a sufficient means of ensuring an adequate level of public engagement (Fataar, 2013).

2.6.1 Community participation: top-down versus bottom- up

Participatory development refers to the process by which the poorer communities can identify their collective needs and endorse solutions. Participation should not be in the

form of a one-off workshop or meeting, but an ongoing learning experience and empowerment process, in which the poor should gain an understanding of, and control over, the social, economic and political forces determining their standing in society. People who are involved in participatory development should be taught how to understand what is meant by leadership and development, discuss, analyse and reflect on their needs, make informed decisions based on their situation, develop critical consciousness to challenge the status quo and, finally follow through with their plans even when obstacles arise (UN-Habitat 2014).

Tonkin (2008) is supported by Jacobs (1996), Montgomery (1998), Gehl (2006), UN-Habitat (2014), and Hiu et al. (2014), in her claims that the Western Cape government can no longer take a *business as usual* approach to development for the marginalised. For future development to be successful, public participation must be encouraged from the beginning and not as an afterthought.

Tonkin (2008) further states that participation must include the Western Cape government working together with prominent community leaders within civil society to deliver services and ensure the population's well-being. The Western Cape government needs to re-evaluate their point of view of perceiving civil society as obstacles to people who have the potential to help them achieve their mission. For this to happen authentically, the decision makers in government will need to abandon their elitist stance and work with communities to build strengths and knowledge.

2.6.2 Transparency and accountability

Transparency refers to the extent to which the formulation and implementation processes of the policy are known to the public. Likewise, empowerment does not happen simply as a result of superficial community involvement in decision-making. There are many examples in which communities were consulted, but not allowed to participate in development processes fully. As such most of the upgrading or redevelopment of Woodstock; for example, The Old Biscuit Mill, and in the case of this study, The Biovac proposal and the River Club development has been criticised for lack of transparency and meaningful public engagement. In such examples community needs tend to be side-lined and community voices ignored (Tonkin, 2008 and McComb, 2015).

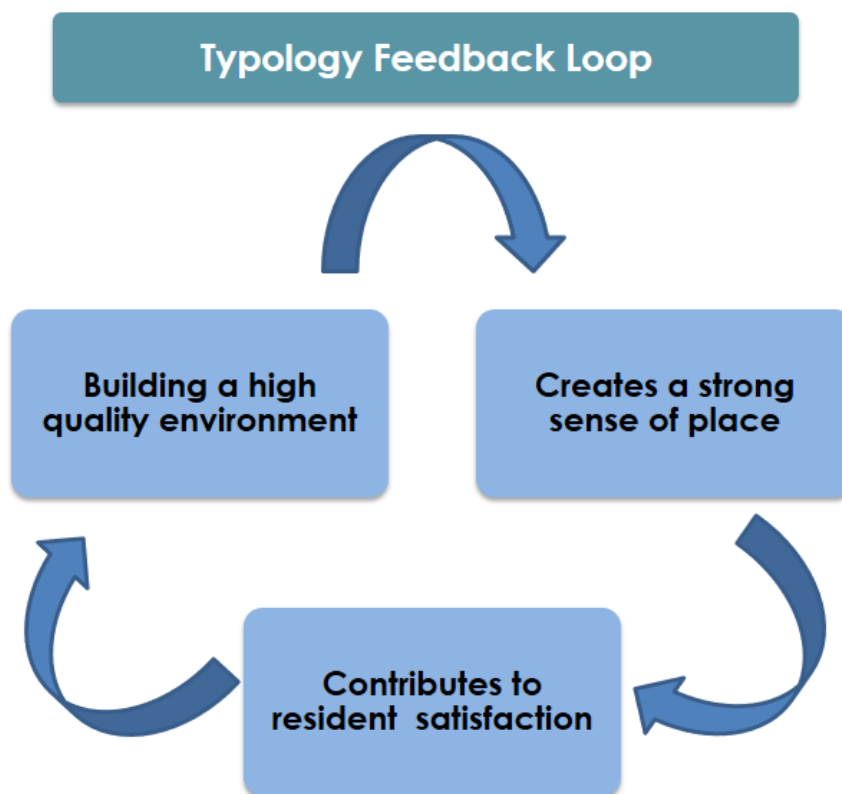


Figure 2.8: Transparency and Accountability (Tonkin, 2008)

2.6.3 Supportive policies and government incentives

For the purpose of this research, governmental policies refer to the extent to which incentives exist and the ease of which government incentives, regulations, agreements and funding can be obtained. Hui et al. (2014) provide the ideal aspects that should be included in policy to enhance the social sustainability of significant sites. These policies should include, but not be limited to; effective public participation mechanisms in decision-making and community activities, in order to avoid exclusion of disadvantaged and poor groups.

An institutional arrangement to explore Adaptive Reuse should be initiated. Policies should also strengthen the continuity of social life, which reflects the cultural traditions and forms. The educational role of the heritage venture should be enhanced through systematic documentation and effective interpretation. A long-term maintenance plan for the upkeep of the heritage area would contribute to the living quality of the environment. Overall appropriate institutional governance should assist in the implementation of a 'bottom-up' approach in an Adaptive Reuse approach to heritage venture (Hui et al. 2014).

The following policies and enabling tools exist to assist not only through community development but also by underpinning the decisions made with Adaptive Reuse principles. *iKapa Elihlumayo*, (Swilling, 2005) is a bursary fund in the Western Cape, and the *Home for All Vision* makes explicit provision for sustainable development, as does the *Provincial Growth and Development Strategy* (PGDS), the draft *Provincial Spatial Development Framework* (PSDF), and the *Provincial Housing Policy* which translates the national government's new housing policy on 'integrated sustainable human settlements' into the Western Cape provincial context. These policy frameworks are all reinforced by the *Provincial Government Western Cape's Sustainable Development Implementation Plan* (SDIP) which was adopted by all Western Cape stakeholders at the *Western Cape Sustainable Development Summit* in June 2005 (Swilling, 2005).

2.7 EMERGENT THEMES

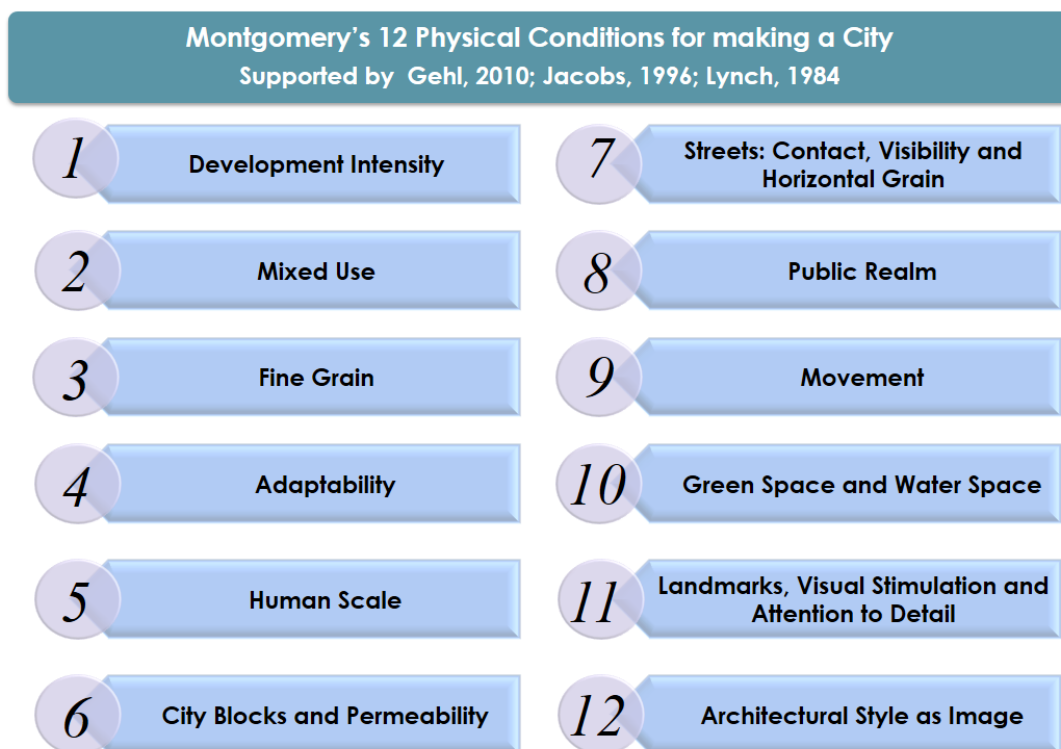


Figure 2.9: Montgomery's 12 principles which emerged from the literature, supported by Gehl (2010), Jacobs (1996), Lynch (1984), InfoGraphic by Jäger (2016)

The diagram above lists 12 principles identified throughout the review of literature in this chapter. According to Montgomery (1998) these principles are critical in creating a "sense of place".

Themes emerging from the Research relevant to local context	
Economic Viability	<ul style="list-style-type: none"> • <i>Critical deciding factor the success or failure of a project.</i>
Sustainability and environmental performance	<ul style="list-style-type: none"> • <i>Supporting Adaptive Reuse processes.</i> • <i>Financially self-sustainable.</i> • <i>Increasing land and property values.</i> • <i>Boosting prosperity.</i> • <i>Green building and environmentally sensitive infrastructure.</i>
A sense of place	<ul style="list-style-type: none"> • <i>The 'sense of place' refers to the feeling and perception held by people when experiencing the urban environment.(Hodkinson et al., 2016)</i>
Job Creation	<ul style="list-style-type: none"> • <i>Supporting local businesses.</i> • <i>Activity and diversity at street level.</i>
Tourism	<ul style="list-style-type: none"> • <i>Promoting tourism.</i> • <i>Attracting creative class.</i> • <i>Retaining the historical essence.</i> • <i>People attractors.</i> • <i>Promoting a vibrant urban experience.</i>
Safety	<ul style="list-style-type: none"> • <i>Live, Work and Play,</i> • <i>Mixed use developments.</i> • <i>Activity and diversity throughout varies times of the day.</i> • <i>Fostering social interaction.</i>
Combating Exclusion and Gentrification	<ul style="list-style-type: none"> • <i>Inclusion is provided by design.</i> • <i>Strengthening community identity.</i> • <i>Feeling of belonging to a community.</i>
Adaptability	<ul style="list-style-type: none"> • <i>Critical deciding factor the success or failure of a project.</i>
Interiorscapes	<ul style="list-style-type: none"> • <i>Investing in public space and streetscapes.</i> • <i>Spaces between Building, linking places.</i> • <i>Enhancing sense of place.</i>
Transparency and accountability	<ul style="list-style-type: none"> • <i>Bottom-up processes of self-design.</i> • <i>Public participation must be undertaken as part of the assessment process.</i>

Figure 2.10: Yung and Chan's (2012) principles which emerged from the literature and are more relevant to the South African context. Jäger (2016)

Based on both Montgomery (1998) and Yung and Chan's (2012) principles, follows a set of combined principles which are based in the literature reviewed, relevant to not only the South African context but specifically Cape Town;

- **Economic Viability;** the extent to which the new use is able to sustain itself in the future. The project may be financed through commercially viable activities which directly affects the likelihood of its being self-sustaining in the future.
- **Sustainability and environmental performance;** have become increasingly more critical to growth and development (Worby, 2004 and Swilling & Annecke, 2006)
- **Local Economic Development and Job Creation;** upliftment of communities and better access to amenities and employment opportunities has become critical in order to eliminate poverty in South Africa (Wikström, 2010; Social Development Resource Centre, 2011a; City Think Space, 2012; UN-Habitat, 2014; Fleming, 2014; Van Der Merwe, 2015a).

- **Tourism;** determines the economic viability of Adaptive Reuse projects. The extent of tourism revenue generated is highly influenced by the local character of the district. A good example of which is The Old Biscuit Mill, Woodstock (McComb, 2011; E. H. K. Yung and Chan, 2012; Ferguson and Indigo Properties, 2014; Joubert and Zandvoort, 2015; Chang, 2015; Hodkinson et al., 2016).
- **Safety;** Lynch (1992) refers to the need for people to feel safe, “whether real or perceived”, the literature implies that the safety he referred to is different to our local context of safety; safety from the elements, lack of food versus safety from violence and abuse. However, in South Africa, where marginalised people are positioned on the outskirts of the city, and informal settlements develop, lack of safety becomes a threat, from flooding and fires to drug and gang warfare. Worsley (2011) implies that adequate housing remains the principal priority of the government, the greatest challenge is getting “quality land”, and by this, she means land that has good access to mainstream infrastructure, transport, sanitation, water, schools. In other words, land that is close to main job centres and a source of income, “mainly in or near Cape Town itself” says Worsley (2011), view is supported by Swilling and Anneck, (2006), Tonkin (2008), Worby (2010), City Think Space (2012) and Fleming (2014).
- **Combating Exclusion and Gentrification;** although this happens worldwide today, it was not as prevalent at the time that Montgomery (1998), Gehl (1998 & 2006), Jacobs (1996) and Lynch (1992) were discussing New Urbanism. There is an argument that gentrification process is viewed as a “positive means by which social upliftment can be linked with urban renewal”(Worsley, 2011) in particular in township areas. It was further emphasised that there are community benefits, and positive infrastructure, entrepreneurial and economic growth outcomes associated therein. This view is supported by Ferguson (2015), and Gabriels (2015) both refer to the Woodstock rejuvenation as an example. The opposing view of McComb (2015) is that there are negative effects of displacement in the process, he asks “for whom does gentrification serve or benefit in the long run?” (McComb, 2015).
- **Community Participation;** Lynch (1992) infers that “citizens should have a say in the management of the place in which they work or reside”. Exclusion of community participation leads to conflicts involving the cultural role of heritage and loss of social continuity and community neighbourhood, loss of sense of place, urban sprawl and social exclusion (Chan & Ma, 2004 and UN- Habitat, 2008)
- **Transparency and Accountability;** Most of the literature refers to this as being of paramount importance. It is, however, not often that the *modus operandi* in South Africa. It is mostly a ‘top-down’ process. Generating economic activity and improving the physical environment, without transparency and accountability can create social problems, such as forced eviction gentrification and property speculation, (Hiu et al. 2014). McComb (2016) express his concerns about the Western Cape government steamrolling developments without adequate public participation. Profit driven developments that are not inclusive and neglect the environment.

- **Adaptability**; successful urban areas accommodate complex patterns of diversity, mixture and economic gain. Places which continue to succeed despite changes in economic conditions, technology and culture, do so because their built form is mixed and/or highly adaptable. While the life of buildings is longer than the life of their original function, by extension, the successful urban area is one which offers in-built adaptability rather than inbuilt obsolescence. This is especially true of places which contain a high proportion of small businesses of varying kinds (Montgomery, 1998).
- **Interiorscapes**; courtyard cluster house design over detached housing is easier to control in terms of temperature, shade, wind, privacy, reduced external maintenance in addition to the cluster concept having lower land cost and higher social capital value.

These themes will be explored in Chapter Four and used as a lens through which to analyse the first-hand data which has been gathered.

2.8 OBSERVATIONS AND REFLECTIVE NOTES

As a prelude to the description of the research methods adopted and a discussion of the findings, the Literature Review has highlighted the significant terms and recurring themes, most notably the importance of creating a sense of place, which the authors all seem to reiterate. The central issue for the theories is a holistic approach to planning, implementing and managing new and Adaptive Reuse projects.

The chapter has explored the concept of New Urbanism and Adaptive Reuse of spaces, in particular the role of safe outdoor space, social responsibility and inclusion as well as the consequences of gentrification. The value of the above chapter is to provide an understanding of the research's core concepts; creating sustainable living and working environments.

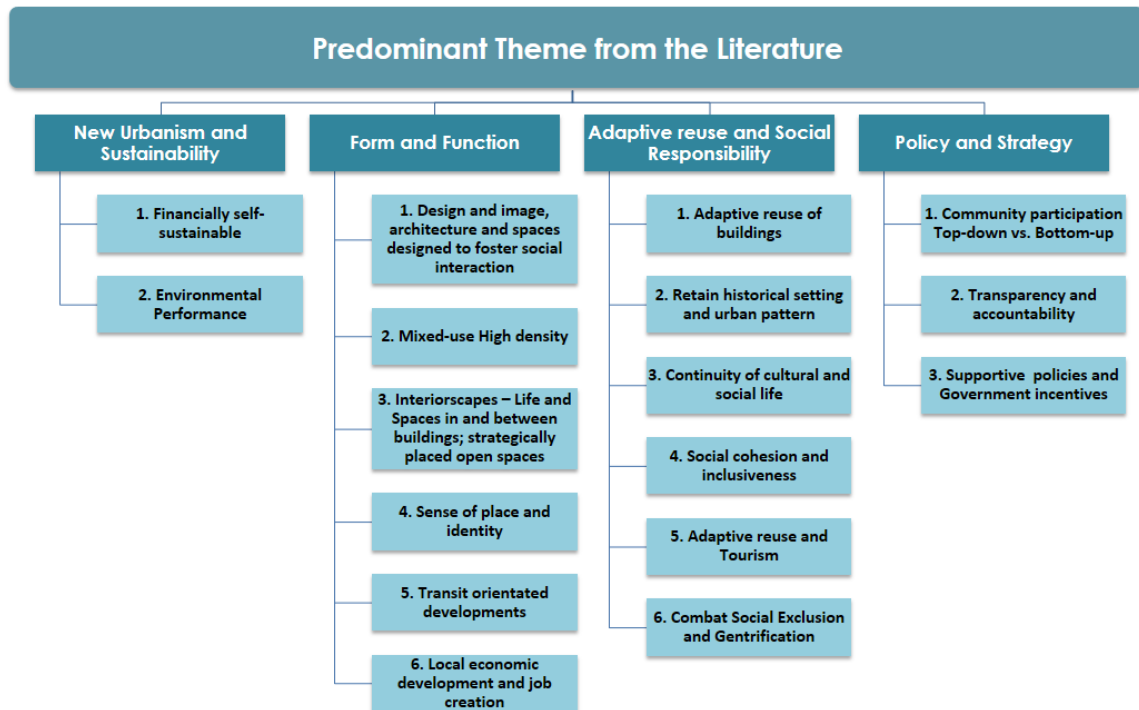


Figure 2.11: Sustainable Principles for Adaptive Reuse of Spaces adapted from (Yung & Chan, 2012, and Hiu. Et al 2014)

The review has established that in most instances integration, rather than eradication and inclusion, rather than exclusion, is preferred and more likely to have a more successful outcome. Through being involved in the decision-making process people feel a sense of belonging and identity.

It is the intention of this research to explore the value that Interiorscapes have on creating successful urban places. People interpret their everyday lives by the quality of the environment they live or work in, the activities that take place around them and how accessible and inclusive these activities are to them. Generally, the literature review above has focused on such themes as the social interaction people have with places and the spaces between buildings.

The next chapter provides a description of the research methods used to collect data from relevant stakeholders, document analysis and observations.

CHAPTER THREE: RESEARCH AND DESIGN METHOD

3.1 INTRODUCTION

Urban designers, architects and landscapers deal with macro places at a large scale. However, what happens at a smaller scale, such as, the spaces between buildings which are often forgotten. This is where designers can create safe green sustainable spaces, Interiorscapes that act as corridors or networks linking places, spaces for activity and diversity, such as tourism, restaurants, retail and office space, along with mixed-use residential units. Interiorscapes and well designed public spaces are a central element in linking these activities and play an important part in what makes a good urban place; they create a sense of place (Montgomery, 1998; Gehl, 2011b; and Hodkinson et al., 2016).

This chapter explains the research methods used and highlights why qualitative and explorative research methods were appropriate to collect data from key informants. The chapter begins by recapping the research problem, question, aims and objectives and then describes the research method used to answer the research questions. Finally, it describes the data analyses processes employed in the research.

The research problem states that the current urban design practices in Cape Town are not sustainable. For example, urban sprawl is eroding away our agricultural land. People should have a choice as to where they live and if they want to move. More opportunities should be created so that people can move closer to the city in order that they may provide more efficiently for their families. Simultaneously there have been underutilized, abandoned and vandalised properties near the Central Business District that have the prospect and potential infrastructure to accommodate high-density, mixed-use, multipurpose development (Sexwale, 2010; Joubert and Zandvoort, 2015; Van Der Merwe, 2015a).

The research explores the dynamics between Interiorscapes and sustainable Adaptive Reuse projects in Cape Town. In order to answer this question, the following sub-questions are asked;

- How do principles of New Urbanism and Sustainability impact the quality of life?
- What is the role of form and function in place creation?
- What is the reality of Adaptive Reuse and social responsibility in an urban setting?
- What are the limitations and benefits of policy and strategy in community development?

The aim of this research is to explore the conditions that could contribute to sustainable urban design solutions in Adaptive Reuse projects in Cape Town. To achieve this aim, the objectives of this research are to:

- Identify challenges faced by Adaptive Reuse projects in and around the Cape Town Central Business District.

- Identify the influence that Interiorscapes have on the way people live, work and play in the city of Cape Town
- Provide an overview of the background and status of the two potential Adaptive Reuse sites which have been identified in the Two Rivers Urban Park district, in close proximity to Cape Town Central Business District. This will be accomplished by analysing the three development proposals which are currently proposed for the sites, as examples aligned with the principles of New Urbanism and Adaptive Reuse of property.

The research method is derived from research methodology experts, such as Creswell (1994), Neuman (2001), Henning, Van Rensburg and Smit (2004), Lee and Cassim (2009), Campbell (2010), and Mouton (2011). As Williams (2014) explains, much development and change has taken place within the paradigms and approach to design and design research over the past decades;

"adopted terms such as 'human factors' in the 1940s, the 'theory of innovative problem solving' in the 50s, 'design thinking' in the 60s, all the way to 'collaborative design' and 'participation for design' in use today. Each of these paradigms was driven by the designers' perceptions of the times, and resulted in different impacts and insights about the interaction" Williams (2014).

Research is a systematic process to gather, break down, decode, and interpret information (Henning et al., 2004). Expanding on continued observation over a period of five years, the author has gained first-hand knowledge of sustainable design, New Urbanism, and the successful use of Interiorscapes in commercial Adaptive Reuse projects in Woodstock, the Fringe and Maitland. This foundation of information gathered from academic discourse and experience is utilised to calibrate a research objective and dissertation as well as the methodical gathering of information from relevant chosen sources. This information has been analysed, evaluated, and recorded according to the themes derived from Chapter Two.

The theories and literature studied had a more holistic and inclusive approach to New Urbanism and Adaptive Reuse, referring to sustainability, not in the conventional way of conserving natural resources but rather from a holistic perspective: the way in which people react to a place, live, work and play. It also considers what makes a city sustainable. The decision to use qualitative exploratory research in order to determine the nature of the problem is not intended to provide conclusive evidence but helps establish a better understanding of the problem.

The aim is not to provide the final and conclusive answers to the research questions but to explore the research topic with varying levels of depth. Moreover, it should be noted that exploratory research is initial research, which forms the basis for more conclusive research. Exploratory research will result in a range of sources and alternative options for a solution to a specific problem (Henning et al., 2004 and Welman et al., 2005).

Below is a summary of Henning, Van Rensburg and Smit's (2004) guidelines for qualitative research, in which they explain how the researcher sets out to investigate an issue from a position of knowledge and how this process frames the inquiry.

Use of a Qualitative Approach

<i>You believe that:</i>	→	There are multiple constructed realities	→	Each stakeholder has their own constructed reality; developers, investors and users
<i>Your audience is:</i>	→	Familiar with / supportive of qualitative studies	→	The theory of design supports qualitative analysis of data
<i>Your research question:</i>	→	Exploratory or interpretative	→	An exploration of the circumstances under which Interiorscapes contribute to sustainable design solutions in adaptive reuse projects in Cape Town
<i>Your research focus:</i>	→	Involves in-depth study	→	Studies in the theory of adaptive reuse and new urbanism. Case studies of existing projects.
<i>You have skills in the area(s) of:</i>	→	Attention to detail and inductive reasoning	→	Proposals analysed based on the data collected
<i>Your writing skills are strong in the area of:</i>	→	Literary, narrative writing	→	The research is presented in a narrative form
<i>Risk:</i>	→	Risk is accepted, no theory may emerge at all	→	The findings may suggest that Interiorscapes have no impact on better urban space at all

Table 3.1: Summary of Henning Van Rensburg and Smit (2004); supported by Kruger and Mitchell (2005), Mouton (2011) and Wang and Groat (2013).

3.2. RESEARCH FIELD

The field is sustainable design, with a view to including New Urbanism and Adaptive Reuse principles. The method is inductive in which the premise is developed from observations of practical reality. Therefore general deductions are made from particular instances using one framework and introducing themes, described in the table below.

Based on the principles of New Urbanism as summarised in the literature review, the following table has been devised as an outline of themes that will be discussed in chapters four and five. The sub-themes have been divided into four categories; New Urbanism and sustainability, form and function, Adaptive Reuse and social responsibility and, policy and strategy. Included in these categories are topics which were not covered in international literature but which are still none the less important criteria and require discussion with regard to local context, as outlined in Chapter Two.

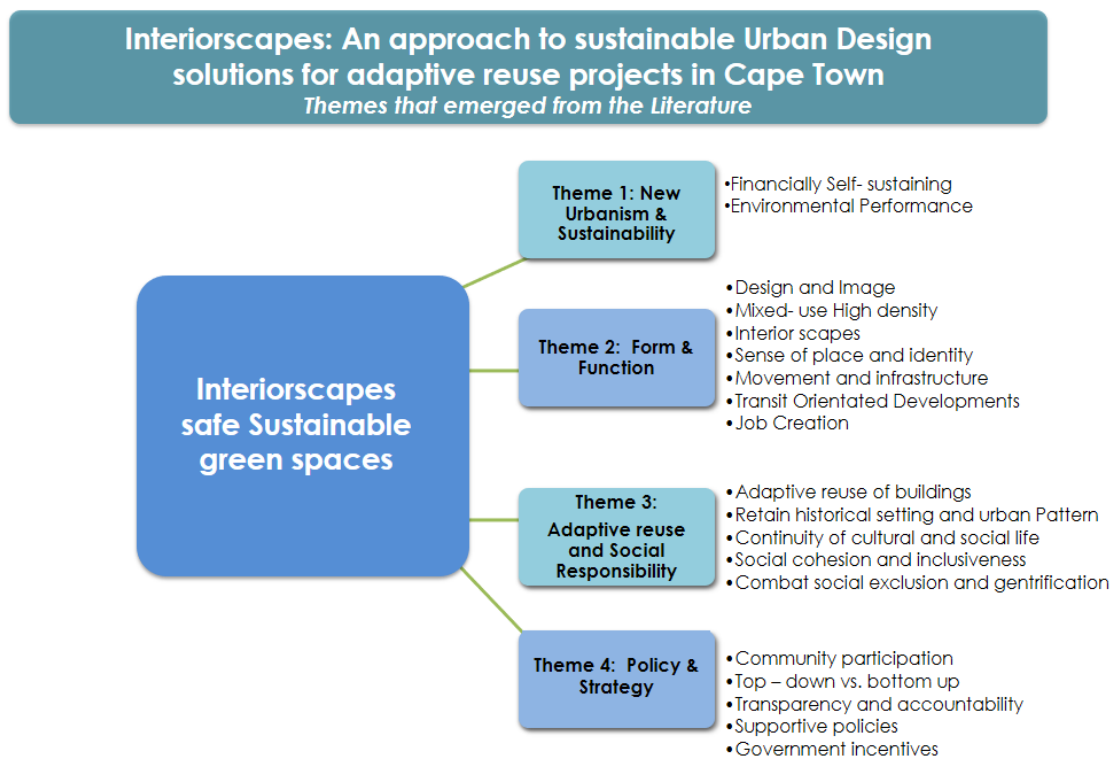


Figure 3.1 Interiorscapes: an approach to sustainable urban design solutions for Adaptive Reuse projects in Cape Town, Jäger (2014).

3.2.1 Grounded theory:

This dissertation focuses mainly on conceptual research in which the strengths and weaknesses of New Urbanism and Adaptive Reuse frameworks are evaluated to determine the appropriate strategies for the local context, specifically Cape Town. The research is based on a Grounded approach, that is to collect and analyse large amounts of data over a longer period of time and finally to develop a context-specific theory (Henning et al., 2004).

The intent of Grounded Theory is to generate a theory that relates to a particular situation. The research was therefore initiated as a problem followed by a question and

then a process of consulting the literature for support and direction. Data collection and analysis occurred simultaneously, over a period of five years. The data was then reviewed and coded to find categories and themes. Subsequently, the process moved from the data to theory building. Interviews and site visits were treated as primary data sources, literature consulted and proposed development plans were treated as secondary data sources (Henning, Van Rensburg & Smit, 2004; Mouton, 2011; and Welman et al., 2005).

A qualitative approach is used to answer the research questions about the nature of the experience with the purpose of describing and understanding the observable facts from the research point of view (Henning, Van Rensburg & Smit, 2004). The research started with general questions, followed by a data collection process whereby an extensive amount of verbal data was collected from a smaller number of participants. This data was then analysed by transcribing the interviews and compiling comparison tables to reflect the situation under study accurately. The open-ended interviews, conversations, personal observations, available documentation and the author's impressions all fall under the qualitative umbrella. This method will be backed up by examples.

Below is a summary of how Grounded Theory was approached in this dissertation based on the guidelines set out by Henning, Van Rensburg and Smit (2004).

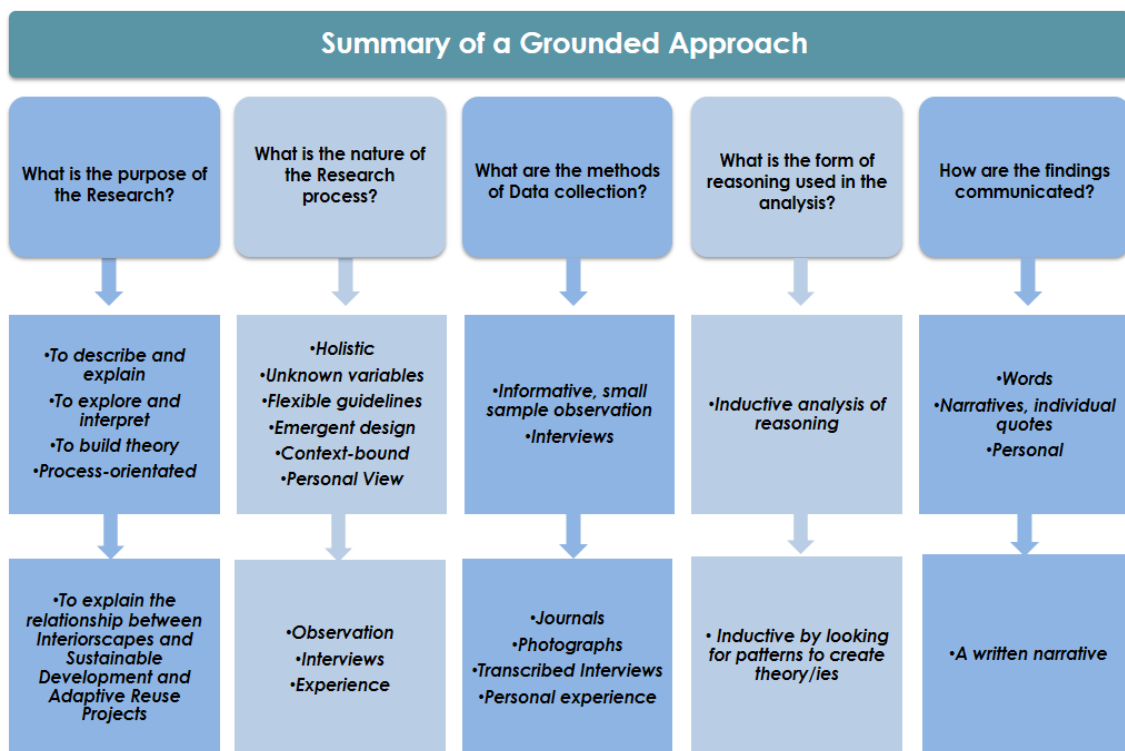


Figure 3.2: Summary of Grounded Approach (Strauss, 1997; Smit and Bryant, 2000; Henning et al., 2004) supported by Neuman (2001).

