

ENVIRONMENTAL PSYCHOLOGY: The Relationship between Public Open Space and Human Behaviour

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ENVIRONMENTAL PSYCHOLOGY: THE RELATIONSHIP BETWEEN PUBLIC OPEN SPACE AND HUMAN BEHAVIOUR.

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DECLARATION

I declare that this research report is my own unaided work. This body of work is being submitted for the purpose of the Masters of Urban Design Degree at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination to any other University.

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(Signature of Candidate)

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ABSTRACT

Public open space plays a critical role in our societies, as it is the stage upon which life is unfolded, an intricate system of interaction, conflicts, agreements and interchanges that reflect a society's culture (Carr, 1992). Environmental psychology looks to improve the quality of the life experienced in the built environment. Through the identification of human responses to the built environment, strategic design tools can be developed to design public open spaces that are a support aid to users and their daily activities (Stokols, 1978). The vision of urbanism has the ability to produce a powerful impact and influence on the development of a city, however, the motive behind the design of public open space does not always reflect the needs of the people (Ding & Guaralda, 2013). This has resulted in the design of public open spaces that are detached from the users, failed spaces that don't contribute to unifying socio-spatial relations in the context of Johannesburg (Dudley, 2010).

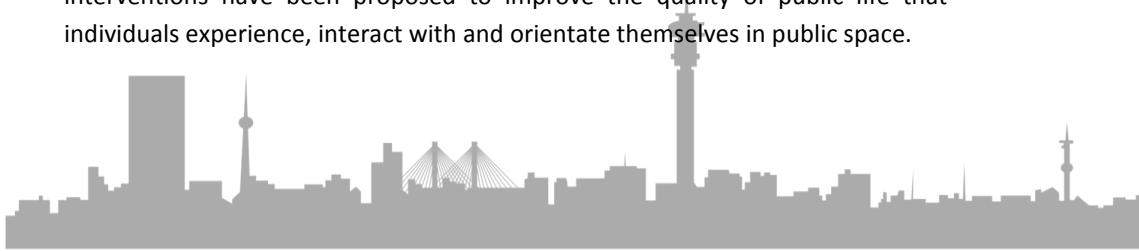
This report investigates the relationship between human behaviour and the response that the utilisation of certain design strategies can stimulate in improving the quality of the life experienced in public open spaces. The investigation is conducted with the aim of answering the research question: **How can urban design play a transformative role in the socio-spatial relations of public open space in the Johannesburg context, as to improve people's perceptions and experiences in public spaces?**

This report is twofold as it seeks to understand how the relationship between public open space and human behaviour is shaped. Thus followed by developing a understanding of how urban design can play a contributing role in shaping the quality of life experienced in physical space, as to contribute to improving people's orientation, experience and interaction in public open spaces.

Three main concepts are discussed as to develop an understanding of public open spaces and how they influence and shape the quality of life that people can experience. The meaning of public open spaces and what it is, is deconstructed, as to understand the contributing factors that shape and create this space for individuals. Culture, identity and place are identified as critical concepts that contribute to creating public open spaces, as this contribution can be seen as a non-verbal expression of human feelings. These two concepts, public open space, and culture and identify, are culminated in the third concepts of environmental psychology. Environmental psychology addresses the issue of placelessness and loss of public life, and how to better understand the role that urban elements play in the relationship between people and public open space (Gehl & Svarre, 2013). The objective to bring about an improvement in socio-spatial relations and the wellbeing of people is achieved through designing environments that are human focused. These are spaces of good quality that function well for the user. These three concepts were used to inform what design tools can be used to achieve quality public open spaces.

Design principles were then extracted from the data collected above. These design principles were used as the evaluation criteria in the analysis of the project site. The analysis of the site was done through direct observation methods, as to study and map out the physical elements of space that contribute to creating quality public life. The case study area starts at Beyers Naude Square, through to the Legislature foyer, and ends at the Ernest Oppenheimer Park. The analysis of the project site revealed that the site spatially lacks the competence to be a well-functioning quality public space. This revealed that the site does not positively contribute to creating improved socio-spatial relations, thus not contributing to improving people's orientation, experience and interaction in this public open space.

The next chapter sought to address the spatial elements that have created a poor space, through design recommendations. These recommendations are informed by the design principles used in the analysis of the site. Various spatial interventions have been proposed to improve the quality of public life that individuals experience, interact with and orientate themselves in public space.



In conclusion, I have come to the finding that the application of the right urban design tools plays a critical role in transforming public open spaces in Johannesburg, as to create pedestrian focused and orientated environments that positively influence and impact their psychological responses to the built environment. Thus, urban design is a field of study that should engage beyond the physical realm of public open spaces in Johannesburg, but also the psychological dimensions of spaces and the effects that design tools can have on an individual, as to create spaces that people positively respond to through their perceptions and experiences.



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LIST OF ACRONYMS

JDA	Johannesburg Development Agency
CBD	Central Business District
COJ	City of Johannesburg

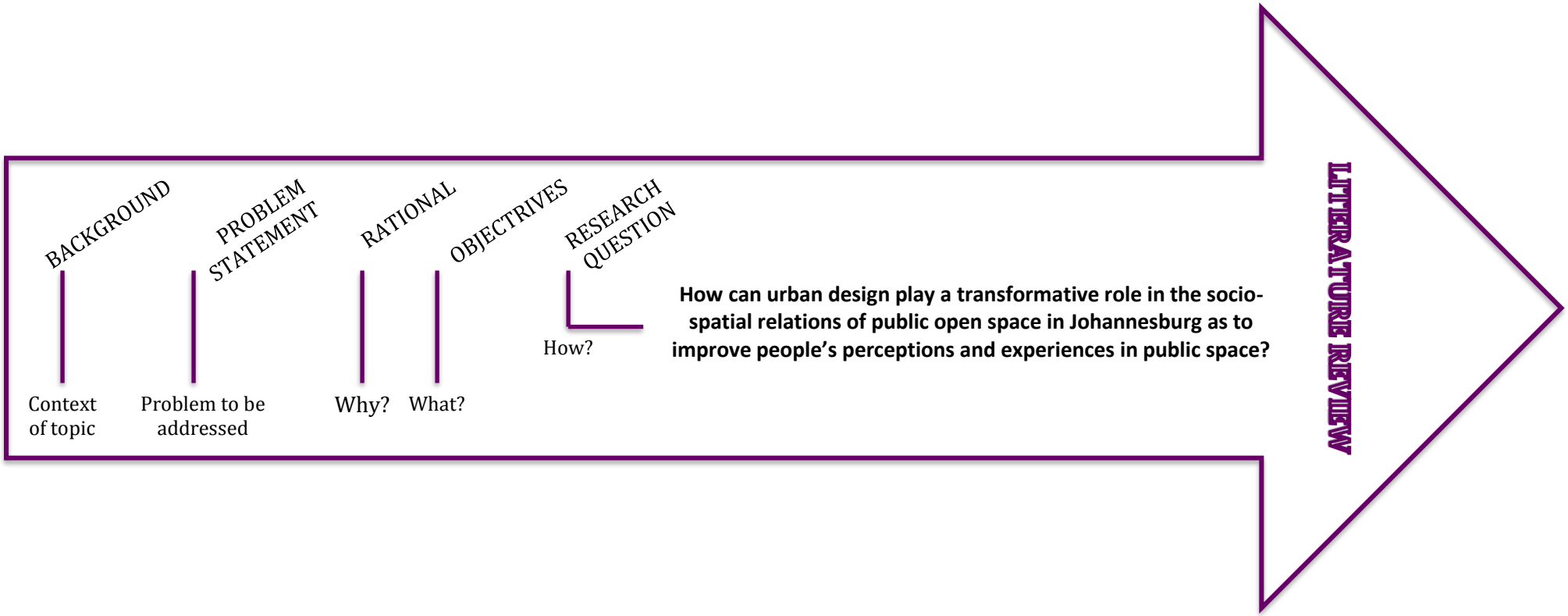


CHAPTER 1_INTRODUCTION TO STUDY

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INTRODUCTION TO STUDY





INTRODUCTION

Public space plays a critical role in our societies, as it is the stage upon which life is unfolded, an intricate system of interaction, conflicts, agreements and exchanges that reflect a society's culture (Carr, 1992). It is the nucleus of the built environment that facilitates human life, and in so doing, it becomes critical to understand how the design of public spaces influences peoples experiences and interaction in public open space (Ding & Guaralda, 2013). Human behaviour, how people interact and experience public open space, is as a result of a number of processes that occur in the mind, which are influenced by various features and elements of public open space. These elements and features vary from sensory, cultural, physical and social, however, all containing the power to have some degree of influence or effect on individuals behaviour, interaction and experiences in public open space.

Urban environment professionals play the lead role in shaping and creating public open spaces. They dictate how these spaces look, feel and function. However, the individuals who use public open space also have the capability of influencing the look and feel of public spaces, by making use of social characteristics that reflect the contextual setting in which public spaces are located in. Creating a socio-spatial space that caters to the cultural, social and spatial requirements of individual's in public open space.

Maslow (1943), in his journal titled **A Theory of Human Motivation,** identifies various factors that play a role in motivating and influencing the manner in which people behave. This theory is titled *Maslow's Hierarchy of Needs*, which explains that the there are 5 essential factors that motivate an individual's behaviour:

- Physiology
- The need for safety
- Biological and aesthetic needs
- The need for self-actualization, esteem or status
- The need for love and belonging

This complex relationship between individuals and the surrounding built environment is known as environmental psychology. The quality of the built environment and the quality of life that takes place in it is the fundamental concern of this area of study.

Environmental psychology looks to improve the quality of the life experienced in the built environment (Stokols, 1978). This is achieved through the identification of human responses to the built environment that inform the development of strategic design tools. These tools aid the design of public open spaces that are a support aid to users and their daily activities (Stokols, 1978). This research report will look to better understand the relationship between public open space in Johannesburg and the people that use them, aiding in developing a means of addressing the contested relationship between public spaces and people in urban spaces. Through an improved understanding of this relationship urban design tools will be used to unlock the social potential of public open spaces in the City of Johannesburg.

BACKGROUND

Public spaces are "channels for movement, the nodes of communication, and the common grounds for play and relaxation" as the flow of human exchange is as a result of this setting (Ding & Guaralda, 2013, p. 114). Montgomery (2013) states that cities are created for the purpose of making people happy. Happiness may not be a strong driver behind policy goals, however, happiness is good for people and society (Montgomery, 2013). People who are happy live lives that are active, and productive in spaces that foster "emotionally intelligent design and create closely connected communities, with the benefits shared by everyone" (Montgomery, 2013).



What exactly makes people happy in public spaces? There are a number of factors, however, one urban attribute plays the biggest role. People are happy in spaces that they trust (Montgomery, 2013). Social trust is an extremely powerful force in building spaces that make people happy (Montgomery, 2013). Hall (1966) addresses how public space should satisfying human rights, protect and shape cultural meaning. The value of public space is thus revealed and lays the basis for influencing design for public behaviour (Hall, 1966). This fosters strong positive social connections to public spaces and the surrounding built environment, making people desire and value public spaces, making them happy to be in that space.

PROBLEM STATEMENT

Public space in South Africa has been experiencing changes over the past 20 years due to evolving urban conditions driven by various economic, cultural and political changes (Landman, 2015). The flight to the north in the 1960's resulted in the deterioration of the inner city and its infrastructure. As a result of this public spaces in the Inner city of Johannesburg have experienced rapid deterioration since the 20th century. This has been due to the lack of maintenance and insufficient supporting infrastructure. A number of initiatives have been undertaken to improve public spaces in the city, however failing to create safe, quality public environments that people respond to and interact with positively. This has resulted in the creation of public spaces that deprive a large portion of the cities population from freely interacting with, making use of and entering public spaces in the city. These conditions have created high mental fences in the minds of people, hindering their positive perceptions and interactions with public spaces in the city.

Urban Design has the powerful ability to transform public spaces in Johannesburg through establishing a new vision for public spaces, and improving how they function and the safety of these spaces. The vision of urbanism has the powerful ability to directly influencing the function and meaning that public space takes on for people in the city (Sevtsuk, 2012). People are the main actors in public spaces and this means cognisance needs to be taken into account on how the design of public space will affect and influence the experience of those using them (Aghostin-Sangar, 2007). There is a critical need to understand this context specific relationship, as to ensure that public spaces in the Johannesburg Inner City are a reflection of what the people are, what they want, what they desire and what types of public spaces induce positive responses and reactions to the built environment (Ding & Guaralda, 2013).

RATIONAL FOR THE STUDY

The process of creating one's personal city of the mind, their own life space, is as a result of the manner in which people receive the built environment, represent it, act in it, and review its consequences (Carr, 1970: Dudley, 2010). The form, design and function of public spaces can help make a space narrow and restricted in the meaning and function it adopts for people using it, or a broad interpretation of endless meaning can be formulated through the intricate and often overlooked details of public spaces which can be achieved through well-conceived design elements (Dudley, 2010).

During apartheid the conception of public life and space was centred along racial lines (Bremner, 2006). Two worlds existed, black and white, living in complete isolation from one another and taking on very different meanings and interpretation of space (Bremner, 2006). This was the legacy of apartheid, a legacy that has played a crippling role in shaping the kind of public spaces in South African cities today (Bremner, 2006). Johannesburg is one such case study that has exhibited the ruins of apartheid (Bremner, 2006). "On the one hand, its nascent public life is taking shape around new official narratives, modes of associational life, meanings of money and everyday travail" (Bremner, 2006, para7). On the other hand, apartheid spatial policies are reflected as 'public



space deficits' affecting lower income areas at the periphery of the city (Safer Spaces, nd). Public space is thus viewed as dangerous, unsafe, and out of control. Public life has now withdrawn into the private realm, as a result of this, with malls quickly becoming the main physical space where people can gather, resulting in public open spaces that are neglected and lifeless (Bremner, 2006: Safe Space: nd). There is a need to build more robust intersections between people and public open space, as to foster more positive reactions to public space. This will unlock the social potential of public open spaces in the City of Johannesburg and creating nuanced spaces that the diversity of South Africans see 'themselves' reflected in.

Zohar (1997) states:

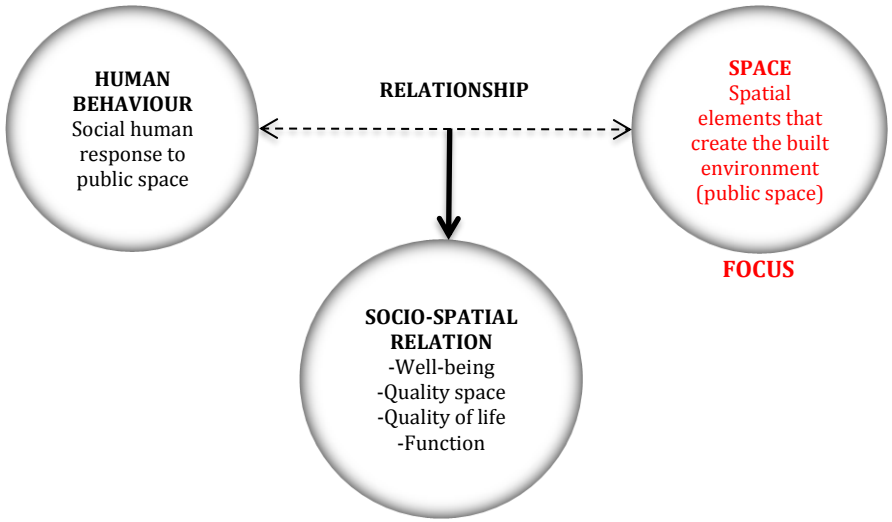
> "Like Newtonian science before it, twentieth-century science has grown out of a deep shift in general culture, a move away from absolute truth and absolute perspective toward contextualism; a move away from certainty, toward an appreciation for pluralism and diversity, toward an acceptance of ambiguity and paradox, of complexity rather than simplicity" (Zohar, quoted in Gaffikin *et al*, 2010, p498).

This shift can be seen in the changes from modern to postmodern urban development, design, and thinking around cities. This is the same shift that will facilitate a change in the thinking and response towards public open spaces in Johannesburg (Gaffikin, 2010).

OBJECTIVES

Drawing on existing literature on the topic of environmental psychology, this report will investigate the relationship between human behaviour and the positive response that the utilisation of certain design strategies can stimulate in public open spaces in Johannesburg. This report is two-fold as it seeks to initially investigate how the direct relationship between the design of public spaces and human behaviour is influenced. As the topic of environmental psychology is a large area of study, the second part of the report will focus the research area down to the spatial elements of public open space. Understanding what design strategies and tools can be implemented to shape the quality of life and well being in public open space, as to contribute to improving peoples experience and interaction in public open spaces.

ENVIRONMENTAL PSYCHOLOGY CONCEPT_FOCUS OF STUDY



The case study of Beyers Naude Square to the Oppenheimer Park will be used to unpack the strategy of improving the socio-spatial relations of public open space in this context. This is an example of public open space that was inherited from the apartheid city, and has undergone a number of initiatives to reclaim the public open space as to improve perceptions of safety and unlock their social potential as critical anchors of the built environment.



RESEARCH QUESTION

How can urban design play a transformative role in the socio-spatial relations of public open space in Johannesburg as to improve people's perceptions and experiences in public space?

SUB-QUESTIONS

1. How is the relationship between people's behaviour and the built environment established?
2. How does the design of public space influence or affect human behaviour, perceptions and experiences in public open space?
3. What design tools and strategies can be applied to transform the socio-spatial relations of public space in Johannesburg?

RESEARCH STRATEGY

The preliminary research conducted thus far indicates that the design of public space has an effect on the behaviour of people. For this relationship to be understood, a qualitative case study approach will be used to further investigate how the design of public space affects the behaviour of people in public space. This insight will inform how urban design can play a transformative role in the socio-spatial relations of public space as to improve people's experience and perception of public spaces.

The qualitative case study method will be utilised in this study as to conduct "an empirical investigation of a contemporary phenomenon within its natural context using multiple sources of evidence" (Hancock & Algozzine, 2006, p. 15). The approach employed allows for the study to bring about an understanding of the phenomenon being studied, human behaviour, within the context of the study, public open space, through a variety of sources, the observation of people in different public spaces. "This ensures that the phenomenon, human behaviour, is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood" (Baxter & Jack, 2008, p. 544).

Case study research allows one to research and investigate a number of topics, however, this is refined and defined through a set of characteristics (Hancock & Algozzine, 2006). One needs to firstly focus on studying a group in the context of a certain setting, in this case that will be people in public open space (Hancock & Algozzine, 2006). Qualitative methods will be used to narrow the focus area down to the people who engage with public space. The second characteristic is looking at an activity in a specific context through understanding the socio-spatial relationship between public space and the people that use it (Hancock & Algozzine, 2006). Lastly, case studies are often very descriptive as they have the ability to "create mental images that bring to life the complexity of the many variables inherent in the phenomenon being studied" (Hancock & Algozzine, 2006, p. 16).

DATA COLLECTION

> observation |ˌäbzərˈvāSH(ə)n| noun1 the action or process of observing something or someone carefully or in order to gain information: *she was brought into the hospital for observation* | *detailed observations were carried out on the students' behavior*.

To understand the complex and versatile dynamic of life in public open space, direct observation will be the primary tool to be used in the study of the design of the space and how this contributes to the creation of a quality public life. People's interaction with the design of the space needs to be observed and mapped out to bring about a better understanding of how the design of the



space can improve the relationship between people and public open space (Gehl & Svarre, 2013). Direct observations helps to bring about an understanding of why some spaces are used more or less than other spaces. Frenchman Georges Perec (1974) shows readers, in his book *In Species of Spaces and other Pieces,* how to be observant of the things that are overlooked in built environments (Gehl & Svarre, 2013). He encourages people to take note of what they see as it holds more value in unfolding what occurs in public space (Gehl & Svarre, 2013).

To focus on the area of study the following checklist will be used to note what is to be recorded:

- "Space: the physical place or places.
- Actor: the people involved
- Object: the physical things which are present
- Event: a set of related activities that people carry out.
- Time: the sequencing that takes place over time.
- Goal: the things people are trying to accomplish.
- Reflection: your personal response to any of the above"

(Spradley 1980,p 78ff quoted in Fox, 1998).

ETHICAL CONSIDERATIONS

To gather information on the socio-spatial relations of the site, this will require the people interacting with the spatial elements being studied, to also be observed. This means that ethical consideration needs to be taken into account when directly observing public spaces and the people that interact with them. This includes being cognisant of where photos are being taken, who they are being taken of and how they are being taken. This would mean that pictures cannot be taken in private spaces as this would be an invasion of people's privacy. Some privately owned public spaces may also present restrictions, which would hinder photographs from being taken without permission. This means that prior to going out into the field, each space of study needs to be investigated as to understand the parameters of the limits in these spaces and if permission is required from the owners of the space. In the case of this study, no permission is required as all spaces being studied are public spaces. In public spaces where photos can be freely taken, people's faces will have to be blurred in the final report as to protect their identities, as consent has not been give.

EXPECTED FINDINGS

A relationship is formulated between places and people once a place is built. Maturity in such a relationship is only achieved through communication between the built environment and the users. The vision of urbanism speaks to the extent to which lines of communication and exchanges can be established, determining the success or failure of the relationship that can be formulated between public spaces and people. This leads me to an expected end communicating how strong socio-spatial relations can be established through good urban design strategies as to establish a successful relationship between public open spaces and the flow of human exchange in Johannesburg.

CONCLUSION

As to progress ones understanding of environmental psychology and the role it plays in creating desirable public spaces that individuals respond to in a appositive way, the next chapter will analytically engage with literature around this area of discussion. Three main concepts will be addressed in order to critically understand how the relationship between the built environment and individuals is formed, as well as how design can play a role in this relationship.



CHAPTER 2_LITERATURE REVIEW

THE ROLE OF PUBLIC SPACE
CULTURE IDENTITY AND HUMAN BEHAVIOUR
ENVIRONMENTAL PSYCHOLOGY
CONCEPTUAL CONSOLIDATION OF LITERATURE
SHAPING PLACE, BEHAVIOUR AND INTERACTION
CONCLUSION



LITERATURE REVIEW



URBAN DESIGN TOOLS

THE ROLE OF PUBLIC SPACE

THE CONCEPT OF PUBLIC SPACE

Public space is often defined in a general manner, which lacks the ability to truly reflect the nature of public space (Madanipour, 2003). This can be seen in public spaces that have some restrictions on how they can be used by individuals, as they are locked and made inaccessible at night time, or design features that restrict certain activity, such as seating that prevents people from sleeping or resting on them (Aghostine-Sangar, 2007).

When looking at the definition of private, in the Oxford Dictionary, it is defined as the complete opposite of public:

> "not public, not open to or shared with or known to the public; not official, reserved for or belonging to or concerning the individual; secure from observation and intrusion" (quoted in Aghostine-Sangar, 2007, p8).

The definition of private establishes restrictions to the access of these spaces, and what purpose this private space is being accessed for (Aghostine-Sangar, 2007). Private spaces are often industrial, commercial and residential areas in the city, allowing the private lives of people to unfold free from observation and secure from intrusion (Aghostine-Sangar, 2007).

This thesis examines public open space, however, also examining the external influence that private space has on the public (Aghostine-Sangar, 2007). This is extremely crucial, as public spaces cannot be understood in isolation of the private realm as there are a number of external factors, beyond the boundary of public space, that influence the nature of the public realm (Aghostine-Sangar, 2007).

Public open space is commonly termed as council owned and managed land designated for the use of recreational and other community activities (Banyule City Council, 2007)."World-wide research has shown that public open space, particularly in urban areas, has an extremely important positive influence on community health and wellbeing" (Banyule City Council, 2007, p4). In a world that revolves around technology and has minimal physical interaction with nature and its surrounding areas, the way our cities have been designed becomes a crucial matter as cities are becoming more and more unsustainable. People are constantly in doors, whether it is in the house, office or in the car (Kellett & Dr Rofe, 2009). Planners have not provided societies with the opportunity to live on the street by riding their bikes, taking walks to the park, interacting with their neighbourhood and their surroundings (Kellett & Dr Rofe, 2009). This has detached people from their living space's furthermore, therefore creating room for people to only become concerned with sustaining their immediate surroundings, their private space.

The industrial revolution in the 19th century called for some desperate measures to be taken in response to the rapid urbanisation and pollution that took place in industrial cities (Osborn & Lewis Mumford, nd). Ebenezer Howards Garden City Movement aimed at producing "balanced cities" that counteracted overcrowding, deterioration of unhealthy cities, pollution and the wretched quality of living" (Osborn & Mumford, nd). This was done through the use of public open spaces in the form of green belts, which were parks, gardens and agricultural land, as seen in figure 1 bellow. The beginning of this movement brought some much needed light on the importance of public open space and its great potential to alleviate or reduce many of the issues attached to the rapid urbanisation of unsustainable cities (Osborn & Mumford, nd).

This denotes back to the important role public open space plays in today's society, through encouraging social interaction, urban liveability, interaction with nature, and more importantly, protecting and sustaining the environment



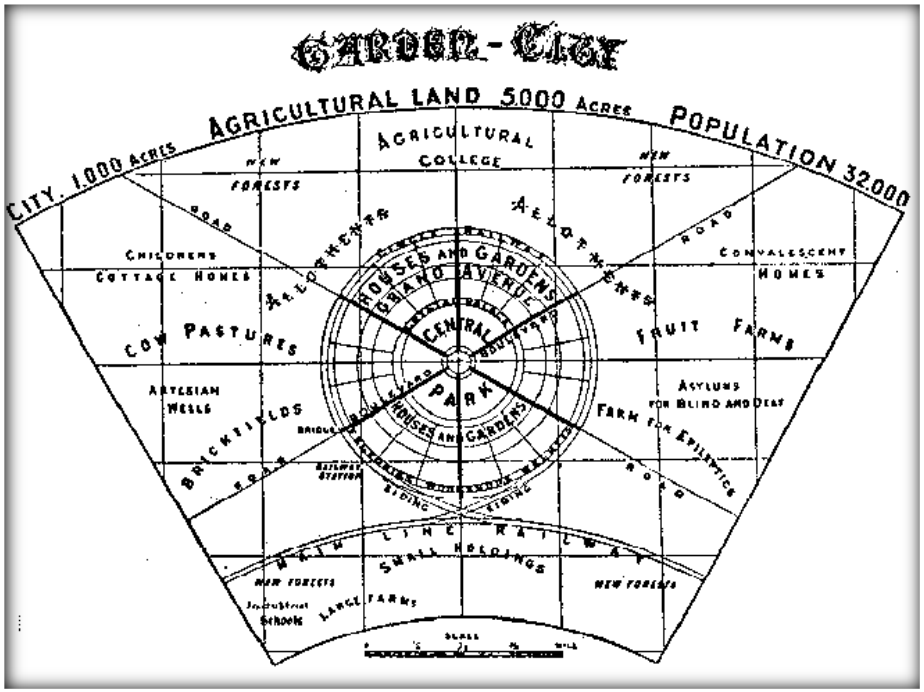


Figure 1- The Garden City concept (Osborn and Mumford, nd)

(Banyule City Council, 2007). Public open spaces provide a platform for life to play out, beyond the confines of private space, harsh concrete cities, and urban environments that are constantly in a rush, not stopping to take a minute to experience life.

THE IMPORTANCE OF PUBLIC OPEN SPACE

Public space plays a critical role in our societies, as it is the stage upon which life unfolds, an intricate system of interaction, conflicts, agreements and interchanges that reflect a society's culture (Carr, 1992). It is the nucleus of the built environment that facilitates human life, and in so doing it becomes critical to understand how the design of public space influences peoples experiences and interaction in public spaces (Ding & Guaralda, 2013). Well-designed built environments ensure that there is good interaction between public life and public space (Gehl & Svarre, 2013). Life in public space is often neglected as space and form are easier to work with whilst life is difficult to describe, as it is ephemeral (Gehl & Svarre, 2013).

Public life changes at a constant rate, at all times of the day. Additionally a number of factors, such as culture, design, age, gender and many other factors determine the manner in which public space is used and created (Gehl & Svarre, 2013). Public space can be understood to be everything that makes up the built environment, streets, squares, parks, and buildings. Thus, public life takes place in-between theses different elements of the built environment (Gehl & Svarre, 2013). A singular function is often assigned to space, as it is believed that it is used for a specific purpose. However, it needs to be understood that human needs are different, thus space should take on a multifunctional facet that allows users to reflect their varied needs (Pfeiffer, 1980).

The process of creating one's personal city of the mind, their own life space, is as a result of the manner in which people receive the built environment, represent it, act in it, and review its consequences (Carr, 1970: Dudley, 2010). In the pursuit of developing public spaces that are responsive to the needs of people, the manner in which we create our personal space and experience it differs, as the world is constructed via different filters. These filters may be social, cultural, individualistic, collective or externally exhorted.

Urban environments have the powerful ability to generate different types of behaviour in public spaces (Hall, 1996). This is why there is a need for built environment professionals to understand the effects that the design of urban environments have on social processes, how people experience, interact and react to the city, as to design public open spaces that are a reflection of them (Aghostin-Sangar, 2007).

> "When public spaces are successful they will increase opportunities to participate in communal activity. This fellowship in the open nurtures the growth of public life, which is stunted by social isolation and the private realm. In public spaces people from different cultural groups can come together in a supportive context of mutual enjoyment. As these experiences are repeated, public spaces become vessels to carry positive communal meanings" (Carr, 1993 quoted in Amin, 2006, para 3).

What public space means and the quality of life that can be created in urban areas is as a result of how people interact with and interpret their urban environments (Nasution & Zahrah, nd). Public open space plays one of the most important roles in positively contributing to the quality of life in urban environments (Nasution & Zahrah, nd).

PUBLIC OPEN SPACE AND QUALITY OF LIFE

Various authors refer to the quality of life differently. Schoemaker *et al* (1990) states that the quality of life can be understood to be the 'individuals overall satisfaction with life'. Cutter (1985) states that the quality of life is more based on the happiness or satisfaction of individual's lives in the environments that they live in (Nasution & Zahrah, nd). It also includes the provision of the peoples desires, their needs, lifestyle preferences and a number of other intangible and tangible factors that contribute to the overall well-being of individuals in urban environments (Nasution & Zahrah, nd).

The quality of life can be understood from two perspectives:

- Objective indicators: the conditions of the built and natural environment, as well as economic and social aspects.
- Subjective indicators: what and how people feel about the various elements of the built environment.

The quality of life takes on a social, physical and environmental dimension. Public space is a crucial element of urban environments as it plays a role in influencing the social, physical and psychological interaction in space that contributes to the quality of life (Nasution & Zahrah, nd). Successful public open space contributes immensely to the quality of life by enhancing people's living space in the city.

HOW TO CREATE SUCCESSFUL PUBLIC OPEN SPACE

Public open space can be classified as being successful when it becomes a positive conduit for social interaction by facilitating various visitors and activities, recreation, a democratic and non-discriminate space, and access to all groups and sectors of the economy (Nasution & Zahrah, nd). These spaces should also promote the psychological comfort and safety of people. Successful public open spaces also need to be designed in a way that makes access easy to various movement systems, with clear paths and linkages to surrounding buildings and spaces (Nasution & Zahrah, nd). Landmarks, orientation, human scale and land use equally play a critical role in creating successful public open spaces. Pleasant public open spaces need to be enhanced by their surroundings through attractive and quality architecture that interacts with the space. Natural elements also contribute to creating a comfortable space that people can relax in and experience pleasant scenery (Nasution & Zahrah, nd).

Successful public open spaces are successful because they reflect who people are, their needs, culture and identity, making these spaces feel like home, a place to escape to, with no fear, safety and comfort.



CULTURE, IDENTITY AND HUMAN BEHAVIOUR

Culture can be seen as the communal adoption of schemes, values, beliefs, symbol systems etc, amongst a group of people that has been learnt and transmitted through various channels of interaction (Yilmaz & Maz, 2006). People and the built environment constitute the culture of a society, through a relationship of exchanges and communication (Sevtsuk, 2012). The vision of urbanism has the ability to produce a powerful impact and influence on the development of a city. However, it also plays a crucial role in directly influencing the will, comfort, safety, experience and perception of people, through design that reflects the culture of the context (Sevtsuk, 2012).

Cultural landscapes are reflections of the cultures that have shaped them, thus creating systems that reflect in people's lifestyle, perceptions, manners, behaviour and the built environment (Yilmaz & Maz, 2006). The design of built environments can be seen as a non-verbal expression of human feelings as it influences human life and expresses cultural values and beliefs (Pfeiffer, 1980: Yilmaz & Maz, 2006). Modern architecture has often taken on a style and form that often does not create built environments that enable people to satisfy this diversity of social and cultural needs and interaction in public spaces (Pfeiffer, 1980). Architecture has often been seen as a work of art, or in the case of Johannesburg, a tool of segregation, neglected the relationship between people and the environment, and the effect that the built environment can have on all forms of social interaction and identity (Pfeiffer, 1980). Culture defines the richness of communal identity, igniting communal understanding amongst others, provoking the pride of place, which anchors people's sense of confidence in that space (Miles & Paddison, 2005).