3.3 RESEARCH METHOD

3.3.1 Inductive approach

Inductive research “involves the search for a pattern from observation and the development of explanations for those patterns through series of hypotheses” (Welman et al., 2005 and Mouton, 2011).

The inductive approach for this research started with first-hand observation and on-site experiences of the process of Adaptive Reuse of properties, namely The Old Biscuit Mill and The Woodstock Exchange, as well as the sustainable Ecovillage, Lyndoch in Stellenbosch. Focus then turned to the Oude Molen property, in terms of observing the functioning developments and reflecting as to what had physically taken place. This then informed the formulation of theories towards the end of the research. In other words, no theories were applied during the inductive studies at the beginning of the research, and the research was free in terms of altering the direction for the study after the research process had commenced (Neuman, 2011).

Neuman (2003) affirms that inductive research begins with detailed observations of the world, which moves towards more abstract generalisations and ideas. When following an inductive approach, a researcher tends to develop empirical generalisations and identify preliminary relationships as they progress through the research.

In this research, the inductive reasoning was based on learning from experience. Patterns, resemblances and regularities in experience were observed in order to reach conclusions and to subsequently generate theory (Welman et al., 2005; and Mouton, 2011). In other words, in inductive studies, no known theories or patterns need to be tested during the research process. The inductive approach to primary data collection methods and research process is based on or characterised by observation instead of theory, the viewpoint is derived as knowledge from experience, particularly from observation, and not derived from the application of logic (Neuman, 2011; and Mouton, 2011).

The chosen Adaptive Reuse precedent studies were used as models from which certain aspects of the research have been developed, the two sites allowed for continual easy access and observations. This highlights the inductive nature of the research from the offset. The research includes personal experience of these sites, precedent studies and data received from Indigo Developers, Oude Molen Village association, Wesgro and The Two Rivers Urban Park.

Distinguishing Characteristics of an Inductive Approach

<i>Attribute: inductive</i>	→	Logic generating to produce a universal claim or principle from observed instances	→	Through observing first-hand, the effects of urban renewal and gathering data through extensive interviews a premise can be formed
<i>Direction</i>	→	Bottom-up	→	The observation of specific instances of urban renewal and gentrification (precedent studies) leads to a generalisation or premise, the findings of this research.
<i>Focus</i>	→	Understanding dynamics, robustness, emergence, resilience, focus on individual behaviour and construct alternative futures	→	Whilst observing and collecting as much data as possible, it is important to understand the data in the context in which it is collected.
<i>Spatial scales</i>	→	Multiple; multiple landscapes, one resolution	→	The context of the data gathered should be the same across sites, data out of context cannot be used to create a premise

Table 3.2: Summary of an Inductive Approach (Welman et al., 2005, Lee & Cassim, 2009, Mouton, 2011, Neuman, 2011, Wang & Groat, 2013)

3.3.2 A comparison of three examples

An illustration study is an exploration of a “bounded system” or a case, or multiple cases, over time through detailed, in-depth data collection involving multiple sources of information rich in context. The context of the case is physical, social, historical and/or economic. Data collection strategies include direct observation, interviews, documents, archival records, participant observation, physical artefacts and audio-visual materials (Welman et al., 2005; Campbell, 2010; Mouton, 2011; and Neuman, 2011).

A comparative study of these two sites, with the purpose of evaluating, will be completed in Chapter Four. Both sites show the potential to use the design strategies of New Urbanism and the possibility of Adaptive Reuse of buildings. Oude Molen is government owned contrasting with the River Club’s privately secured and funded 99-year lease.

The two sites were purposely selected as they represented both private and government approaches (City Think Space, 2012). They both fall within the Two Rivers Urban park district, which is well located and only eight kilometres from the Central Business District of Cape Town City. It has the potential for good access to public transport with seven railway stations surrounding it on three sides. With this in mind, the area could become a major metropolitan open space amenity of similar importance to Kirstenbosch (City Think Space, 2012).

It is proposed that Oude Molen (site A), which is positioned on the east side of Two Rivers Urban Park, is defined as a 'sustainable neighbourhood' that fits into the wider Two Rivers Urban Park Plan which has been adopted by the City of Cape Town for the area. On the west side of Two Rivers Urban Park is the River Club, (site B) where planning is underway to transform the 20-hectare property into a major commercialised recreational hub.

Both Oude Molen and the River Club are well configured in geographical and strategic terms to become a model for 'integrated sustainable development'. To this extent, the dissertation will demonstrate in practice how a 'developmental state' can use a state-owned asset to achieve this via coordination across different levels of government and across policy sectors (Swilling, 2005).

3.3.3 Data collection

Creswell (1994) defines a qualitative study as an "inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words reporting detailed views of information, and conducted in a natural setting". Henning (2004) supports Creswell's (1994) argument by explaining that "inquiry is always undertaken in a natural setting in order to collect substantial situational information". Unstructured observation, open interviewing, idiographic accounts and qualitative data analysis are always employed to capture "insider" knowledge that is part of an interpretive methodology (Henning, Van Rensburg & Smit, 2004; Welman et al., 2005; and Mouton, 2011).

Qualitative researchers function under the assumption that reality is "socially constructed, complex and ever-changing" (Henning, Van Rensburg & Smit, 2004). Consequently, this research is not easily divided into quantifiable variables. The research includes two precedent studies as background for examples of Adaptive Reuse of buildings in Cape Town, namely an analysis of two commercially successful urban Adaptive Reuse projects in Woodstock. Both properties are owned and developed by Indigo Properties.

The author had first-hand experience of the Adaptive Reuse conversion of the Old Biscuit Mill from June 2005, as one of the first tenants. In 2010 (the first year of research), The author began documenting observations of the Adaptive Reuse and mixed-use commercial development, for both the Biscuit Mill and the Woodstock Exchange. In

addition to engaging in informal dissuasions with Nick Ferguson, co-owner of Indigo Properties, developers of both projects. As one of the first tenants, the author was based in the Old Biscuit Mill in 2012 when the silos were converted into a gastronomic hub in Woodstock. Which has informed the research. This has been included as a precedent study.

In order to establish the role players with regard to Oude Molen, Oude Molen Tenants Association, Wesgro, and Two Rivers Urban Park, I interviewed several authorities on the complex dynamics unfolding around the Two Rivers Urban Park district. City Think Space developed a clear and comprehensive Urban Design Report created in 2012. Oude Molen Ecovillage Tenant's Association also has a Spatial Development Plan designed by McComb (2007) in association with the City of Cape Town Two Rivers Urban Park and influenced by Mark Swellings' (2005) *Towards a Realistic Strategic Development Approach for Oude Molen*. To establish how Wesgro is involved in the future development of Oude Molen, Howard Gabriels, Chief Operating Officer of Wesgro until 2015 and Councillor Rose Rau of the City of Cape Town were interviewed.

The list of criteria established in Chapter Two adapts to the South African environment. The two sites have been analysed under these headings. However, some of the evidence has overlapping outcomes, and in some cases, the informants were unable or unwilling to contribute to the data.

At the onset of research into sustainable urban design, the author met with Anzabeth Tokin at the Development Action Group (DAG). Further, Malcolm Worby, one of the founders of Lynedoch Ecovillage was interviewed while simultaneously going on a full tour of the village. At this point, I was introduced to the literature of Mark Swilling and Eve Annecke, who head up the University of Stellenbosch's Sustainability Institute, which is housed in the Lynedoch Ecovillage.

In June 2010, the author conducted her first interview with Hudson McComb, chairperson of The Oude Molen Social Development and Resource Centre, with regards to his draft proposal for optimising the Oude Molen Ecovillage. This was supplemented with a tour of the Oude Molen Ecovillage, as well as an introduction to several rent-paying tenants; the site was photographed and documented. At this stage, Oude Molen Ecovillage was under threat by a government initiative to convert the underused and derelict hospital for low-cost housing. They also had several illegal, undesirable and non-paying tenants. The author continued to meet with McComb periodically for observation and to document the remain informed with the progress of Oude Molen Ecovillage or, in this case – unlike the Biscuit Mill and Woodstock Exchange – the lack of the progress that had been made.

Leading up to and during 2014 the author met informally with Bulelwa Makalima-Ngewana, at that stage the Managing Director of the Cape Town Partnership with regard to World Design Capital 2014. Together with McComb and Stephen Harris, the then curator of World Design Capital 2014, the Oude Molen Ecovillage proposal

became a World Design Capital project. The Cape Town Partnership was responsible for successfully winning the World Design Capital bid. The bid was built around designing a more inclusive economic vision for all Capetonians.

Throughout 2014 and 2015 the author conducted several in-depth interviews with McComb at Oude Molen Ecovillage, continued site observations and photographic surveys. These interviews led to further exploration of the Two Rivers Urban Park, The Two Rivers Urban Park Association and the Two Rivers Urban Park Spatial Development Framework. At this point, it became clear that the Western Cape government had other plans for the Oude Molen property.

In 2015, Nick Ferguson was once more interviewed, this time relating to the River Club development. The interview took place at Indigo Properties' site office at the River Club. The author was given a tour of the newly renovated main house which now houses a restaurant and several conference facilities.

The following became evident during an interview with Howard Gabriels, Chief Operating Officer of Wesgro, Wesgro has been mandated to conduct a feasibility study and pre-implementation plan for the Oude Molen property. In association with the Departments of Tourism, Health, Science and Technology, Rural Development and Land Reform to develop a high-density medical research facility, a bio-economy space. As such, Wesgro has been mandated to secure investments for the greater Two Rivers Urban Park proposal.

From the interviews with McComb and Gabriels, it became apparent that there are two Two Rivers Urban Park bodies with different visions. Which explained why the information from Gabriels was contradictory to that of McComb and Ferguson. In order to be clear about which of the Two Rivers Urban Park initiators Mrs Rau of the City Council would be addressing in her responses, the author needed to have a clear understanding of the difference between the two distinct Two Rivers Urban Park bodies; Two Rivers Urban Park *city* versus Two Rivers Urban Park *provincial*, before the interview with her.

Therefore, the author conducted a further telephonic interview with McComb, in order to better comprehend the clarification between Provincial Two Rivers Urban Park (Two Rivers Urban Park Plus) and the original Two Rivers Urban Park (Two Rivers Urban Park-City). In summary; the National Health Laboratory Services and Western Cape Government developed a rejuvenation program which evolved into Two Rivers Urban Park Plus (McComb, 2014b). However, the visions Two Rivers Urban Park City and Two Rivers Urban Park Provincial bodies are very similar because in McComb's opinion "they have been copied and pasted from the Oude Molen Ecovillage proposal". However, "the driving forces behind the two bodies differ" (McComb, 2015).

Following this, an open-ended interview with Councillor Rose Rau, the Ward Councillor for the greater Two Rivers Urban Park area was conducted, at the Bonteheuvel Sub-Council 5 Offices. Councillor Rau, as with Gabriels, reference of The Provincial Two Rivers Urban Park mandate.

To conclude, one final interview in 2016 with McComb addressed some of the issues and themes that had emerged from the other interviews. These will be discussed in Chapters Four and Five. McComb is now the Treasurer of Two Rivers Urban Park, which gives him far more insight into what the authorities are proposing.

In order to obtain a rich and detailed exploration, multiple sources of data have been used (Neuman, 2011 and Henning et al., 2004). The primary data came from interviews, observations and journal keeping, secondary data come from the literature review, the third form of data came from document analyses. The following reports, strategic frameworks and development proposals have been referred to in this dissertation.

Document Analysed:

- 2016; *Redevelopment of The River Club, Observatory, Cape Town*. Draft Scoping Report. Prepared for Liesbeek Leisure Properties Trust Report Number 478320/1 (SRK Consulting (South Africa) Pty Ltd, 2016)
- 2014; *Oude Molen Ecovillage Concept Communication* (McComb, 2014)
- 2013; *Provincial Governments Future Development Proposal* (5 November 2013).
- 2012; *The Two River's Urban Park Local Area Sustainable Neighbourhood High-Level Development and Urban Design Concept* (City Think Space, 2012)
- 2012; *A Project of the Cape Town Central City Regeneration Programme Urban Design Report* (March 2012).
- 2012; *A Comparison Oude Molen Ecovillage Proposal and Provincial Government Proposal* (31 October 2012) (McComb, 2015).
- 2011; *Oude Molen Ecovillage Draft Proposal*. Prepared by Hudson McComb. Optimising the Oude Molen Ecovillage as a financially sustainable catalyst for socio-economic and environmental development. Conceptualised by Social Development Resource Centre in partnership with social entrepreneurs and microenterprises on Oude Molen Ecovillage.
- 2011; *Optimising the Oude Molen Ecovillage as A Financially Sustainable Catalyst for Socio-Economic and Environmental Development* (Social Development Resource Centre, 2011b).
- 2011; *Department of Transport and Public Works Cape Town Central City Regeneration Programme Strategic Framework*. Version 2
- 2011, Provincial Government - *Two Rivers Urban Park Proposed Densification of Oude Molen Village* Presentation at City Hall
- 2010; *The Cape Town Central City Regeneration Programme Strategic Framework*. (Department of Transport and Public Works, 2010)
- 2006; *Building Sustainable Neighbourhoods In South Africa: Learning From The Lynedoch Case*, Professor Mark Swilling and Eve Annecke

- 2005; *Towards a Realistic Strategic Development Approach for Oude Molen*. Prepared by Professor Mark Swilling, Sustainability Institute, School of Public Management and Planning, University of Stellenbosch. Swilling does refer to utilising the protected courtyard spaces that support the theory of Interiorscapes – using space within structures as safe havens.
- 2002; *Two Rivers Urban Park Spatial Development Framework and Phase Management Plan*, Final Draft. (September 2002).
- 2002; *The Western Cape Government Proposal for Two Rivers Urban Park* (City of Cape Town, 2002).

Henning, van Rensburg and Smit (2004) state that when a researcher sets out to investigate an issue, they do so from a position of knowledge and this knowledge will frame their inquiry. In this case, the researcher's position of knowledge is informed by unstructured on-site observations of the Adaptive Reuse construction methods used at the Biscuit Mill and the Woodstock Exchange, as well as the opportunity to study and engage with Indigo Developers.

The relevant local examples were investigated by reading respective reports, studying the development proposals and submissions and personal interviews, together with ongoing site observations at Oude Molen Ecovillage over a five-year period. This was supplemented with open-ended interviewing with key stakeholders. Idiographic descriptions, concentrating on specific examples and their unique qualities, and qualitative data analyses of primary and secondary sources were conducted in order to capture insider knowledge that is part of interpretive methodology (Henning, Van Rensburg and Smit, 2004).

Numerous site visits were also made to re-evaluate the physical context, starting with a tour of the Lynedoch sustainable Ecovillage by Malcom Worby (2010). He explained the various sustainable technologies that were being applied as well as the sustainable principles of an ecovillage and neighbourhood. The theme around which Lynedoch is built and developed is education,

The following table illustrates the sequence of interviews and site visits that took place as well as the intended outcome which is discussed in Chapter Four.

INTERVIEWS, OBSERVATION AND SITE VISITS:

DATE	VENUE	INTERVIEWEE	METHOD	INTENDED OUTCOME / OUTCOME
November 2010	Oude Molen Ecovillage	Hudson McComb	<ul style="list-style-type: none"> ▪ Unstructured conversation ▪ Observations 	Guided tour of Oude Molen Ecovillage Meeting current tenants
2010-2014	Old Biscuit Mill Woodstock Exchange	Nick Ferguson	<ul style="list-style-type: none"> ▪ Unstructured conversation ▪ Observations ▪ Interview 30 April 2015 	Precedent Studies on Adaptive Reuse of Property in Woodstock.
November 2010	Lynedoch Ecovillage	Malcolm Worby	<ul style="list-style-type: none"> ▪ Unstructured conversation ▪ Observations 	Guided tour of Lynedoch Ecovillage and sustainable technology
2011-2014	Oude Molen Ecovillage	Hudson McComb	<ul style="list-style-type: none"> ▪ Unstructured conversations 	Site visits
				Student Projects
				Document analysis
				Photographic survey
2014	Oude Molen Ecovillage	Hudson McComb	<ul style="list-style-type: none"> ▪ Interview ▪ Observations ▪ Photographic survey 	Call for participation
				The Density Syndicate
				Observations
2012-2014	Cape Town Partnership.	Bulelwa Makalima-Ngewana / Steve Harris	<ul style="list-style-type: none"> ▪ Informal conversations, ▪ Document analysis 	Various site visits- the FRINGE. Presentations to learner Learner participation in World Design Capital 2014
January 2015	Maitland Garden Village	Hudson McComb	<ul style="list-style-type: none"> ▪ Observations 	Guided tour
2015	Oude Molen Ecovillage	Hudson McComb	<ul style="list-style-type: none"> ▪ Interview / data collection 	Comparative between Oude Molen Ecovillage Proposal and Government – Biovac Proposal
2015	The River Club Indigo Properties Site Office	Nick Ferguson	Unstructured interview	Guided tour Of Refurbished Main building
2015	Oude Molen Ecovillage	Monica / Hudson	<ul style="list-style-type: none"> ▪ Unstructured conversation ▪ Observations 	Site Visit with Masters' Supervisor: Monica Du Ruvo
2015	Wesgro			

		Howard Gabriels	<ul style="list-style-type: none"> ▪ Unstructured interview 	Government Biovac Proposal high-density medical research facility N/A
2015	Oude Molen Ecovillage	Hudson McComb	<ul style="list-style-type: none"> ▪ Interview 	Site Visit Understanding: City Two Rivers Urban Park vs. Prov. Two Rivers Urban Park.
2015	City of Cape Town	Councillor Rose Rau	<ul style="list-style-type: none"> ▪ Unstructured interview 	City of Cape Town's role in Two Rivers Urban Park.
2016	Oude Molen Ecovillage	Hudson McComb - Final interview	<ul style="list-style-type: none"> ▪ Unstructured conversation 	McComb is now the Treasurer of Two Rivers Urban Park, which gives him far more insight into what government is proposing.

Table 3.3: Interview Schedule

3.3.4 Data analysis

Themes emerged from the literature, mostly international, which were then evaluated against local criteria and relevance based on the interviews and observations. Next, these criteria were coded and transferred into tables on which the patterns began to emerge. These were then categorised into four main themes, which allowed for comparison between the two chosen examples.

Qualitative studies tend to use an inductive form of analysis. Inductive reasoning emphasises after-the-fact explanation; theory emerges from a careful consideration of the evidence, leading to data. There is a fairly large available body of international literature on New Urbanism and Adaptive Reuse of buildings and places – the underpinning presumption is that these analyses contain certain strategies that may be used in a local context. However, as discussed in Chapter Two, there are some criteria, critical to urban design in South Africa, that are not addressed in the international literature.

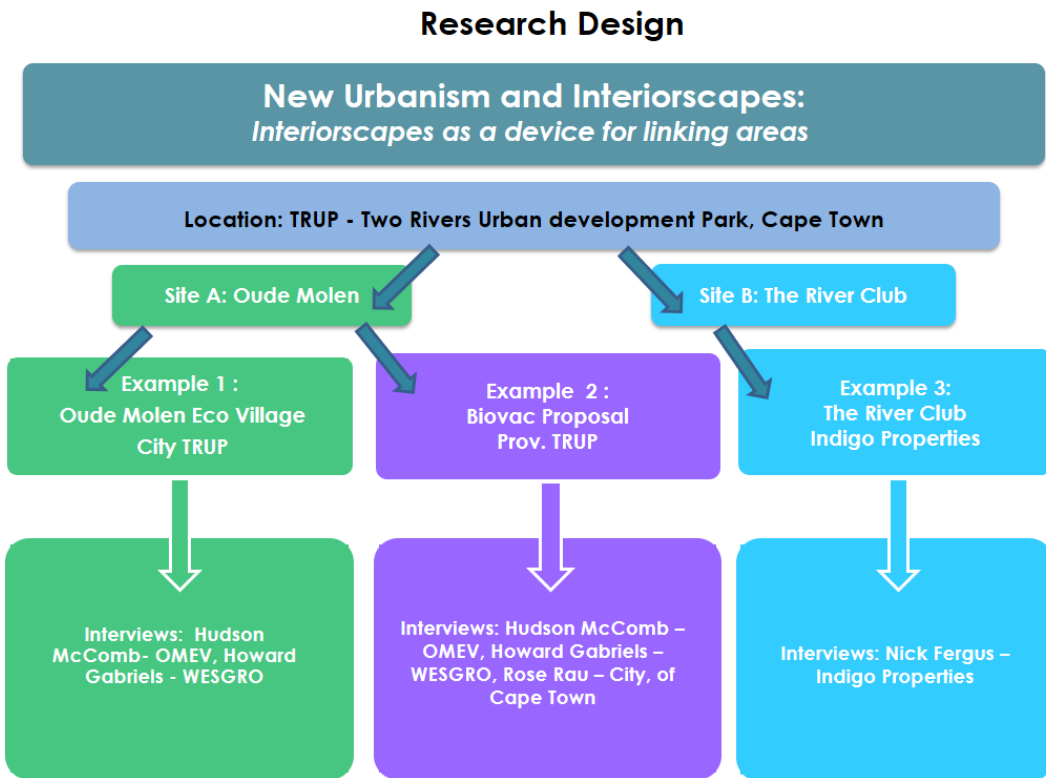


Figure 3.3: Research design and data Collection

The development sites chosen for the studies, namely, Oude Molen Ecovillage and River Club are still in planning and feasibility stages; the outcomes, therefore, include projections based on the results achieved in other developments, such as the Old Biscuit Mill and The Woodstock Exchange. However, the availability of information made it possible to evaluate the research critically through interviews, personal discussions, comparative analysis, direct observation, aerial photos, plans, maps, surveys, and various other documents.

3.3.5 Validity and reliability

To ensure validity and reliability, it is crucial to take into consideration that the chosen examples are in the planning phase. More importantly, current developments at Oude Molen Ecovillage are still in conflict with the government's Biovac proposal and the more holistic City Two Rivers Urban Park proposal. The River Club has already commenced development and is operational with regard to Phase One of the project. The methodology adopted in this study is based on the general principles of the triangulation method (Denzin, 2000) who refers to triangulation as the use of multiple methods of data collection to ensure the validity and reliability of data collected.

Due to the complex nature of this study concerning social and environmental issues, as well as the authorities, the private sector and the surrounding community, the project could not be based purely on the opinion of a few stakeholders and tenants in the Two

Rivers Urban Park area. Therefore, it is appropriate to use 'multiple' methods. The methodology of this research consists of two major sources:

- a) Primary Research, unstructured interviews, observations, site visits, photographic surveys and journal keeping.
- b) Secondary Research, literature review: the sources consulted were mostly international however local literature was also referenced. Various sites were documented.

Data Analysis was based on the themes emerging from the above sources. A variety of different methods of data collection were employed in this project as illustrated in the graphic below.

Validation and validity of data Triangulating (Henning 2004), (Lawrence Newman 2011)

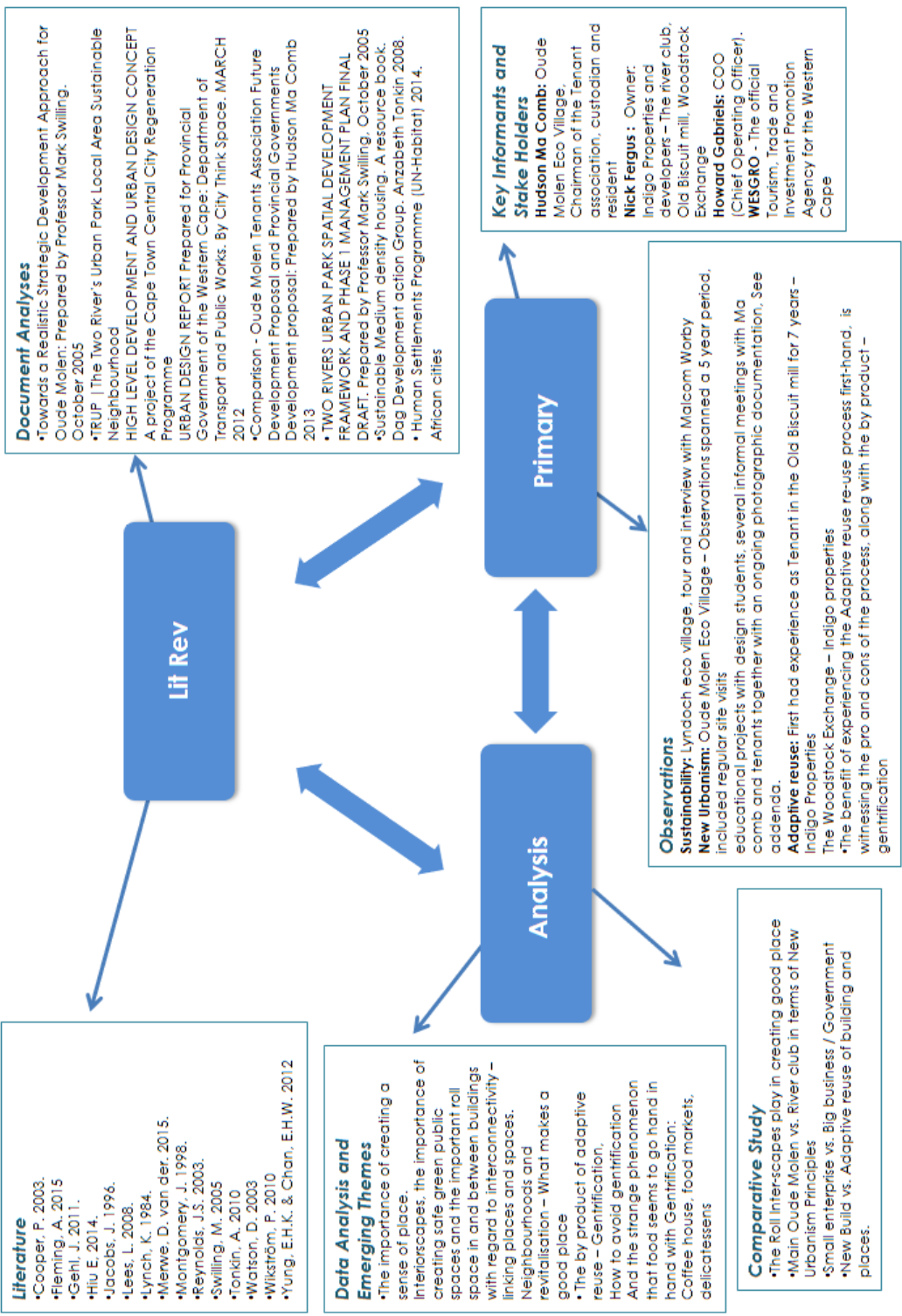


Figure 3.4: Data Triangulation Infographic Jäger (2015) adapted from Henning et al., (2004)

3.4 LIMITATIONS

This study is limited in that it looks at these two development examples in Cape Town, both situated on the state-owned property as proposals for Two Rivers Urban Park. Both examples were examined with the perspective to implement the principles of New Urbanism and Adaptive Reuse methods. They are both situated close to the Cape Town Central Business District and have the potential to address some of Cape Town's social and economic problems. Focusing on the sites' potential as a tourist destination, thereby generating revenue and job creation; can only be achieved by creating sustainable public spaces – Interiorscapes as such.

There is limited engagement with financial aspects of the projects because the information available at the time of research was based on estimated projections of required funding, potential income generation and ongoing maintenance costs.

Subjectivity may have an influence on the research outcome, particularly as the interviewees, dependent on their background, mandate and their desired outcome for the projects will have given answers that fitted their own agendas. A conscious effort was made to remain objective while analysing the examples. However, "personal impressions and the interpretation of data or the interpretation of a certain context are acceptable under the qualitative research approach" (Henning, Van Rensburg and Smit, 2004).

3.5 DISCUSSION OF FINDINGS

The research is qualitative in nature thus the language used is descriptive and emphasises the interviewees verbal communication including their understanding of terms relating or discussed in this dissertation. Therefore, the findings are written as a narrative in Chapter Four and based on thematic coding from the data and interviewees as well as interpretive observations to a sequence of events over a period of time.

Based on the emergent themes identified in Chapter Two the precedent studies have been analysed as laid out below;

- **Economic Viability;** this was the primary underlying factor in selecting both sites. There is a consensus amongst the interviewees that the success of a project is determined by the economic viability (Ferguson & Indigo Properties, 2014, McComb, 2014 & 2015, Rau, 2015 and Gabriels, 2015).
- **Sustainability and environmental performance;** this proved to be important only in the precedent studies in terms of retaining as much of the original building and character as possible. Although this proved to not be the most financially viable or sustainable decision, particularly

when it came to roofs, doors and windows which continually needed repair and maintenance to prevent leaking, keeping original fabric did retain the sense of place.

- **Job creation;** this did occur to a certain extent, not during the building process but with regard to security and maintenance.
- **Tourism;** the Old Biscuit Mill has become a destination for locals and tourists alike. Due to the restricted parking in the area visitors have to walk several blocks, which has brought about further adaptive reuse of buildings along the way. These have been turned into coffee shops, restaurants, art galleries, refurbished furniture stores, antique and collectable boutiques. As such, Woodstock Main Road has become a string of creative hubs, concealing interactive courtyards, meeting places and Interiorscapes behind their facades. However, the upliftment of Woodstock was also subject to a gentrification process.
- **Safety;** in retaining the courtyards and Interiorscapes, safe spaces for shops to spill out into the public areas, and outdoor meeting and eating areas have been created. With the street becoming more active and walkable, people felt safer, the element of drug peddling became less visible. With restaurants and galleries staying open in the evening creating more activity at night, the crime has dropped.
- **Combating Exclusion and Gentrification;** the increase of activity and diversity in property prices has increased. Those fortunate enough to own their property, sold to property developers and those who rented could no longer afford the rentals. Most owners and tenants were displaced in the process.
- **Community Participation;** because both precedent studies were conceived as private investments there is very little community involvement or participation, and to a large extent, the previous or original community feels excluded. Despite the increased number of visitors to the area the original community do not feel they have benefitted from the upliftment. The products and produce bought and sold at these creative hubs are often not sourced from the locals nor can the locals afford them.
- **Transparency and accountability;** being private development projects, there is a 'top-down' management approach. As space within the developments is currently being rented out, there has to be a certain amount of transparency and accountability towards the tenants.
- **Adaptability;** the Old Biscuit Mill, started with the catch phrase 'theatre in retail' but changed to become the 'gastronomic hub' of Woodstock following international trends. The open spaces and shed are parking lots during the day, during the weekends the spaces become an organic food and craft market, and in the evening fashions shows and various functions are hosted. The Woodstock Exchange is continually evolving from one trend to the next exhibiting local art and culture.

- **Interiorscapes and courtyards;** these contain 'people attractors' such as water features, outdoor markets, pop-up art exhibitions and protection from the. In many ways, the Interiorscapes offer protection and privacy to their visitors however they also manage to create a sense of exclusion to the original neighbourhood dwellers.

3.6 OBSERVATIONS AND REFLECTIVE NOTES

Qualitative research gives the reader a deeper understanding of the issues at hand. The research design and method as described in this chapter, allows the researcher to understand the thinking behind the various stakeholders and proposals for Oude Molen and the River Club. The information collected was analysed and is presented and commented on, against the background of literature discussed in Chapter Two. This chapter discussed findings presented and described themes and patterns from the data and literature review.