The theory of identification is the internalisation of the built environment and the things understood. Regardless of the fact that the world is immediately given to one, it still has to go through a process of interpretation as to be understood and concretised (Yilmaz & Maz, 2006). Place making is the foundation for the formulation of our identity and sense of self in space, as the objective of place is to encourage attachment and create a sense of belonging (Evans, 1996: Yilmaz & Maz, 2006). The dynamic relationship between the built environment and people is an exchange of communication that brings about the conception of place and identity (Yilmaz & Maz, 2006).

Dudley (2010) explains that:

> "…our beliefs about ourselves in space are also situated in widely held ideologies that contribute to social and power relations. If planners are going to be able to understand and transform these relations, then they need a better sense of the psychological dimensions of our socio-spatial relations" (Dudley, 2010, p. 282).

Place-identity is the perceptions attached to the physical elements that determine the existence of a person from day to day (Yilmaz & Maz, 2006). The concept of place making demonstrates the critical linkage between social science, and the planning profession, a linkage that has the powerful ability to contribute to the creation of public spaces that are more humane, context relevant and that yield the benefits listed in figure 2 (Evans, 1996: Lucy, 1994).

The human experience in a space is one that determines its success or failure. The process of design is the crucial decider of whether ones perception, orientation, physiological response and experience are made unforgettable, in turn making a space memorable and unique. To achieve this, the design principles and theories that will be discussed need to be taken into consideration and applied to public open space, as this unpacks the complexity of 'Place making' and creating cultural spaces of identity.



WHAT IS PLACE MAKING?

The context in which urban development takes place is one that has been continuously altered over the years due to the current state of the urban envelope. The urban envelope determines the kind of development and management that will take place in urban spaces and should mainly be driven by satisfying human needs, improving the human condition, creating a relationship between the urban settlement and the natural environment and to promote the efficient use of resources (Behrens & Watson, 1997). To achieve these objectives, principles of urban design need to be considered as to "enrich the lives of the people who live and experience the quality and uniqueness of urban environments" (Behrens & Watson, 1997, p.10). According to Behrens and Watson (1997) these principals include place making, scale, access, opportunity, efficiency and choice.

Place making is the process whereby the 'spirit of the place' is brought to life through the concept of creating quality environments. This reflects the "unique nature of the natural and cultural setting" of an urban settlement (Behrens & Watson, 1997, p.11). Urban spaces reflect a sense of belonging as people's values and cultures are reflected in their response to their position in these spaces (Behrens & Watson, 1997). To create environments that are of quality it is important to combine and connect spatial relationships between circulation, the environment, the user, urban envelope and the facilities. This is the founding stage of bringing about the spirit of place. This is founded on four dimensions of place making: uniqueness, balance, symbolism and legibility.

Behrens and Watson (1997) believe that the first dimension of place making, uniqueness, is based on creating spaces where the understanding of the site, function, human needs and culture come together imaginatively. Bentley's (1985) view of creating uniqueness is through creating spaces of political freedom and democracy. Bentley's (1985) point of view is that the man made environment is a political system, therefore the development of form needs to be taken into consideration as it impacts the social and political outcomes of a space. This is addressed through creating responsive environments that merge design ideas to the fabric of the built environment, which will give people more free will and choice. This moves away from the standard political and social restrictions created by the designer, allowing for a more imaginative and unique urban space for the people, by the people (Bentley, 1985). A sense of place that is unique and responsive, achieved through permeability, variety, legibility, robustness, visual appropriateness, richness and personalisation, to be discussed in detail in the next section "Design Tools" (Bentley et al, 1985).





Figure 2- The benefits of place making in public space (PPS, nd)

ENVIRONMENTAL PSYCHOLOGY

Cities have been growing at a rapid pace over hundreds of years. Medieval cities adopted a tradition that facilitated the development of cities that encouraged "well-functioning interaction between life and space" (Gehl & Svarre, 2013, p3). However, this knowledge has been lost along the way through industrialisation and modernisation, as cities lack the ability to reflect such (Gehl & Svarre, 2013). In the 1960s, urban planners received a lot of criticism, from authors like Jane Jacobs, for their lack of consideration given to people in the development of built environments and life in the cities (Gehl & Svarre, 2013). Cars and large-scale developments were replacing the life of people on the street (Gehl & Svarre, 2013).

Environmental psychology emerged in the late 1960s as a concept focused on the dynamics behind the relationship between the built environment, human behaviour and their wellbeing (Bonaiuto *et al*, 2010). "Psychologist Kurt Lewin (1951) argued that behaviours (B) are not only a function (f) of personal factors (P), but also of the environment (E) in which they take place. Lewin expressed this relationship in the formula B = f (P, E)" (Lewin, 1951 quoted in Aghostine-Sangar, 2007, p18). Environmental psychology is an equation that brings about an understanding of the relationship formed between the physical environment and humans (McAndrew, 1993). Environmental psychology draws on research from various fields, in order to bring about a comprehensive understanding of the latter relationship. Behavioural scientists, ecologists, sociologists and psychologists, all contribute to demonstrating how the built environment can influence certain behaviour (Speller, 2006: Canter 1977). The relationship between the built environment and people will be examined mainly through understanding the physical, design, elements of public open space that affects people's perception and experience in public open space.

Studies around city life that have been initiated by environmental designers, as to address the issue of placelessness and loss of public life, and to bring about more insight on how humans behave in the built environment as to understand the role that urban elements play in this relationship (Gehl & Svarre, 2013). The objective to bring about an improvement in socio-spatial relations and the wellbeing of people is achieved through designing environments that are human focused and improving the flow of communication between the built environment and the people using these spaces (Gifford, 2002: Gehl & Syarre, 2013: Bonaiuto *et al*, 2010). Carrus (2004) states that there are four aspects that characterise environmental psychology:

1. " the attention paid to the physical characteristics of the environment where human behaviour occurs,
2. the large variety of research methods adopted,
3. the attention to socially relevant problems, and
4. the interdisciplinary collaboration practices with other environmental fields that are devoted to the design and management of everyday life environments" (Bonaiuto *et al*, 2010, p24).

Maslow (1943), in his journal titled **A Theory of Human Motivation,** identifies various factors that play a role in motivating and influencing the manner in which people behave. This theory is titled *Maslow's Hierarchy of Needs,* which explains that the there are 5 essential factors that motivate individual's behaviour:

- Physiology
- The need for safety
- Biological and aesthetic needs
- The need for self-actualization, esteem or status
- The need for love and belonging

Environmental psychology can be seen as a multidisciplinary field of study that is influenced by a number of methods and scientific paradigms that each emphasis a difference facet of the relationship between the built environment and people.



There are five general areas of focus in environmental psychology:

- Spatial behaviour: the role that spatial properties in the built environment play in regulating and shaping social interaction (Bonaiuto *et al*, 2010). Specifically focusing on the concepts of crowding, territoriality, privacy and personal space (Bonaiuto *et al*, 2010).
- Spatial cognition: the process of cognitive mapping is used, where the information on the spatial properties of the built environment and the relationships between elements is collected, represented and stored. Wayfinding, memories of place and orientation are used as the basis for cognitive mapping (Bonaiuto *et al*, 2010).
- Environmental stress and restoration: the perceived or actual properties of the built environment that have the ability to produce some form of psychological effect on people (Bonaiuto *et al*, 2010). The focus is on the effects of environmental stress on the wellbeing of people and the coping mechanisms to mitigate these stressors, such as pollution, overcrowding, noise etc (Bonaiuto *et al*, 2010). However, there is also a focus on restorative environments that promote restoration through psychological, physical, and social recovery (Bonaiuto *et al*, 2010).
- Environmental assessment: this is based on individual's personal evaluation and assessment of different environments, the positive and negative properties of the environment, and the judgment of different scenes (Bonaiuto *et al*, 2010). This area of study may be slightly controversial as it relies on users evaluations, which may be questioned for reliability and validity (Bonaiuto *et al*, 2010).
- Environmental concerns and research management: this focuses on the human behaviour that can inflict some level of global or local environmental change (Bonaiuto *et al*, 2010).

There are also a number of environment-behaviour models that develop theoretical perspectives on the relationship between people and the built environment.

The Stimulus Load theory:

This theory brings about a conceptualization of the built environment as a source of various sensory information which brings about some form or degree of psychological stimulation to individuals (Aghostine-Sangar, 2007). This is referred to as stimuli (Gifford, 2002: Veitch & Arkkelin, 1995). These stimuli can vary from sound, to lighting, to features on a building, street, or even land uses and forms (Aghostine-Sangar, 2007).

The stimulus provided has to be done so in a balanced way, avoiding an overload of stimuli that may overwhelm an individual (Veitch & Arkkelin, 1995). An example of this can be seen in a setting where an individual who is lost in a new environment, that has buildings towering over them, and crowds of people (Aghostine-Sangar, 2007). This individuals attempt to make sense of the space and navigate it, may be overwhelming because of the stimulus overload (Aghostine-Sangar, 2007). Veitch and Arkkelin (1995) state that this stimulus overload may lead to a person becoming frustrated, making them want to leave this setting, as soon as possible. In contrast to this, an environment that does not have enough stimuli, can also have a similar effect, as people will become easily board, and will not desire to interact with this environment any longer (Aghostine-Sangar, 2007).

The Behaviour Constraint Theory

The real and perceived constraints that are imposed on people by a space, and the degree to which they constrain ones control over their environment, is understood to be the Behaviour Constraint Theory (Gifford, 2002: Veitch & Arkkelin, 1995). This theory looks at how the



environment encourages, prevents or limits an individual's behaviour in a space (Veitch & Arkkelin, 1995).

In an environment where people feel like they do not have any control of their surroundings, they start to feel uncomfortable, which leads them to attempt to reassert their control in some way or another (Bell et al, 1996). Veitch and Arkkelin, (1995) describe this as psychological reactance. An example of this can be seen in a situation where an individual comes across a deserted and dark street. This person will either avoid this portion of the street, if they can, or alter their movement pattern in some way, as to stay clear of a space that makes them feel uncomfortable (Aghostine-Sangar, 2007).

The Environmental Stress Theory

This theory looks at the role that cognition, emotion and physiology play in the relationship between individuals and the built environment (Bell et al, 1996). The features of a space, such as traffic, noise, temperature and overcrowding, have the ability affect the human senses, which can cause stress amongst individuals (Veitch & Arkkelin, 1995). This causes an alarm reaction, as these features become threatening, causing an individual to experience an alteration in their psychological and physiological process (Gifford, 2002: Veitch & Arkkelin, 1995). This is followed by an attempt to resist and alleviate these stress factors through coping strategies (Bell at a, 1996). If an individual is exposed to the stress for a prolonged period of time, exhaustion begins to set in which leads to enhanced stress and the feeling of disorientation in a space (Gifford, 2002: Veitch & Arkkelin, 1995).

THE PHYSICAL ENVIRONMENT

The physical environment is shaped and created by built environment professionals. This space is formed by a representational plan: the floor, walls, and ceiling (Aghostine-Sangar, 2007). The floor is understood to be the ground surface, which varies in material texture and type (Aghostine-Sangar, 2007). The walls can be understood to be the buildings that enclose the space (Aghostine-Sangar, 2007). The celling is the sky and natural features such as tress that create a canopy, or shade the area (Aghostine-Sangar, 2007:Lewis 1996).

Kevin Lynch (1960) was the first to introduce the relationship between the physical elements of space and how people perceive this. Lynch (1960) highlighted five elements that have the ability to influence how people experience and perceive their surroundings. These elements are nodes, paths, landmarks, edges and districts (Lynch, 1960). These elements will be individually discussed in the next section titled Design tools.

The five elements of space that Lynch (1960) discusses reveals that people respond to the surrounding environment in two ways, through the visual aspects of the form of space, and through human sense in the evaluation response to space (Aghostine-Sangar, 2007: Bell et al, 1996).

French (1978) discuss the edges of space in depth, and how this affects human behaviour. He argues that enclosure is a crucial function of buildings, however, it is mostly perceived in a subconscious way (Aghostine-Sangar, 2007). Other factors, such as shapes, colours, details, the quality of space, scale, and size, affect individuals in a psychological way that encourages a reaction to the space.

French (1978) further goes on to analyse the walls of a public open space, by stating that the wall can sometimes be disproportionate to the open space, as building are often tall and impersonal, lacking any consideration for human scale (Aghostine-Sangar, 2007). This leaves an individual feeling lost and consumed by



the space. French (1978) thus argues that edges and enclosure can also be created through other means, such as trees, a step down, or benches, as to create a sense of intimacy and human scale that provides for the psychological needs of individuals in public open space (Aghostine-Sangar, 2007). However, French (1978) also states that it is not only the edge/wall that directs activities in a space, but also the way a space is arranged. Feng shui discusses the importance of special arrangement, to facilitate the positive flow of activity and energy through a public open space.

FENG SHUI

Feng shui is a discipline with a vision to bring about a flow of energy that ignites the psychological wellness of humans and the built environments that they interact with on a daily basis (Bonaiuto *et al*, 2010). This vision is accomplished through the selection of design strategies or human settlements (Bonaiuto *et al*, 2010).

WHAT IS FENG SHUI?

Feng Shui is the Chinese concept of wind (feng) and water (shui) as "it is a thing like wind, which you cannot comprehend, and like water, which you cannot grasp" (Eitel and Michell, 1873/1984, p2). Wind and water are critical elements of *chi*, the positive energy that is produced in all forms of life (Bonaiuto *et al*, 2010). This positive energy is produced through curvilinear and soft forms, whilst shi chi, a negative energy, is produced through interrupted shapes and rectilinear forms (Bonaiuto *et al*, 2010). Other shapes that produce shi chi include hilltops, irregular or pointed objects at the entrance of buildings, and tall buildings that do not consider human scale, or overshadow the surroundings areas and other buildings (Bonaiuto *et al*, 2010).

The disciple of *feng shui* originated in 5000 B.C and has become an acknowledged discipline over the last few decades. This has been seen in parts of Europe and North America where feng shui has been used as a design system to better the quality of life (Bonaiuto *et al*, 2010). A site is chosen through the use of the numeric characteristics of the site, astrology and symbolism. The design process is targeted at bring about integration between various elements in the built environment or place of design. The designer is able to achieve an efficient system of circulation and planning, a non-aggressive structural system, an interior conducive to living and working, and an appropriate site where every structure is in harmony with its surrounding area (Bonaiuto *et al*, 2010, p29).

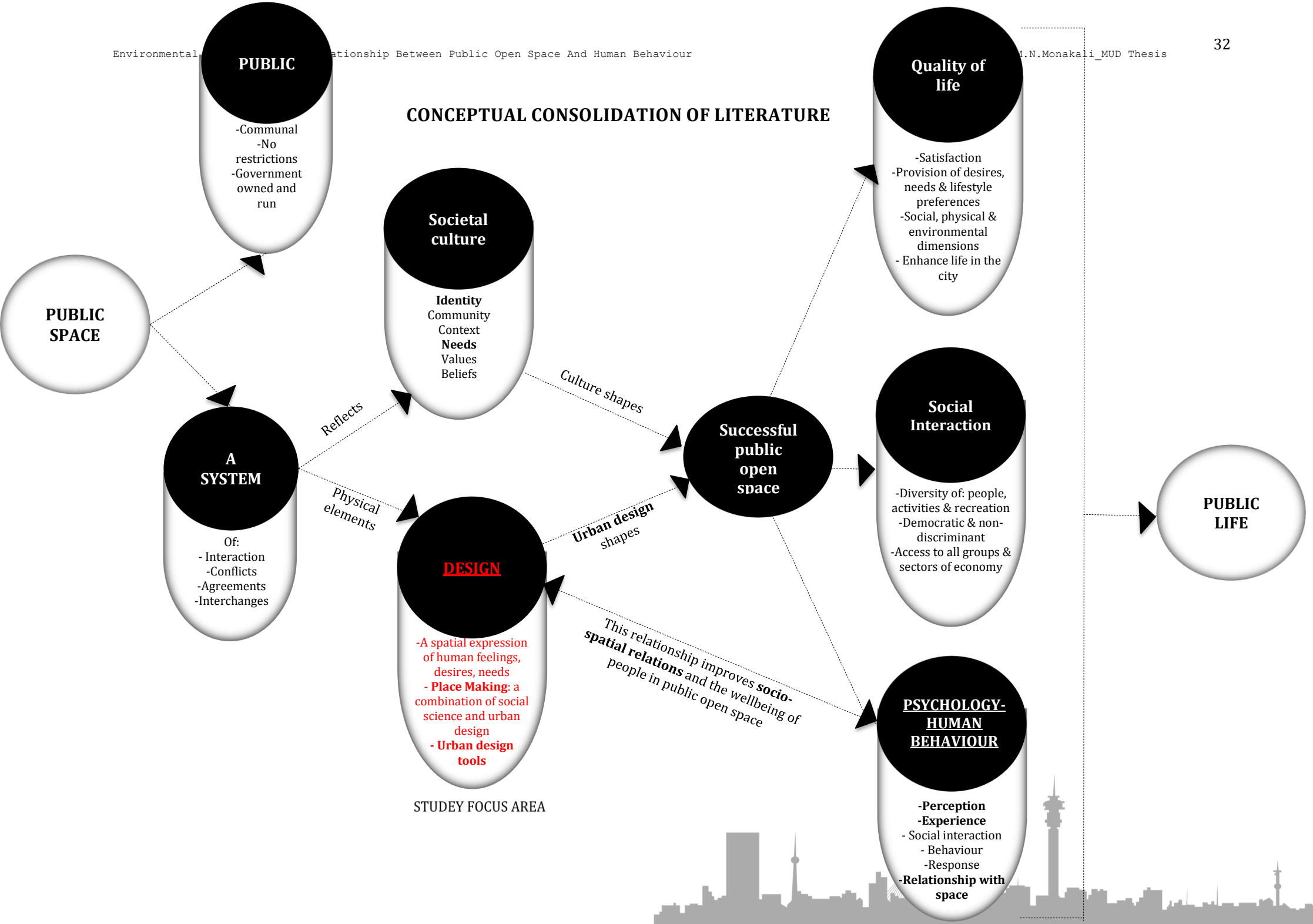
Feng shui is focused on the evaluation of an areas energetic quality that is determined through an analysis of the ying and yang. Ying and yang are opposite entities that are attracted to one another and are complete when integrated (Bonaiuto *et al*, 2010). When there is an imbalance between these two entities this will result in an environment that reflects this imbalance through the discomfort of users.

A COMPARATIVE ANALYSIS OF FENG SHUI AND ENVIRONMENTAL PSYCHOLOGY

Environmental psychology and feng shui have a number of similar design guidelines that are embedded within both concepts. Environmental psychologies main aim is to design built environments that facilitate various human activities and promote the wellbeing of those using these spaces (Gifford, 2002). A point of similarity is seen with feng shui and environmental psychology, as these two disciplines are aware of the multiple influences that the built environment can exert on the wellbeing of people. Feng shui focuses on the deterministic influence that the environment can have on the people who use these spaces. Whilst in environmental psychology the focus is on the interactive relationship between people and the built environment as the physical attributes of a space are the driving force behind the wellbeing of people. The physical elements of the built environment provide constraints or opportunities that interact with the limits or the capabilities of the people in space.



CONCEPTUAL CONSOLIDATION OF LITERATURE



STUDEY FOCUS AREA

SHAPING PLACE, BEHAVIOR AND INTERACTION

Social interaction is promoted through the various opportunities presented in the public arena (RUDI, nd). Parks, restaurants and benches are 'encounter stages' where people interact, talk, meet each other or enjoy their solitude (RUDI, nd). A number of factors play a role in shaping and influencing the various ways public spaces can be used for different social benefits (RUDI, nd). The urban design of the public realm is one such factor that plays a critical role in shaping social benefits in public spaces (RUDI, nd). Urban design has the potential to bring about a modification in the social practices existing in a space, encouraging more positive social behaviour and building social interaction in public spaces (RUDI, nd). To have a better understanding of the urban landscape and how it has the potential to impact behaviour and interaction, there needs to be an adoption of an expanded understanding of urban design practices (RUDI, nd). "We need to view the urban environment as an integrated system and, in order to achieve real integration on an urban scale, to consider the design of space holistically. This means taking account of urban space and social interaction space" (RUDI, nd, p54).

CONCLUSION

Many of the elements discussed in environmental psychology can be controlled and altered by built environment professionals through design solutions that address these matters. This is done through understanding the environmental factors, and how they affect people's perception and interpretation of spaces, as discussed above.

The literature review addresses one of the sub-question presented in this report by clearly depicting that the built environment does affect human behaviour in space, and how it affects it. It discussed public space, what it means, and the various factors that influence how successful public spaces are shaped. This was followed by a thorough explanation of environmental psychology and how the relationship between human behaviour and the built environment is established and influenced. The next section of the literature review will make use of the literature discussed above, to apply these theories in the design of space, and the utilization of certain design tools.



CHAPTER 3_DESGIN TOOLS

QUALITY PUBLIC OPEN SPACES
SCALES OF URBAN DESIGN TOOLS
CONTEXTUAL ENVELOPE
RESPONSIVE SPACES
5 ELEMENTS OF SPACE
PLACE MAKING
INGREDIENTS OF A SUCCESSFUL PUBLIC OPEN SPACE



SCALES OF URBAN DESIGN TOOLS

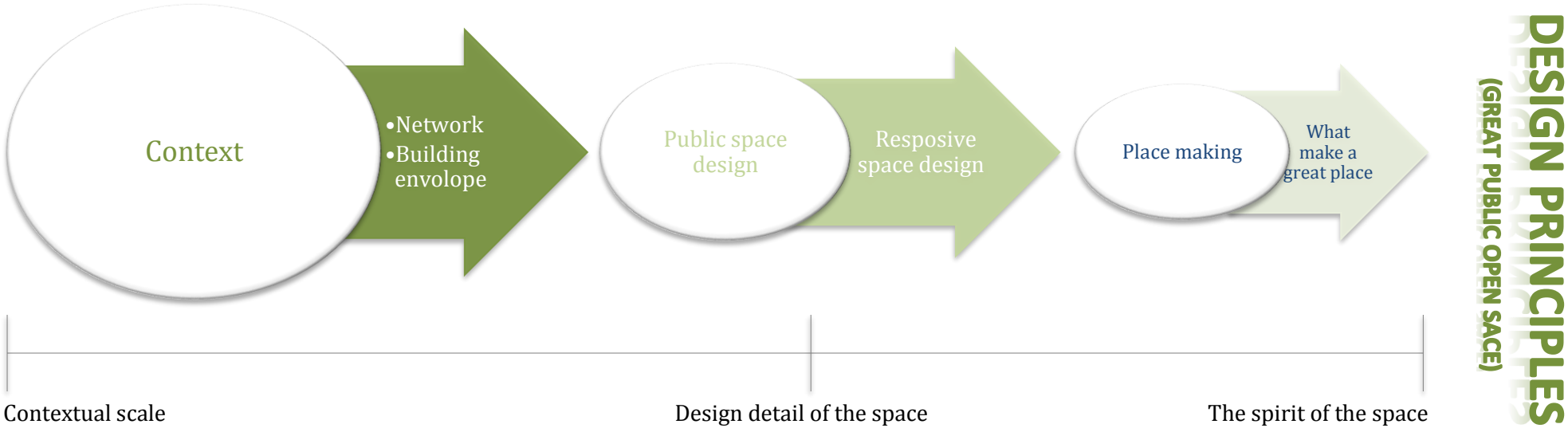


Figure 3- Scales at which the urban design tools will be unpacked



CONTEXTUAL ENVOLOPE

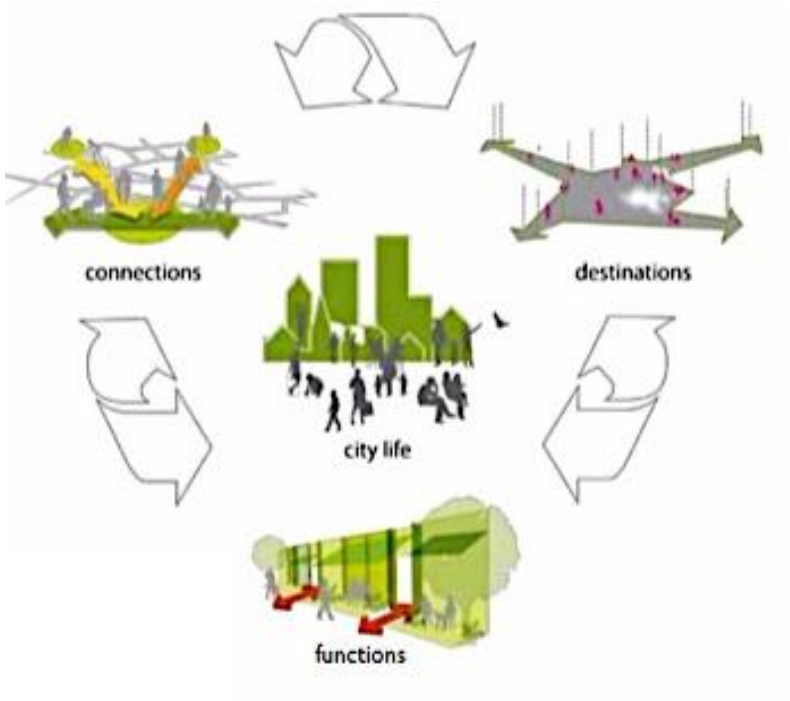


Figure 4- Components that make up city life (Gehl, nd)

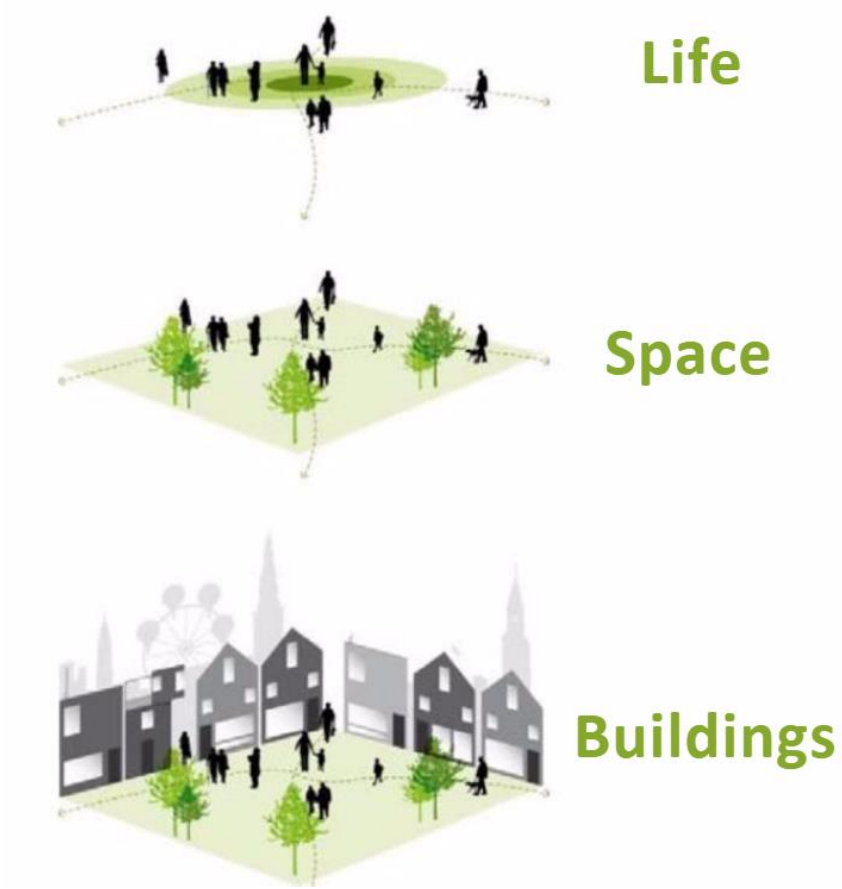


Figure 5- Life, Space, Buildings Concept (Gehl, nd).

THE CONTEXTUAL ENVELOP OF CITY LIFE

City life is found in between buildings and various destinations in the city. This is all linked through the connections made through and around spaces, buildings and surrounding areas.

THE PUZZLE PIECES OF A PUBLIC SPACE

Public space can be found in the city, where life exists. This space exists between buildings, and is defined as public space. Different typologies of public space define these spaces and their different uses.

PUBLIC SPACE TYPOLOGIES

The type of public space is influenced by the context in which it sits in. Bellow are four types of public spaces that are determined by the context in which they sit in. Smaller intimate spaces are found in residential neighbourhoods. Larger open space, with more activities and functions service urban centres, as these spaces take on a greater diversity of functions, movement systems, activities and people.

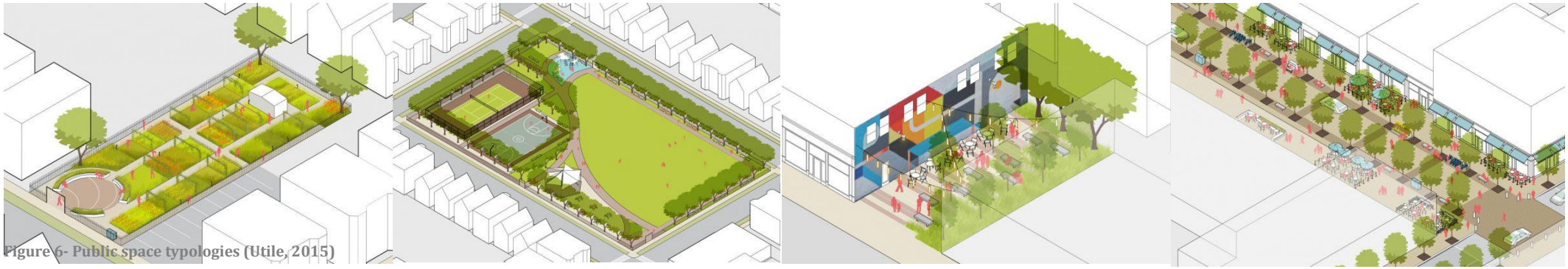


Figure 6- Public space typologies (Utile, 2015)

Community park Urban park Pocket park Shared space

PUBLIC SPACE FUNCTION

The function that a public open space takes on is highly depended on the contextual envelope of the surrounding buildings. Function is influenced by the land use of surrounding buildings, and this attracts people for a certain purpose, thus their use of public spaces is then defined.



Figure 7- The different functions of public space



RESPONSIVE ENVIRONMENTS

Responsive Environments is a book that guides the design of space and buildings, as to make the built environment more responsive to the needs and desires of individuals. The modern design of the built environment has failed to understand the implication of form on public spaces and the people that use them.

"The idea is that the built environment should provide its users with an essentially democratic setting, enriching their opportunities by maximizing the degree of choice available to them. We call such places responsive" (Bentley *et al,* 1985, p10).

The choices that people make are affected by the design of space at various levels (Bentley *et al,* 1985).

- Permeability: where people can and cannot go.
- Variety: the uses of a space that are available to people.
- Legibility: the ease in which people can read and understand the opportunities provided by space.
- Robustness: the degree to which people can use a space in various ways and for various purposes.
- Visual appropriateness: the detail in the space that creates an interesting place.
- Richness: the effects on the sensory experience of individuals.
- Personalisation: how much of the space reflects the context in which it sits in.

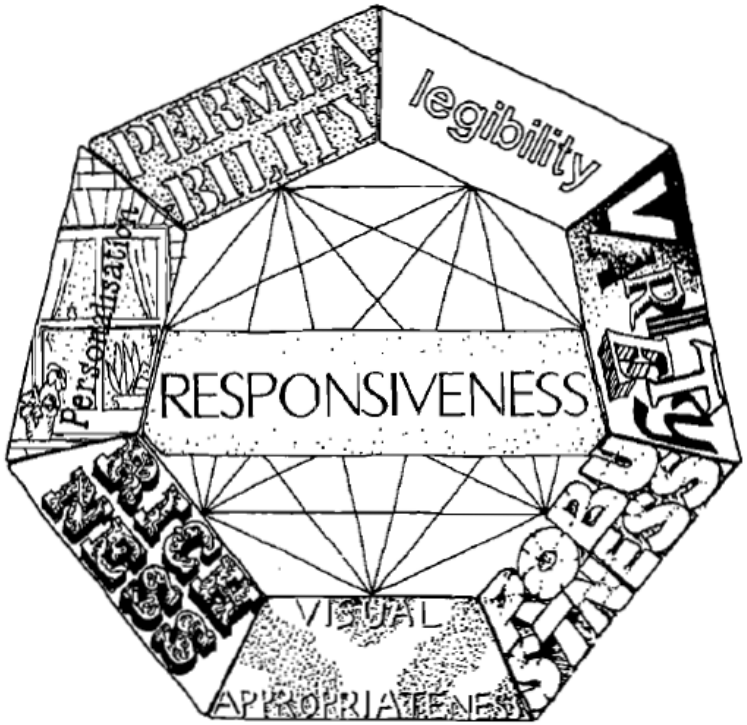


Figure 8- Elements of a responsive environment (Bentley et al, 1985 , p11)

PERMEABILITY

Spaces that offer people choices need to be accessible (Bentley *et al,* 1985). This is determined by the quality of permeability through the provision of alternative routes into or through a space (Bentley *et al,* 1985). This means that the permeability of a spaces has an implication on the layout, as seen the figure 9 & 10 bellow, with greater and less permeability being depicted (Bentley *et al,* 1985).