Through an intensive literature review and stringent interview and observation process, significant factors that enhance sustainability in the Adaptive Reuse of built heritage have been shortlisted. Factors are categorised into the broad themes of New Urbanism, form and function, Adaptive Reuse and social sustainability and, policy and procedure.

While Ferguson (2015) and Indigo Property has developed two very successful Adaptive Reuse projects, they are not without critique. Ferguson (2015) points out himself that at no point was his or their priority to create a mixed-use, mixed income, high-density, accessible space. Their main objective was always financial sustainability and long-term profit.

Ferguson (2015) says that "it takes a new broom to sweep clean, sometimes even to the tenant's advantage." He discussed a picture of existing tenants before the renovation with the author, there was evidence of a fair amount of what appeared to be 'junk'. He continued to say, "making them move allows them to reassess what they need. One of the problems we did have was getting the owner of the corner café to move. He had been there for 60 years" (Ferguson, 2015).

Ferguson (2015) does admit to the value of reusing existing building in terms of bringing charm and personality to a development which would be missing from a new build. Regardless of drivers, the fact that old buildings are being reused meets the criteria for sustainable development of urban projects.

The next chapter presents the findings obtained from observations, interviews and data analyses. Sustainability, New Urbanism and Adaptive Reuse of buildings and places and, the importance of including Interiorscapes into these distinctive projects

is the focus of this chapter. The findings are discussed under sub-headings which emerged from the literature reviewed in Chapter Two, these sub-headings have been further focused based on their prevalence, and the relation to local context.

CHAPTER FOUR: A PRESENTATION OF FINDINGS

The preceding chapter described the research design and methods used to collect data; this chapter gives a presentation and a discussion of the findings obtained throughout the research. The findings presented, will report on the attitudes and opinions of the various stakeholders, relative to their position and motivation.

The precedent studies conducted for this dissertation have been included in Chapter Four as whilst they are precedent in nature, they account for a substantial amount of data gathered, and largely serve as first-hand data gathering tools. Using the approach of Grounded Theory, it seemed more appropriate to position the precedent studies in this chapter.

Two successful urban Adaptive Reuse projects in the Woodstock precinct in Cape Town have been explored, providing insight into the process, negative and positive impacts on the surrounding area of Adaptive Reuse of buildings in Cape Town. Nick Ferguson from Indigo Properties was interviewed on the 30th of April 2015 at the River Club, Indigo Property Offices.

With this in mind, the Cape Town Partnership was responsible for successfully winning the World Design Capital bid. The bid was built around designing a more inclusive economic vision for all Capetonians. A sustainable city, designed to be enjoyed by our children, and their children after them, needs to have an integrated approach to urban planning and development. As such, densification and transport-oriented developments need to be explored. A healthy walking and bicycle culture in the city will give citizens the chance to experience their city intimately (Hodkinson et al., 2016). However, Cape Town authorities also understand the economic imperative to provide residents with an alternative to travelling by car, especially as it becomes increasingly more expensive and time-consuming.

Patricia De Lille refers to this “as a milestone on the road towards positioning Cape Town as a globally recognised leader in design that transforms society” (De Lille, 2012).

This chapter is arranged according to the themes which were identified in the literature review in Chapter Two. Each of the three examples is then discussed and compared based on the structure as outlined in the image below;

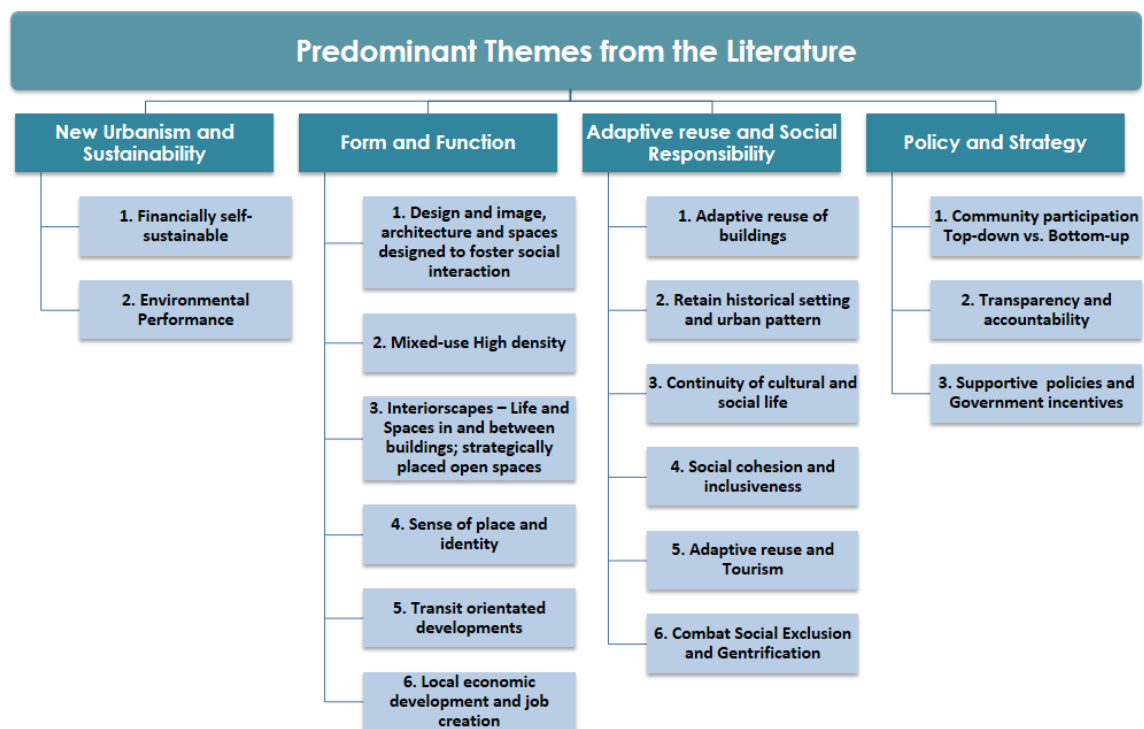


Figure 4.1: A mind map of concepts outlined in Chapter Two. Jäger(2016) Summarised from from: (Lynch, 1992; Platter-Zyberk. & Duany, 1994; Jacobs, 1996; Montgomery, 1998; Reynolds, 2002; Gehl, 2006; Swilling & Annecke, 2006; Groc, 2008; Tonkin, 2008; Fleming, 2014; Billings, 2009; Sexwale, 2010; Department of Transport and Public Works, 2010)

RESEARCH PROBLEM

More and more people are moving to cities to secure better employment opportunities and to create a better life for themselves and their families. Current building practices are not able to adequately address the social, economic or environmental challenges facing South Africa (Sexwale, 2010, and Van Der Merwe, 2015a).

The aim of this research is to explore how the inclusion of Interiorscapes can contribute to sustainable urban design solutions in Adaptive Reuse projects in Cape Town. Based on the two sites selected for this research, Oude Molen herein referred to as Site A, The River club as Site B.

In order to achieve this aim, the objectives of this research are to:

1. Identify challenges faced by Adaptive Reuse projects in and around the Cape Town Central Business District.
2. Identify the influence of Interiorscapes on the way people live, work and play in the city of Cape Town.
3. Provide an overview of the background and status of the two potential Adaptive Reuse sites which have been identified in the Two Rivers Urban Park

district, in close proximity to Cape Town Central Business District. This will be accomplished by analysing the three development proposals which are currently submitted for the sites, as examples aligned with the principles of New Urbanism and Adaptive Reuse of property.

4.1 Context

In order to satisfy the above-identified aims, the principles identified in Chapter Two's literature review and data gathered in Chapter Three's interviews and site observation visits will be summarised and presented using the three identified examples as a framework. Factors which were taken into account were underlying aspects that contribute to the potential successes or failures of each proposal, and a reflection of the effectivity of a 'bottom-up' versus 'top-down' implementation process in relation to; success, management, inclusion and achieving a sense of place which in turn contributes to:

Sub question 1; How do principles of New Urbanism and Sustainability impact the quality of life?

Sub question 2; What is the role of form and function in place creation?

Sub question 3; What is the reality of Adaptive Reuse and social responsibility in an urban setting?

Sub question 4; What are the limitations and benefits of policy and strategy in community development?

The Two Rivers Urban Park local area has the potential to be a significant, ground-breaking project for South Africa (Joubert & Zandvoort, 2015) and has the potential to address a number of pressing issues as it is particularly well located to house the previously marginalised (City Think Space, 2012). The development of an essentially sustainable community of this scale in the heart of the city will make substantial progress towards influencing the transformation of Cape Town into a more sustainable and ecologically sensitive city, and in so doing, answer the main question of this research;

Under what circumstances do Interiorscapes contribute to sustainable design solutions in adaptive reuse projects in Cape Town?

4.2 Precedent Studies

Below is a diagram outlining the field of study. Two precedent studies were conducted and will be introduced later in this chapter as a background to successfully Adaptively Reused properties in Woodstock these two sites were carefully chosen for their potential to address the principles of New Urban. Both properties were owned and developed by Indigo Properties and are situated in Woodstock on Albert Road.

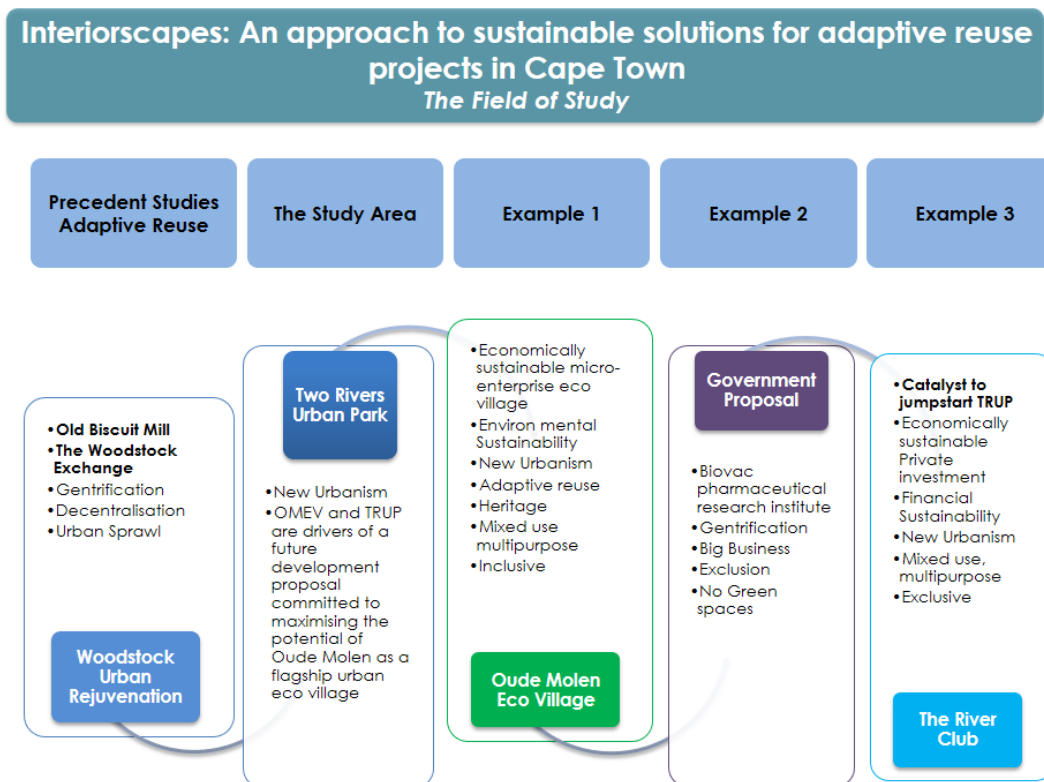


Figure 4.2: Interiorscapes: an approach to sustainable urban design solutions for Adaptive Reuse projects in Cape Town, Jäger (2014)

4.2.1 Adaptive reuse precedent studies: The Old Biscuit Mill

The beginning of the Cape Town Partnership in the late 1990s brought hope for the rejuvenation of City Bowl and Woodstock areas. The *Woodstock Improvement District* (WID) had a large effect in the turnaround of what was once an outsider node. There has been a fair amount of debate about the gentrification of Woodstock. The Old Biscuit Mill has received most of the criticism for gentrification which, although justified, seems unfair since many developers have followed this same pattern for success. For example, The Palms on Main Road was adapted into a design hub several years before Indigo Properties acquired the Old Biscuit Mill property.

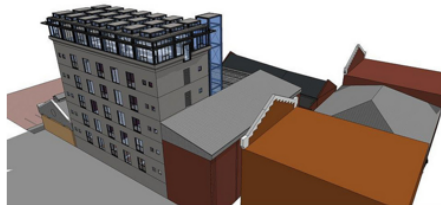
As the owner of the BHC School of Design, the researcher became one of the first tenants at the Old Biscuit Mill in 1996. The area was not yet safe, cars were regularly broken into in broad daylight, students were intimidated by the supposed informal car watchers, no one would work late at night unless in groups. Admittedly the building was still under construction. At that time as head of the school the researcher gained first-hand insight into the complexity of adaptive reconstruction of property, as well as the subtle gentrification of old tenants, who were no longer able to afford the rent. The other issue that became paramount with the new tenants was the number of feet

(or lack thereof) passing through the property during the week. The Saturday Organic Food Market was the Old Biscuit Mill's ticket to fame, which evidences Montgomery's (1998) theory of activity and diversity being key components to what makes a place.

Old Biscuit Mill Silo Redevelopment



An artists impression of the redeveloped grain silo at the Old Biscuit Mill.



Floors: 5 floors + 1 panoramic floor
Type: Educational & Commercial
Architects: Kristof Basson Architects
Owner/Developer: Indigo Properties
Contractors: G.R. Building & Steel
Crane count: 1
Completion Date: Completed



Completed – Image courtesy Indigo Properties

Figure 4.3: Old Biscuit Mill Silo Redevelopment (Ferguson & Indigo Properties, 2015)

Though initially concerned mainly with financial sustainability and long-term profit of these developments Ferguson (2015), of Indigo Properties has conceded to the link between design and social cohesion, inadvertently he has created spaces which facilitate and foster social integration, though only with a very limited user pool.

a) New Urbanism and sustainability

According to Ferguson (2015), the Old Biscuit Mill encompasses New Urbanism principles as it is multifunctional with interactive open spaces. With the Old Biscuit Mill, pedestrian-friendly public spaces were not successfully incorporated, as space was needed for parking, there was no space for greening. Communal spaces were given shape through the building structure. When asked how he distinguished between private and public spaces and public access, Ferguson (2015) replied that the Old Biscuit Mill is open to the public on Saturdays, this includes restaurants, markets, curio shops and a chocolate factory.

b) Form and function

Ferguson (2015) agreed that integration, not eradication, is a viable financial option, as it forms part of the character and attraction. The Biscuit Mill was a catalyst for the urban-renewal program in Woodstock. Both formal and informal traders have benefitted from the influx of people to the area.

The Old Biscuit Mill initially started off as a collaborative space for creative people, with the theme *theatre in retail* in association with architect Kristof Basson in 2005. With the Neighbourhoods Market the theme slowly evolved into being food centred and not creativity-centred. Woodstock's *Industrial Restaurant Revolution* happened in 2012 with the refurbishment of the disused old silo. The award-winning chef Luke Dale relocated his restaurant, *The Pot Luck Club*, to the top floor of the silo at the Old Biscuit Mill. He collaborated with architect Greg Scott, decorator Nina Sierra Rubia, and Kristof Basson to design the silo and retain the aesthetics but maximise the available space while giving due consideration to practical needs. As the silo had no windows and very little natural light, energy efficiency was a key consideration. Safety was a major priority given that there were working tenants and passing trade in and around the building during construction.

c) Adaptive Reuse and social responsibility

Ferguson (2015) said that the reuse of existing windows is always a problem, and in retrospect, it would have been easier to demolish the silo than refurbish it. Ferguson (2015) comments that the initial theme was *theatre in retail*, which reflected the vibrant feel of Woodstock at the time, but then it evolved to food, including the neighbourhood. Many of the vendors are local, Woodstock retains its industrial heritage status, which means that renovating any building over the age of 60 years is strictly legislated. As per the example of the Daddy Long Legs Trailers, local artists were asked to submit their ideas when creating these spaces. Graffiti as a wall treatment was incorporated in both precedent studies as Indigo Properties recognised the intrinsic value of the character of the buildings.

4.2.2 Adaptive reuse precedent studies: the Woodstock Exchange

a) New Urbanism and sustainability

According to Ferguson (2015), the Woodstock Exchange encompasses New Urbanism principles as it was designed to foster social interaction, making use of smaller more affordable office and retail spaces including interactive open spaces. Indigo Properties (2015) was able to successfully incorporate pedestrian-friendly public spaces, as they aimed at a green area for people to spill out onto. This was achieved through using one of the road thoroughfares through the building and converting this into a green space. When asked how he distinguished between private and public spaces and therefore public access, Ferguson (2015) replied that tenants have access control to the offices, whilst the rest of the building and interior spaces are open to the public.

b) Form and function

The theme used to design the Woodstock Exchange was the idea of a multi-use creative business community for work and play. Interactive spaces showcase young designers and artists. The developers wanted to create an affordable office and retail environment for fledgeling creative and design businesses.

c) Adaptive Reuse and social responsibility

In the development of the Woodstock Exchange, six of the original tenants were retained and are still part of the development. Ferguson (2015) points out that the Woodstock Exchange has been more financially viable than the Old Biscuit Mill because the construction and refurbishment was less complicated, the units were smaller and created with collaborators which allowed for more tenants.

4.3 Background

4.3.1 The Two Rivers Urban Park proposal:

City Two Rivers Urban Park was initiated by the City of Cape Town as the entity officially mandated by the City to oversee the management of the wetlands called the Two Rivers Urban Park was officially responsible for developing a policy providing oversight for any future development bordering on the Two Rivers Urban Park area.

In March 2012, a high-level development and urban design concept was prepared for the Provincial Government of the Western Cape (PGWC) as a project of the Cape Town Central City Regeneration together with the Department of Transport and Public Works. The document was called *The Two River's Urban Park Local Area Sustainable Neighbourhood*, in which the Department of Transport and Public works, supporting the Cape Town Central City Regeneration Program outlines how it aims to release 120-hectares of land within the 250-hectare Two Rivers Urban Park district with the view to creating a mixed-use development. The Two Rivers Urban Park Conceptual Framework fundamentally changes the way development planning on the Two Rivers Urban Park must take place in the future (City Think Space, 2012).

The provincial government of the Western Cape's definition of sustainable development is "human development which meets current needs without compromising the life-supporting capacity of the world's ecosystems or the developmental needs of future generations" (ANC, 2017). This definition is underpinned by three main principles; *environmental justice*, which acknowledges that the biggest environmental challenges are directly linked to poverty and marginalised communities, *environmental governance*, which calls those in a position of power to be accountable for environmental decisions which they make, which

affect others, and finally, *biodiversity conservation*, which describes the extent to which humans and nature are able to coexist in a mutually beneficial way.

"For the Western Cape Province, sustainable development will be achieved through implementing integrated governance systems that promote economic growth in a manner that contributes to greater social equity and that maintains the ongoing capacity of the natural environment to provide the ecological goods and services upon which socio-economic development depends." (Swilling, 2005)

Within the 250-hectare Two Rivers Urban Park district there are currently 300 000m² buildings covering 20% of the site, however the above-mentioned design concept (City of Cape Town, 2002) recommends that a total building area 1 250 000m² should be achieved, incorporating alternative and sustainable technologies. The project has an estimated development potential value of R15 billion (Concept Paper on Sustainable Development: Towards the Development of a Sustainable Development Implementation Plan for the Western Cape, June 2005).

Based on the interviews with key informants; Hudson McComb (Oude Molen Ecovillage), Howard Gabriels (Wesgro), Councillor Rose Rau (City of Cape Town) and Nick Ferguson (Indigo Properties, The River Club), and the various proposal documents, the three proposed examples have been discussed.

4.3.2. Example 1: Oude Molen Ecovillage. Site A: Oude Molen

a) Location

Being adjacent to Pinelands station and in between the N1 and N2 freeways makes the site easily accessible by neighbouring and surrounding disadvantaged, marginalised communities such as the Maitland Garden village.

b) Background

The Oude Molen Ecovillage was initiated in 1997 by a small group of proactive social entrepreneurs who, together with local and international volunteers, transformed an abandoned and vandalised hospital complex situated near Pinelands into a micro-enterprise village.

The detail of the vision for the village was founded on the outcome of analysing *The Two Rivers Urban Park Spatial Development Framework* and *Phase One Management Plan* (City of Cape Town, 2002) and combining these outcomes with a holistic regional development approach in order to address provincial and national challenges such as unemployment, youth development, food security and the optimum use of public assets. The result was the aim of establishing a public space which would facilitate greater socio-economic and environmental benefits for the region (Social Development Resource Centre, 2011; McComb, 2014).

c) The drivers

Oude Molen Ecovillage Tenants Association (OMEVTA) and City Two Rivers Urban Park are drivers of a future development proposal committed to maximising the potential of Oude Molen as a flagship urban ecovillage.

d) The proposal

The proposal is to alleviate poverty by creating employment opportunities, empowering the youth, promoting urban agriculture, demonstrating green technology and, offering a variety of healthy social and recreational activities to surrounding communities, local and international visitors, as well as primary, secondary and tertiary educational institutions (Social Development Resource Centre, 2011).

In 2000 there was an initiative to develop this site into a micro-enterprise village which involved the participation of the community in the rebuilding of the site. It was transformed into a low-cost housing project, with the intention that it would be self-sustaining and uplift the community by creating jobs and homes. Initially, as part of the project, there were improvements made to the surrounding grounds by planting vegetation, which had been transformed into a social environment with the establishment of a market in which the public was invited to participate (Social Development Resource Centre, 2011). Diagram 4.7 is a graphic representation of the future development proposal, including existing facilities currently operating in the Oude Molen Ecovillage.



Figure 4.4: Oude Molen ecovillage images (Social Development Resource Centre, 2011)

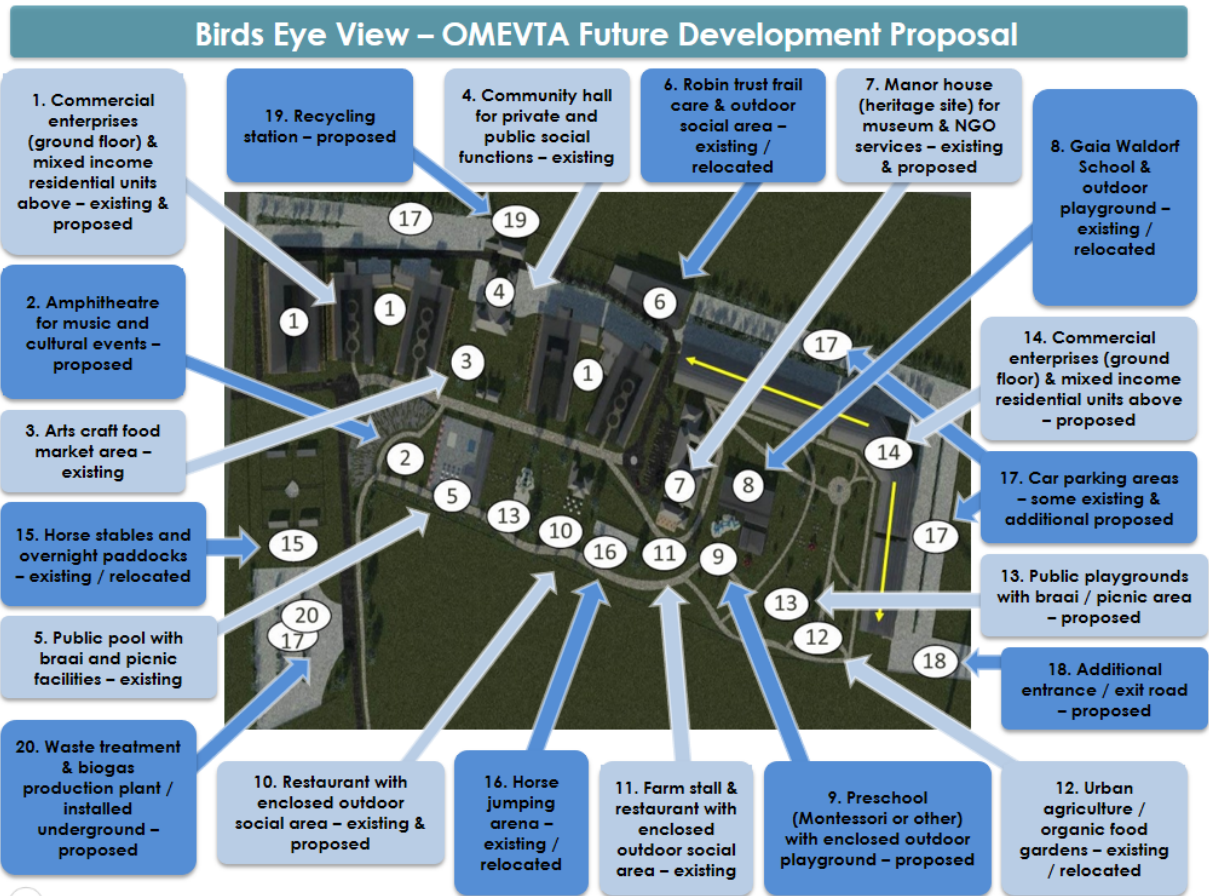


Figure 4.5: Info Graphic Jäger (2016), (Social Development Resource Centre, 2011)

e) Stakeholders

1. Oude Molen Ecovillage Tenant Association
2. Two Rivers Urban Park Organisation City Two Rivers Urban Park
3. Maitland Garden Village.
4. The Robin Trust which provides frail care and training in various kinds of care for women from very poor communities;
5. Gaia Waldorf School; and
6. the Organic Farm.

f) Current status and challenges

In its current state, Oude Molen Ecovillage is not self-sustainable. The biggest challenge facing the ecovillage is funding, both governmental and from the private sector. Not having secured a long-term lease could potentially cause investors to shy away, and or may also form a hurdle for support or buy-in from the community, private business or government. Lack of funds for the upkeep of the grounds and vegetable gardens, deteriorating and vandalised buildings and infrastructure, together with illegal and non-paying tenants may also contribute to discouraging potential investors. After 17 years of existence the Oude Molen Ecovillage has come under threat in the

form of the Biovac proposal, from the Cape Town Central City Regeneration Programme (CCCRP) Team.

Site A: Aerial View of the Oude Molen Property



Figure 4.6: Oude Molen in its current state(Social Development Resource Centre, 2011)

4.3.3. Example 2: Biovac proposal. Site A: Oude Molen

a) Location

The Oude Molen Property was selected for the Biovac Proposal, not only because it is a transit-orientated site with easy access to several train stations and N1 and N2 highways. Furthermore the National Health Laboratory Service (NHLS), Biovac pharmaceutical research institute and Square Kilometre Array (SKA) buildings are already located near the area.

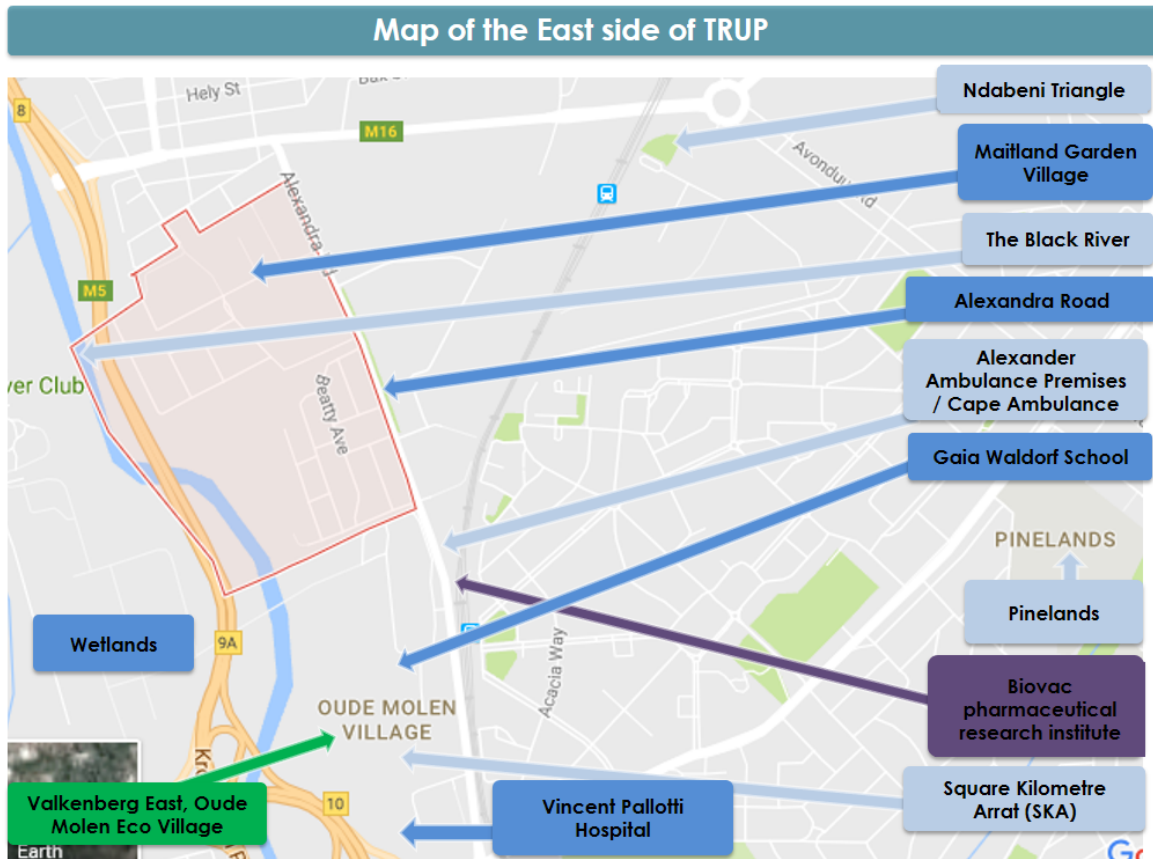


Figure 4.7: Map of East Side of TRUP, Jäger, (2016)

b) Background

Wesgro, the official tourism, trade and investment promotion agency for Cape Town and the Western Cape, has been given the mandate by provincial Two Rivers Urban Park to conduct a feasibility study and pre-implementation plan for the Oude Molen property, in association with the Departments of Land and Tourism, and Science and Health, to develop a high-density medical research facility, the mandate is to source investors and to create a high-density bio-economy space.

c) Drivers

These include; the Democratic Alliance, provincial city regeneration programmes, Mark Swilling and François Joubert the senior manager of Special Projects at the Western Cape Transport and Public Works Department. Wesgro, is mandated to obtain buy-in from potential strategic stakeholders to enter into a partnership for the realisation of this project.

d) Proposal

The regeneration team has proposed a Two Rivers Urban Park development for the realisation of a project of mammoth proportions, to enter into a partnership for the completion of a high-density bio-economy Molen Village for a National Health

Laboratory Service (NHLS), Biovac pharmaceutical research institute and Square Kilometre Array (SKA) buildings.

e) Stakeholders

1. Two Rivers Urban Park Organisation, Provincial Two Rivers Urban Park
2. Western Cape Government, Transport and Public works
3. Cape Town Central City Regeneration Programme (CCCRP) Team
4. The Regeneration Project Office, Mark Swilling, François Joubert
5. The Square Kilometre Array (SKA)
6. The Cape Health Technology Park (CHTP) inclusive of the BIOVAC expansion and Emergency Medical Services HQ
7. Valkenberg Hospital Revitalisation Project
8. National Health Laboratory Services (NHLS)
9. Black and the Liesbeek River Rehabilitation
10. Provincial Administration: Wesgro

f) Current status and challenges

Wesgro has only recently completed the feasibility study for the Oude Molen Property and is still in the process of obtaining support from potential strategic stakeholders to enter into a partnership for the execution of this. MaComb (2015) feels that this will take at least 20 years (McComb, 2015).