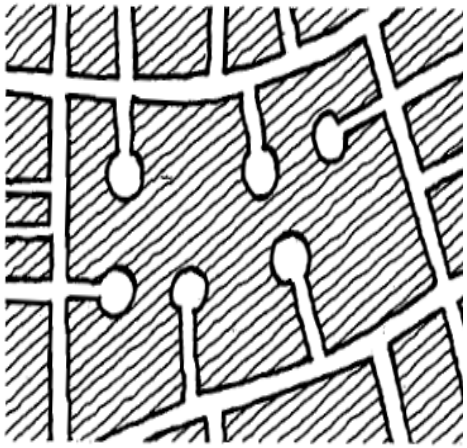


Figure 9- Less permeable street layout (Bentley *et al,*1985, p10).

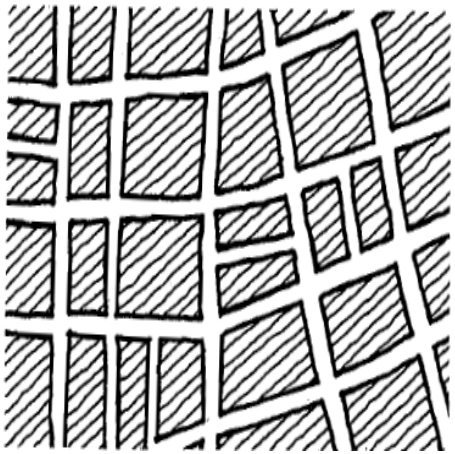


Figure 20- More permeable street layout offering greater choice (Bentley *et al,*1985, p10).

Permeability also speaks to:

- the distinction between the access to public and private spaces, and how there is a distinction between these two spaces across the public/private interface (Bentley *et al,* 1985).
- the visual and physical permeability between private and public spaces, figure 11 (Bentley *et al,* 1985).
- block sizes and how smaller blocks allow for more choices than larger blocks which are difficult to navigate by foot (Bentley *et al,* 1985).
- the front and back of a building, with private spaces at the back of a building and the front looking onto public spaces with windows, entrances and permeable fronts, figure 12 (Bentley *et al,* 1985).

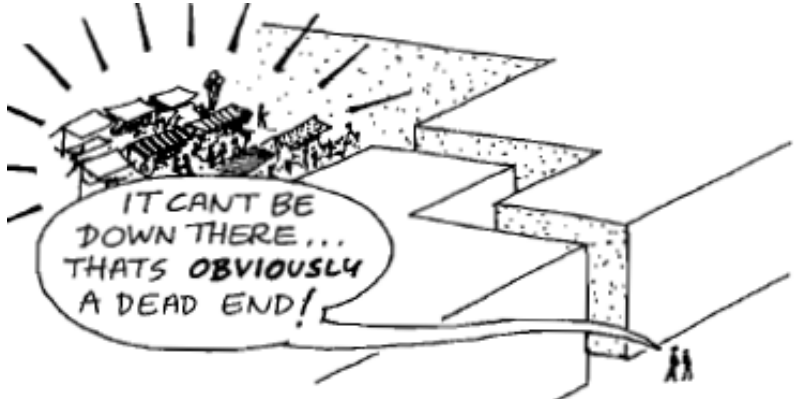


Figure 11- The permeability of public spaces (Bentley *et al,*1985, p12).

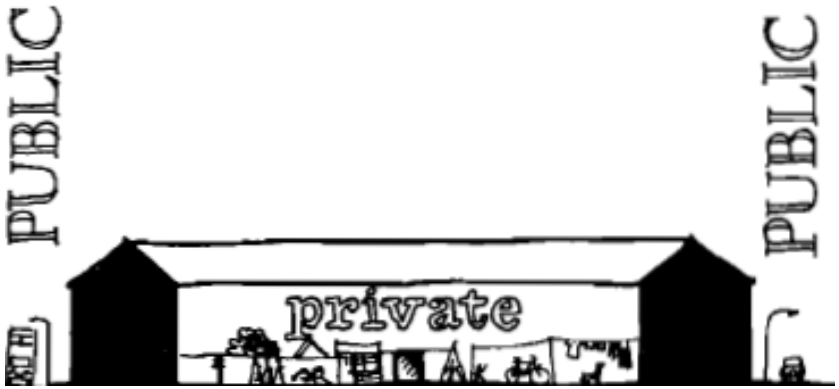


Figure 12- Fronts and backs of buildings (Bentley *et al,*1985, p14).

VARIETY

The range of uses offered by a space creates variety in the activities individuals can partake in (Bentley *et al,* 1985). A space with varied forms brings about varied uses and meaning to different users (Bentley *et al,* 1985). This is through different building types and activities, which cater to different individuals needs and desires in space, figure 13, leaving the space open for interpretation through different views (Bentley *et al,* 1985).

It is also critical to understand that different people access public spaces differently (Bentley *et al,* 1985). Thus, there should be access provided for various modes of mobility.

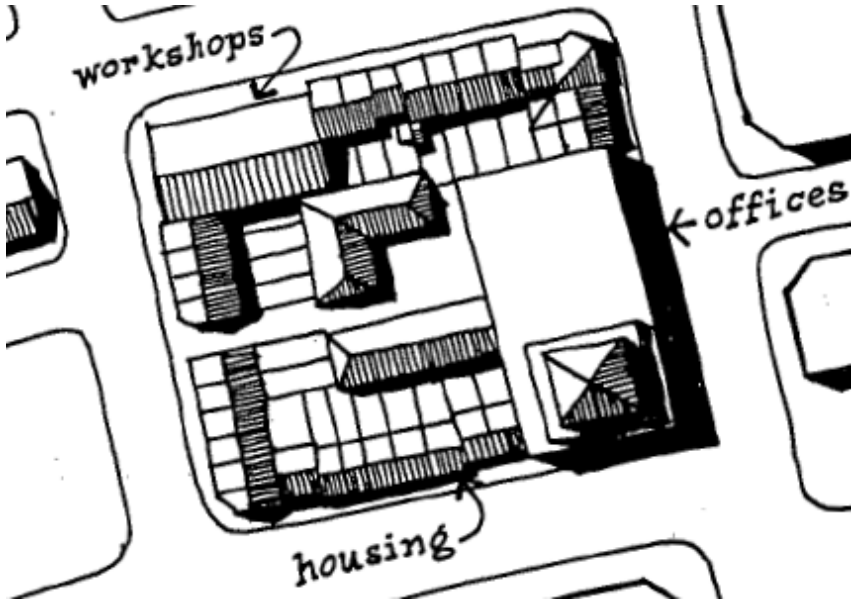


Figure 13- Variety of uses (Bentley *et al,*1985, p10).

LEGIBILITY

The ease in which choices are legible to various users determines how responsive a space is (Bentley *et al,* 1985). The perceptual structure of a place is ascertained through design (Bentley *et al,* 1985). This is understood to be the three dimensional form of the networks and linkages between uses (Bentley *et al,* 1985). The routes and spaces between form is shaped through enclosure and framing, with the volumes of buildings determining the degree of spatial enclosure (Bentley *et al,* 1985).

Legibility can be understood at two levels, the physical form and the activity patters (Bentley *et al,* 1985). However, to use the full potential of a space, full awareness of the physical form and the patterns of use should be complimentary (Bentley *et al,* 1985).

The legibility of traditional and modern cities differs (Bentley *et al,* 1985). This is seen in cities that were established before the 20th century, where cities were easily legible (Bentley *et al,* 1985). Places of importance were emphasized and enhanced, making them look more important than the surroundings, figure 14 (Bentley *et al,* 1985). Whilst public spaces were easily identified, as was the case for any outdoor spaces (Bentley *et al,* 1985). The modern city takes on more of a monotonous look and feel with buildings that are not very architecturally distinct, figure 15 (Bentley *et al,* 1985).



Figure 14- Traditional city with prominent buildings accentuated (Bentley et al, 1985)



Figure 15- Modern city with more monotone buildings (Bentley et al, 1985)

5 Elements of space

There are key physical elements that play a role in contributing to the responsiveness of spaces (Bentley *et al,* 1985). Kevin Lynch discusses five features of a space that help people create mental maps in their minds (Bentley *et al,* 1985: Lynch, 1960). These mental maps assist individuals to understand and read a space (Lynch, 1960). How legible a space is, is determined through these five elements: paths, nodes, edges, districts and landmarks (Lynch, 1960).

-Paths: these are the routes that people use to navigate through the city, channels of movement that play the most critical role in the image of the city (Lynch, 1960).

-Edges: the breaks and boundaries found in the continuity of space (Lynch, 1960).

-Districts: these can be classified as areas that have commonalities in its characteristics (Lynch, 1960).

- Landmarks: are the physical elements of space that are easily identifiable in the urban landscapes (Lynch, 1960).

- Nodes: focal points in the urban landscape (Lynch, 1960).

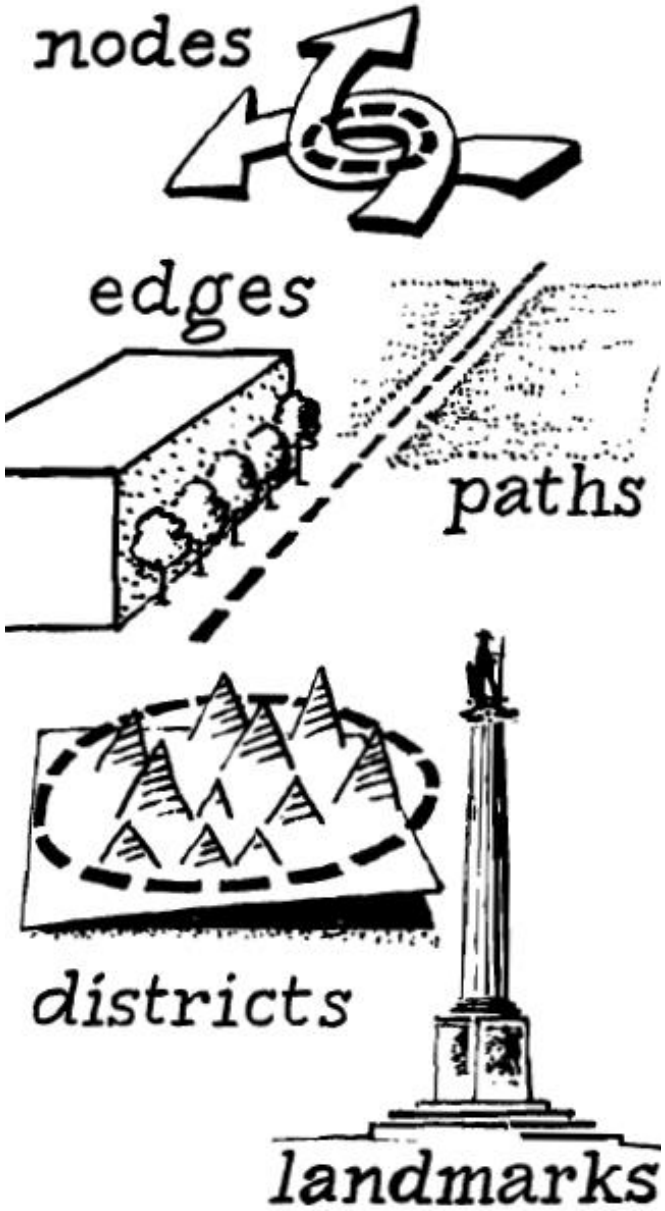


Figure 16- Lynchs 5 elements of space (Bentley *et al,* 1985, p43).

ROBUSTNESS

The design of spaces should not be limited to a single use as it should allow for multiple uses, giving individuals more choices (Bentley *et al,* 1985). In public spaces, what often happens is that the space is designed with specialised spaces for various activities that are separated from each other (Bentley *et al,* 1985). This removes robustness from the space as activities are separated into different compartments, taking away the opportunity for people to experience other people, with their differences (Bentley *et al,* 1985).

The buildings around public spaces play a vital role in determining the robustness of a space (Bentley *et al,* 1985). The potential for outdoor robustness is highly dependent on the activities and use of the building at the ground floor level, figure 17 (Bentley *et al,* 1985). Activities in the building that extend out into the public contribute to the activity that can take place in the public space, figure 18 (Bentley *et al,* 1985). This is an activity area.



Figure 17- Robust ground floor activity opening up onto public space (Bentley *et al,* 1985, p58).

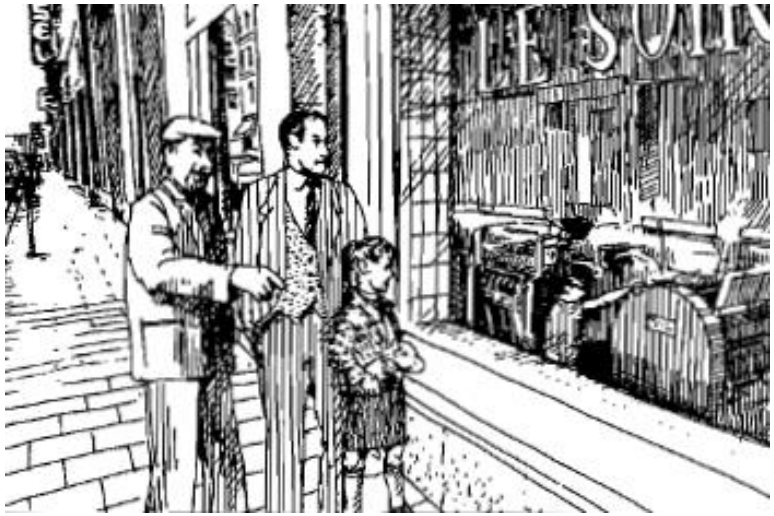


Figure 18- Robustness created by ground floor activity that influences activity in public space (Bentley *et al,* 1985, p58).

VISUAL APPROPRIATENESS

The appearance of a space and the buildings around it need to focus on the detail (Bentley *et al,* 1985). This is important as the way people interpret a space is influenced by the detail around them (Bentley *et al,* 1985). A space becomes visually appropriate when peoples interpretation of space takes on a specific meaning (Bentley *et al,* 1985). This meaning ignites responsiveness, making a place visually appropriate (Bentley *et al,* 1985).

Responsiveness is reinforced by the way people interpret a given space at three levels:

- "supporting its legibility, in terms of form and use, figure 19 & 20
- by supporting its variety, figure 21.
- by supporting its robustness, figure 22"(Bentley *et al,* 1985, p76).



Figure 19- Legibility of form (Bentley et al, 1985, p76).



Figure 20- Legibility of use (Bentley et al, 1985, p76).



Figure 21- The variety of visual detail (Bentley et al, 1985, p76).



Figure 22- The visual appropriateness of a robust building (Bentley et al, 1985, p76)

RICHNESS

The variety of sense experiences is related to the quality of richness in a space (Bentley *et al,* 1985). Richness does not only affect the visual sense of a person, as it also has implications on all other senses: motion, smell, hearing and touching included (Bentley *et al,* 1985).

- The sense of motion: this is kinetic richness that allows for a variety of movement possibilities in a space (Bentley *et al,* 1985).
- The sense of smell: moving from one source to another source is a potential for richness (Bentley *et al,* 1985).
- The sense of hearing: the act of hearing cannot be controlled. Richness can be achieved in smaller spaces (Bentley *et al,* 1985).
- The sense of touch: The richness of a space can be achieved through the surface and different textures in a space (Bentley *et al,* 1985).
- The sense of sight: This is the dominant sense making visual richness that much more important. The richness of architecture, the orientation of a space and the viewing distances are means of achieving visual richness (Bentley *et al,* 1985).

PERSONALISATION

It is important to ensure that individuals can personalise public spaces through putting a stamp of individual's values and culture (Bentley *et al,* 1985). The personalisation of the public realm is achieved through the personalisation of the facades and threshold of buildings around public spaces, figure 23 (Bentley *et al,* 1985).



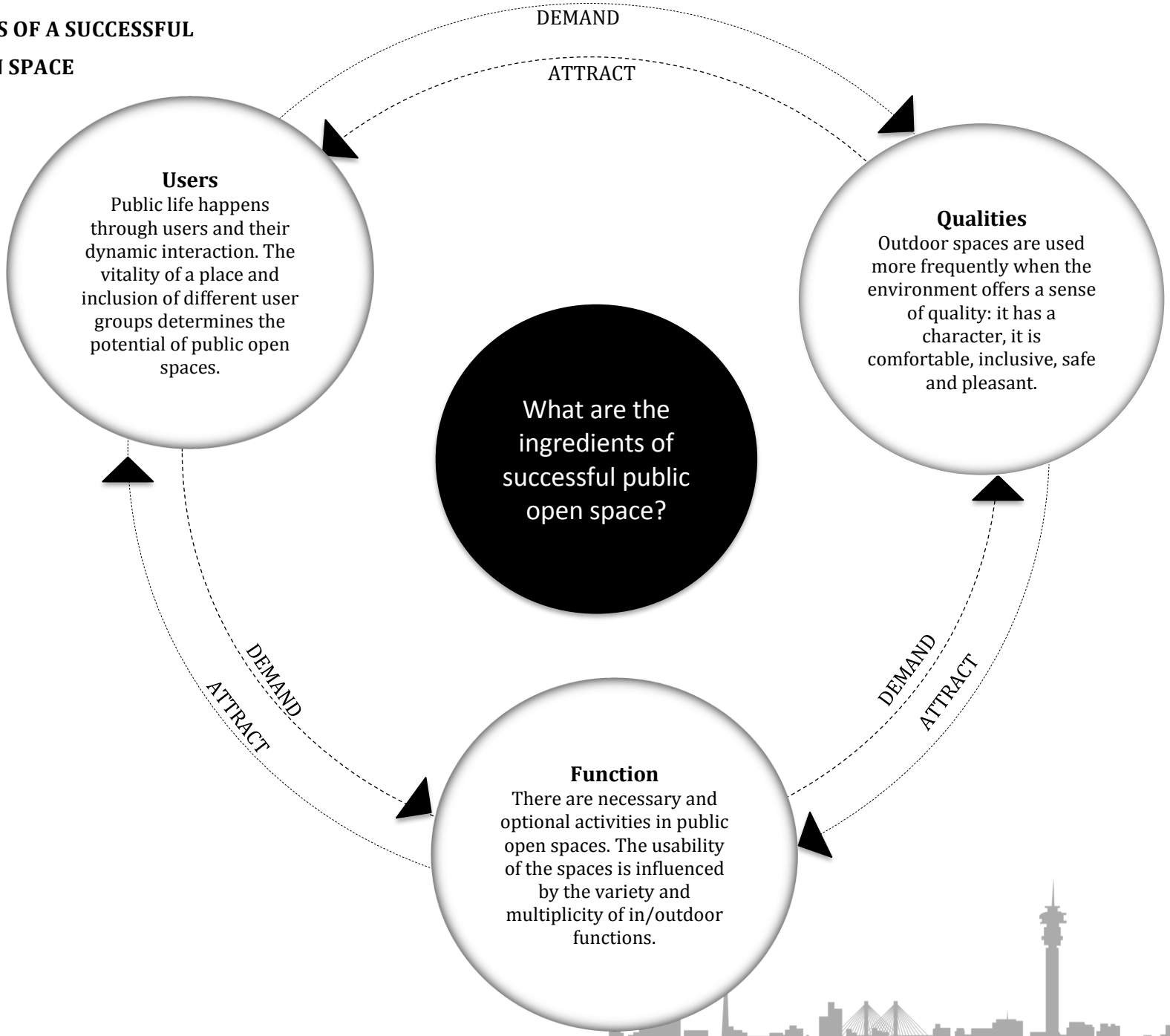
Figure 23-Personalising a building to affect the public realm (Bentley et al, 1985, p101).

PLACE MAKING THEORY



Figure 24- Place making principle

INGREDIENTS OF A SUCCESSFUL PUBLIC OPEN SPACE



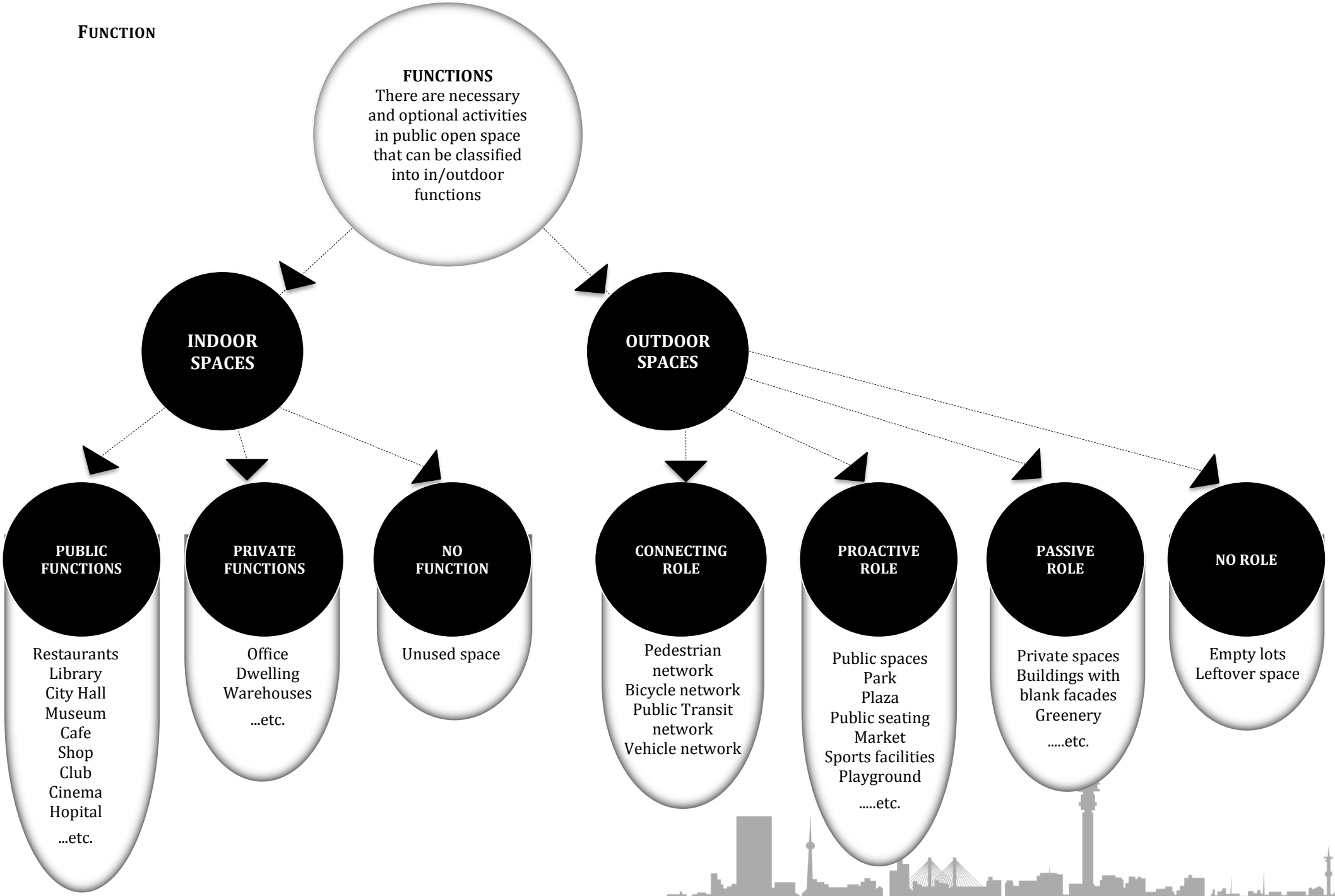
USERS

Users

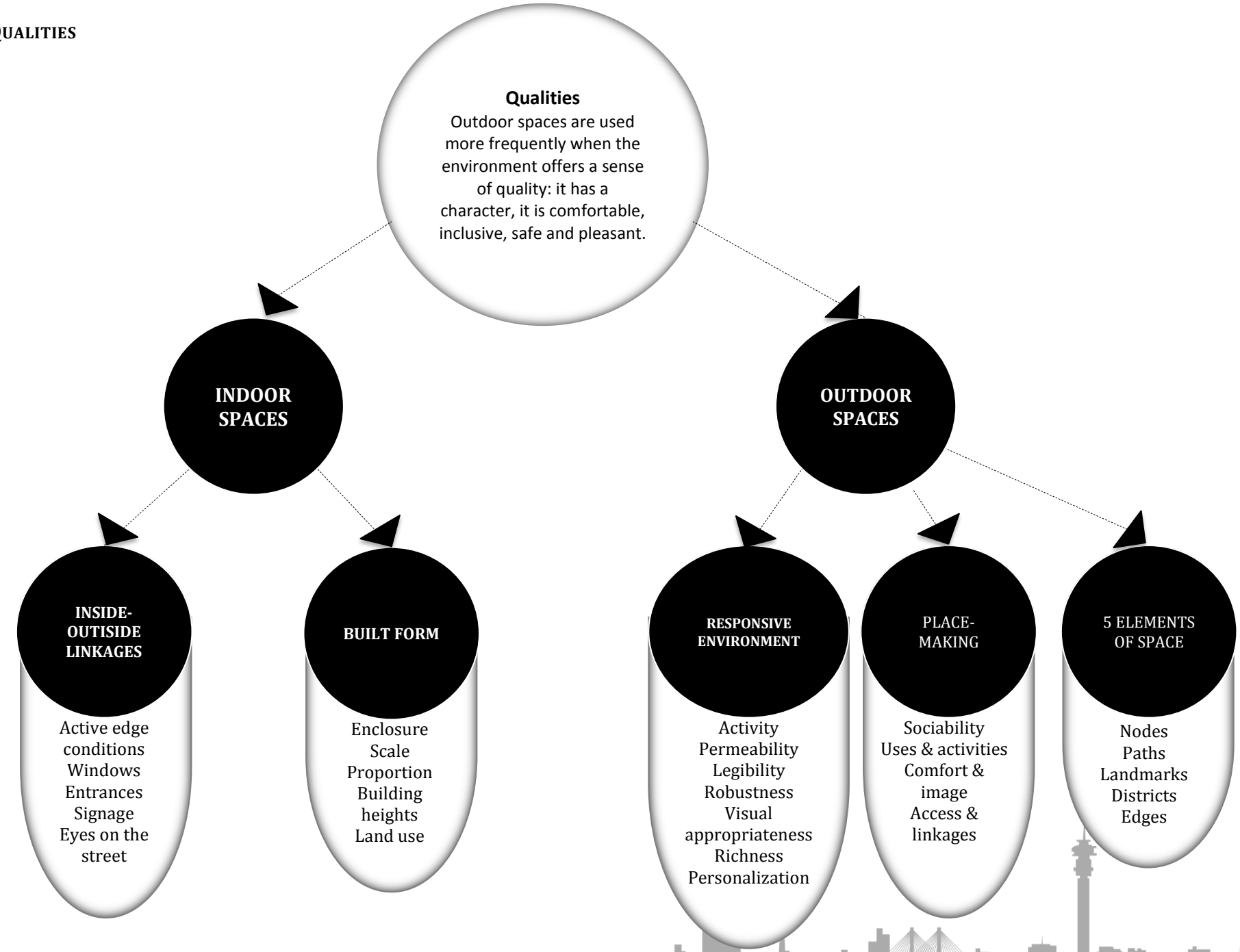
Public life happens through users and their dynamic interaction. The vitality of a place and inclusion of different user groups determines the potential of public open spaces.



FUNCTION


FUNCTIONS
There are necessary and optional activities in public open space that can be classified into in/outdoor functions
INDOOR SPACES
OUTDOOR SPACES
PUBLIC FUNCTIONS
Restaurants
Library
City Hall
Museum
Cafe
Shop
Club
Cinema
Hopital
...etc.
PRIVATE FUNCTIONS
Office
Dwelling
Warehouses
...etc.
NO FUNCTION
Unused space
CONNECTING ROLE
Pedestrian network
Bicycle network
Public Transit network
Vehicle network
PROACTIVE ROLE
Public spaces
Park
Plaza
Public seating
Market
Sports facilities
Playground
.....etc.
PASSIVE ROLE
Private spaces
Buildings with blank facades
Greenery
.....etc.
NO ROLE
Empty lots
Leftover space

QUALITIES


Qualities
Outdoor spaces are used more frequently when the environment offers a sense of quality: it has a character, it is comfortable, inclusive, safe and pleasant.
INDOOR SPACES
OUTDOOR SPACES
INSIDE-OUTISIDE LINKAGES
Active edge conditions
Windows
Entrances
Signage
Eyes on the street
BUILT FORM
Enclosure
Scale
Proportion
Building heights
Land use
RESPONSIVE ENVIRONMENT
Activity
Permeability
Legibility
Robustness
Visual appropriateness
Richness
Personalization
PLACE-MAKING
Sociability
Uses & activities
Comfort & image
Access & linkages
5 ELEMENTS OF SPACE
Nodes
Paths
Landmarks
Districts
Edges

CONCLUSION

To understand the complex and versatile dynamic of life in public spaces, tools to observe, understand and address the disconnect between public space and public life have been discussed (Gehl & Svarre, 2013). A scaled unpacking of design considerations that should be given to the design of public open space was the initial step. A thorough understanding of the citywide context that public space sits in is required, prior to zooming in to the specific site and its surroundings. Bentley (1985) and Lynch (1960) take us through the identification of human responses to the built environment, and the strategic design tools developed to design quality and successful public open spaces that are a support aid to users and their daily activities in the city (Stokols, 1978). It is through the utilisation of these tools that design and social science come together to create place. This is where a successful, quality public open space can be found.

Based on the literature, and design tools discussed, the next section will look to identify principles that will be used as the design criteria to evaluate the public open space to be studied.



CHAPTER 4_DESIGN EVALUATION CRITERIA

INTRODUCTION
DESIGN EVALUATION CRITERIA:
-ACCESSIBILITY
-URBAN FORM
-VARIETY OF USES
-PUBLIC REALM
CONCLUSION



INTRODUCTION

The urban design tools that contribute to the creation of quality public open space systems and encourage positive human responses were discussed in the previous chapter. Based on the study of design tools, four design principles have been extracted from the data collected and this will be used as the criteria to unpacking the public open space to be studied in this research. These principles are the: the form and function of a space, accessibility to the space, the variety of uses, and the various elements that make up the public realm, figure 25. As to understand the form of a space, it is critical to understand the elements that influence and shape this form. To understand how the urban form of a space shapes and influences the function, elements such as scale, enclosure and city blocks will be unpacked. Accessibility looks to understand how a space is accessed by different modes of transportation and how this enhances the use of a space when it is easily and comfortably accessible to various users. The variety of uses in a space pertains to the land uses that are found in and around public open spaces, this would include unpacking attractions, density, activity use, edge conditions and mixed-use activity around the site and how this impacts the function of the space. Lastly, the public realm will look at how a space physically influences how a person feels, and whether this makes a space comfortable and attractive to use.