There is resistance from The Oude Molen Ecovillage Tenant Association, and Maitland Village Garden, due to fear of the potential fallout from the gentrification process, which will undoubtedly result should this mammoth project go ahead.

The Greater Cape Town Civic Alliance is opposed to high-density (both height and footprint) to any development bordering along the Two Rivers Urban Park wetlands as well as concerns that the current invite to public participation might just be bluff and the decisions have already been made (McComb, 2016).

4.3.4. Example 3: The River Club recreational hub. site B: The River Club

a) Location

The 20-hectare River Club property is located in Observatory, on the West side of the Two Rivers Urban Park District, adjacent to the M57 on the opposite side of which are the Black River Park Business Park, and Harlleyvale Sports Stadium. The River Club is in close proximity to the Raapenberg Bird Sanctuary and Nature Reserve, The South African Astronomical Observatory.

Site B: Aerial View of the River Club Property



Figure 4.8: An aerial view of The River Club. File picture: Andrew Ingram (SRK Consulting (South Africa) Pty Ltd, 2016)

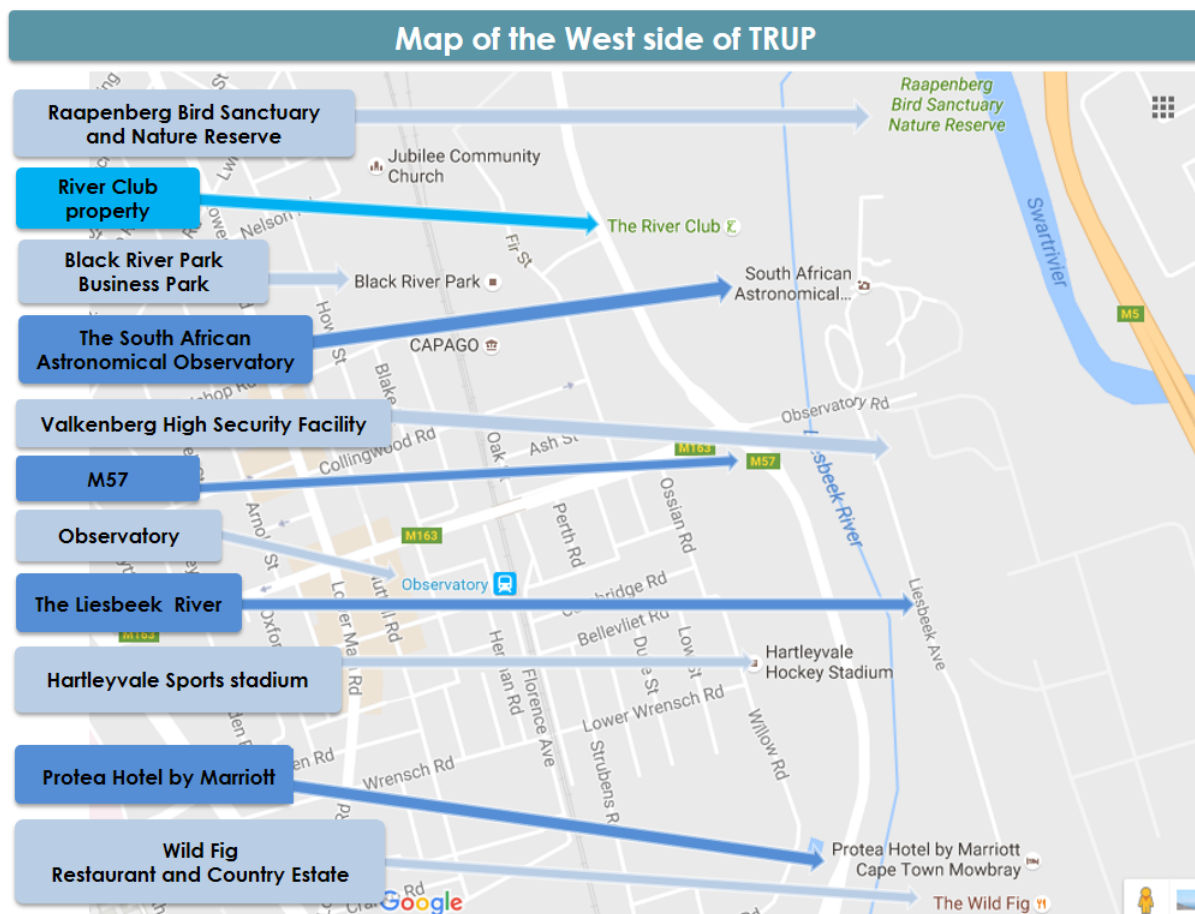


Figure 4.9: Map of the Westside of TRUP, Jäger, (2016)

b) Background

Indigo Properties, have redeveloped the Old Biscuit Mill and Woodstock Exchange in the neighbouring suburb of Woodstock are the tenants of the property at the River Club. The River Club land has been identified by Indigo Properties as an under- utilised property in a strategic location in the City. The property was run down, and to date, basic upgrades have been started (SRK Consulting (South Africa) Pty Ltd, 2016).

c) The proposal

Indigo Director Nick Ferguson says Phase One of the redevelopment involved a refurbishment and refreshment of the main building which houses, amongst other things, a conference centre with a total capacity of 450 delegates over six venues, a restaurant and a golf shop. The parking area and the driving range are also being upgraded.

Further planning is underway to transform the 20-hectare River Club property in Observatory into a major commercialised mixed-use development and recreational hub, including golf, water sports, and an interactive park with the view to implement sustainable design practices aligned with values of New Urbanism (City Think Space, 2012; Joubert and Zandvoort, 2015).

Initial plans were for low scale development, but following consultation with the city and preliminary specialist assessment, the development potential of the site was reassessed(SRK Consulting [South Africa] Pty Ltd, 2016).

Pedestrian and cycle paths will be provided. If approval is granted for the enhancement and reconfiguration of surface water flows adjacent to the site (low-intensity water sports such as paddle boating will be considered. It is possible that additional applications will be made at a later stage for other infrastructure in aquatic areas, such as walkways, artificial islands for waterfowl and bird hides(SRK Consulting [South Africa] Pty Ltd, 2016).

As part of landscaping and rehabilitation activities, regulated water flow will be restored to the original course of the Liesbeek River west of the site. The Liesbeek Canal will be retained and may be partially rehabilitated to mimic a natural watercourse (i.e. parts of the concrete canal may be removed, and the area landscaped). To the east of the Liesbeek River Canal and the Black River the site forms an "island" surrounded by these freshwater systems (SRK Consulting [South Africa] Pty Ltd, 2016).

d) Drivers

The Liesbeek Leisure Properties Trust (LLPT) operates the River Club in the neighbourhood of Observatory. The proposal is to redevelop most of the site for residential, commercial, residential, institutional and associated uses(SRK Consulting [South Africa] Pty Ltd, 2016).

e) Stakeholders

1. The Liesbeek Leisure Properties Trust (LLPT)
2. Indigo Property Developers
3. Rabie Property Administrators, who are the managing agents for the entire Indigo portfolio.
4. Along with other private investors and franchisors such as The Slug and Lettuce restaurant.
5. The Observatory Home Owner's Association / action group

CURRENT STATUS AND CHALLENGES

The main River Club building was built in 1939 and has been converted into a recreational and conference facility. A number of surrounding buildings on the property are rented to businesses for commercial use. The River Club parking area is to the south of the building, and the main access to the River Club is from the south off Observatory Road (SRK Consulting [South Africa] Pty Ltd, 2016).

The River Club has secured a long-term lease and has private funding. Construction has already commenced, and the main house has been extensively refurbished. Investors and partners such as the Slug and Lettuce restaurant franchise have been

secured. One of the challenges is that Indigo Properties do not specialise in residential property.

As much of the River Club lies below the flood line, they have had to appoint the counsel of foreign experts to resolve the threat of flooding. One possible solution is to raise the entire site above the 100-year flood line.

An obstacle which may not have been anticipated was exposed in the Environmental Impact Assessment (EIA) process required in terms of the National Environmental Management Act 107 of 1998. The poor water quality of the Black River and the bacterial data for the Liesbeek River indicated a potential human health risk, as such, the river was classified as “unacceptable” for full and intermediate contact and recreation purposes (SRK Consulting [South Africa] Pty Ltd, 2016).

Most of the naturally occurring aquatic ecosystems such as extensive floodplain wetlands have been transformed from their natural condition, and no wetland ecosystems remain on site today and will therefore, need to be re-established.

The findings of the Scoping Report were presented to stakeholders for questions, on the third of October 2016. Indigo Properties, SRK Consultants and stakeholders, had from the 22nd of October 2016 to the 28th of October 2016 to record all issues and concerns raised and collate these comments in the final report to decide whether to accept the Scoping Report (SRK Consulting [South Africa] Pty Ltd, 2016).

The entire project is estimated to cost approximately R4 billion (excluding VAT) and will take place in three phases commencing in June 2018 with anticipated completion in 2021. As indicated in the Scoping Report, Indigo Properties still have a “No Go” opt out option (SRK Consulting (South Africa) Pty Ltd, 2016).

Observatory residents fear a proposed redevelopment of the club will mean the loss of public open space along the Liesbeek River. Known as the “river tub” among residents, those in attendance said they regularly had to contend with flooded streets, houses and overflowing sewers during periods of heavy rain. Further, they appeared sceptical that a new development would be safe from flooding.

4.4 NEW URBANISM AND SUSTAINABILITY

Environmental performance in this dissertation refers to design decisions that work to reduce the negative effects on the environment and make the most out of social and economic benefits. Taking into consideration not only physical building performance such as energy efficiency, waste management, water conservation or reuse of materials but also the fostering of social wellbeing of the community.

Sustainable development implies that a project should not compromise natural or cultural systems. In this regard, the Best Practicable Environmental Option (BPEO) is that which provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term (SRK Consulting (South Africa) Pty Ltd, 2016).

Diversity and activity are pivotal to the extent of a project sustaining itself through commercially viable activities. Ferguson (2015) refers to people attractors as an important component in making a place fully sustainable, in other words how to attract more "feet". Hodkinson's (2016) opinion is that research has shown positive connections between improved public spaces and Interiorscapes, such as raised local retail spend, enhanced value of local services and goods and the creation of more job opportunities.

4.4.1 Two Rivers Urban Park

The Two Rivers Urban Park Urban design report outlines the need to use a range of green building and environmentally sensitive infrastructure such as passive ventilation and heat recovery, solar panels, rainwater storage tanks, permeable paving materials, storm water swales, natural and locally sourced building materials, biogas digesters and worm farms (City Think Space, 2012). The planners are only proposing a development on land that is underutilised, has little environmental value, or that will assist in giving form and clarity to the park, and limiting the majority of development to the edges of the Park (City of Cape Town, 2002).

Together with the Sustainability Institute of the University of Stellenbosch, an investigation of a range of green technologies and infrastructure solutions was undertaken and this showed that by using these technologies, the development could be achieved with significantly less capital investment in infrastructure and in the long term, dramatically lower operating overheads (Joubert & Zandvoort, 2015).

Two Rivers Urban Park has unique ecological features because it is located between two rivers. However, both rivers experience a high level of pollution due to the overflow of storm water, open sewerage and street refuse. Henk Ovink, Special Envoy for International Water Affairs of the Kingdom of The Netherlands, is providing expertise on large, innovative water management projects for Two Rivers Urban Park (Joubert & Zandvoort, 2015).

Gabriels (2015) emphasises the need to look at the broader picture of Two Rivers Urban Park; Oude Molen will be the economic hub which supports the rest of the Two Rivers Urban Park high-level development and urban design concepts. He continues by saying that one has to understand the magnitude of big data the investment SKA and Biovac will make to a broader bio-economy. Councillor Rau (2015) reiterated these sentiments.

According to Gabriels (2015), South Africa has the potential to become the biggest vaccine supplier in the continent. Without this capital, the Two Rivers Urban Park development will not have the funding to go ahead with its Sustainable Neighbourhoods High-level development. Gabriels (2015) indicates that a great part of Oude Molen and the neighbouring Maitland Garden Village has undesirable elements.

"There are illegal squatters and deteriorating buildings. Oude Molen Ecovillage can't be justified if it can't sustain itself." (Gabriels, 2015)

"Medical facilities would be a catalyst for investors." (Rau, 2015)

4.4.2 Example 1: Oude Molen Ecovillage

The Oude Molen Ecovillage together with the City Two Rivers Urban Park future development proposal is built on the premise of the *Spatial Development Framework*, which is a holistic and inclusive concept of an urban park and mindful of the needs of the City, makes use of sustainable building practices and consequently is incorporated into the design and construction of the proposed development. McComb (2014) explains that "It is envisaged that with approval from the co-custodians of the property (the provincial government) and a 99-year lease, additional research will investigate best practices regarding sustainable building choices and these will be incorporated into the final design."

The aim of Professor Mark Swilling's (2005) proposal *Towards a Realistic Strategic Development Approach for Oude Molen*, was to have all approvals in place by December 2006. In parallel, commitments from funders and investors should have been secured. This would have made it possible to commence development implementation by early 2007. This has not happened yet.

The Directorate for Property Management began pursuing the proposed development implementation by early 2007. This has not happened yet. This series of decisions meant that McComb's (2014) proposal of a sustainable ecovillage suffered a few setbacks;

1. Deterioration of empty buildings which are an eyesore, undermining current tenants' efforts to attract clients and visitors and sustain their businesses;
2. Lack of secure tenure for current tenants prevents current and prospective tenants from investing in or improving premises and grounds;
3. Lack of funds allocated by the Department of Transport and Public Works to maintain and improve buildings and grounds.

However, a feasibility study by the Tenants Association, led by McComb (2014), projected that the proposed development would generate R200 Million as direct

income to the Western Cape provincial government and distribute R70 Million to non-profit organisations in the region over a period of 50 years.

Gabriels (2015) argues that investment is needed to create economic activity, which then, in turn, creates jobs and generates growth, the ecovillage cannot be justified if economic growth does not happen. McComb (2015) agrees with Gabriels (2015) that Oude Molen in its current state is not sustainable, but it has also not been given the chance to prove its design because of an unimaginative "business as usual" approach to development based on an outdated "Trickle Down" economic model. This has prevented decision-makers from investigating in an alternative development model proposed by the Oude Molen Tenants' Association that offers far more socio-economic and environmental benefits to the region" (McComb, 2015).

4.4.3 Example 2: Oude Molen Biovac proposal

The Two Rivers Urban Park high-density medical park vision does not give effect to the City of Cape Town 2002 Vision and is in conflict with the City's "aim to protect the ecological elements and cultural heritage of the site" (McComb, 2015).

Gabriels (2015) points out that the mandate is to secure primary investors "sustainable building is not within our directive. But I am sure the investment companies will strive to include sustainability." He argues that if the government's proposal goes ahead the Oude Molen Ecovillage and City Two Rivers Urban Park Vision would cease to exist. Gabriels (2015) concedes that in essence, provincial government intentions do encompass principles of New Urbanism regarding property surrounding the Oude Molen Ecovillage but is short-sighted and lacks imagination and vision when addressing the future ownership and development of a unique potential of the property to benefit the entire region.

Gabriels (2015) affirms that at this stage, Wesgro is mandated to secure investment from big business. To date, they have only completed a feasibility study. The next step is the implementation plan. He indicates that "one has to view the Oude Molen site as a city within a city. Located within the broader green belt of Two Rivers Urban Park" (Gabriels, 2015). The physical progressions versus the economic viability need to be taken into consideration.

4.4.4 Example 3: The River Club

Ferguson (2015) uses the example of Century City and Intaka Island, where nature conservation and property development co-exist in harmony and for mutual benefit. He surmises that Century City would not have been successful without the waterways linking or creating links between the businesses, residential and the wetlands. His vision for the River Club is to create "a live, work and play formula, as well as a tourist destination" (Ferguson and Indigo Properties, 2015) Indigo Properties have also

engaged the services of an international expert, as an advisor to the containment of flood water through innovative and playful water capturing and draining features. This is all part of the envisaged themed Water Park, which Ferguson and his team want to create.



Figure 4.10: Photo 1 (left): Intaka Nature reserve and natural reed water purification System(Swilling, 2005). Photo 2 (right): Two Rivers Urban Park Greenbelt (H+N+S Landscape Architects, n.d).

In contrast, during the interview with Nick Ferguson (2015), it became apparent that private funding and income will be derived from activities and rentals both business and residential. The main house and outdoor areas have been extensively and generously refurbished, including various conference facilities, restaurants, a swimming pool and lounging area. For example, the restaurant in the main house, The Slug and Lettuce, is a franchise and therefore paying rent. The River Club has secured a 99-year lease and is supported by government incentives, which will entice investors, financed privately by big businesses. Already they have franchised many, if not all the current operations. The residential units will be upmarket which will also bring in revenue. The Golf Club and course have been refurbished, which will bring in membership fees. The medium-term plan is to create an outdoor entertainment facility, incorporating outdoor activities for children and water sports on the river.

4.5 FORM AND FUNCTION

Design is not limited in scope to just the appearance of a building, but rather, aims to achieve diversity, activity and urbanity. Good design should create the personality of place; the way people relate to spaces translates into the vitality of place, ultimately this will make spaces both successful and self-sustaining, financially as well as socially.

High-density mixed-use development typically refers to the increase in the number of residential buildings and the number of families living on well-located land interspersed with and close to employment, education, health and transportation opportunities (Tonkin, 2008; Fleming, 2014; Joan Clos et al., 2016). Ideally, high-density and mixed-use developments benefit from the social and economic stimulus of this unique kind of mutually agreeable growth which is embodied by creating sustainable ways to cater for the increased densities in cities, whilst meeting the needs of poorer households with dignity.

Creating successful mixed-use, mixed income spaces within a pre-existing space such as a city is a complex task, with many elements contributing to the potential success thereof. One of those elements is Interiorscapes, which has previously been defined as a connecting space between buildings and giving identity to an area. These can be open to the sky or enclosed; they may be water areas or open parks, the common objective being that they are people attractors. Yung and Chan (2012) describe how spaces between buildings can serve as connectors “the buildings, the spaces and enclosures, the connections and closures, the vistas and views all knit together to form a set of harmonious relationships” (Yung & Chan, 2012).

Harmonious relationships as referred to by Yung and Chan (2012) are the nesting area for identity’ A space’s identity is similar to the idea of a unique personality, if a space has an identity the people living and working there will associate with and feel responsible for more than their ‘legal’ section, be they, tenants or owners. Once a space has identity and people associate with this, the space becomes cared for and nurtured, and with time unsavoury elements such as crime and deviant behaviour are eradicated by the residents and users of a space out of pride and a sense of citizenship (Hui et al., 2014; and Fleming, 2014).

Transit orientated developments are conveniently located nearby to various means of public transport. Transit orientated developments reduce the need for individuals to own and use private cars, it refers to the extent of adequate infrastructure, transport and amenities provided in the proximity of the area also referred to as movement and infrastructure. The rationale of this is that traffic can be managed by investing in reliable public transport alternatives, and by establishing pedestrian and bicycle friendly spaces. Not only is this intended to activate the urban fabric of the city – as the streets and pavements are active with commuters but also small business such as ‘spaza’ shops and coffee shops will increase their turnover and with activated streets passive surveillance will inadvertently reduce the crime rate.

Local economic development is not only boosted by the opportunistic passing foot trade but also in the number of jobs which can be created within the pockets of ‘live, work and play’ developments discussed in this research. Redevelopment of derelict areas within the city can boost local investment and create employment opportunities during the construction and operations phase. Projects like this may also

increase municipal income and upliftment of the neighbouring areas. Sustainable, integrated transport amenities and job creation are interlinked and fundamental in ensuring that previously disadvantaged households' self-sustainability is improved.

4.5.1 Two Rivers Urban Park

The '*Two River's Urban Park Local Area Sustainable Neighbourhood, High-Level Development and Urban Design Concept*' proposes a development with a range of uses, both vertically and horizontally within a building block to create a 'live, work, play' environment. The vision is to create a mixed-use development across the Two Rivers Urban Park with an emphasis on affordable housing. The land use chart below, indicates the percentage of residential units on the two sites discussed in this dissertation, as stipulated in the proposal (City Think Space, 2012; McComb, 2015; and Ferguson & Indigo Properties, 2015).

The high value of this land, from both an environmental and social aspect into account lends itself to use which extends beyond commercial and office space to suitable living and recreational spaces too. The City of Cape Town's (2012) objective is to retain island-like quality by creating strongly defined edges within the space. In the precinct, buildings of the greatest height (five to seven stories) should be concentrated along Alexandra Road and around Pinelands station to optimise on its central and convenient access to public transport. Buildings fronting onto the Two Rivers Urban Park should be lower (two to three stories) to ensure that passive surveillance of the park is encouraged. View corridors to the green river corridor should be created where buildings are set back to ensure that sight lines to the green space are secured (City Think Space, 2012).

The mixture of desired uses in this precinct, the form of buildings, and the relationship between the buildings and the park should create an environment of high amenity both for those living or working in the precinct and for visitors to the park.

Land Use and Tenant Mix Comparison

	TWO RIVERS URBAN PARK	EXAMPLE 1: OUDE MOLEN ECO VILLAGE	EXAMPLE 2: HIGH-DENSITY MEDICAL HUB BIOVAC	EXAMPLE 3: THE RIVER CLUB
	Large scale Mixed use, infill urban development	Proposal 1: Medium Density, low footprint	Proposal 2 : High Density, high footprint	Mixed use upmarket recreational facility
Vision - Land Use and tenant mix	100%	15,16%	11,20%	12,50%
Number of Residential Units	6300	955	706	788
Number of Residents				
Like for Like breakdown in m²				
•Residential	504000 ±6 300 units (± 24000 residents)	76 406 Average Unit Size 80m ²	56 448 Average Unit Size 80m ²	63 000 Average Unit Size 80m ²
Business and Industry	84000	12 734	9 408	10 500
Community Facilities	63400	9 611	7 101	7 925
•Other uses (Retail, office, hospitals, etc)	598600	90 748	67 043	74 825
Total m ²	200 000	189 500	140 000	200 000
Total m ² Area allocated for development	1250000	139 787	139 787	156 250
•Potential development value	R15billion	-	-	-
•Timeframe	15 to 20 years	-	-	-
	Key figures and facts: •Currently 300 000m ² buildings cover 20% of the site Average building height 3,5 storeys Residential 65 units per/ha Shift away from cars to use non-motorised transport			

Table 4.1: Land use and Tenant Mix Comparison (McComb, 2011; City Think Space, 2012; Ferguson and Indigo Properties, 2015)

The design of open spaces and courtyards will fundamentally contribute to the overall quality of the precinct design. Open spaces should be linked using a system of visual and pedestrian routes, similarly a series of internal multipurpose courtyards should be provided that can function as shared parking spaces, pocket parks or informal play areas and urban agriculture. Landscaping which forms a sensitive transition between the precinct and the park should be kept in mind. Planting should be more organic in character as discussed and outlined in the 'Two River's Urban Park Local Area Sustainable Neighbourhood High-Level Development and Urban Design Concept' (City Think Space, 2012).

Existing buildings which have considerable cultural and historical value should inform the form and character of future development, particularly in relation to height and the system of courtyards they create. Of particular importance is that the buildings should create and define a system of public and private open spaces. These open spaces should be connected by pedestrian routes and formally landscaped so that

a legible pattern of open spaces and routes defining land parcels and the movement system is formed across the site (City of Cape Town, 2002). Indigenous and water-wise planting to be used throughout and should respect its biodiversity-sensitive context.

In the Oude Molen Ecovillage and the '*City Two Rivers Urban Park Vision*,' the heritage characteristics of the property should be optimised for long-term socio-economic and environmental benefits. This activity is representative of the nature of activities that are desirable in multi-purpose parks across the city and symbolises the potential of urban agriculture. The operations at Oude Molen farm are also representative of the potential of integrating activities within the park with the needs of people who are a part of the communities or outpatients of the institutions located in and on the edge of the park.

The Two Rivers Urban Park is surrounded by seven railway stations and two major highways. Councillor Rau (2015) refers specifically to traffic management of the Two Rivers Urban Park precinct, "it is imperative not to increase the congestion and number of cars to the area by investing in reliable and frequent public transport alternatives, and by establishing networks of pedestrian and bicycle lanes. There will remain a requirement for people to travel by car, this means that car travel must be accommodated but not allowed to dominate or impose" (Rau, 2015).

It is anticipated that around 20 000 people will eventually live in the area if Two Rivers Urban Park is developed in line with the current vision. A village-like quality is envisaged by creating a system of public, semi-public and private open spaces (City of Cape Town, 2002).

4.5.2 Example 1: Oude Molen Ecovillage

The Oude Molen Ecovillage vision incorporates the 'work, play, live' ethos and, consequently extending these characteristics to the rest of the property. When creating an ecovillage, it is important to make use of what is already on the site as far as possible to preserve both the heritage and social capital but also to reduce the development's carbon footprint. Many of the buildings on the site are currently in a state of disrepair and may not be financially or physically viable to reuse. The existing intertwining courtyard spaces should be retained. Consequently, prioritising of an in-depth feasibility study to determine how much development in terms of the building envelope (cubic meterage) is required before the development starts to lose its sense of space, identity and charm. Ideally, the project would also like to ensure any future development does not compromise the social and recreational amenities, urban agriculture or optimum employment opportunities much needed by local and neighbouring communities in the region.

The plan for the Oude Molen Ecovillage proposes a mixed-use, multi-purpose microenterprise, supporting its existing tenants and neighbouring areas as well as

creating employment opportunities and skills development. This vision involves premises being leased for small commercial, non-profit enterprises and residential uses, with the surrounding land treated as public space, The Oude Molen Ecovillage vision has investigated the adaptation of existing buildings and is confident this can be done for commercial and residential use (McComb, 2014).

The Oude Molen Ecovillage's balanced densification vision allows for green public open space on the property consequently becoming an extension of the Two Rivers Urban Park wetlands area. A series of networks from Alexandra Road to the Two Rivers Urban Park are proposed to increase the park's prominence and ensure long-term public access to the area. Greater public access to the park and safe green open spaces will attract additional local and international visitors, thereby generating further interest and possible revenue that would benefit the welfare of the tenants and employees in the village.

Interiorscapes as a Device for Linking Areas

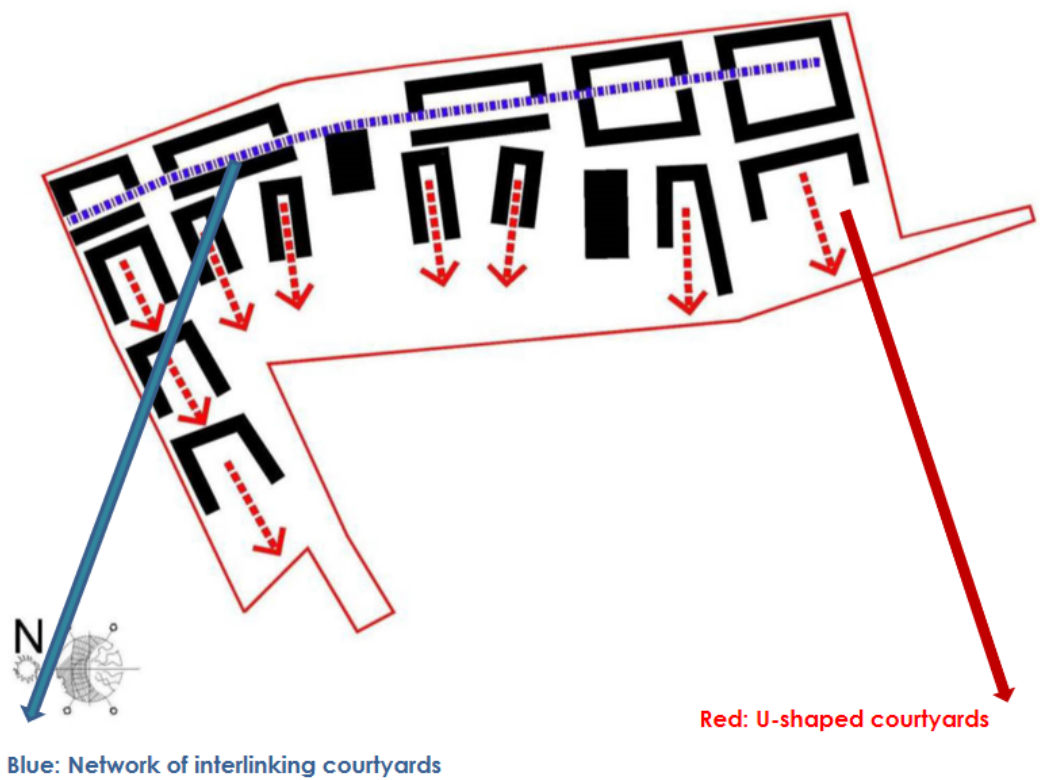


Figure 4.11: Schematic diagram of the original courtyards on the Oude Molen site (Baumann et al., 2013) Adapted by Jäger (2015)

Buildings will not be set back from the street or positioned centrally on the plot but rather gathered around central courtyards and thereby creating more intricate mixed residential neighbourhoods, as seen in the diagram above, the buildings on the Oude Molen site either surround courtyards or are U-shaped, to allow for protected Interiorscapes. The proposed vision of Oude Molen as an ecovillage allows for commercial use on the ground floor. These safely protected spaces allow for the shops, eateries, galleries to spill out into the open areas much like the Old Biscuit Mill. These spaces in turn, become people attractors and interactive meeting places.

Currently the Oude Molen Ecovillage and park provides additional social and recreational facilities and, economic opportunities in the form of weekend music in the park events, picnic and braai facilities, farmers' food and craft markets. Job shadowing opportunities exist for the youth in the commercial and non-profit enterprises operating in the village. Annual profits are distributed to local and outlying communities via appropriate non-profit organisations involved in social, economic and environmental development activities. These activities at the moment create an identity for the space which the Oude Molen Ecovillage vision plans to build on and grow with, the identity of the space reflects development, support, growth and sustainability which are the core values of this vision.

The location being adjacent to Pinelands station and in-between the N1 and N2 freeways makes the site easily accessible by neighbouring and surrounding disadvantaged and marginalised communities, such as the Maitland Garden Village and Ndabini. Informal pedestrian routes have been formalised through the Valkenberg East precinct to ensure public current pedestrian access to the park and through to Maitland Garden Village.

Parking for cars will be made available at the entrance to Oude Molen Ecovillage, a ring road on the Northern half of the site has been proposed to create a circular vehicular route through the site and define a land parcel that may be appropriate for an office park development. As with any public park or public access development similar to the Victoria and Alfred Waterfront or Spier Estate, control would involve regulated and controlled public access.

Hudson (2014) claims that the Oude Molen Ecovillage vision of financially sustainable live, play and work micro-enterprise, will provide 500 full time and 1500 informal employment opportunities per month as well as primary, secondary and tertiary educational institutions and local and international tourism.

Hudson (2014) proceeds to say that based on the sites' inherent potential the Ecovillage proposal can and will contribute towards the following opportunities; job creation, tourism development, youth development, recreation and cultural activities, environmental education, food gardens, organic and permaculture farming, arts and

craft development, weekend craft markets, family development, cultural reconciliation, micro-enterprise development, recycling projects and eco-friendly renewable energy technology (McComb, 2011).