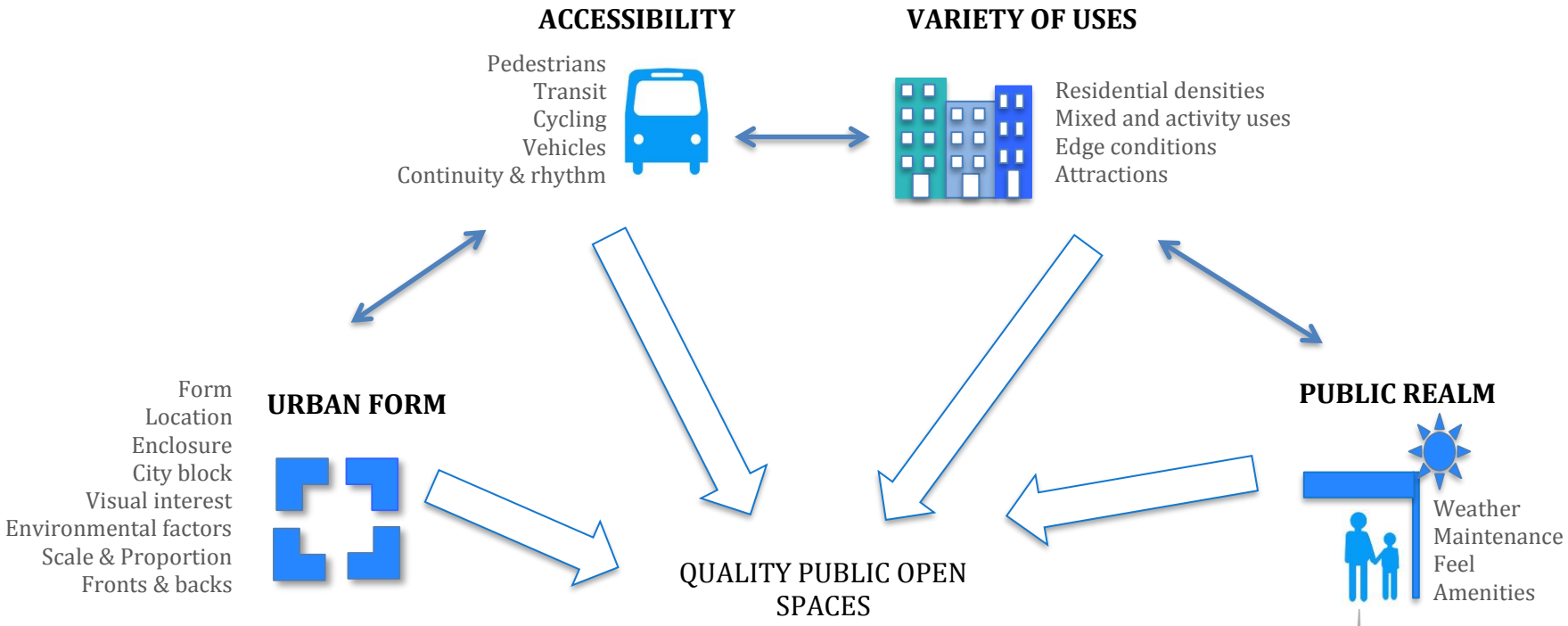


Figure 25- Principles of quality public open spaces (Author)

PRINCIPLE 1- URBAN FORM AND FUNCTION

When trying to create public spaces that ignite positive responses from people, the design consideration of the spaces is one aspect that has to be taken into account. The urban form of cities plays a crucial role in shaping the city and the various spaces in-between the built form. A pedestrians behaviour is influenced and impacted by the envelop of the space, and how it contains them in public open space. This section will look at the various built form elements that influence the function of public open spaces in urban environments.

FORM

The key properties of form include understanding the location of the public space within its urban context, as well as the envelope of buildings that are around and within the space (Bates, 2013). The heights and widths of the built form of urban areas play a critical role in defining public spaces, creating enclosures and visual interest. How well a space is enclosed and defined plays a critical part in a pedestrians' comfort in public open spaces. Imposing spaces, with extremely tall buildings and no human scale consideration, can create a very intimidating and unwelcoming environment for individuals.

LOCATION

The location of public spaces and the relationships they have with its surroundings is extremely crucial (Bates, 2013). Alexander (1977) states that public spaces need to be strategically located in the heart of the city as this is where the highest volumes of pedestrian traffic exist (Alexander *et al,* 1977). Pedestrians should feel comforted at accessing these spaces with ease, as they are located in the places they go to. Buildings play an important role in defining public open spaces. Thus, buildings need be located around public spaces, positioned close to one another and they should front these spaces, as to orientate the focus of the user and the uses in these public spaces (Alexander *et al,* 1977).

SCALE OF BUILDINGS

To establish an understanding of scale, the size and mass of buildings, in relation to the surrounding spaces and the pedestrian, needs to be considered (Department of Communities, nd). Factors such as the building size, the mass, and the scale of spaces between the buildings and open spaces, influence and impact how efficiently the spaces works for the pedestrian, the functionality, comfort and the character of the space (Department of Communities, nd). The proportion of building mass and open spaces around it need to be balanced, specifications to be discussed further under 'Scale and Proportion'. Overwhelming building mass, in comparison to its public open space ratio, may make a space feel oppressive and cramped, which results in pedestrians feeling overpowered and intimidated by the urban form (Department of Communities, nd). Less building mass will make a space feel vast and empty, with no elements to hold the public open spaces, leaving the pedestrian lost in a sea of space, with no comfort of some enclosure (Department of Communities, nd).

The transect model depicts the transition from rural to urban areas, and how the scale of buildings change along this axis. Figure 26, bellow depicts higher building densities, or scales, in the major urban core areas, and less densities as one transitions out to neighbourhood areas. Larger building masses thus require special specifications that create human scaled environments at the base of the building, or the ground floor level, as to make the pedestrian feel comfortable and not overwhelmed by the built form (Department of Communities, nd). Taller buildings in the urban core also have to consider other factors such as shadows, as depicted in the 'Environmental Factors' section bellow (CSIR, 2000: Department of Communities, nd).



SCALE OF BUILDINGS

TRANSECT



PRECEEDENTS



Johannesburg CBD

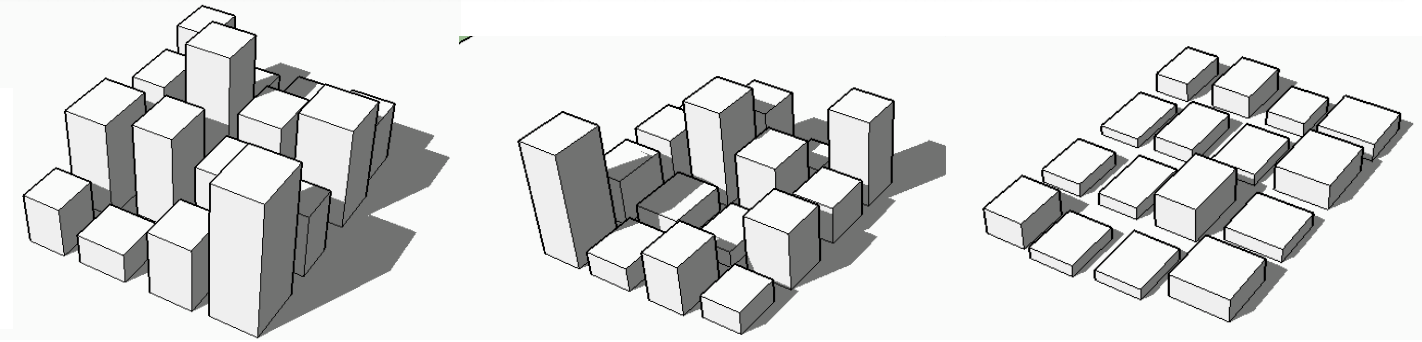


Rosebank CBD



Sunninghill

TYPOLOGY



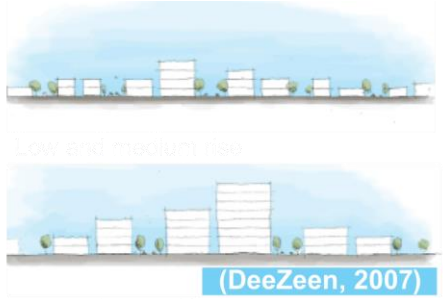
SCALE

High rise
Medium rise
Low rise

High/medium rise
Low rise

Low rise

Building heights



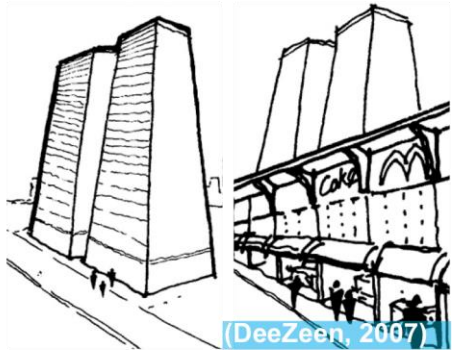
Low, medium and high rise

Framing



How buildings frame the street

Comfort



Creating human scaled environments at the ground floor

Figure 26- Building scale at different urban scales (Author)

ENCLOSURE

Enclosure is closely related to form, as a relationship is established between the physical distance and the pedestrians experienced distance in space (Gehl, 2011). Gehl (2011) states that the scale of a public space influences a person's experience. Thus, for people to experience spaces with all their senses, public spaces need to be intimate and contained (Gehl, 2011). An appropriate sense of enclosure should be established, with a human scale consideration as well as an understanding of how the scale of the space fits in the surrounding context (CSIR, 2000).

To create human scaled environments, public spaces should be well defined vertically and horizontally (Cullen, 1961: Bates, 2013). This is achieved through a balanced and proportionate relationship formed between the heights of buildings and the width of the public spaces they front (Jacobs, 1993).

Various urban theorists argue that building heights around public spaces should be between 4 to 10 stories, with the difference in height between buildings being 1 story, as to complement each other (Alexander *et al,* 1977: Gehl, 2011: Jacobs: 1993). The buildings create a room that people come into, a place that you have arrived in, and can leave (Cullen, 1961).

- Enclosure creates and defines urban rooms in spaces (CSIR, 2000).
- Hard and soft enclosing elements can be utilised around public open spaces, these can be buildings or trees, figure 27 (CSIR, 2000).
- The character of the space is determined by the elements enclosing the space and the degree to which this is does, as seen in figure 28 (CSIR, 2000).



ELEMENTS OF ENCLOSURE

Hard enclosure

Soft enclosure

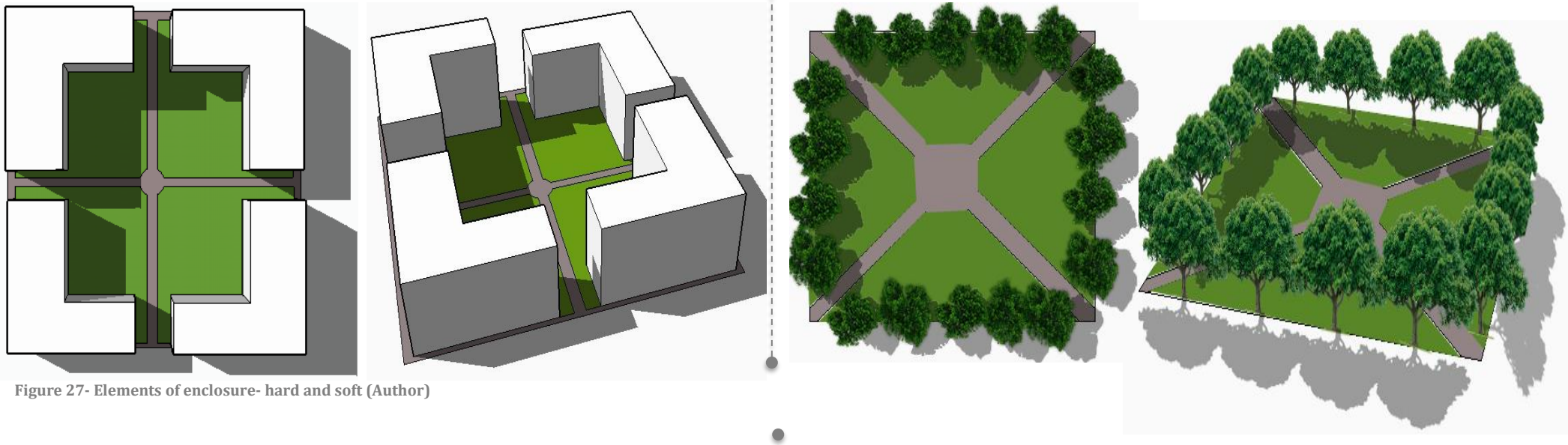


Figure 27- Elements of enclosure- hard and soft (Author)

DEGREE OF ENCLOSURE

Less enclosure

Full enclosure

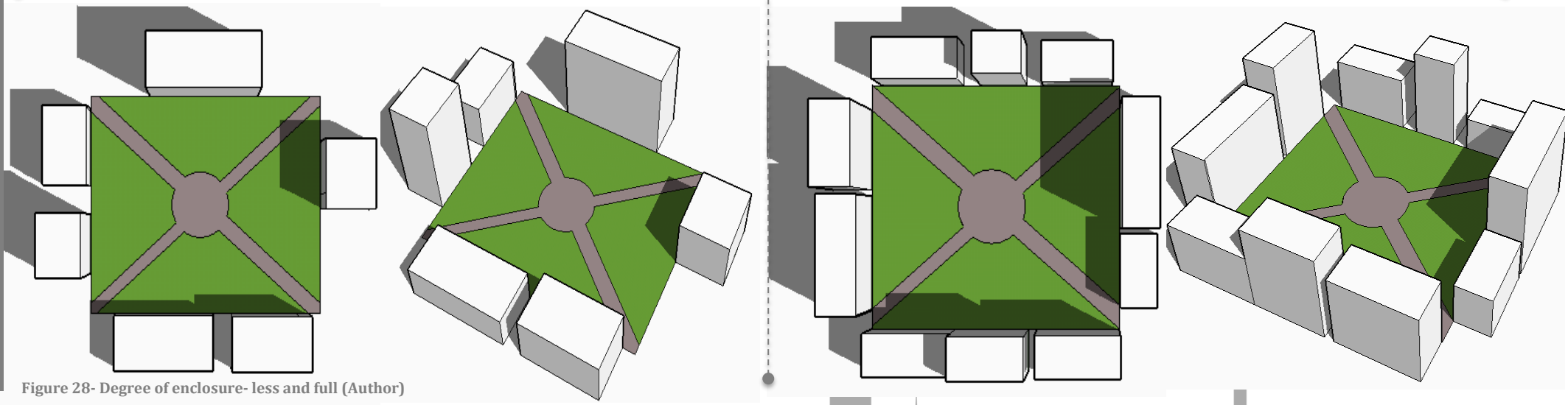


Figure 28- Degree of enclosure- less and full (Author)

CITY BLOCK

Urban form is determined by the size, geometry and relationship between blocks (CSIR, 2000). The length of a block determines the movement and circulation system through the extent of lateral access and rhythmic relief (CSIR, 2000). The dominance of vehicles has resulted in the establishment of superblocks, reducing the number of intersections, thus allowing for the free flow of vehicles. This is problematic as movement is restricted to vehicles, and becomes extremely uncomfortable for pedestrians to manoeuvre that space (CSIR, 2000).

The size of a city block also plays a critical role in the provision of choices to the pedestrian, as shorter city blocks allow for more intersections, which in term means more options for a pedestrian, a space where they can exercise their choice and free will (Jacobs, 1993: Speck, 2012: CSIR, 2000). The length of a block should also be optimal to influence the ease of access, movement and an economic threshold (CSIR, 2000). The walking distance between buildings around an open space should be kept intimate, with distances that reach no more that 100m (CSIR, 2000).

Block size specifications (figure 29)**:**

- 100m or more= A vehicle dominant space will accommodate the continuous rhythm of movement as longer blocks do not break the flow.
- 30m or less= a pedestrian dominate environment that allows the pedestrian to comfortably traverse through a spaces. This is often an intimate neighbourhood setting.
- 60m-80m= an environment that equally serves the needs of pedestrians and vehicles with block lengths that are not too long nor too short.

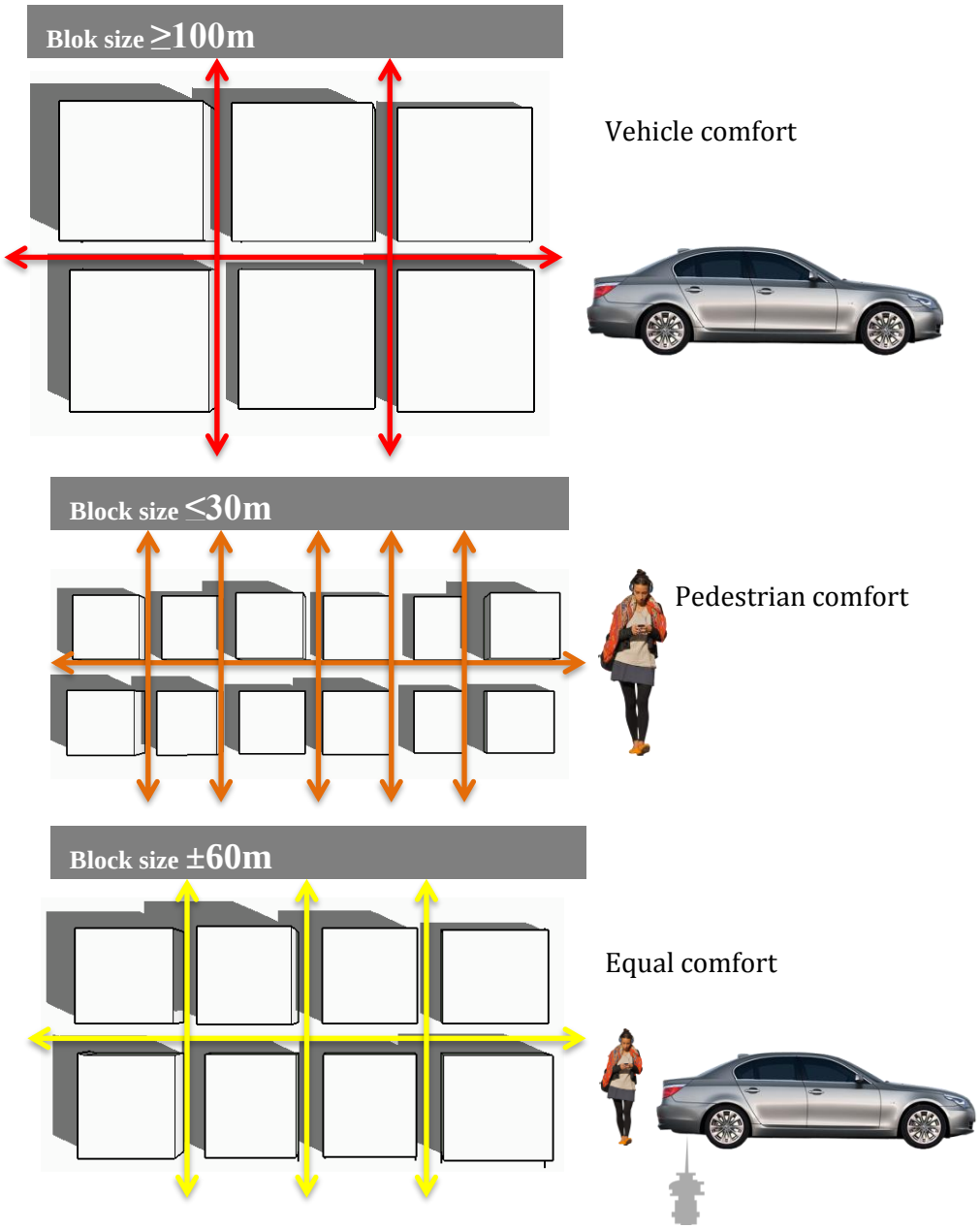


Figure 29- City block sizes and the relationship between cars and pedestrians (Author)

ENVIRONMENTAL FACTORS

The tallest buildings should be located south of the open space, with lower buildings and other enclosure elements north of the site as to allow sunlight into the site and avoid too much over shadowing, as seen in figure 30 (CSIR, 2000). An overshadowed space can be imposing and comfortable to pedestrians.