4.5.3 Example 2: Oude Molen Biovac proposal

The Western Cape Provincial Government initiated the revitalization of Valkenberg Hospital to create a state of the art mental health care facility based on a new operational narrative. New precincts are being proposed and the hospital, National Health Laboratory Service (NHLS), Biovac Pharmaceutical Research Institute and Square Kilometre Array (SKA) buildings, currently spread across the M5, will be consolidated on one site in this proposal (Gabriels, 2015).

In McComb's (2015) opinion, the high-density medical park vision caters for provincial government collaboration with large corporates, thus producing no social cohesion leading to negative gentrification and possible fallout the Maitland Garden Village community if it is displaced. See the image below as a schematic outline (McComb, 2015).

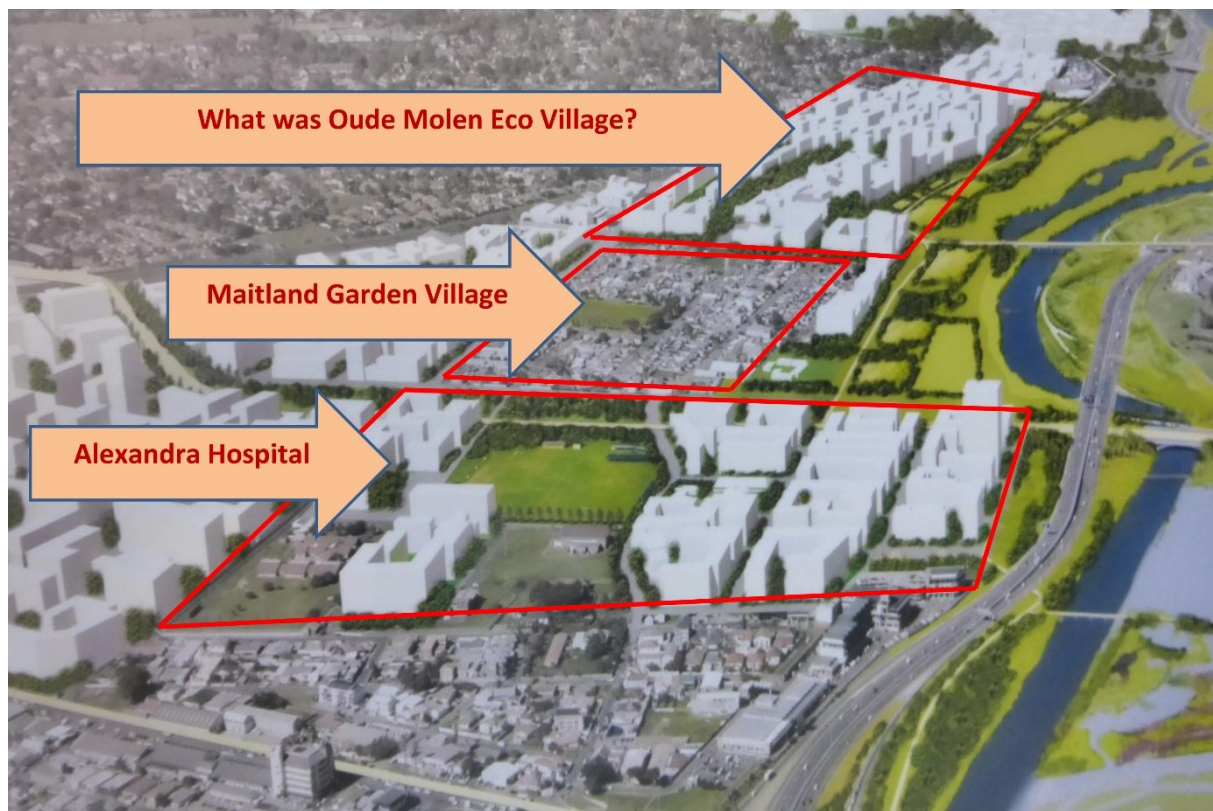


Figure 4.12: Schematic Diagram of the Biovac proposal on the Oude Molen Property: McComb (2005).

Gabriels (2015) points out that the current “buildings are not suitable for the proposed activities or the investor’s needs, they need to be clinical, the use of highly sensitive machinery will need sophisticated infrastructure.” The existing Oude Molen double-storey buildings surrounding courtyards would be sacrificed for newer more appropriate buildings to take their place.

Gabriels’ (2015) sentiments are that in this case, Adaptive Reuse of the existing building will not be appropriate for the sophisticated facilities required. McComb (2015) confers that given the Western Cape provincial government vision as depicted by the densification for the Oude Molen property, there seems to be no allocation for green public spaces on the Oude Molen property other than the buildings being adjacent to the Two Rivers Urban Park and consequently relying on the Two Rivers Urban Park area to provide the outdoor green public spaces component.

In a similar vein, Gabriels (2015) points out that Interiorscapes and associated green spaces, networks and community areas are not of fundamental importance in this proposal, as the land will be largely for private use; he does point out though that green spaces should be allowed for in the design.

Biovac will be the cornerstone of the medical hub, in which investors and owners reserve the right to choose tenants and users for the space in stark contrast to the first example in which the area is used to uplift the surrounding community. McComb (2015) believes that this proposal is short-sighted when compared to international best practices and not aligned to what the provincial government is advocating for the future use of the area.

The location and easy access to various highways and public transport are one of the reasons that make the Oude Molen site so appealing to the government (Gabriels, 2015 and Rau, 2015). However, this is only taking into account the medical staff and specialists who will be working at the facility; neighbouring communities will no longer have access to or through the site.

Gabriels (2015) points out that while jobs will be created through this proposal, they will be mainly specialised and highly skill specific meaning that the neighbouring marginalised areas may not benefit in any meaningful way, but people in other parts of the city and country may well benefit.

It is worth mentioning that while this proposal does not make its mark in other areas such as sustainable and social design criteria, it may be one of the few proposals which will not only sustain itself financially but also make a profit which may in turn uplift the economy of the country not just their immediate community.

4.5.4 Example 3: The River Club

Portions of the site fall below the 100-year flood line, which has been provisionally assessed to be 5.4 metres above sea level. Buildings proposed at the site will, therefore, be raised above this level (SRK Consulting SA, 2016).

The images below show the River Club before and after Indigo Property's renovation.

This proposal includes water parks, canoeing and other water sports, at this stage the plan is not final and still confidential, although there have been several draft proposals as well as the '*Redevelopment of the River Club, Observatory, Cape Town, Draft Scoping Report*'.

However, if we refer back to knowledge gained through precedent studies conducted on Adaptive Reuse of buildings, for example, the Old Biscuit Mill and The Woodstock exchange, Indigo Properties have retained and placed emphasis on courtyards and connecting spaces in the buildings, generating interest in these areas such as pop-up markets and local art displays. Thus, making use of features such as water, movement, sound and smell as people attractors.

Without Interiorscapes and people attractors, stagnation often occurs (Montgomery, 1998; Yung & Chan, 2012; and Ferguson and Indigo Properties, 2015). Without the inclusion of these open public spaces, a sense of exclusion is created. This is what the Oude Molen Ecovillage Tenants Association and City Two Rivers Urban Park vision is resolute to prevent; their standpoint is a balanced vision of densification with a holistic and inclusive approach.

Although the River Club proposal will be providing social, recreational facilities and activities, as well as economic opportunities, it will be a privately-run enterprise and will not provide inclusion or access for all. However, for those who can afford the entrance fees, it will bring a sense of place and identity.

Referring to the knowledge gained from the precedent studies conducted on Indigo Properties, previously dilapidated buildings have been converted into very successful creative business hubs. However the negative impact of gentrification was unavoidable, as the existing tenants were relocated or evicted because they could not afford the increased rent, or no longer identified with the developing and changing area. Current tenants and visitors now identify with the new spaces, which have also become destination places, the Interiorscapes and spaces between buildings have become meeting places and creative collaborations, however, remain exclusive. The Oude Molen Ecovillage wants to avoid this type of displacement of locals, while the Biovac proposal at this point seems to be leaning to a very clinical and non-inclusive environment.

Ferguson (2015) refers to specialist, Henk Ovink, who has been appointed to advise on solutions on how to make the rivers and into safe waterways with the long-term plan of creating transport on the waterways, "very much like the canals are being used to connect Century City or The Waterfront to the Cape Town Convention Centre"

The location of this development is fundamental for any of these three examples to be commercially viable. In the case of the Oude Molen Ecovillage (example 1) and The River Club (example 3), it is a necessity to create viable activities and a capacity to consume both goods and services (Yung & Chan, 2012) which will attract visitors to become a tourist destination. Much of this is also dependent on ease of accessibility and the reliability of public transport. If this infrastructure is not in place, it makes commercial use less feasible. Although the Biovac Proposal (example 2) is not dependent on commercial activities or tourism, there will be many employees and specialists operating from the high-density development. This workforce will most likely not reside in the adjacent neighbourhoods and will, therefore, be reliant on the highways and public transport (Refer to figure 4.6: map of adjacent highways and nearby train station).

Through this proposal, jobs will be created and people empowered and upskilled in sustainable development initiatives, such as water conservation, cleaning and management. Jobs will be created in the managing and upkeep of the main house, theme park and grounds. However, many of the business activities will be outsourced. Regarding the construction phase much of the development will also be outsourced, as such, there is little chance of the upliftment of the immediate community.

The Two Rivers Urban Park urban design concept promotes a flexible approach to development within both sites (A and B). This seems to have allowed Indigo Properties a certain amount of freedom to proceed with their plans with little public participation. On the other hand, one must consider the fact that the Western Cape provincial government stated in the *City Two Rivers Urban Park Future Development Vision*, that any development in the area should be "to the improvement of the quality of life in Maitland Garden Village."

Indigo Properties' design proposal cannot be looked at in isolation, as the decisions made on the Oude Molen will also have an impact on the Maitland Garden Village community.

The River Club site comprises of 10-15% of the Two Rivers Urban Park. Based on the guidelines and percentages laid out in the Final Draft, there should be 788 residential units on the River Club property. These units should be upmarket, well designed high-density, smaller units which will make them more affordable.

Table 4.2 outlines the percentage of residential units prescribed in 'The Spatial Development Framework and Phase 1 Management Plan', McComb (2015) and Ferguson (2015) both reflect that the Oude Molen Ecovillage will accommodate approximately 950 residential units and the River Club 788 residential units. Gabriels (2015) has explicitly stated that there would be no residential units on the Oude Molen Biovac development.

4.6 ADAPTIVE REUSE AND SOCIAL RESPONSIBILITY

Adaptive Reuse projects are deemed successful based on the location and renovation cost versus the projected economic return potential of the project. When selecting location factors which should be considered include the reputation, safety, infrastructure, accessibility and cultural value of the area. A further type of consideration is the type of business and calibre of tenants that the developer will attract.

"Factors that inform the financial viability should take into account the capital costs of the building works, the future running costs including maintenance costs and security," go on to say,

"that in addition, compliance with current building regulations, these factors can reduce the economic efficiency as a result of the increase in cost and time involved in building and planning approvals." Yung and Chan (2012)

Successful urban conservation and Adaptive Reuse should not underestimate the extent to which the historic buildings can contribute to the surrounding townscape, "in order to maintain the historical settings, the availability of the relevant history and documentation of the place, and the stories of the local communities are very important"(Yung & Chan, 2012).

The occupation of a building ensures the continuity of the building's life which contributes to the cultural significance of the place by promoting local culture and uniqueness. Rehabilitation and conservation of historic districts should improve the physical condition of the environment while maintaining and enhancing local life and culture and the uniqueness of the place (Hiu et al., 2014).

To illustrate this point using the urban sustainability debate, *Cultural Heritage* can be used to explain the need to retain existing buildings with historical value, or the ability to engage with existing communities to ensure the history of an area is preserved over time. It can also be related to people's cultural identity (Weingaertner, 2014).

Adaptive Reuse of buildings is often accompanied by the displacement caused by gentrification as the poor are forced out of an area as the area changes around them, and they are no longer welcome, or can no longer afford to stay. The key to

successful Adaptive Reuse practice lies in the social responsibility that designers and developers have towards the local community and the bigger city community.

4.6.1 Two Rivers Urban Park

The Two Rivers Urban Park Plan that has been adopted by the City of Cape Town for the area to be developed is per the vision for central Cape Town as described in the Cape Town Central City Regeneration Programme Strategic Framework. This aims “to create a diverse, globally connected and socially inclusive space that encourages an entrepreneurial culture, provides a welcoming and inspiring place for socially mixed communities, attracts investors who need 24/7 communications infrastructure and human skills (especially high literacy levels), and is a place of opportunity, especially for informal traders and young people”(City of Cape Town, 2002).

The Two Rivers Urban Park offers a unique opportunity in Cape Town that has the potential to include sensitive ecological systems and habitats, as well as extensive open space areas, noteworthy institutions, such as Valkenberg Hospital, the South African Astrological Observatory and Raapenberg Bird Sanctuary aside from other historical buildings of cultural significance. Most of the land is underutilised and many of the buildings vacant and in a state of disrepair. The property, therefore, provides an ideal space for the creation of a park that fulfils a mixture of human and ecological needs that, if developed sensitively and holistically, could respond resourcefully to this valuable yet underutilised property (City Think Space, 2012; and Joubert et al., 2015).

Two Rivers Urban Park vision, which is similar to the Two Rivers Urban Park Spatial Development Plan incorporates the principals of sustainability, social cohesion, New Urbanism and mixed-use developments as well as Adaptive Reuse of building and property. The Two Rivers Urban Park local area has the potential to be a significant, innovative project for South Africa and could possibly address a number of pressing issues - well-located housing for the poor in particular. The development of an essential sustainable community of this scale in the heart of the city could also make a significant advance towards influencing the transformation of Cape Town into a more sustainable and ecologically sensitive city (Department of Transport and Public Works, 2010).

Two Rivers Urban Park is surrounded by seven railway stations and adjacent to a proposed IRT route, The MyCiTi Cape Town Integrated Rapid Transit (IRT) making it easy and accessible to reach from public transport. There are numerous highways in close proximity to the site. The site also forms part of the Coast to Coast Greenway, which links open space areas from False Bay to Table Mountain (City Think Space, 2012).

The municipality's intensive development planning for this area has brought economic and environmental factors into consideration as well as acknowledging

the historical and social importance of the area. The surrounding neighbourhood areas bordering the Two Rivers Urban Park are quite diverse, many of them still racially segregated and differing significantly in levels of affluence (City of Cape Town, 2002).

The cultural significance of Two Rivers Urban Park is expressed at several scales; the overall landscape, precinct, site and object scales. The overall landscape is a complex composite of natural, cultivated and built landscape elements. It is a cultural landscape that has been transformed by thousands of years of settlement history (SRK Consulting SA, 2016). A number of sites and structures of high cultural significance are located in the study area. The site is assessed to have inherent cultural value as the setting for adjacent significant sites and structures in addition to sharing spatial characteristics of the Two Rivers Urban Park, of which it is a component. A possible impact on the heritage value of the site is the inevitable change in the sense of place and a possible reduction of its aesthetic value.

The Two Rivers Urban Park vision is designed to promote, inspire and give direct effect to social cohesion and authentic collaboration between local communities, non-profit organisations, commercial enterprises, corporates and provincial government together with a balanced density approach that would benefit the entire region.

4.6.2 Example 1: Oude Molen Ecovillage

McComb (2015) assures that should this proposal be given permission to proceed, that 90% of the brick and mortar buildings will be retained, restored and reused and all commercial social and environmental activities would continue. Many of the buildings are in a state of disrepair and may not be financially viable to reuse, Oude Molen farmhouse is a heritage building, and as such should be renovated and restored with care.

In the proposal, the only buildings which would be dismantled are prefabricated buildings and three cement buildings, two of which are damaged by fire and as a result are structurally compromised and one that is structurally not appropriate to carry additional floors above the ground floor premises. New buildings would replace them (McComb, 2015).

Condition of most buildings and grounds when the
Micro Enterprise Village was initiated in 1997



Figure 4.13 & 4.14: Oude Molen Ecovillage before and after photos. Courtesy of Hudson McComb

McComb (2015) points out that as building, social and cultural heritage are prioritised, their vision and subsequent efforts are driven by an understanding of a holistic development paradigm focused on authentic efforts to preserve, promote, inspire and exploit these heritage characteristics for social, economic and environmental benefits.

It should be noted that unlike previous planning proposals developed for Oude Molen to date, this conceptual framework has not secured a long-term lease, resulting in both governmental and private investors being hesitant to invest in the project.

The site is dominated by buildings that were once used as a mental health facility, including buildings and landmarks that have heritage significance. The site has been part of the physical and cultural history of Cape Town since the early 1700s (Swilling, 2005).

This proposal's aim is to protect the ecological elements and cultural heritage of the site and optimises the opportunities that all people may gain from this space (City of Cape Town, 2002). Consequently, the ecological elements and cultural heritage of

the site will be protected and communities currently enjoying the facilities will continue to do so.

Balanced density offers a sense of space, and healthy social and recreational activities can contribute towards social integration. The Oude Molen Ecovillage proposal includes mixed-income residential accommodation. The key component for its success would be the parameters utilised to screen prospective residential occupants to ensure social cohesion and adherence to socially accepted and common social norms and lifestyle habits of all occupants.

"It should be noted that Oude Molen provides a wide range of public services to surrounding communities, including education and training services, community development support for, in particular, young people from the poor neighbouring community of Maitland Gardens, youth development, health services of various kinds, recreational services (public swimming pool, riding school, etc.), organic food supplies, arts and culture, etc" (Swilling, 2005)

McComb (2015) believes that the Oude Molen Ecovillage proposal has the potential to be a local and international tourism destination offering more than any other destination in terms of its location, legacy, culture, planned future development amenities and activities and best practice flagship project potential. In the Oude Molen Ecovillage proposal, these heritage characteristics are optimised for long-term socio-economic and environmental benefits. A tourist destination is similar to that of Kirstenbosch National Botanical Gardens but more accessible to the local communities. McComb (2015) fears that "should the (Biovac) proposal go ahead these opportunities would be lost forever."

McComb (2015) steadfastly insists that Oude Molen Ecovillage proposal would certainly assist the Maitland Garden Village Community to manage this negative effect of gentrification in terms of property price advice and how best to mitigate the negative effects as well as how to manage the windfall of income in a way that could ensure financial sustainability and family wellbeing.

4.6.3 Example 2: Oude Molen Biovac proposal

Gabriels (2015) points out that none of the buildings on the site are appropriate for the sophisticated facilities required, some buildings are too small, some unstable, and some unable to manage the machinery that they will have to house. The buildings are not suitable for the proposed activities or the investor's needs; they need to be clinical, the use of highly sensitive machinery will need sophisticated infrastructure. He goes on to say "high-density means they will most likely be high-rise."

The key to this proposal lies in the investment SKA, and Biovac will make to a broader bio-economy. Gabriels (2015) is not specific and provide no detail regarding this.

McComb (2015) criticises the Biovac proposal for underestimating the value of heritage characteristics for social cohesion, local and international tourism and their potential to catalyse additional social economic and environmental development.

Access to the site will be restricted by this proposal, Gabriels (2015) points out that social cohesion is not part of the Wesgro mandate. Biovac is a research institute with restricted access to staff and clients only, and it is assumed that other medical research institutes would have similar restrictions, consequently preventing public access to the property as well as an entry point to the Black River or Two Rivers Urban Park wetlands area. Gabriels (2015) says that in this proposal that gentrification is inevitable and a guaranteed outcome for the neighbouring property with be a price escalation as developers approach Maitland Garden Village residents to buy their properties. Ferguson (2015) shares his sentiments on gentrification but is in contrast to McComb (2015) who views gentrification as a negative and often devastating side effect.



Figure 4.15: Biovac and Oude Molen proximity (Manufacturers, 2012)

4.6.4 Example 3: The River Club

The only building on the site that must remain due to its heritage value is the main house, which has already undergone a complete renovation (Ferguson and Indigo

Properties, 2015). Ferguson (2015) says that Phase One of the redevelopment involved a refurbishment of the main building which houses, a conference centre which has a total capacity of 450 delegates over six venues, a restaurant and a golf shop. The parking area and the driving range are also being upgraded. The infrastructure has been completely upgraded in the main house, which now accommodates conference facilities and a restaurant.

Based on the precedent studies conducted, Indigo properties have a portfolio of Urban Conservation and Adaptive Reuse of properties which have shown and sustained economic efficiency. Based on this, the following has been surmised; location, area character and access are of fundamental importance. Secondly, the theme and tenant mix play a pivotal role in the success of the space. Retaining the historical and cultural sense of the place is important as it entices visitors and encourages tourism, fostering activity and diversity through people attractors such as safe public meeting spaces and Interiorscapes. Finally, the last part of the successful Urban Conservation and Adaptive Reuse of property is the ability to adapt to change in the social, cultural and urban landscape of the city.

Before Indigo Properties acquired the River Club land, it was under-utilised, with run-down facilities such as conference rooms, pubs and restaurant. The driving range and Golf course were operational. However, the social and cultural image has already changed dramatically, into an upmarket destination.

The River Club proposal will allow access to a certain degree, as there will be restaurants and play park for children, nature walks and cycling lanes. However many of the activities will have a cover charge, such as the hiring of canoes, golf membership fees etc (Ferguson and Indigo Properties, 2015). The concept itself may keep marginalised neighbourhood residents away, not only from a financial aspect but also a lack of social inclusion (McComb, 2015).

Ferguson (2015) points out that as there are no tenants on the property that gentrification may not be an issue, and the property prices of the Maitland Garden Village residences will increase which he feels is a good thing. He continues to point out that gentrification saved Woodstock, he reiterates Gabriels' (2015) sentiments, he explains that the area had become run down through lack of money and interest by owners. This resulted in the cycle where the values of buildings drop because they are no longer maintained and are in a poor state of disrepair and are generally in unsafe and unsavoury environments. "There are always good and bad elements" (Ferguson of Indigo Properties, 2014) Woodstock was "rife with drug dealers" and now is a "successful, safe neighbourhood".

All development runs the risk of not producing social cohesion and leading to negative gentrification and displacement (McComb, 2015). Based on Indigo Properties' previous success of upgrading and Adaptive Reuse of the Old Biscuit Mill

and the Woodstock Exchange, there is every likelihood that the River Club will become a tourist destination. More people should be attracted to the area than ever before, generating income and uplifting the immediate community, and to an extent the economy of the city.

4.7 POLICY AND STRATEGY

Policy and strategy speak to the issues of transparency and community involvement in the formulation and execution of the Adaptive Reuse of the historic buildings, and the extent to which the formulation and implementation process of the policy is known to the public. Lastly, this section also deals with the ease of use regarding government incentives, regulation, agreement and funding.

An possible approach strategy is to amend specific zoning requirements and implement incentives which require developers to include a percentage of affordable housing in their developments. In exchange, they get some privileges. Cities like Toronto, Amsterdam and, more recently, New York have all implemented creative zoning policies to encourage affordable and lower-income housing in central urban spaces.

4.7.1 Two Rivers Urban Park

McComb (2015) argues that stakeholders are not informed or included in decision making and that decisions are politically minded;

"it's a small group of decision-makers within the Democratic Alliance administration driving an outdated profit trickle-down effect economic model. Very conservative, unimaginative and contrary to current international best practices. A direct result of conservative National Party amalgamation with Democratic Alliance. The bottom line is profit driven by big corporates"(McComb, 2015).

The partners all agree that teamwork is imperative to the successful realisation of a project like this. Partnerships between government spheres, designers, engineers and residents are essential. The development has a projected timeframe of 15 - 20 years. In order to make it sustainable over this time, it should be underpinned by formal agreements between the Western Cape provincial government and the City of Cape Town, led by a manifesto to be signed by all participating stakeholders.

4.7.2 Example 1: Oude Molen Ecovillage

The ultimate aim is to establish a financially sustainable live, work and play micro-enterprise ecovillage, able to showcase how government, community and key

stakeholders are able to collaboratively address a range of local and national priorities such as job creation, youth development, environmental education, cultural interaction, micro-enterprise development, urban agriculture and the optimum use of renewable energy and water saving technology, based on proven local and international best practices.

The Oude Molen Ecovillage proposal is based on the desire to protect the ecological elements and cultural heritage of the site, and optimise the opportunities that all people may gain from this place (City of Cape Town, 2002). Consequently, the ecological elements and cultural heritage of the site will be protected and communities currently enjoying the facilities will be able to continue to do so.

There are approximately 70 tenants, not all of whom have formal lease agreements. The Oude Molen Ecovillage employ approximately 300 people. Although the Provincial Government of the Western Cape is the responsible authority, there is no interactive governance structure to manage the relationship between the provincial government and the various occupiers. As a result, this has led to conflict between the provincial government and a number of occupants. Disputes regarding rental payments and the condition of facilities are the root cause of these conflicts.

The commitments made in government policy span the economic, social and environmental policy clusters. Echoing these commitments, in the State of the Province Address from 18 February 2005; Premier Rassool confirmed the Western Cape's central role in the search for sustainable solutions, "sustainable development is already fundamental to our vision and practices as a government" (Rassool, 2005).

4.7.3 Example 2: Oude Molen Biovac proposal

The Western Cape provincial government has not been transparent or clear on what they envisage happening on the Oude Molen property other than allocating the property for a medical park. The process to date has not been transparent, involving no public participation or consultation with affected parties. This is in stark contrast to what the provincial administration and political leaders advocate; community partnerships, collaboration, 'bottom-up' people-centred development and the use of best practices. With the current 'top-down' "we know what's best for you" development approach by the provincial government the Oude Molen Ecovillage citizens will have no say while provincial government's decisions regarding the Two Rivers Urban Park will have no credibility, legitimacy or public transparency thereby undermining their moral and ethical motives (McComb, 2015).

"As I said before we have only done a feasibility study. The next step is the implementation plan. But it is unlikely that the community will be involved in the decision-making" (Gabriels, 2015).

The affected parties who have not been consulted are citizens and enterprise owners who founded and continue to operate in the Oude Molen Ecovillage, Maitland Garden Village residents, Pinelands residents, Observatory residents and further neighbouring communities who continue to enjoy the services, activities, amenities and employment opportunities being offered on Oude Molen Ecovillage (McComb, 2014).

The only response to the conflicting interest outlined in the spatial development framework has been that Oude Molen is a small component of The Two Rivers Urban Park and must be looked at in the context of the bigger picture (Gabriels, 2015).

4.7.4 Example 3: The River Club

The River Club proposal appears to be proceeding as a large-scale development, but since this is a private venture, they are not compelled to engage with Two Rivers Urban Park. This project is not community driven; it has been approached and managed as a business venture by investors and property owners. Essentially this means that the decision makers will be accountable to one another, they may well make good decisions for the benefit of the community, but these will be made with no input of the local community.

4.7.5 Urban Development Zone (UDZ) tax incentive

A tax incentive called the Urban Development Zone (UDZ) rewards property owners and developers if they upgrade or build properties in some strategic urban zoning (Fleming, 2014).

A tax incentive administered by National Treasury that aims to address urban decay in South Africa's inner cities by promoting private sector-led investment in commercial and residential developments. The incentive ties in well with this administration's focus on creating an Opportunity City in which investments grow and jobs are created (UDZ Media release, 2013).

The upgrading of rundown buildings in these areas will be given priority in line with the Urban Development Zone's purpose of rejuvenating South Africa's inner cities. The Urban Development Zone allows for significant tax savings for building developments which fall within the following categories:

- Erection, extension or improvement of or addition to an entire building;
- Erection, extension, improvement or addition to part of a building representing a floor area of at least 1 000 m²;
- Erection, extension, improvement or addition to low-cost housing; or
- Purchase of such a building or part of a building directly from a developer.

This means that owners and developers are not only incentivized into Adaptive Reuse of buildings and renovation of older more derelict buildings but also to buy older more

derelict buildings for the purposes of renovation rather than building from scratch. The intensification of land use in these sites will be further facilitated through the upgrade of public infrastructure and the general regeneration of the area, such as Cape Town's Central Business District.

Stokis, (2006) addresses the criteria of responsibility and security; "the concepts of social responsibility and security, that is freedom from danger and fear, have become powerful partners in a broad movement influencing design." This thought process encompasses the areas of sustainable, green, universal, safe, and accessible design. She addresses two main tenets:

"A primary tenet or belief is that the built environment should incorporate design practice that considers human safety, health and comfort. A second tenet is that design should respect the earth's natural resources and the environment for current and future generations. Embedded in this philosophy are fair trade practices whereby goods made by local artisans with additional techniques are promoted" (Stokis, 2006).

4.8 OBSERVATIONS AND SUMMARY

Should the Biovac proposal go ahead, the Oude Molen Ecovillage will be sacrificed in favour of a high-density medical hub. Apparently devoid of both New Urbanism and Adaptive Reuse practices, the fundamental flaw in this proposal may be in Biovac's apparent disregard for their surrounding marginalised neighbourhoods. There is no doubt that any high-end development emulating residential complexes within and surrounding Century City and Canal Walk will be viable, attractive, appealing and sustainable in terms of rental income and rates to the City. However, this dissertation has not discussed this option since it no longer seems to be an option.

In McComb's (2015) opinion The Oude Molen Ecovillage Tennent Association and City Two Rivers Urban Park are drivers of a future development proposal committed to maximising the potential of Oude Molen as a flagship urban ecovillage which ensures social economic and environmental benefits to local communities and the entire region.

Ferguson (2015) believes the River Club will be a catalyst for the *Two Rivers Urban Park the Spatial Development Framework and Phase 1 Management Plan Final Draft*. In Gabriels' (2015) and councillor Rau's (2015) view, the Biovac medical hub will be the cornerstone of the future development of the Two Rivers Urban Park. Without the investment, though, the Two Rivers Urban Park – high-level development and urban concept plan will not have the finance to be implemented.

The debate regarding the Oude Molen site is a financial dilemma; in its current situation, it is not sustainable despite the reality that there have been short-term developments by non-governmental organisations and micro enterprises in heritage and ecotourism, urban agriculture, but without investment have not succeeded (City of Cape Town, 2002).

The sustainable ecovillage proposal advocated by McComb (2015) is a unique ecovillage project, generating local and international tourism to a flagship destination promoting international best practices, growing international ecovillage principles and values. The most fundamental flaw of this proposal is that there is no indication of additional income which would be derived from the region.

A possible substitute site for the Biovac proposal, as an alternative to sacrificing the potential of the current Oude Molen Ecovillage and buildings, including the abandoned Conradie hospital and an ambulance site at Ndabini. There seems to be no evidence that either of these potential sites is being considered on any level, particularly by provincial government. In Gabriels' (2015) opinion, the city seems quite determined that this proposal (high-tech, high-density, medical laboratory) goes ahead on the Oude Molen site.

To McComb (2015) it appears that Oude Molen Ecovillage and City Two Rivers Urban Park have a lot more support and public interest than in the past when it seemed almost certain that the government's Biovac proposal for the Oude Molen precinct would proceed. The River Club is going ahead with a large-scale development, but since this is a private venture, they do not feel the need to engage with Two Rivers Urban Park.

When asked which proposal would be most sustainable, the Biovac or The Oude Molen Ecovillage, McComb's (2015) response was: "both would be sustainable, but The Oude Molen Ecovillage would be more beneficial in terms of job creation, youth development, food security, social and recreational activities, and local and international tourism economic benefits to the region".

Gabriels (2015) and Rau (2015) disagree with McComb (2015) as to what to do with the site, Ferguson (2015) stated emphatically, he would not consider the Oude Molen project, as there is "way too much red tape". At a recent Public Participation Process (PPP) meeting, it was agreed that both the River Club and the Oude Molen Ecovillage would be invited to present their respective future development plans to those present at the next Public Participation meeting.

Mixed-use multipurpose developments can contribute to transformation and social progress in Cape Town but unique properties, in terms of their location, heritage and legacy value, have intrinsic potential to offer more opportunities than only basic commercial, residential or profit-driven opportunities. These properties need

farsighted imagination and long-term thinking to maximize their benefits for the region (McComb 2015).

At the end of 2015, McComb's (2015) sentiments were as follows:

"If the select, exclusive, conservative decision-making caucus body made up of the old National Party members within the current Democratic Alliance make the final decision then the Two Rivers Urban Park proposal may be accepted."

and

"Should the more liberal economically imaginative Democratic Alliance members together with Cape Town's citizens make a decision then the Oude Molen Ecovillage would be accepted" (McComb, 2015)

McComb (2015) believes that large investors and government pressure would most likely see Oude Molen Ecovillage sacrificed to make way for the Biovac Proposal. At the beginning 2016, McComb became the Treasurer of Two Rivers Urban Park, which now gives him far more insight into what government is proposing and how they are going about implementing or engaging with the public.

In the final interview with McComb on the 30th of March 2016, he reported as follows: "In an attempt to be transparent and allowing public participation, the province is in the process of creating a Steering Committee, in partnership with city departments e.g. environment and planning." The province has appointed a consortium consisting of numerous professionals (urban planners, engineers, etc.) including Sun Development appointed to facilitate a Public Participation Process in order to engage with relevant stakeholders and affected and interested parties. He went on to say that The Greater Cape Town Civic Alliance are opposed to government steamrolling developments without adequate and authentic public participation.

The Greater Cape Town Civic Alliance are committed to development that prioritises environment, heritage and people and is opposed to profit-driven developments which are not inclusive and undermine or sacrifice the environment. Two Rivers Urban Park is:

- Opposed to high-density (excessive height and building footprint) to any development bordering directly along the Two Rivers Urban Park wetlands.
- Concerned that the current public participation process might just be a process driven exercise and decisions have already been made.

Once the development constraints such as the wetland areas and the 100-year flood line floodplains are excluded, the land areas making up these development and redevelopment areas amount to just over 110-hectares. (Joubert, 2015). The challenges facing any development include the condition of the river along with

cultural and contextual tensions and the constant competing demands relating to the function of the Oude Molen precinct (City Think Space, 2012).

The following chapter will discuss findings and offers recommendations based on these findings. It will also explore Interiorscapes as safe, sustainable green spaces within buildings. Opportunities for further developments are identified.

On the following pages, Tables 4.3 & 4.4: Thematic coding and memoing: A comparative table reviewing the three examples against the principles identified in Chapter Two, Jäger (2016).

Themes filtered through the lens of New Urbanism and Interiorscapes		Example 1: Oude Molen Eco Village		Example 2: Oude Molen Biovac Proposal		Example 3: The River Club	
Economic Viability							
Critical deciding factor is the success or failure of a project.	No	Business needs to lead, however without securing a long lease, investment is unlikely.	Yes	Wesgro is mandated to seek investment. It is estimated the venture will take 20 years.	Yes	Business is taking the lead, however there have been costly unforeseen setbacks, such as environmental bylaws regarding the 100-year floodline, which will make attaining economic viability a longer process.	
Sustainability and environmental performance							
Supporting Adaptive Reuse processes.	Yes	Adaptive Reuse will take place wherever possible and financially viable.	No	No Adaptive Reuse will take place, the buildings are not suitable for high tech medical facilities.	N/A	Adaptive Reuse of buildings needed only to be applied to the manor house. The Adaptive Reuse process of the grounds and waterways will take place extensively.	
Financially self-sustainable.	Yes	OMEV in its current state is not financially self-sustainable. The question is what additional income would be derived for the region from a unique Eco Village project?	Yes	Should the proposal go ahead it will be financially self-sustainable. Cape Town has the potential to act as a "living lab" and medical research is big business. Cape Town has the infrastructure to support this.	Yes	Due to the unforeseen complications and waterlevel bylaws, such as having to raise all residential property above the ground water table, and the resultant unexpected cost which is still under investigation, Indigo Properties have an opt-out clause in the proposal should the venture not be financially viable.	
Increasing land and property values.	Yes	Increasing land and property values will only occur with substantial investment.	Yes	Increasing land and property values, will occur as well as rolling over into neighbouring suburbs.	Yes	Land and property values will increase.	
Boosting prosperity.	Yes	Boosting prosperity will occur for residents and neighbouring communities through a holistic and inclusive approach such as job creation, affordable housing and learning.	No	Boosting prosperity will occur on a national level but will be of very little significance to the immediate neighbourhoods.	Yes	Direct gentrification will not occur since there are no residences or business currently on the property.	
Green building and environmentally sensitive infrastructure.	Yes	Intend to use a range of green building and environmentally sensitive infrastructure. Promoting growing international eco village principles and values.	No	Green building and sustainability have not yet been considered.	Yes	Green building and environmentally sensitive infrastructure, and systems have been incorporated into the strategic plan. An example of nature conservation and property development co-existing in harmony.	
A sense of space							
The 'sense of place' refers to the feeling and perception held by people when experiencing the urban environment.(Johansson et al., 2016)	Yes	OMEV already had a sense of place, due to its holistic and inclusive approach to access and inclusion, however lack of support, funds and a secured lease, has led to deterioration and therefore lack of ownership and pride along with an invasion of undesirable elements.	No	The Biovac proposal will not create a sense of place in terms of New Urbanism principles, nonetheless the high density medical lab could be a source of national pride. This will, however, have nothing to do with the actual property but rather the activity, achievements and revenue.	Yes	The River Club proposal creates a sense of place, particularly for the visitors and residents, very much like Century City, a harmony between nature and the built environments. Conversely as per OMEV it will not have the holistic and inclusive legacy OMEV is striving for, and is clearly outlined by the New Urbanism theorist.	
Job Creation							
Supporting local businesses.	Yes	OMEV will support local businesses, at both a macro and micro level. The OMEV tenants association's development plan includes skills development and job creation.	No	The Biovac proposal will create jobs and training opportunities. It will support local medical facilities in the area, however this will be limited to the specialised field of the medical arena.	To an extent	The River Club will accommodate local. Franchisors have already invested in the project. There will be jobs created, such as upkeep of the facilities, grounds and waterways. In contrast to OMEV, these most likely will require skills and therefore not benefit the immediate neighbourhoods and businesses.	
Activity and diversity at street level.	Yes	OMEV proposal will be beneficial in terms of job creation, youth development, food security, social and recreational activities, local & international tourism and economic benefits to the region, thereby creating activity and diversity.	No	The Biovac proposal will be a single purpose high raised, self contained development, as such no activity and diversity will occur at street level.	To an extent	The River Club proposal is based on activity and diversity, but from a sports and entertainment aspect. Attractions will include activities and amenities such as restaurants, exclusive retail outlets, conferencing facilities, team building and children events.	
Tourism							
Promoting tourism.	Yes	OMEV has the potential to be a local and international tourism destination, a flagship destination promoting international best practices.	No	As a world-class medical hub, the Biovac proposal will attract experts from all over the world. Although the medical hub itself may not be a tourist attraction and certainly won't be open to the public, the visitors will contribute to tourism as a by-product, from accommodation to site-seeing.	Yes	The River Club is set to be an upmarket recreational facility, and due to its location, and Indigo Properties' track record, will most likely become a tourist destination.	
Attracting creative class.	Yes	OMEV would encourage and support local art and culture, thereby attracting creative class.	Yes	The Biovac proposal will attract experts and contributors from all over the world, although this is not quite in line with the New Urbanism principles of Attracting creative class. It will allow for collaboration and sharing of knowledge.	Yes	Attracting creative class has been the ethos of Indigo Properties in their previous developments as discussed in the Adaptive Reuse precedent studies. The River Club's target market will be towards the more creative and adventurous customer.	
Retaining the historical essence.	Yes	Retaining the historical essence is an essential part of the OMEV vision by celebrating the inherent heritage of the site and surrounding areas.	No	Retaining the historical essence is not part of the Wesgro mandate and not conducive or likely to occur in the proposed sophisticated high-level Medical Lab.	To an extent	The main building was built in 1939, and the property is recognised as a golfing facility. By retaining the golf course, the Leebesek Leisure Properties Trust is in a sense retaining the historical essence of the site, along with new activities.	
Promoting a vibrant urban experience people attractors.	Yes	There will be many people attractors, such as markets, horse riding, theatre and concerts, thereby promoting a vibrant urban experience.	No	The new activities and themed water park will be people attractors, enhancing the value of the site by promoting a vibrant urban experience including: social, recreational facilities and activities, and economic opportunities.	Yes	The new activities and themed water park will be people attractors, enhancing the value of the site by promoting a vibrant urban experience including: social, recreational facilities and activities, and economic opportunities.	
Safety							
Live, Work and Play.	Yes	Aside from aiming for a financially sustainable project, the OMEV's future development proposal is also specific on the activities on the OMEV property. To take it a step further, should the proposal go ahead, it would be creating a "live, work, play and learn" development.	Yes	The Biovac proposal will be a single purpose, high security facility. Safety will be of the utmost importance; however no residential facilities will be accommodated on the site. As such this would be a "work" facility.	Yes	Creating a diverse mixed use precinct, a safe "live, work, play" environment.	

Continued.

Themes filtered through the lens of New Urbanism and Interscapes	Example 1: Oude Molen Eco Village	Example 2: Oude Molen Biovac Proposal	Example 3: The River Club
Mixed use developments.	Yes The OMEV future development vision includes mixed income residential accommodation. The key component for its success would be the parameters / guidelines utilized to screen prospective residential occupants to ensure social cohesion.	No There are no residential units planned for the Biovac Proposal.	Yes The future development vision includes mixed income residential accommodation.
Activity and diversity throughout various times of the day.	Yes There will be activity and diversity throughout various times of the day. As stated before the concept is to create a "live, work, play and learn" development.	No There will most likely be activity but not necessarily diversity throughout various times of the day.	Yes The concept is to uplift and attract people to the area.
Fostering social interaction.	Yes Involving local talent, businesses and communities and create urban space where people of all cultures come together.	N/A None of the above are in the WESGRO mandate, and therefore does not align to New Urbanism principles.	Yes Social interaction and connectivity is part of Indigo properties philosophy.
Combating Exclusion and Gentrification Gentrification. Inclusion.	Yes Inclusion is provided by design. Balanced density that offers a sense of space and healthy social and recreational activities will hopefully contribute towards social integration.	No By design this development will be exclusive. The Biovac proposal is a monofunctional development and therefore will not create a sense of community.	No As with the Biovac proposal, gentrification will most likely occur as neighbouring property values increase. The proposal suggests that the open spaces are intended for use by occupants of the development and their customers and/or guests as well as the public. However, access will be controlled.
Strengthening community identity. Feeling of belonging to a community.	Yes A feeling of belonging to a community is part of the holistic and inclusive concept of the eco village.	N/A The Biovac proposal is a monofunctional development and therefore will not create a sense of community.	To an extent The residents of the River Club will experience a feeling of belonging to a community which is part of the concept: to create a holistic and inclusive concept of an urban park.
Transparency and accountability Bottom-up processes.	Yes Bottom-up processes of self-design, decision-making and management will be implemented at OMEV.	No The process will be top-down process, dictated by investors.	No Top-down process of design and management by the Lesbeek Leisure Properties Trust.
Public participation must be undertaken as part of the assessment process.	Yes Public participation has been undertaken as part of the assessment process.	No However, to date, this seems to have been shallow or superficial.	To an extent Public participation will be undertaken as part of the assessment process.
Adaptability The ability to evolve and accommodate new trends.	Yes In order for OMEV to succeed, it needs to be flexible to changes in economic conditions and culture, which they are planning to do, so the property in itself is mixed and/or highly adaptable.	N/A In order to succeed, the Biovac proposal will need to be flexible to adapt to changes in economic conditions and technology.	To an extent As with Indigo Properties' other ventures, the River Club will continue to succeed by adapting to changes in economic conditions, technology as well as local and international trends.
Interscapes Investing in public space, spaces between building, linking places.	Yes The project is in implementation phase. However, based on the Western Cape Provincial Spatial Development Framework (2014), the retention of open spaces for landscaping and informal recreational purposes.	No The Biovac Proposal briefly makes mention of retaining or including green spaces, however vaguely.	Yes Create running, cycling and dog walking paths along the river banks to improve traffic flow; Enhance the quality and value of ecological corridors; Rehabilitate the rivers and river banks and provide public access to these areas; low intensity water sports such as paddle boating will be considered in the Liesbeek River (Lake).
Enhancing sense of place.	Yes Developing integrated and sustainable settlements Policy S1: "Protect, manage and enhance sense of place, cultural and scenic landscapes" Safe green open spaces will attract additional local and international visitors, thereby generating further interest and possible revenue that would benefit the welfare of the tenants / employees in the village. This will enhance the sense of place and pride.	No Developing integrated and sustainable settlements Policy S1: "Protect, manage and enhance sense of place, cultural and scenic landscapes" The Biovac proposal seems not to be taking the above provisos into consideration.	Yes Indigo properties have strived to retain the intrinsic feel of a place in their previous projects, yet introducing current trendy activities, that creates a sense of place for its' new occupants and visitors, however the original residents in some way feel excluded. This is largely due to income disparity and not racial difference.

CHAPTER FIVE: DISCUSSION

5.1 INTRODUCTION

The preceding chapter discussed the findings drawn from throughout the research with the main aim of answering the research question: *Under what circumstances do Interiorscapes contribute to sustainable design solutions in Adaptive Reuse projects in Cape Town?* Chapter Four also provided an overview of the background and status of the two potential Adaptive Reuse sites that have been identified in the Two Rivers Urban Park District.

Chapter Five will explore underlying factors which could influence the potential successes or failures of the three chosen examples, based on the principles of New Urbanism and Adaptive Reuse of buildings and urban places in a local context. Different implementation, supervision and management strategies of big private business, small enterprise, and government developments will be reflected on while taking into consideration the 'bottom-up' and 'top-down' practices in relation to the accomplishment of a successful implementation and management of both new and adaptive developments.

This chapter will summarise the findings, and offer recommendations based on these findings as to how Interiorscapes could be incorporated as safe, sustainable green spaces within and between buildings. Lastly, using the three examples as a starting point, further opportunities for developments and or research will be identified.

5.2 BACKGROUND

5.2.1 An overview of the bigger picture

It is evident from literature as well as the daily news reporting on uprisings from dissatisfied tenants in settlements surrounding Cape Town and South Africa that the physiological needs of all people are not adequately addressed. Sustainable future development should be based on a sustainable lifestyle, which is: communal, eco-sensitive, and embraces indoor and outdoor living. This is where safe sustainable principles such as Interiorscapes can be applied as an approach to moving lower income groups closer to the city centre, which is crucial to the sustainability and development of the city of Cape Town, as previously explained in this dissertation and supported by Lynch (1984), Jacobs (1996), Montgomery (1998), Song and Knaap (2003), Gehl (2006) and Van Der Merwe (2015a).

The Two Rivers Urban Park District is situated on the edge of the inner city and is adjacent to dense residential, commercial, industrial and institutional land uses. With this in mind, the aim of The Two Rivers Urban Park Vision is to create a large-scale

mixed-use development. If approached correctly, this will open up opportunities to not only implement New Urbanism and Adaptive Reuse principles but also to create Interiorscapes maximising the use of spaces between buildings.

Joubert and Zandvoort (2015) believe that "if the vision for Two Rivers Urban Park is realised, the complex but promising concept will showcase a new, integrated way of building cities." The park area could easily be integrated into the city fabric.

In addressing with the natural resource base, the *Municipal Spatial Development Framework* identifies two types of actions, namely conservation and resource management actions, and creative actions. The Two Rivers Urban Park is a creative action plan is summarised below:

- "Live, work, play" mixed-use development
- "Smart living" a resource efficient day-to-day way of life
- "Green growth" preserve and enhance natural and cultural.

"The *Municipal Spatial Development Framework* aims to develop a holistic and inclusive concept of an urban park that is both mindful of the needs of the City's people and is respectful of universal concerns" (City Think Space, 2012). Substantial efforts have been made to upgrade the Liesbeek Parkway for the inclusion of pedestrian and cycling paths as well as an attempt to clear the river allowing for inclusion and integration of the neighbouring residents from Observatory.

5.2.3 Summary of the underlying factors

EXAMPLE 1: OUDE MOLEN ECOVILLAGE

The Oude Molen property is currently operating as an ecovillage, with MaComb as the steward, Oude Molen in its current state is not self-sustaining. Contributing factors include the fact the ecovillage has not been able to secure a 99-year lease from the co-custodians of the property (the provincial government) resulting in hesitation of private investors. Political interference aside, there are still illegal, unpaying tenants occupying parts of the property. The lack of funding is also contributing to the rapid deterioration of the existing structures and lands which are unattractive for potential investors. Existing tenants are unwilling to spend money on maintenance of their buildings due to the uncertain future of the property (Figures 4.13 and 4.14 show before and after images of the Oude Molen Ecovillage).

Based on the principles of New Urbanism and Adaptive Reuse, the property still has the potential to be a successful sustainable neighbourhood and Ecovillage, supporting a holistic and inclusive concept of an urban park and mindful of the needs of the city's people as well as the use of sustainable building practices and the incorporation of Interiorscapes into the overall design such as maximising the benefits of the existing courtyards. As discussed in Chapter Four, McComb (2014) believes that The Oude Molen Ecovillage can become a local and international tourism destination

“offering more than any other destination in terms of its location, legacy, culture, planned future development amenities and activities and best practice flagship project potential”. He (2014) states that decision making will be inclusive and transparent, taking into account the needs and desires of the stakeholder. Making it a ‘*bottom-up*’ “process of implementation, management and maintenance.

EXAMPLE 2: THE OUDE MOLEN BIOVAC PROPOSAL

The Biovac proposal is still an option for the Oude Molen property, however to date, the principles of New Urbanism or the preservation of culture and heritage have not been considered. Adaptive Reuse of the existing buildings is not an option, due to the sophisticated and technical facilities that will be required. This high-density medical hub will have stringent security and restricted access. However, this is not to say that the architects and designers of the buildings will not take into account the wellbeing of the employees by creating Interiorscapes or safe outdoor pause areas.

In McComb’s (2015) opinion, until now, decision making has not been inclusive or transparent and appropriate consultation with the public have not been adequate. Decisions will be investor and government driven, *per se* a ‘top-down’ implementation, management and maintenance process, as implied by Gabriels (2015).

Despite not meeting the desired New Urbanism or Adaptive Reuse qualities, this proposal may be the only option able to not only finance itself but also creating sufficient income to benefit the macro economy.

EXAMPLE 3: THE RIVER CLUB

The River Club, on the other hand, has secured a long lease from the custodians of the property. The projects and franchises are privately funded, as well as the motivation from government through tax incentives to develop a mixed-use high-density residential component on the property. Based on Indigo properties track record in successful business developments, several of which are in Cape Town, there is little doubt the River Club will be a successful but exclusive venture.

Ferguson (2015) feels that the River Club could and would become a tourist destination, “there will be water gardens, atriums, balconies, roof gardens, the Raapenberg Bird park is nearby but hardly used”.

Decision-making will be a “top down” process, directed by the Indigo Property design team, The Liesbeek Leisure Properties Trust, Rabie Property Management team and private investors. Indigo Properties must comply with the *Two Rivers Urban Park Sustainable High-Level Development and Urban Design Guideline*, which incorporates New Urbanism principals, and mixed-use residential units. There is only one building of historical importance on the site; the old Manor House, which has already been adaptively retro-fitted.

5.3 ANSWERING THE RESEARCH QUESTIONS

- Under what circumstances do Interiorscapes contribute to sustainable design solutions in Adaptive Reuse projects in Cape Town

In order to answer this question, the following sub-questions are asked and aligned to the main research question:

1. How do principles of New Urbanism and Sustainability impact the quality of life?
2. What is the role of form and function in place creation?
3. What is the reality of Adaptive Reuse and social responsibility in an urban setting?
4. What are the limitations and benefits of policy and strategy in community development?

5.3.1 Sub-Question 1: How the principles of New Urbanism and Sustainability impact the quality of life?

In order to address this question, it is firstly imperative to understand what local communities require to make them whole and sustainable.

Marginalised settlements on the outskirts of the city are largely unsustainable as typically the distance that must be travelled to gain employment is vast, often meaning that the person embarking on the trip must make use of several modes of transport (such as a bus, a train and or a taxi), which cumulatively can take hours a day.

In order to create prosperity, the local economy should be grown, to create greater equity and fair trade as well as local and sustainable food supplies, markets and agricultural value chain (McComb, 2007). The creation of an onsite market space, with a potential for a food garden supports the branding of the site as a location of organic food production which potentially could stimulate the local economy.

The design incorporates the following principles: cost, performance and aesthetics. Performance should, therefore, encompass the following key elements: natural resources, Adaptive Reuse of buildings and creating sustainable communities that offer safety and security and bringing the impoverished closer to amenities and job opportunities.

The literature review has highlighted the significant terms and recurring themes, which the authors all seem to reiterate;

- The central issue for the theories is a holistic approach to planning, implementing and managing new and Adaptive Reuse projects.
- The importance of creating a sense of place.

- It is, therefore, practical to indicate the review has established that in most instances integration rather than eradication, inclusion rather than exclusion is preferred and more likely to have a more successful outcome. In other words, the 'bottom-up' rather than 'top-down' practice demonstrates a more effective supervision and implementation system,
- The significance of reconnecting with nature, by creating safe green space, courtyard or parks.
- Inclusion and accessibility for all and a more walkable and cycle-friendly environment.

Worsley (2010) discusses the success and failures of the project management of stakeholder-sensitive projects, particularly relating to informal settlements in Cape Town. She implies that adequate housing remains the principal priority of the government, the greatest challenge is getting "quality land". By this, she means land that has good access to mainstream infrastructure, transport, sanitation, water, schools. In other words, land that is close to main job centres and a source of income. "Mainly in or near to Cape Town itself" (Worsley, 2010).

The Oude Molen Ecovillage provides real-life context to analyse the approaches for rehabilitation of a historic site. It also gives us the opportunity to look at the ways in which social sustainability could be enhanced primarily through a self-initiated and self-organized process that did not involve a large-scale redevelopment, forced eviction of inhabitants or destruction of social life. The case provides insights into other developments using New Urbanism and Adaptive Reuse as a framework, where sustainable social and environmental issues are concerns for urban redevelopment (McComb, 2011).

The River Club has set out to create an example of nature conservation and the built environment working together to mutual benefit. The Biovac Proposal has not openly considered environmental performance at all.

McComb (2014) argues that despite the fact that Oude Molen Ecovillage gives direct expression to everything the Provincial Government has and continues to advocate, it begs the question why they would not welcome and support the current Oude Molen Ecovillage proposal. This includes citizens partnering with government to address job creation, small and medium enterprise development, youth skills development, food security and urban agriculture, social cohesion, reducing our carbon footprint through renewable energy, efficient water management, healthy public open spaces and financially sustainable developments which in turn can produce income for additional infrastructure development in undeveloped areas.

McComb (2015) continues by saying: "one can only assume that the provincial administration and political leadership is stuck in an old conservative outdated trickle down economic model that lacks imagination or adherence to current best practice

approaches and they are hostage to big corporate profit at all cost agenda."(McComb, 2015)

"There are numerous long-term urban development frameworks in place to create high-density urban environments, which currently are low-density. We as architects and built environments practitioners have the opportunity to create more workable, multiple-use cities with the use of regeneration which also assist in job creation" (Van Der Merwe, 2015a).

As stated as limitations of this dissertation, this project was not researching the costs and expected income or expenditure of the projects, but despite this, some conclusions can still be drawn. In the example of Oude Molen, it is evident that Oude Molen Ecovillage would be sacrificed to finance the broader Two Rivers Urban Park regeneration programme, should the government go ahead with The Biovac proposal. It is McComb's (2016) opinion that the Western Cape provincial government and investors, in this case, would show a token gesture of job creation, to pacify the community due to the lack of transparency and inclusion in decision-making to date.

Sustainability has an economic, social and environmental impact, meaning in this case that a proposed design should be able to sustain itself, economically, socially and environmentally. For urban spaces to become sustainable, they should be able to practice as they do currently and survive for the foreseeable future, economically, socially and environmentally.

5.3.2 Sub-Question 2: What is the role of form and function in place creation?

A common theme from the Adaptive Reuse and New Urbanism theorists is a holistic approach to planning, implementing and managing new and Adaptive Reuse projects. Below is a summary of the key principles of New Urbanism with regards to designing successful spaces, as outlined by the literature:

Neighbourhoods should be designed along the following principles:

- high-density;
- mixed-use;
- convenient public transit;
- bicycle paths and pedestrian-friendly street networks;
- incorporate strategically placed open spaces;
- have architecture designed to foster social interaction.

(Lynch, 1992; Jacobs, 1996; Montgomery, 1998; and Gehl, 2006)

In order to achieve a sense of place with regards to Adaptive Reuse of places, the following values need to be taken into account:

- Maintain good physical condition to fulfil educational role

- Provide public involvement opportunities
- Enhance sense of place and local culture
- Retain significant meanings and associations to the community to enhance the cultural identity and collective memory of the space

(Hui et al., 2014)

In response to this challenge of urban sprawl, Joubert and Zandvoort (2016) argue that developments should move from land allocation to space allocation. “And we have to densify. We have to bring people to live, work and play in the same area, closer to the city, in the same place, in the same building; no separation” (Joubert & Zandvoort 2016).

Activity and diversity are two key elements to creating quality urban spaces (Montgomery, 1998). A series of structures and open spaces brings an alternative model of living in the city. This model combines residential and work spaces, mediating between the urban and suburban identities. Two Rivers Urban Park has unique distinguishing features, such as heritage buildings, cultural landmarks and wetlands.

In addition to the economic and spatial barriers that come with changing neighbourhood demographics, there are often specific cultural and architectural changes that create real barriers and exclusionary practices means by which spaces are constructed and experienced. This could be anything from the way parks, and houses are designed, as well as the ways that accessible non-motorised and parking routes affect people’s behaviour and their interaction with the spaces around them. It is worth noting that the City of Cape Town has drafted an Urban Design Policy Framework to remedy this (Fataar, 2013).

Joubert and Zandvoort (2015) see mixed-use urban developments such as Two Rivers Urban Park as a necessary global trend in which it is possible to create high-quality space, combining all aspects of the city, including ecology. “Government owns large pieces of land and should be using its properties to correct the legacies of the past. At the same time, land is becoming very scarce”, Joubert explains, “we have all the ingredients here; if we are unable to do it at the Two Rivers Urban Park will be difficult to do it anywhere else. We have to do things differently. If we keep on doing things the way we have always done them, we will not solve the issues we face. We have to change the way we build cities in this country” (Joubert & Zandvoort, 2016).

According to Hodkinson (2016), when people are physically closer to one another, as in a walkable environment, there is more likely to be a stronger sense of community. He calls this *civic responsibility*, “and it is essential to ensure not only the respect of the quality of public assets but also the prosperity of social capital over time.”

Interiorscapes contributes to the vibrancy of the streetscape. The creation of a pedestrian environment is an important incentive to reduce vacant, unused spaces and to promote the creation of thriving active street frontages, which in turn increases neighbourhood economic health and vitality (Hodkinson et al., 2016). Interiorscapes add another dimension to the way people experience street life creating diverse opportunities such as outdoor dining, seating and gathering areas. Additionally, beautification through landscaping, public art, people watching and wayfinding are also an important feature.

Public open spaces play a key role in defining social networks. By introducing these policies into The Two Rivers Urban Park, squares, parks and natural sanctuaries become meeting points, places in which daily life takes place and where celebrations and entertainment activities are held. Here, the exchange of goods and ideas have brought about the growth of culture and collaboration.

Oude Molen currently has a series of structures based around the courtyard theme, some of them even being used as Interiorscapes. For example, the Backpackers hostel has extended their accommodation into the courtyard by making use of tents. In another courtyard, the building is occupied by a company which leases props to film and set designers and overflows into the courtyard with external props and plants for hire.

Should the Two Rivers Urban Park be developed with the essential sensitivity towards the basic principles of New Urbanism, as discussed by Lynch (1984), Montgomery (1998), Gehl (1980), in Chapter Two and with due regard to its' suitability, the Two Rivers Urban Park could become a hub of activity, vitality and diversity, with a sense of identity and place which could be created by capitalising on its inherent form and function.

On an urban design scale, places of the soul are interpreted as places of identity. It is important that human beings have a connection to their environment both physically and psychologically, through buildings that provide indoor and outdoor flow. This is achieved by creating a sense of place and by attempting to capture the spirit of the place through architecture that responds to the historical, cultural and geographic contexts (Hui, 2014).

As in Ferguson's (2015) approach to the restoration of the Old Biscuit Mill, as a socially sustainable Adaptive Reuse of legacy venture, he emphasised that careful attention should be paid to the style and aesthetic characteristics of the original buildings and should not destroy the originality and authenticity of the place. His sentiments are shared by Hui (2014) "A legacy or heritage place can educate present and future generations on development, the way in which people lived, the architecture and the city as a whole."

According to Joubert and Zandvoort (2015), "where we find traffic congestion, we should improve transport systems, but this treats the symptom, not the cause of the problem". The problem is that people do not work and play where they live and therefore must commute, in many cases long distances. The Two Rivers Urban Park and Oude Molen Ecovillage envisage an environment in which people live, work and play in the same place, thereby reducing or at least not adding to the demand on roads or the transport system. "The concept is that the Two Rivers Urban Park vision will be designed to support and not increase infrastructure load or congestion, but to supplement it with reliable public transport and alternative modes of transport roots as pedestrian and cycling lanes"(Rau, 2015).

While renovation and change of use of derelict or underutilised buildings is necessary, it is important to maintain the continuity of the community's social life to allow both the buildings and the social systems to adapt to the new model. Any change to the legacy or historical setting of the buildings should not destroy the cultural and symbolic remnants of the place, but rather enrich the local culture, identity and sense of place. Sustainable Adaptive Reuse of a legacy project should not only rejuvenate the physical environment but more importantly sustain the way people live in and use the area (Hui, 2014).

5.3.3 Sub-Question 3: What is the reality of Adaptive Reuse and social responsibility in an urban setting?

Additional development within the park is essential in order to ensure its future sustainability. However, it is acknowledged that a balance between development and parkland must be achieved so that additional development does not compromise the integrity of the park. Opportunities for economic advance exist for residents of the area, as dwellings currently located along the path of increased foot and vehicular traffic can choose to embrace this as an entrepreneurial opportunity with mixed-use residential conditions.

Although there is also a growing recognition of the need to conserve and adaptively reuse buildings in and around Cape Town's Central Business District, the challenge in implementing the sustainable mixed-use, multi purpose concept has yet to be resolved (Fleming, 2015a). The Adaptive Reuse precedent studies: The Old Biscuit Mill and the Woodstock Exchange, originally included residential houses and old dilapidated shops, factories and artist studios, which have been transformed into a creative community of boutique stores, coffee shops, art galleries and organic food markets. There were, however, adverse impacts on the community such as gentrification and increased rentals.

Further to this, Elvin (2015) stated at a seminar held at the Cape Craft and Design Institute that "integration and not eradication" is an effort to create a bridge between design creativity and environmental friendliness (Elvin, 2015). The key factor

to keep in mind is design for sustainability and interconnectivity taking into account the environmental needs. Clous (2017) notes, "all of which is governed by affordability and sometimes, unfortunately, greed and corruption" (Clous, 2017). This topic often surfaced through this research; the availability of monetary resources versus the sustainability of natural resources. (Ferguson and Indigo Properties, 2014; McComb, 2015; Gabriels, 2015 and Rau, 2015).

The main principles of New Urbanism and Adaptive Reuse focus on the contribution of sustainable and efficient development practices that will not only aid in preserving our natural resources but promote communal living that is based on self-sustainability. To illustrate: within the urban sustainability debate, '*cultural heritage*' can be related to the need to retain existing buildings with historical value, or the ability to engage with existing communities to ensure the history of an area is preserved over time, but it could also be related to people's cultural identity (Wikström, 2010). This is achieved by creating a sense of place through an architectural intervention that responds to historical, cultural and geographic contexts. '*Sense of history*' can be related to valuing cultural diversity through a sense of community, participatory culture, healing and memory and acknowledging traditional belief systems; celebrating places in which history is reflected.

Cities in which tourism is critical such as, Cape Town, Dar-es-Salaam and Mombasa, are largely dependent on ecological features and eco-tourism attractions, thematic programmes which focus on urban ecosystem management that can play a large role in integrating sectors such as urban waste and agriculture. Both the Oude Molen Ecovillage and the River Club have the potential to achieve the status of a tourist destination location. Organic Food Markets and Evening markets in open outdoor places keep the streets active. Further, for tourists, walking is the best way to experience a city since it increases the amiability of a place, the quality that makes it recognisable and memorable. Tourism can notably contribute to increasing urban wellbeing, economic growth and quality of life and has become one of the leading economic sectors in several countries. Tourism is influenced by a city's infrastructure: pedestrian inaccessibility can create exclusion. Cycling and walking lanes create public spaces that are a pleasure to interact with, moreover, implementing small and well-planned distances between destinations enhance the pleasure of strolling through the city and enjoying local services, shops and landmarks (Hodkinson et al., 2016).

Salvaging underutilised properties and conservation of historic buildings and streets through Adaptive Reuse is on the increase in Cape Town. Successful Adaptive Reuse works together hand with gentrification, and often, food. This link has become a reoccurring theme; seen in the way The Old Biscuit Mill changed from the theme *theatre in retail* to the *gastronomic hub* of Woodstock,

Although adaptation and renovation of outdated offices can prove to be a successful property strategy, conversions into housing still only occur on a small scale. "It is argued that these new policies of social mixing require critical attention with regard to their ability to produce an inclusive urban revitalisation and the potentially detrimental gentrifying effects they may inflict on the communities they intend to help" (Lees, 2008).

The Oude Molen Ecovillage has identified the Manor House and other historical buildings as having museum potential which reveals an approach to formalising the historical impact of the site. The existing hospital blocks form a narrative relating the history of health care through the buildings. The proposal incorporates external space for communities to participate in historical and cultural activities, these are also seen as spaces of storytelling and celebration. The site is named Oude Molen because of the old windmill nearby; there is the potential for architectural intervention which can capture wind energy for various purposes (including as a technology showcase) in a contemporary fashion.

As discussed in Chapter Four, there was only one building on the River Club site with historical value, and that has been renovated and maintained. The Biovac proposal would see the buildings demolished according to Gabriels (2015), however as the Manor House has historical significance, it may have to be retained.

For the most part, Adaptive Reuse projects in Cape Town have inevitably focused on economic growth, and resultant social issues such as gentrification have become apparent. Overall, this research provides guidelines for future development as well as opportunities for further exploration for professionals and government policy-makers in designing Adaptive Reuse and New Urbanism ventures.

Furthermore, it identifies areas for improvement of urban Adaptive Reuse. The outcome of this research was therefore, to analyse local building and planning methods and determine the potential role that Interiorscapes such as courtyards could play in creating better living and working conditions for the majority of the urban population.

Traditionally cost-effective homes are built as identical square houses in straight rows. However, if they were built in clusters to create Interiorscapes and courtyards, the gardens would be on the inside, instead of identical uncultivated patches of sand in the front or back of the house. Community vegetable gardens could be maintained and inhabitants protected and insulated from the elements. Children could play safely in the protection of their environment, and not on the streets. In doing this, a sense of ownership and communal living would be created.

This research explores the feasibility of Adaptive Reuse of buildings as a solution to low and medium income housing developments in and around the Cape Town Central

Business District. A central courtyard surrounded by several homes could offer solutions to the social and economic issues facing the country, such as security, safety, community living, sustainability, cultural identity, ownership and pride. Tripping-Woods (2007) suggests:

“While South Africa faces many challenges in terms of our socio-economic environment, it is important to look to a future that will provide environmental, social and economic wellbeing for all South Africans in years to come. Rich and poor alike can adopt a more sustainable approach to living that will help to preserve the environment by making small adjustments in how we choose to eat, shop, live, play, and grow our food” Tripping-Woods (2007).

To best create diverse and active places which can accommodate the ‘live, work and play’ lifestyle, the following should be considered;

- Replacing spaces that have been taken away from users with common areas which can be identified with and used to rebuild the community’s cultural fabric should go a long way to undoing the displacement suffered due to city infrastructures such as highways and building projects.
- Bringing people closer to other people and their potential livelihoods could limit the amount of transport needed to get from one place to another.
- Mobility is intrinsic to the quality of life experienced in cities. The human-centred design will place people back at the heart of their cities. A walkable city is a better city and putting walking first will keep cities alive (Hodkinson et al., 2016).
- An efficient and effective urban design review can engage with builders, architects, and developers, as well as with the end-user, to promote building design and design strategies that are inclusive rather than separating, and fitting to the spatial context, while also providing for the safety and sustainability of the community therein (Fataar 2013).
- Even if these social sustainability factors are satisfactorily addressed, challenges still remain in balancing the economic, social and environmental aspects of sustainability and making compromises between them (Hiu et al., 2014).
- It should be considered whether the ‘bottom-up’ or ‘top-down’ practices demonstrate a more effective supervision system (Hiu et al., 2014).
- Practical ways should include affordable housing in the Central Business District as it has significant economic benefits. People want to live closer to the places that they work. This has fuelled the growth of other commercial centres around the Cape Town metro-region, such as Century City and Bellville. One of the most strategic and straightforward ways to maintain the Central Business District’s economic draw would be the addition of affordable housing. This would not only bring in more

people, but it would also help to enhance the local economy by offering more opportunities for more people(Fleming, 2015a).

To summarise, important factors to consider, include communication and collaboration, while still creating realistic, positive solutions to the changes at hand. The above suggestions are just a few that exist that may increase the quality of life in Cape Town in communities who are experiencing the cultural and economic changes of gentrification (Fataar, 2013).

The following infographic shows the ten-critical criteria which have been identified throughout the research as the 'how to' create sustainable urban design;

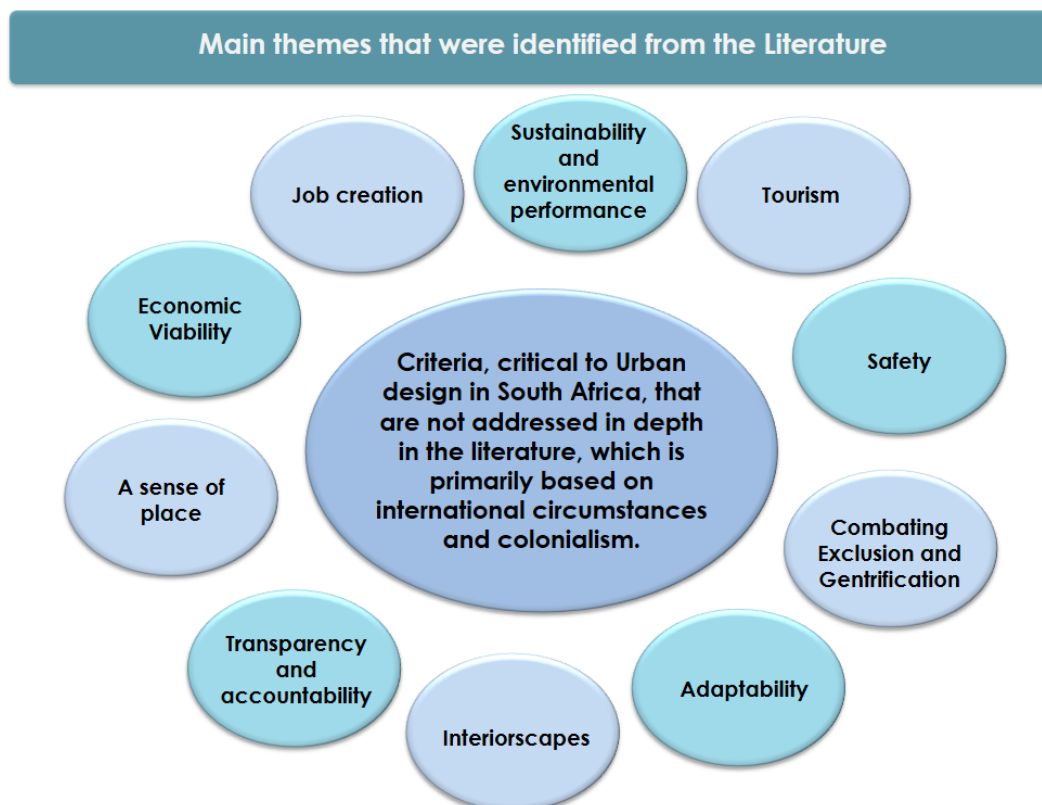


Figure 5.1: Main themes that were identified in the literature, Jäger (2016)

5.3.4 Sub-Question 4: What are the limitations and benefits of policy and strategy in community development?

The *Municipal Spatial Development Framework* of the City of Cape Town strives towards a city in which the natural environment permeates all aspects of life. Safe, sustainable green spaces and not dark alleys. "A city where every individual has the opportunity to be in touch with nature places and to escape the stresses of urban life" (Petersen, 2010). As environmental degradation, inadequate planning and the demand for land continues to threaten the remaining natural environments thus

planned sustainable design, as well as corrective action, needs to be put in place to protect what is left.

Aside from obvious stakeholders such as the local government, developers and project managers, the often-overlooked stakeholders are the residents and the end users. As such, participative planning should be a fundamental principle in the City of Cape Town's improvement strategy (Department of Transport and Public Works, 2010).

From the perspective of *Local Economic Development*, it is important that the Oude Molen project stakeholders fully understand the impact this will have as a driver and contributor to the economic well-being of the whole area. The emphasis should be on the right mix of land-use, income groups, numbers of people and socio-economic activities to fully realise the importance of what the future Oude Molen has to offer to its neighbours Maitland Gardens Village, Pinelands, Mowbray, Observatory, and Ndabeni. The key is not to see Oude Molen as an isolated "island", but rather as being part and parcel of a wider precinct. This symbiotic relationship of mutual benefit between the future Oude Molen, its precincts and neighbours could be one in which not only economic goods and services will be produced and exchanged, but where there will also be an exchange of social and cultural activities amongst the individuals and groups living and working in the area.

5.3.5 Main Question: Under what circumstances do Interiorscapes contribute to sustainable design solutions in Adaptive Reuse projects in Cape Town?

The initial aim of this research is to explore the circumstances that allow for the inclusion of Interiorscapes to sustainable urban design solutions in Adaptive Reuse projects in Cape Town.

In order to achieve this aim, the objectives of this research have been met as follows;

1. The challenges faced by Adaptive Reuse projects in and around the Cape Town Central Business District have been identified as mainly financial in nature, but with far reaching consequences.
2. The influence Interiorscapes have on the way people live, work and play in the city of Cape Town is directly linked to the quality of space which is given to the users. The climate and culture encourage users to activate urban space, where these spaces have been provided this happens naturally. Interiorscapes improve the quality of urban life.
3. An overview of the two potential Adaptive Reuse sites which have been identified in the Two Rivers Urban Park district, in close proximity to Cape Town Central Business District, has been provided. The three development proposals which are

currently options for the sites have been analysed, as examples aligned with the principles of New Urbanism and Adaptive Reuse of property.

To accommodate the constant influx of people into urban areas, designers, government and developers need to identify underutilised, vacant properties closer to the city centre which can be developed to better cater for the needs of the growing urban population. There are several such geographically well suited, government-owned sites in the Cape Town Central Business District. Instead of distancing marginalised population from the cities and in peripheral settlements, these properties are well situated, have the infrastructure and could be developed as sustainable mixed-use developments. Living closer to work means that individuals are able to provide more efficiently for themselves and their families, thus increasing their quality of life. Simultaneously urban sprawl is eroding potentially viable agricultural land, while there are underutilised, abandoned and vandalised properties near the Cape Town city centre which have the potential infrastructure to accommodate high-density, multipurpose developments. There are numerous plans and projects for rejuvenation in and around Cape Town to create a world-class tourist destination.

Cape Town central business district has come alive again, and this can be attributed to increased activity and diversity. This is largely due to the availability of more residential developments, safer streets due to more activity and increased economic activity due to longer trading hours. The city no longer has the traditional eight hour activity period, rather it is alive 24 hours per day, where people live, work and play. To illustrate this point, the Cape Town Partnership which has driven much of this renewal has recognised the power of 24-hour coffee shops in attracting pedestrians into the city.

Having people walking through urban spaces makes the spaces safer for all users. Ferguson (2015) explained that if he had not developed the Old Biscuit Mill, Woodstock would never have attracted the numbers of people that it has to date. It has become one of Cape Town's tourist destinations for both local and international visitors. The shortage of parking located close to the Old Biscuit Mill might have been an inconvenience at first, but due to the increase in foot traffic, business opportunities for smaller satellite ventures in the form of coffee shops, delis and second-hand stores were created.

The New Urbanism movement, driven by an increasing desire to experience 'cityness' and density, is changing the way people live and move in cities. Owning a car is expensive, and traffic congestion can make driving an inefficient and stressful way of commuting (Hodkinson et al., 2016). The concentration of services, entertainment and social opportunities in cities, contributes to the exploration of local offerings and increases occasions for spontaneous encounters and informal activities, both for locals and tourists alike. The current trends in tourism value experience. To "*travel like*

a local" means to get to the heart of the destination and experience it first-hand from the inhabitants of the area. Not only do they want to experience the local history and current events, but the sights, sounds, fashion, smells and foods, and just watch people in their day-to-day interactions (Montgomery, 1998, Jacobs, 1996 and Lynch, 1984)

"Tourism also determines the economic viability of the new use. The extent of tourism revenue generated is highly influenced by the local character of the district. Built heritage located in a low-income district mainly comprised of local small business without the adequate infrastructure in the proximity is less likely to attract tourists. In contrast, a high-income district with a large shopping precinct and infrastructure is more likely to attract tourists" (Yung & Chan, 2012).

A successful development making use of Adaptive Reuse and New Urbanism practices as seen in the precedent studies, interviews and literature review is a process which will require investment and drivers.

Meaningful change in a community will only come about with the benefit of time, time for the existing users to accept and process the change, time for new users to be attracted to space and time, as with the Old Biscuit Mill, for the space to find its own sense of identity. Change on this scale will not be effective without the initial investment of funds, as is evidenced by the current Oude Molen Ecovillage, while they have had the time they have not had the required investment to create the experience referred to by Montgomery (1998) Jacobs (1996) and Lynch (1984). Lastly, without a driver such as Indigo Properties, a project with the best of intentions will not be successful, as desire alone cannot change a neighbourhood.

"The challenge for creating these environments is how quality spaces can be created that are cost effective and allow South Africans to take ownership of and enjoy their surroundings with dignity. The solution to this issue is not just green buildings, but rather sustainable human environments" (Van Der Merwe, 2015b).

It was the intention of this study to explore the value that Interiorscapes have in creating successful urban places. The value of the above chapter is to provide an understanding of the research's core concepts, namely the inclusion of Interiorscapes to create a sustainable living, working and playing environments. The preceding chapters have explored the concepts of New Urbanism and Adaptive Reuse of spaces, particularly the role of safe outdoor spaces, social responsibility and inclusion as well as the consequences (both positive and negative) of gentrification. This was based on the principles of New Urbanism which is: to touch lightly on the earth, conserve our natural resources and develop self-sustainability, demonstrating responsible use of these natural resources.

This dissertation has focused on local-scale sustainable, New Urbanism and Adaptive Reuse proposals with the inclusion of Interiorscapes. The New Urban agenda identifies opportunities for further developments on an international scale for cities, the principles and anticipated outcomes are similar and as such a pathway towards a city that is "spatially just, efficient, resilient and sustainable" (Clos et al., 2016).

In October 2016, Habitat III, the *United Nations Conference on Housing and Sustainable Urban Development* took place in Quito, Ecuador. At the four-day conference, the *New Urban Agenda* was approved; this agenda is a voluntary agreement mapping out the sustainable urban path for the next 20 years. In the opening address the executive director of the UN-Habitat, Joan Clos, said the *New Urban Agenda* was "a vision for a better and greener future where everybody has access to the benefits of urbanisation" (Clos et al., 2016). The focus of the *New Urban Agenda* is compact, inclusive, transit-originated cities, that support the sustainable use of natural resources, prioritise public space, are resilient to climate change and enable residents the right to adequate housing (Elvin, 2015). In short, the development of appropriately compact, dense, mixed-use cities. In his closing statement at Habitat III, Clos et al. (2016), ended the conference with the following statement; "We need to approach urbanisation not as a cost but as investment, because the cost of urbanisation is minimal in comparison to the value it could generate" (Clos et al., 2016).

5.4 COMMUNITY PARTICIPATION

5.4.1 Community participation 'top-down' vs. 'bottom-up'

Partnership working opportunities between owners and tenants are practical and contribute positively to the people's sense of belonging and identity through being involved in the decision-making process and in the designing and manner in which the renovation works are carried out. Public participation also enhances social equity through the provision of access to public amenities in the venture. Unbiased access generates social interaction and enhances social networks and social inclusion, all of which again contribute to the overall goal of socially sustainable development (Hiu et al., 2014).

The literature advocates a 'bottom-up' process initiated by the local community to be a determining factor in the enhancement of a socially sustainable Adaptive Reuse projects. Unfortunately, the 'bottom-up' approach taken by Oude Molen Ecovillage tenants association to date has not proven successful.

The 'top-down' approach to Adaptive Reuse, either driven by government decision-makers or by private developers, whose focus is on the future economic viability of the project, has proven to be financially sustainable. It is unfortunate that this study has evidenced the (financially) successful aftermath of the often forced eviction of the

inhabitants during the gentrification process, which destroys the continuity of social life in the community and transforms the legacy or historical culture of the area into an expensive commercial venue that is beyond the means of the previous occupants (Hui, 2014).

5.4.2 Transparency and accountability

Interiorscapes can enliven public spaces and promote increased feelings of attachment between citizens and communal places. "This could push people to have a voice in a city's changes and actively contribute to making policy decisions and developing actions better fitting their needs and aspirations" (Hodkinson et al., 2016). Modern society, along with the new environmental and economic challenges, highlights the necessity for public management to involve multiple stakeholders in the decision-making processes. This approach is necessary in order to discover innovative solutions and to tailor developments to the needs of communities. There is a strong correlation between community involvement and accessibility to safe, sustainable public space, a sense of inclusion pride and therefore self-monitoring and maintenance.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

This proposal suggests that elements such as Interiorscapes, courtyards, rooftop gardens and other greening strategies be used in the design of new or Adaptive Reuse of existing dwellings to ensure a more sustainable environment for the inhabitants.

In summary, this dissertation has focused on the spaces between person, place and profit which has resulted in an in-depth study into Adaptive Reuse, New Urbanism and sustainable design practices. Early on in this study four overriding themes were identified in the initial literature review and were supported in the first-hand data collection.

- The impact that the principles and practices of New Urbanism and Sustainability can have on an urban quality of life
- The role that form and function play in the creation of the identity of a place.
- The implications of Adaptive Reuse and social responsibility in an urban design context
- The limitations and benefits of policy and strategy in community development

Ideally, the solutions to this problem would be affordable, safe, sustainable, high-quality high-density, mixed-use developments which create a sense of place through integrating thoughtfully designed Interiorscapes. This study has suggested possible improvements to the way occupants 'live, work and play' through a resource efficient day-to-day way of life, transit-oriented, bicycle-friendly urban centres, while still preserving and enhancing natural and cultural resources.

- The trend of Interiorscapes spaces combines modern technology with eco-conscious features such as breezeways, water conserving systems and indigenous self-sustaining planting systems.
- Interiorscapes support social interaction, safety, privacy, cultural identity and sustainability.

The ultimate challenge of Adaptive Reuse and New Urbanism projects based on this research is to be the tension between income, users, and decision makers. In an ideal project, the users are the decision makers and financial sustainability is ensured: as evidenced in this research though, when users are the decision makers the projects are not financially sustainable, such as the current Oude Molen Ecovillage. When projects are financially sustainable, the users are not the decision makers, and may not even have an input in the decisions made regarding the project, such as the Old Biscuit Mill and the Woodstock Exchange. This challenge, in turn, gives rise to the subject of gentrification, and if and how the negative aspects thereof can ever be successfully managed in a project. Ideally one would like a project that can both support existing communities and attract new business to create the financial sustainability vital in an Adaptive Reuse project.

While this research does not solve this particular set of wicked problems it has highlighted other themes which did reoccur in the research and were not crucial to answering the research questions, nonetheless they are worth mentioning and offer the opportunity for further research.

- Adaptive Reuse projects are often associated with thematic agendas, as people attractors. However adaptability in these cases is paramount in order to keep up with changing local and international trends.
- One prevailing theme in Cape Town is the link between food and gentrification, which goes together with the process of Adaptive Reuse.
- Cities that are reliant on tourism often focus on ecological features and eco-tourism attractions.
- Tourism is influenced by a city's infrastructure: pedestrian inaccessibility can create exclusion, the current tourist trend is to be on the ground mingling with the locals and experiencing local culture, narrative and cuisine.
- Inclusion in decision making creates a strong connection between community involvement and accessibility to safe, sustainable public space, a sense of pride and therefore self-monitoring and preservation occur.
- Governed by affordability and sometimes, unfortunately, greed and corruption, Adaptive Reuse projects led to another pattern that kept occurring during the research which is the availability of monetary resources versus sustainability of natural resources.
- Environmental justice is the idea that the most challenging environmental problems are rooted in social problems, economic degradation begets environmental degradation, which in turn begets social degradation. Disinvestment in the 1960's allowed for today's environmental injustices which followed; i.e., antiquated zoning and land use regulations.
- Proposed 'sustainable' developments which destroy existing community prosperity in favour of new community prosperity with higher income could benefit from an exercise of a comprehensive cost analyses of *not* redesigning and gentrifying existing environmentally challenged communities versus the benefits of incorporating structured, sustainable changes such as Interiorscapes. Creating sustainable, inclusive, friendly communities without the inevitable disruption cause by gentrification.
- Further exploring the relationship between truly sustainable design solutions, developers, community development, profit and sustainability.

This study recommends that that most beneficial solution for the City of Cape Town, based on the data in this study, may be for the *Cape Town Central City Regeneration Programme* to utilise the abandoned 22-hectare Conradie Hospital site on the border of Pinelands and Thornton suburbs for the National Health Laboratories (NHLS), Biovac Institute and Square Kilometre Array (SKA). This site is ideally located on Forrest drive and within walking distance of Mutual and Thornton railway stations. This would result

in the Biovac proposal to take shape but on an alternative site, allowing for economic benefit of the project but minimising the fallout with local stakeholders.

In terms of policy and procedure the findings of this research suggest that the city should prioritise the adaptive reuse of buildings and properties which are currently underutilised or abandoned and positioned strategically close to centres of employment, provide adequate infrastructure and offer access to public transport and other amenities. Ideally this will create mixed-use developments which offer affordable housing giving communities the opportunity to develop sustainable neighbourhoods which are not only safe but encourage the development of a sense of place and ownership to build relationships and grow families.

Further recommendations include;

- Planning in a 'green' way; ecological re-education in terms of financial and personal stakes in the environment, without compromising the quality of life and embracing opportunities for communities to be more physically active in terms of urban farming, building the local economy and community
- Bring stakeholders together to build a vision for how the Two Rivers Urban Park area can be reutilised to best serve the community; urban spaces, open spaces, affordable housing and commercial space
- Holding local government accountable for decisions which have been made and affect local communities
- A higher rate of successfully designed green areas in marginalised communities
- Incentivising Cape Town Central Business District inhabitants and workers to embrace the car-free lifestyle by drawing life onto the streets and making use of safe, reliable public transport in and around the area, and making green spaces a priority in the Cape Town Central Business District

Microenterprise development is a progressive and internationally recognised model of creating sustainable employment, distributing wealth more equitably and has been shown to be more resilient to negative economic impacts and recessions. The Oude Molen Ecovillage should, therefore, be given a chance to demonstrate to our elected joint custodians of public assets and political leaders that supporting a unique hybrid micro-enterprise ecovillage development has far greater potential to address local job creation and economic inequality, government support and participation in the project is to the benefit of all stakeholders, especially as the social enterprise model will ensure profits are redistributed in the region for additional social economic educational and environmental development.

Based on this study, I would suggest identifying areas such as Oude Molen Ecovillage, which show potential to be developed into safe and sustainable neighbourhoods allowing interaction with the natural environment and houses a mixed-use

development to create a live, work and play environment. A potential design solution is illustrated below;

Proposed design solution



Residential units on the top floor
Offices and residential units on the first floor
Retail and eatery outlets on the ground floor –
spilling out onto the courtyard areas.
- Heidi Jäger (2016)



Oude Molen Eco-village : Heidi Jager

Figure 6.1: An illustration of a proposed design solution

OMEV



Typical Courtyard Structure

Figure 6.2: An example of a proposed design layout

"With every visit and every conversation, the story took a different twist. I could've written five thousand pages"

The innocent man. (Grisham, 2007)

REFERENCES

- Africancentreforcities. 2014. *The Density Syndicate*.
- ANC. 2017. Sustainable Development for the Western Cape. African National Congress. Available at: <http://www.anc.org.za/content/sustainable-development-western-cape>
- Baumann, N. Winter, S. & Abrahamse, C. 2013. *Phase 1 Heritage Impact Assessment Valkenberg Hospital*.
- Billings, B. 2009. Nothing New Under the Sun. *Architect & Specificator*: 12–13.
- Campbell, S. 2010. Comparative Case Study. *Encyclopedia of Case Study Research*: 175–177.
- CCDI. 2014. *Food for thought*.
- Century City. 2016. Century City. Embracing the principles of new urbanism. Available at: <Http://centurycity.co.za/executive-summary>.
- Chang, T.C. 2015. New uses need old buildings: Gentrification aesthetics and the arts in Singapore.
- City of Cape Town. 2002. *Two Rivers Urban Park Spatial Development Framework and Phase 1 Management Plan*. Cape Town.
- City Think Space. 2012. *The Two River's Urban Park Local Area Sustainable Neighbourhood*. Cape Town.
- Clos, J. 2016. UN-Habitat, Clos, J. & UN-Habitat. The New Urban Agenda. , (October): 1–5. <https://www.habitat3.org/the-new-urban-agenda> 28 January 2017.
- Cooper, P. 2003. *Interiorscapes: gardens within buildings*. R. Dawes, ed. London: Beazley Mitchell.
- Creswell. 1994. Introduction To Methodology.pdf.
- De Lille. 2012. Cape Town: Creating opportunity through entrepreneurship.
- Department of Transport and Public Works. 2010. *Cape Town Central City Regeneration Programme Strategic Framework*. Cape Town.
- Elvin, T., Osae-Addo, J. & Heinrich Wolff. 2015. Creative design and architecture can advance social cohesion. , (February).
- Fataar, R. 2013. Director, F.C.T. Summit Discussion Paper and Gentrification : Practically Speaking. In Cape Institute for Architecture in Cape Town.
- Ferguson, N. & Indigo Properties. 2014. Interview 1 :adaptive reuse projects in and around the CBD (Woodstock) Cape Town. , (January 2013): 1–13.
- Ferguson, N. & Indigo Properties. 2015. The River club.
- Fleming, A. 2014. Low-cost housing in the CBD yes we can.
- Fleming, A. 2015a. The future of housing in Cape. , (April).
- Fleming, A. 2015b. The future of housing in Cape Town. capetownpartnership.
- Fornos, W. 2004. Thirunarayanapuram, D. & Burdett, H.N. Population and the urban future. In B. Givoni, ed. *Time-saver Standards for urban design*. London, England: McGraw-Hill.
- Gabriels, H. 2015. Interviews : Howard Gabriels Wesgro (20 May): 1–10.
- Gehl, J. 2006. Life, Spaces, Buildings. In Malcolm Moor & Jon Rowland, ed. *Urban Design Futures*. London and New York: Routledge: 70–75.
- Gehl, J. 1980. *Life Between Buildings*. Van Nostra. New York: van Nostrand Reinhold.
- Gehl, J. 2011a. Life Between Buildings: Using Public Space. , (August): 200. http://books.google.hu/books/about/Life_Between_Buildings.html?id=K98JAQAAMAAJ&pgis=1.
- Gehl, J. 2011b. Life Between Buildings: Using Public Space. , (August): 200.

- http://books.google.hu/books/about/Life_Between_Buildings.html?id=K98JAQAAMAAJ&pgis=1.
- Grisham, J. 2007. *The Innocent Man*. : 495.
- Groc, I. 2008. 'It Takes an Eco-Village: Green Communities Are Spreading-With Growing Pains'. *E Magazine, January-February 2008*.
<http://www.questiaschool.com/read/1G1-173923066/it-takes-an-eco-village-green-communities-are-spreading-with>.
- Henning, E., Van Rensburg, W. & Smit, B. 2004. *Finding your way in qualitative research*. 2nd ed. J. Read, ed. Van Schaik.
- Hui, E. Yung, K. Hon, E. Chan, W. & Xu, Y. 2014. Sustainable Development and the Rehabilitation of a Historic Urban District – Social Sustainability in the Case of Tianzifang in Shanghai. , 112(July 2011): 95–112.
- Hodkinson, G., Leyzerovsky, D. & Loo, B.P.Y. 2016. *Cities Alive: towards a walking world*. Arup.
- Hui. 2014. Conservation and Adaptive reuse. , (1): 2014.
- Jacobs, J. 1996. *The economy of Cities*. London: Edward Arnold.
- Joubert, F., Van Zandvoort, F. & Ovink, H. 2015. Envisioning a new city : the Two Rivers Urban Park ambition. *Earth Works*.
- Joubert, F. & Zandvoort, V. 2015. Confluence a vision for Two Rivers Urban park. *Earth Works*: 35–43.
- Lee, Y. & Cassim, J. 2009. How the inclusive design process enables social inclusion. *Proceedings of the IASDR 2009 Conference*: 18–22.
- Lees, L. 2008. Gentrification and Social Mixing: Towards an Inclusive Urban Renaissance? *Urban Studies*, 45(12): 2449–2470.
- Louw, M.P. 2012. The New Urbanism and New Ruralism Frameworks as Potential Tools for Sustainable Rural Development in South Africa. , (March).
- Lynch, K. 1992. *Good City Form*. London: The MIT Press.,
<http://www.amazon.co.uk/Good-City-Form-K-Lynch/dp/0262620464>.
- McComb, H. 2014. Public Participation – Design Competition – Internal Communication. : 14–16.
- Manufacturers, C.V. 2012. Establishing Influenza Manufacturing Capacity at The Biovac Institute : An Overview. , (March): 27–29.
- McComb, H. 2015. Comparative study between TRUP 1 – City and TRUP 2 - Provincial. , B: 1–6.
- McComb, H. 2014. Interviews 2000 - 2014 Oude Molen Eco Village - Sustainable neighborhoods proposal.
- McComb, H. 2007a. *Oude Molen Historical and heritage context*.
- McComb, H. 2007b. *Oude molen sustainable neighbourhood*.
- McComb, H. 2016. Interview: Province has created a steering committee, in partnership environmental affairs and city planning.
- Miles, L., Cervero, R. & Bernick, M. 2003. Transit-centered urban villages. In D. Watson, A. J. Plattus, & R. G. Shirbley, eds. *Time-Saver Standards for Urban Design*. New York: McGraw-Hill: 1–3.
- Montgomery, J. 1998. Making a city: Urbanity, vitality and urban design. *Journal of Urban Design*, 3(1): 93–116.
- Mouton, J. 2011. *How to succeed in your masters and Doctoral Studies*. Fifteenth. Margaret Hittage and Aida Thorn, ed. Pretoria: Van Schaik.
- NEMA. 1998. National Environmental Management Act. *South African Government Gazette*, 401(19519): 2–72.
https://www.environment.gov.za/sites/default/files/legislations/nema_amendment_act107.pdf.

- Neuman, L.W. 2011. *Social research methods: Qualitative and quantitative approaches*. Seventh. D. Musslewhite, ed. United States, Boston: Pearson Education.
- Petersen, R.J.& P.F. 2010. The Density Syndicate MBAWC exec director.
- Platter-Zyberk., E. & Duany, A. 1994. *The Neighborhood and the District*. In *The New Urbanism*, P. Katz, ed. New York: McGraw Hill.
- Rau, R. 2015. Open ended Interview : Councillor Rose Rau. , (June): 10–11.
- Reynolds, J.S. 2002. *Courtyards : aesthetic, social, and thermal delight*. M. Hewitson, ed. New York: NY: John Wiley.
- Reynolds, J.S. & Goldsman, S. 2003. Courtyards: Guidelines for planning and design R. G. S. Donald Watson, Alan J. Plattus, ed. *Time-Saver Standards for Urban Design*, 9: 1–10. http://books.google.com/books?id=DI3li4T_vngC&q=TIME-SAVER+STANDARDS+for+URBAN+DESIGN&dq=TIME-SAVER+STANDARDS+for+URBAN+DESIGN&hl=tr&ei=LkcITumOC83JsgaLiKWXCQ&sa=X&oi=book_result&ct=result&resnum=1&ved=0CCkQ6AEwAA%5Cnhttp://lib.hpu.edu.vn:8081/handle/1234.
- Sexwale, M. 2010. media breakfast (Prinsloo 2010).
- Smit, J. & Bryant, A. 2000. *Grounded theory method in IS research: Glaser vs. Strauss*. United Kingdom: Leeds Metropolitan University.
- Social Development Resource Centre. 2011a. *Optimising the Oude Molen Eco Village As a financially sustainable catalyst for socio-economic and environmental development*. Cape Town.
- Social Development Resource Centre. 2011b. *Oude Molen Village Invest in one Invest in all*.
- Song, Y. & Knaap, G.J. 2003. *New urbanism and housing values: A disaggregate assessment*.
- SRK Consulting (South Africa) Pty Ltd. 2016. *Redevelopment of the River Club , Observatory , Cape Town. Draft Scoping Report. Prepared for Liesbeek Leisure Properties Trust Report Number 478320/1*. Cape Town.
- Strauss, A. 1997. *Grounded Theory in Practice*. Juliet Corbin, ed. London: Sage Publications.
- Strauss, A.L. 1987. *Qualitative analysis for social scientists*. San Francisco: Cambridge University Press. <http://ebooks.cambridge.org/ref/id/CBO9780511557842>.
- Strauss and Corbin. 1998. *Basics of qualitative research: Grounded theory procedures and techniques*. 2nd ed. Thousand Oaks, CA: Sage.
- Swilling, M. 2005. Towards a Realistic Strategic Development Approach for Oude Molen. , (October).
- Swilling, M. & Annecke, E. 2006. Building sustainable neighbourhoods in South Africa: learning from the Lynedoch case. *Environment and Urbanization*, 18(2): 315–332. <http://eau.sagepub.com/cgi/doi/10.1177/0956247806069606>.
- Tonkin, A. 2008. *Sustainable medium-density housing: A resource book*. 1st ed. K. Rutter, F. Adams, & H. Brown, eds. Cape Town: Development Action Group (DAG).
- Tonkin, A. 2010. Urban land matters. *Read*, 1(11): 1–8.
- UN-Habitat. 2014. *THE STATE OF AFRICAN CITIES 2014 Re-imagining sustainable urban transitions*. Nairobi, Kenya.
- UNEP. 2009. *Catalysing Low-Carbon Growth in Developing Economies*. United Nations Environmental Programme. Available at: www.wedocs.unep.org
- UDZ Media release. 2013. RC Incentives City Extends UDZ MEDIA RELEASE.
- Van Der Merwe, D. 2015a. An urban emergency. *Leading Architecture SA*, (May 2015): 29.

- Van Der Merwe, D. 2015b. Architecture ZA 2015 (AZA2015) event [http://architectureza.org/Architects take on challenge of social enablement](http://architectureza.org/Architects%20take%20on%20challenge%20of%20social%20enablement). In *Architects take on challenge of social enablement*. Reputation Matters. Corporate reputation management solutions. <http://www.reputationmatters.co.za/> 28 November 2016.
- Wang, D. & Groat, L. 2013. *Architectural Research Methods*. K. London & M. Ostwald, eds. New York: John Wiley and Sons,.
- Watson, D. 2003. Introduction. In D. Watson, A. J. Plattus, & R. G. Shibley, eds. *Time-Saver Standards for Urban Design*. New York: McGraw-Hill: xv–xvi.
- Watson, D. 2004. *Time-Saver Standards for Urban Design*. United States of America: McGraw Hill. [http://www.amazon.com/s?ie=UTF8&page=1&rh=n:283155,p_27:Robert G. Shibley%5C Alan J. Plattus Donald Watson](http://www.amazon.com/s?ie=UTF8&page=1&rh=n:283155,p_27:Robert%20G.%20Shibley%5CAlan%20J.%20Plattus%20Donald%20Watson) 23 November 2015.
- Weingaertner. 2014. 'Cultural Heritage'. , (Weingaertner): 2014.
- Welman, C., Kruger, F. & Mitchell, B. 2005. *Research Methodology*. Third. A. Van Rooyen, ed. Cape Town: Oxford University Press Southern Africa.
- Wessels, A. 2012. Old Biscuit Mill Silo Redevelopment. <http://futurecapetown.com/tag/indigo-properties/#.VTi6X3kcTDc> 1 January 2015.
- Wikström, P. 2010. Sustainability and organizational activities—three approaches. *Sustainable Development*, 107(Weingaertner): 99–107. <http://onlinelibrary.wiley.com/doi/10.1002/sd.449/abstract>.
- Worby, M. 2010. If suburban sprawl driven by large erven remains the norm.
- Worby, M. 2004. Unstructured Interview and site tour of Lyndoch Eco Village, Stellenbosch . ' in practice what it means to live in sustainable ways .'
- Worsley, L. 2011. Beginning with the end in mind, The delivery of social development outcomes. *UCT executive development Program*, (11): 18.
- Van Wyk, L. 2014. Green Building Handbook : Materials and Technologies,. In L. Van Wyk, ed. *Green Building Handbook, South Africa: Volume 7*. Alive2green: 24–37. http://issuu.com/alive2green/docs/mat_techhandbook_web/1 <http://hdl.handle.net/10204/7853>.
- Yung, E. & Chan, E. 2012. Implementation challenges to the adaptive reuse of heritage buildings: Towards the goals of sustainable, low carbon cities. *Habitat International*, 36: 352–361.
- Yung, E.H.K. & Chan, E.H.W. 2011. Problem issues of public participation in built-heritage conservation: Two controversial cases in Hong Kong. *Habitat International*, 35(3): 457–466. <http://dx.doi.org/10.1016/j.habitatint.2010.12.004>.
- Yung, H.K.E. & Chan, H.W.E. 2012. Critical social sustainability factors in urban conservation: The case of the central police station compound in Hong Kong. *Facilities*, 30(9/10): 396–416. <http://www.emeraldinsight.com/10.1108/02632771211235224>.

Addendum 1: Poster

Addendum 1: Research poster displayed at Cumulus Johannesburg 2014.

COURTYARDS: SUSTAINABLE GREEN LIVING SPACES WITH REGARDS TO MIXED-USE DEVELOPMENTS IN CAPE TOWN



Urban sprawl places impoverished communities far away from economic opportunities which is disastrous for our city and the logistics of this are unsustainable (Montgomery, J. 1998, p80-116)

This research explores alternative planning and design methods, which are more conscious of societal, environmental and lifestyle issues and therefore concerned with indigenous knowledge and sustainable community models.

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CONCEPTUAL FRAMEWORK

DECENTRALIZATION

UNCONTROLLED SPRAWLING

CBD



SUBURBS



LOW INCOME HIGH RISE



RDP HOUSING



INFORMAL SETTLEMENTS



URBAN SPRAWL



CITY REJUVENATION

Bringing the people closer to the city, economic opportunities and public amenities



BASIC SURVIVAL

Primary Case Study: **Oude Molen - Eco Village**
 These buildings have become neglected, vandalized and gutted. There is an initiative to develop this site into **Micro-interprice Village** Transformed into low cost housing project. **Using natural resources to build and sustain infrastructure.**

CBD
DESIGNING A COMPACT INTERACTIVE CITY

WOODSTOCK / SALT RIVER
MIXED DEVELOPMENTS
EG. THE OLD BUCKLE MILL, WOODSTOCK FOUNDRY

RDP HOUSING
DESIGNED AROUND COURTYARDS

OUDE MOLEN
SUSTAINABLE MICRO-INTERPRICE DEVELOPMENT

Methodology:

Inclusive Design Methodology linked to grounded theory. The people-centered approach, designing with people rather than designing for users.

Qualitative Research To systematically collect and analyze data to develop a context-specific theory backed in action, research and case studies, through interviews and observations. A narrative of stakeholders.

Analysis: Thematic organisation Discourse analysis

Literature Review:

Cohen, J & Led, T. How the Inclusive Design Process enables social inclusion. Royal College of Art, Peter Hargis Centre, London, UK

Dearden, J & Coleman, R. & Noyes, S. & Latham, C. (2005). Inclusive Design: Design for the whole population. Springer-Verlag London Limited

Cooper, P. (2005). Interviewing. Services and Buildings. Gipsus Publishing Group

Hanning, E. (2004). Finding your way in qualitative research. Van Nostrand Publishers, Montgomery, J. (1998). Journal of Urban Design, Making a City, University, Wiley and other design

Montgomery, J. (2011). How to succeed in your Master's & Doctoral Studies. Van Nostrand Publishers and techniques. (3rd ed.) Thousand Oaks, CA Sage

Peacock, D. (1989). The New Naturalist Book. Cape Books (South Africa)

Pherson, D. (2005) in search of natural architecture. Cape Books (South Africa)

Reardon, J. & (2005) Courtyards: Health, Social and Thermal Design. Cape Books Publishers

Reed, J. Crockett, G. Noss, F. (2005) Adapting buildings and sites for climate change. Int. C & Culham, T. (2005) Building Green. Van Nostrand

Shaw, A. J. & Carter, J. (1989). Basics of Qualitative research: Grounded theory procedure. Toronto, A. (2005) Sustainable medium-density housing. Development Action

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Shelley Makulima-Rogerson - Managing Director, The Cape Town partnership

Steve Swanson 2014 C1 Design Capital Committee.

Proposed Interviews:

Hudson McComb (Project Manager) - Social Development Resource Centre, Oude Molen

Shelley Makulima-Rogerson - Managing Director, The Cape Town Partnership

Ms Cheryl Mollat - Director, Planning & Building Development

Mary Mathew - Developer & Manager of The Old Buckle Mill and the Woodstock Exchange

Arashfar Torkan (Author) - Sustainable Medium Density Housing, Bruce Swanson Senior Lecturer (Applied Design Department) Cape Town Faculty of Informatics and Design, 2014 C1 Design Capital Committee.

Data Analysis:

The proposed primary choice of method will be the "grounded theory" (Strauss & Corbin, 1990). To systematically collect and analyze data to develop a context-specific theory, we'll alternative building methods, such as courtyard or cluster housing be a viable solution for the low cost housing crisis in the Western Cape. This method will be backed up by action research and case studies. Proposed data collecting strategies will include questionnaires, interviews, site visits, social surveys, observation and focused sampling. Interviews will be limited to stakeholders, key players and community leaders.

Recommendation:

Simple solutions contribute to a sustainable design.

A central courtyard surrounded by several houses or rooftop gardens on highrise buildings could offer solutions to more sustainable, people-centered building practices that address issues such as:

Security, Safety, Community Living, Sustainability, Cultural Identity, Ownership & pride.

Addendum 2: Comparison between Oude Molen Tenant's Association Future Development Proposal and the Western Cape Provincial Government's Development Proposal

Comparison - Oude Molen Tenants Association Future Development Proposal and Provincial Governments Developments	
Key components	Oude Molen Eco Village Tenants Association (OMEVTA) proposed future development for the Oude Molen Property
Development Approach	Holistic, integrated, bottom-up, people centred, collaborative development approach. Founded on researching all key stakeholder interests & needs to create a unique win-win solution to diverse & competing multi-stakeholder interests. Key stakeholders include - Two Rivers Urban Park / Maitland Garden Village / Rent Paying Tenants on Oude Molen Property / City Regeneration Program / City of Cape Town / Provincial Government / Pinelands Community
Management Model	Social Enterprise management model based on current cutting edge & international best practices being promoted by innovative business leaders & institutions (Bill Drayton, Richard Branson, UCT Business School) as the preferred model to address poverty and wealth distribution more effectively. Incorporates core business principles with a "Triple Bottom Line" business management approach that prioritises addressing social, economic, environmental challenges in a region
Ownership & Accountability	Joint custodianship & shared ownership by key stakeholders and accountable to local & neighbouring communities
Economic Model	Utilises Innovative cutting edge international best practice Social Enterprise model focusing on small business enterprises, ensures equitable distribution of wealth, positive social, economic & environmental impact. Net Profits distributed to credible Non Profit Organizations involved in social, economic, environmental & educational development in the region
Full time Employment Opportunities	Guaranteed 500 full time employment opportunities per month on Oude Molen Eco Village property through micro, small & medium sized enterprises benefiting local & neighbouring communities
Informal Sector Work Opportunities	Guaranteed 1,500 informal part-time employment opportunities on Oude Molen Eco Village property as per proposed future development proposal - weekend craft & food markets, music events activities
Rent Paying Tenants	Current rent paying value adding tenants enterprises included
Public Open Space Character & Public Access	Emphasized in future development proposal to ensure Provincial Governments proclaimed vision as a "place for all" by providing a variety of social & recreational amenities & facilities
Rental Rates	Specifically designed to offer affordable commercial & residential rental rates ensuring support for start-up micro & small to medium sized businesses & non profit organisation enterprises and accommodation for citizens with limited financial means together with those with more financial means
Youth Development Opportunities	Designed for 100 small & medium sized business's & a variety of non profit organization to offer job shadowing skills transfer opportunities to 160 unemployed youth per month
Building foot print & Density	Designed to complement Two Rivers Urban Park (TRUP) vision and retain an <i>open space character and ambience</i> . Minimal additional foot print & only <i>what is necessary</i> density to ensure financial sustainability. Proposal endorsed and supported by TRUP
Activities / facilities / opportunities	Commercial (small to medium enterprises). Mixed residential housing. Social & Recreational facilities (braai & picnic areas / playgrounds & jungle gyms / swimming pool / horse riding / music & events amphitheatre / weekend craft & food markets). Urban agriculture food gardens. Non profit organization services (youth, adult, health, environment, education) Youth job shadowing skills Dev.
Economic viability & Financial sustainability	Based on public support & a 50 year lease for the Oude Molen property from Prov. Gov. The Social Enterprise model is economically viable, financially sustainable & able to generate - R200 million to Prov. Gov. & distribute R75 million to local Non Profit Organizations in the region over fifty years
	including the Oude Molen property Top down, non collaborative nor people centred approach. Key stakeholders not consulted - Two Rivers Urban Park / Maitland Garden Village Community / Rent Paying Tenants on OIM Property / Pinelands Community Corporate, big business orientated Public Private sector partnership model driven by profits & bottom line dividends to shareholders only, approach Public / Private sector ownership, not accountable to local stakeholders / communities Based on out-dated & flawed "Trickle Down Effect" economic model. Profits absorbed by an elite few with minimal wealth distribution or local social, economic & environmental impact No figures. Corporate Medical enterprises employ highly qualified people, not benefiting local & neighbouring communities Not included or specified Not included / not specified Medical Park on Oude Molen Property will be exclusive with restricted public access Big business Public Private sector partnership driven by profits will result in high commercial & residential rental rates unaffordable to small businesses or citizens with limited means Not included Over development & an excessive building foot print & density to maximize profits. Reference made to another Water Front Development Commercial (corporate business medical companies). Residential housing. Urban agriculture No actual figures & does not say what portion of profits will go to Government, Corporates or benefit the local community

Addendum 3: Consent Forms

From: Juanita Vrieslaar **On Behalf Of** Rosemary Rau
Sent: 11 June 2015 01:24 PM
To: Rosemary Rau; heidij@mweb.co.za; Hillary Lewis
Subject: Appointment - Heidi Jager (083 269 5087)
When: 15 June 2015 10:00 AM-11:30 AM (UTC+02:00) Harare, Pretoria.
Where: Bonteheuwel Subcouncil 5 Offices, c/o Jakkalsvlei Avenue & Kiaat Road, BONTEHEUWEL

Dear Heidi

Our telephonic conversation dated 11 June 2015 refers.

Your appointment with Councillor Rau have been scheduled for **Monday, 15 June 2015** from **10h00 till 11h30** at the **Bonteheuwel Subcouncil 5 Offices, corner of Jakkalsvlei Avenue & Kiaat Road, BONTEHEUWEL.**

The purpose of the meeting is to discuss your main Themes: Sustainable design - New Urbanism- Adaptive reuse- mixed-use, multi-purpose developments.

Enclosed, please find the directions to our Subcouncil Building:-

Thanking you

Regards,

From: Jacquie Myburgh [mailto:jacquie@leadingarchitecture.co.za]
Sent: 20 May 2015 09:31 PM
To: Heidi Jager
Subject: Re: Mtech student request to reference info April/May issue

Hi Heidi

You may reference the article with pleasure – we'd be delighted.

Kind regards,

Jacquie

Jacqueline Myburgh Chemaly
Editor: Leading Architecture

Email: jacquie@leadingarchitecture.co.za
Cell: 082 600 7142
www.leadingarchitecture.co.za
@LeadingArch

From: Heidi Jager <heidij@mweb.co.za>
Date: Wednesday 20 May 2015 at 1:17 PM
To: Jacquie Myburgh <jacquie@leadingarchitecture.co.za>
Subject: Mtech student request to reference info April/May issue

Good Afternoon Jacquie

I am currently completing my masters in Design, and would like to request permission to reference an article in the latest Leading Architecture and Design - An urban emergency, page 28 April May issue. Interview with Daniel van der Merwe. The interviewer or writer are not mentioned, and therefore I cannot make contact directly.

(My Thesis) Title : Interiorscapes: Safe, Sustainable, Green living Spaces,With relevance to the social and environmental issues in Cape Town, focusing on Adaptive Reuse and Mixed-Use developments. I look forward to your response.

Best regards

Heidi

Heidi Jäger Interior Design Consultants

Corporate, Retail, Leisure and Domestic Interiors

Cape Town, South Africa

Mobile **+27 (83) 269 5087**

Email heidij@mweb.co.za Web www.heidijager.co.za

Facebook www.facebook.com/heidijagerinteriordesignconsultants



FACULTY OF INFORMATICS AND DESIGN

Individual Consent for Research Participation

Title of the study: "Interiorscapes": an approach to sustainable solutions for adaptive reuse projects in Cape Town.

Name of researcher: Heidi Jaeger
Contact details: heidij@mweb.co.za phone: 083 269 5087

Name of co-supervisor: Monica Di Ruvo
Contact details: email: diruvom@cput.ac.za phone: 021 440 2214

Purpose of the Study: The aim of the research is to explore how the application of "interiorscapes" in adaptive reuse projects can offer safe, sustainable solutions for development in Cape Town.

Participation: My participation will consist essentially of an interview with the researcher

Confidentiality: I have received assurance from the researcher that should I request it, the information I will share will remain strictly confidential. I understand that the contents will be used only for an M Tech thesis, and that my confidentiality if I request will be protected by the use of pseudonyms.

Anonymity will be protected by using pseudonyms and if photos are being used, the blanking out of faces and/or places names.

Conservation of data: The data collected will be kept in a secure manner on a password protected computer and hard drive to which only the researcher has access. Note: a copy of the data should be kept for University audit purposes.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will not be used.

Additional consent: I make the following stipulations (please tick as appropriate):

	In thesis	In research publications	Both	Neither
My image may be used:				
My name may be used:	accf	accf		
My exact words may be used:	accf	accf		
Any other (stipulate):	accf	accf		

Acceptance: I, (print name) _____

agree to participate in the above research study conducted Heidi Jaeger of the Faculty of Informatics and Design department of Architectural Technology and Interior Design at the Cape Peninsula University of Technology, which research is under the supervision of Monica Di Ruvo and Prof Johannes Cronjé.

If I have any questions about the study, I may contact the researcher or the supervisor. If I have any questions regarding the ethical conduct of this study, I may contact the secretary of the Faculty Research Ethics Committee at 021 469 1012, or email naidoove@cput.ac.za.

Participant's signature: _____

Date: 30/04/2015

Researcher's signature: _____

Date: 30/04/2015

accf



TENANTS ASSOCIATION

W1, Oude Molen Eco-Village Tel: (021) 4489 442 / 083 448 1829 / 076 337 8102 P O Box 13956
 Alexandra Rd E- mail: prodevservices@oudemolenecovillage.co.za Observatory
 Pinelands www.oudemolenecovillage.co.za 7935
www.wdcape2014.com/projects/project/401

Monica Di Ruvo

MTech Int. Des. Prof Int Arch (IID)

Lecturer, 3rd yr Programme co-ordinator

Department of Architectural Technology & Interior Design

Faculty of Informatics and Design

Cape Peninsula University of Technology

10th floor : Media City : 1 Heerengracht : Foreshore : Cape Town : 8000

Re: Consent to collect data from the above organisations

I Hudson McComb, in my capacity as Chairperson of Oude Molen Eco Village give consent in principle to allow Heidi Jäger, a student at the Cape Peninsula University of Technology, to collect data in this organisation as part of his/her M Tech (Design) research. The student has explained to me the nature of his/her research and the nature of the data to be collected.

This consent in no way commits any individual staff member to participate in the research, and it is expected that the student will get explicit consent from any participants.

I reserve the right to withdraw this permission at some future time.

In addition, the company's name may or may not be used as indicated below. (Tick as appropriate.)

	Thesis	Conference paper	Journal article	Research poster
Yes	Yes	Yes	Yes	Yes
No				

Hudson McComb

10 February 2015

OMEVTA – Chairperson

Beyond WDC 2014



OMEV # WDC 387

Committee Members

Dan Neser, John Kennedy, PJ van der Walt, Kelly Mansfield, Debra Roets, Jeanne Goodall, Paul D' Andrea, Cecelia Fouchee, Sylvie Phillips, Kirk Doman, Joseph van Stavel, Hudson McComb

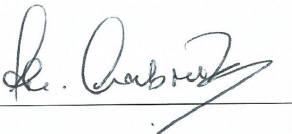
Not for Profit - Voluntary Association

	In thesis	In research publications	Both	Neither
My image may be used:			✓	
My name may be used:			✓	
My exact words may be used:			✓	
Any other (stipulate):				

Acceptance: I, (print name) H.G. GABRIELS

agree to participate in the above research study conducted Heidi Jaeger of the Faculty of Informatics and Design department of Architectural Technology and Interior Design at the Cape Peninsula University of Technology, which research is under the supervision of Monica Di Ruvo and Prof Johannes Cronjé.

If I have any questions about the study, I may contact the researcher or the supervisor. If I have any questions regarding the ethical conduct of this study, I may contact the secretary of the Faculty Research Ethics Committee at 021 469 1012, or email naidoo@cput.ac.za.

Participant's signature: 

Date: 20/07/2015

Researcher's signature: _____

Date: _____

Addendum 4: Literature Review Map

Source :Jan Gehl (1987/2011), *Life Between Buildings: Using Public Space* Washington - Covelo - London: Island Press, ISBN: 978-1597268271

Jan Gehl (2010), *Cities for People* Washington - Covelo - London: Island Press, ISBN: 978-1597265737

Reviewed by:

Beatriz Campos Space Syntax São Paulo São Paulo, Brazil

Gehl, J. (2010), *Cities for People*, Washington - Covelo - London: Island Press. Gehl, J. (1987), *Life Between Buildings: Using Public Space* (transl. by Koch, J.), New York: Van Nostrand Reinhold.

Gehl, J. and Gemzøe, L. (2004), *Public Spaces, Public Life*, Copenhagen: The Danish Architectural Press.

Gehl, J. and Gemzøe, L. (2000), *New City Spaces*, Copenhagen: The Danish Architectural Press. Gehl, J. et al. (2006), *New City Life*, Copenhagen: The Danish Architectural Press.

Lynch, K. (1971), *Site Planning*, Cambridge, MA: The MIT Press.

Source (Hiu et al., 2014) *Sustainable Development and the Rehabilitation of a Historic Urban District – Social Sustainability in the Case of Tianzifang in Shanghai*

Chan EHW, Lee GKL. 2008a. Critical factors for improving social sustainability of urban renewal projects. *Social Indicator Research* 85: 243–256. DOI: 10.1007/s11205-007-9089-3

Chan EHW, Lee GKL. 2008b. Contribution of urban design to economic sustainability of urban renewal projects in Hong Kong. *Sustainable Development* 16(6): 353–364. DOI: 10.1002/sd.350

Chan EHW, Yung EHK. 2004. Is the development control legal framework conducive to a sustainable dense urban development in Hong Kong? *Habitat International* 28(3): 409–426. DOI: 10.1016/S0197-3975(03)00040-7

Lee GKL, Chan EHW. 2010. Evaluation of the urban renewal projects in social dimensions. *Property Management* 28(4): 257–269. DOI: 10.1108/02637471011065683

Lynch K. 1972. *What Time is this Place?* MIT Press: Cambridge, MA.

Source (Chang, 2015) 'New uses need old buildings': Gentrification aesthetics and the arts in Singapore

Florida R (2002) *The Rise of the Creative Class*. Cambridge, MA: Basic Books.

Source (Hodkinson et al., 2016) *Cities Alive: towards a walking world*. Arup

“We are realising that if you have people walk and bicycle more, you have a more lively, more liveable, more attractive, more safe, more sustainable and more healthy city. And what are you waiting for?”

—Jan Gehl, Architect, Founding Partner of Gehl Architects

"The Social Life of Small Urban Spaces", by William H. Whyte. 1988. The Conservation Foundation.

"Life Between Buildings: Using public space", by Jan Gehl. 2011. Island Press
Cities Alive. 100 issues shaping future cities, by Arup. 2015 . Available from:
<http://www.driversofchange.com/projects/cities-alive-cards/>.

"The Image of the City", by Kevin A. Lynch. 1960. MIT Press. Available from:
<https://mitpress.mit.edu/books/image-city>

The Rise of the Creative Class, by Richard Florida. 2002. Available from:
<http://www.washingtonmonthly.com/features/2001/0205.florida.html>

"Places for people", by Jan Gehl. 2004. City of Melbourne. Available from:
<https://issuu.com/alabarga/docs/jan-gehl---places-for-people>.

Source (O'DONOGHUE, 2016) RIVER CLUB HERITAGE IMPACT ASSESSMENT PHASE ONE
REPORT OBSERVATORY CAPE TOWN

Baumann, N (October 2013): Valkenberg Hospital Phase 2 Heritage Impact
Assessment, Prepared for the Department of Transport and Public Works with Sarah
Winter, Melanie Attwell, Claire Abrahamse October 2013

Source (SRK Consulting (South Africa) Pty Ltd, 2016) Redevelopment of the River Club ,
Observatory , Cape Town. Draft Scoping Report. Prepared for Liesbeek Leisure
Properties Trust Report Number 478320/1

PGWC, 2014. Western Cape Provincial Spatial Development Framework. Available
online: <http://eadp.westerncape.gov.za/sites/default/files/news/files/2014-05-06/psdf-three-spatial-governance-framework.pdf>, accessed in February 2016.

WESGRO, 2011. Labour Skills in the Western Cape – the Western Cape Investment and
Trade Promotion Agency, South Africa. Available online: http://www.wesgro.co.za/publications/files/useruploads/user_anon/files/2011%20Labour%20Skills.pdf,
accessed in July 2011.

Source (Edwards, 2017) THE ADAPTIVE REUSE OF THE FORMER THESEN ISLAND POWER
STATION : A CASE STUDY

Creswell, J.W. (2002). Educational Research: Planning, Conducting and Evaluating
Quantitative and Qualitative Research. USA: Merrill Prentice Hall.

Henning, E. (2004). Finding your way in qualitative research. Pretoria: Van Schaik.

Mouton, J., Marais, H.C. (1990). Basic concepts in the methodology of the social
sciences. Pretoria: Human Sciences Research Council.

Neuman, L. (2003). Social Research Methods: Qualitative and Quantitative
Approaches. 5th Ed. New York: Allyn and Bacon.

United Nations (UN) (The General Assembly). (2000). United Nations Millennium
Declaration. New York: United Nations.

Van der Merwe, C. (2011). Greener building techniques begin to gain traction in South
Africa. [Online]. Available at <http://www.engineeringnews.co.za/article/mainstream-green-2011-08-12>.

Wilkinson, S.J., Remøy, H. & Langston, C. (2014). Sustainable Building Adaptation: Innovations in Decision-making. New York: John Wiley & Sons.

Addendum 5: Oude Molen Images

SECTION 1: 2010 - 2014

“Live, Work, Learn and Play” micro enterprise Eco Village and public urban park destination.



Entrance



Spaza Shop



Organic Vegetable garden



Fresh produce was delivered to customers via Horse and Cart...no longer happening.



Community activity



Dogs and chickens roaming around freely



Community children playing in the street



Well maintained buildings and kept grounds



Courtyard Structures



Architectural Details



Art studios / workshops / resident tenants



Backpackers River Lodge – previously Valkenberg medical facility for the “mentally insane”



Backpackers – Public areas



Tents spilling out into courtyard - Interiorscapes

Backpackers accommodation, Patients rooms converted into 1-3 sleeping facilities

Oude Molen Eco Village: Photographic Survey Heidi Jäger 2010 - 2014

SECTION 2: OMEV GENERAL PHOTOS



Home-made food stall

Home-made products - Millstone

Home-made products



Entrance

Market day



Horse Stabling and Riding



Horse paddocks



The Backpackers



Signage



Play area



The Wetlands



Organic Veg Garden



Organic Veg Market



Backpackers - Previous mental patients rooms



Backpackers



<https://www.google.co.za/search?q=oude+molen+eco+village+pool+and+braai+facility&source> 2017 Photos courtesy of Hudson McComb 2010-2016

The Gardens and public spaces



Hudson's Home - 2nd residential house



Tenants : Mixed use residential – Live, work, play. Note in 2010 there were 70 legal tenants on the property



Parking and car restriction / Water capture tanks and storage



Abandoned and vandalized Building – already existed in 2010



Abandoned and vandalized Building – already existed in 2010

Oude Molen Eco Village: Photographic Survey Heidi Jäger 2010 - 2014

SECTION 3: 2015 - 2016

Neglected Gardens and Grounds



Pool and previous animal touch farm



Outdoor meeting center



Education and training facilities



The Playshed



Waldorf School



Woodwork studio –
now moved out

Illegal add-ons - Squatters / Illegal tenants