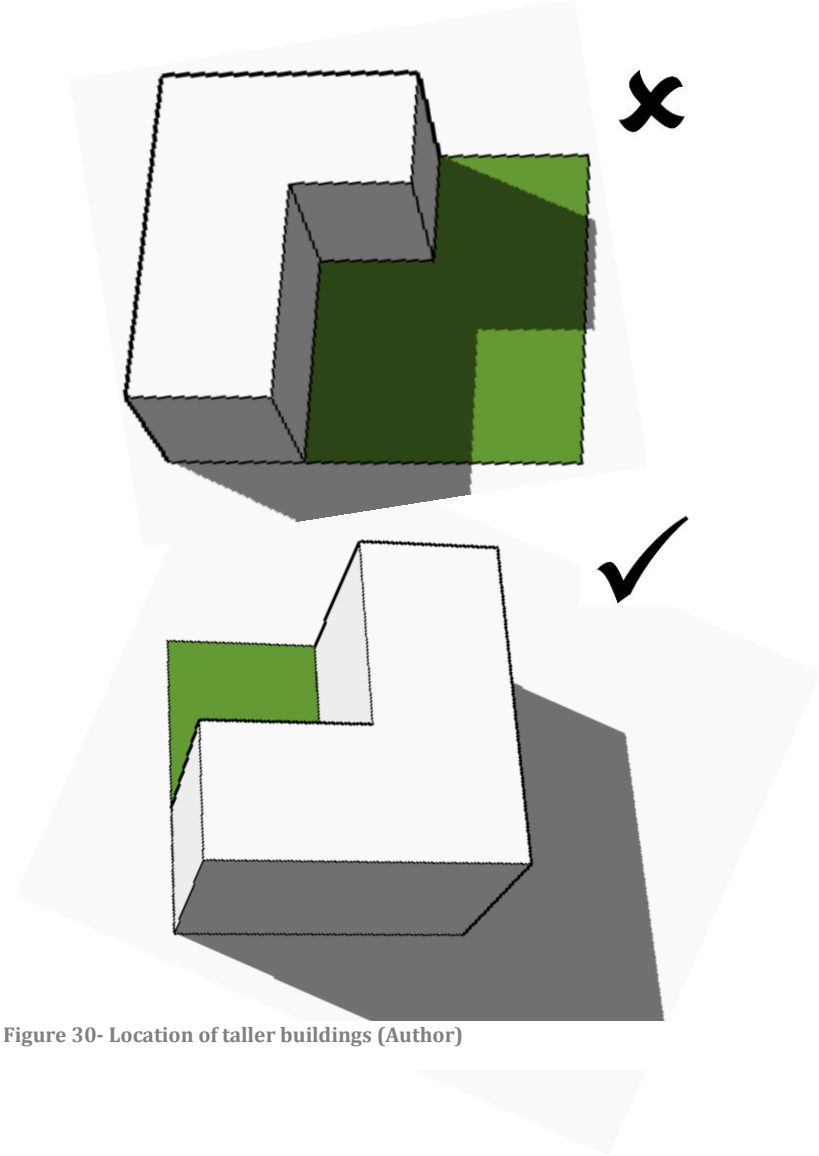


Figure 30- Location of taller buildings (Author)

SCALE AND PROPORTION

- The various degrees of enclosure are achieved as follows:
  - Full enclosure= 1:1 for a minor street (CSIR, 2000).
  - Enclosure threshold= 1:2, typical street and courtyard spaces (CSIR, 2000).
  - Minimum enclosure= 1:3 for open space (CSIR, 2000).
  - Maximum enclosure= <1:6 for opens spaces: squares, large parks (CSIR, 2000).

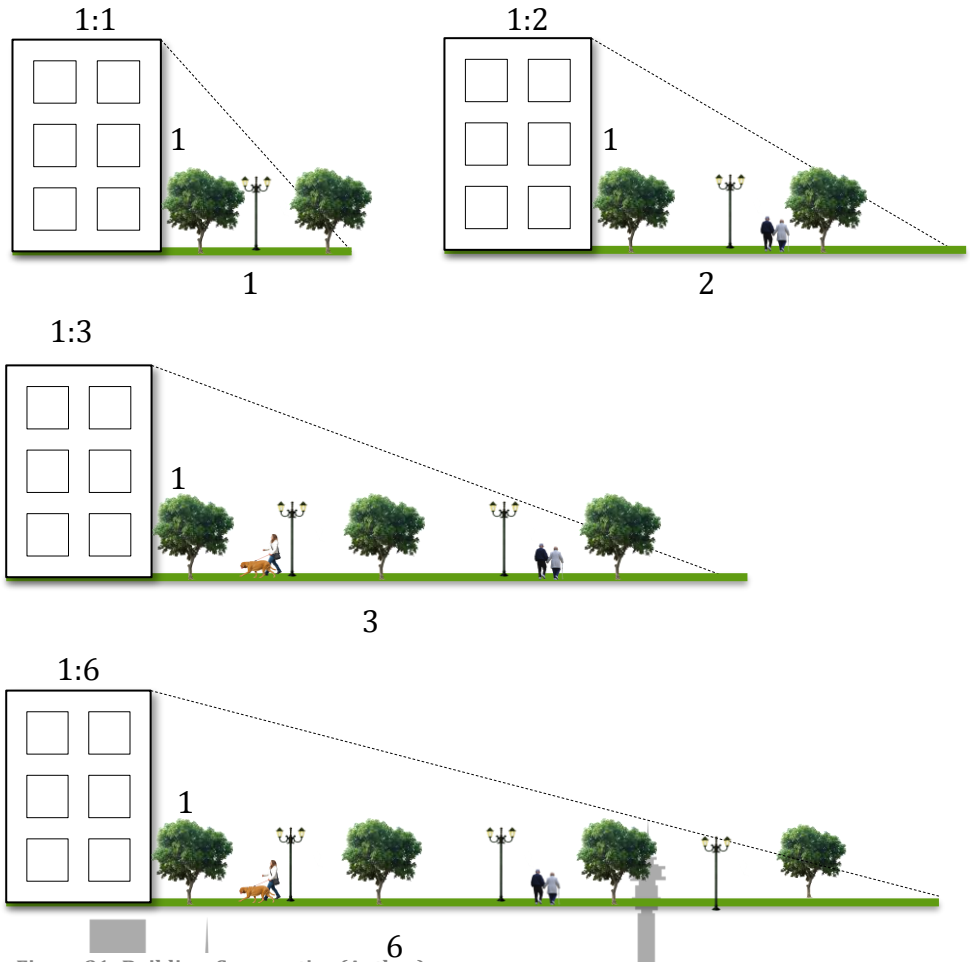


Figure 31- Building: Space ratios (Author)

FRONTS AND BACKS OF BUILDINGS

Buildings generally have fronts and backs, which take on different uses and activity (City of Toronto, 2013). The front of a building should accommodate landscaping, retail, and entrances to buildings, as this is the foyer of the building and the transition from the public to the private, figure 32 (City of Toronto, 2013). The back of a building should house more intimate/private uses, parking, loading areas, and servicing. This is where you also find vehicle entrances, garbage storage and collection, and site utilities (City of Toronto, 2013). The back of building is concealed from the public realm, leaving it attractive and vibrant with the activity uses in the front of the building that make pedestrians feel more comfortable and invited to make use of the space as they perceive it positively, figure 30 (City of Toronto, 2013).

VISUAL INTEREST

Jacobs (1993) explains that visual interest is the element of space that is the magic and mystery of urban design. Cullen (1961) calls this serial vision, "a sequence of revelations" in space that brings the city to life. The smallest detail influences and affects this visual revelation in space, as "the slightest deviation in alignment and quiet small variations in the projections or setbacks on plan have a powerful effect" on how the space is experienced visually by the pedestrian (Cullen, 1961, p17). Visual interest can also be established by considering the facades of buildings, the layout of public spaces and surrounding streets, creating views and visual lines of connectivity, making the space more legible for the pedestrian. Buildings around public spaces play a critical role in adding to the visual interest of a public space through frequent entrances, a variety of different facades, and visual permeability through windows (Gehl, 2011).

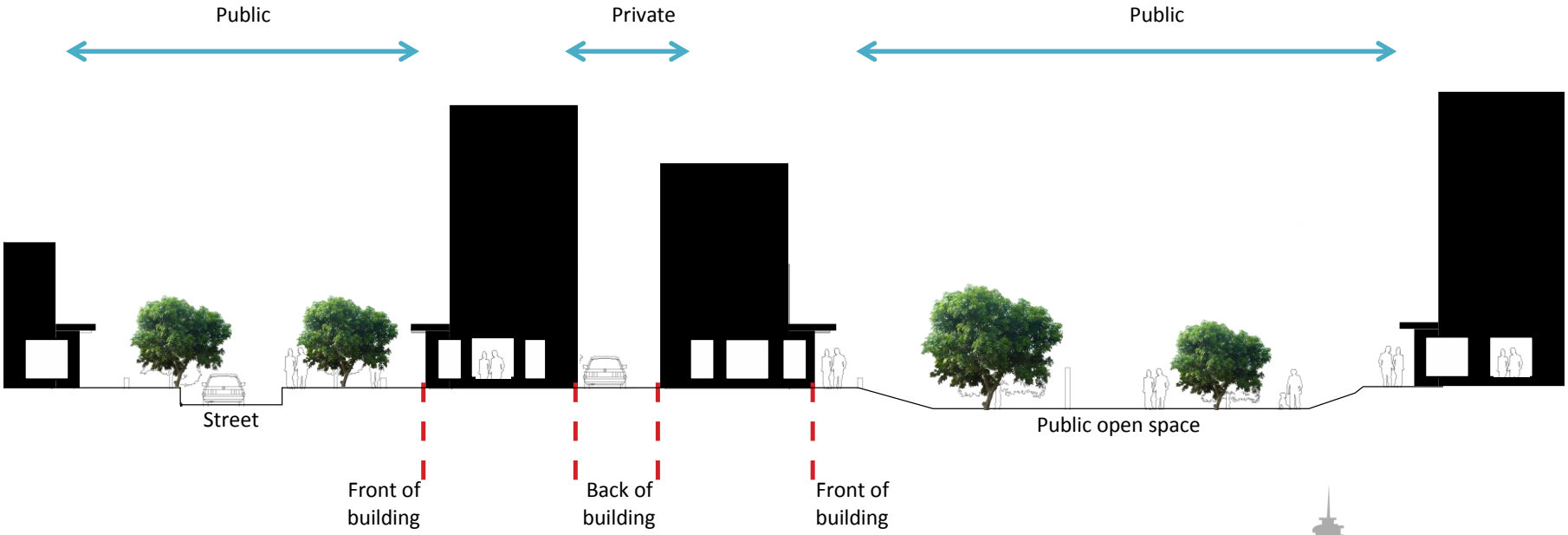


Figure 32- Fronts and backs of building/ private and public spaces (Author)

PRINCIPLE 2- ACCESSIBILITY AND MOVEMENT

The access to a public space is critical as this affects the extent to which a public open space is utilised and people can interact with it. Access is not limited to pedestrians on foot, but also spans out to other modes of transportation such as cycling, public transport or a private vehicle. Public spaces should be open to all forms of mobility to accommodate and welcome everyone.

WALKING AND TRANSIT

Public open spaces should be easily accessible through multiple points of entry and various pedestrian pathways through the space, allowing for access and connectivity to key areas (Gehl, 2011). Pedestrians should feel that they have control over the space, as they do not have to compete with other forms of mobility to gain access to it (Gehl, 2011). This control send a message to the pedestrian, that allows them to feel like this spaces is made for them, they can go in and out of this space as they please, with no treats or barriers imposed on their mobility (Gehl, 2011).

The safety of the pedestrian on the sidewalks, leading to or in the space, is to be enhanced by:

- minimising conflict with cars,
- creating a comfortable space for the disabled,
- the width of the sidewalk increases with busier streets,
- the width of sidewalks in a mixed use area should be no less than 3.5m to 4.5m, with no furniture or other utilities sitting within this width, and
- the road to be designed to discourage speed around a public open space. (CSIR, 2000).

The size of a city block also plays a critical role in the provision of choices to the pedestrian, as shorter city blocks allow for more intersections, which in turn means more options for a pedestrian (Jacobs, 1993: Speck, 2012).

It is also crucial to have access to public open spaces through public transport, meaning transit stations need to be less than 5 minutes away from the public open space for ease of access (Bates, 2013). Pedestrians should not feel stranded when making the decision to access or leave a space, especially if they reside a far distance from the site and have no access to a vehicle. In the attempt to create more sustainable and equal cities, pedestrians should be given the option of making use of efficient, cheap and convenient public transport. Removing limits to one's mobility, and opening up the opportunity for pedestrians to explore urban space more, and perceive the various experiences spaces in the city have to offer (Gehl, 2011). Perceptions cannot be formulated from that which has not yet been experienced.

CYCLING

Bicycles need to be incorporated into the mobility networks of the city as they contribute to how accessible public spaces are to various individuals and modes of transit (Bates, 2013). As European cities have more experience with cycling, various authors make note of the fact that it is important not to allow bikes into pedestrian prioritised zones as to keep a hierarchy of mobility (Bates, 2013). This is done by placing bicycle parking outside of pedestrian zones for cyclists to then proceed on foot (Speck, 2012).

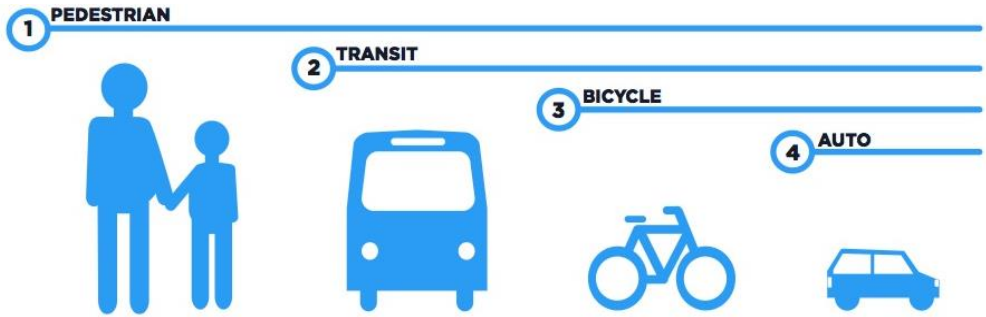


Figure 33- Hierarchy of mobility (CPD, 2012)

PARKING

Speck (2012) places emphasis on the need for parking, however, there is on-going discussions around confronting the challenges accompanied by the need for parking, whilst keeping the integrity of pedestrian orientated spaces. A number of authors have emphasised that to address the unsightly issue of large parking spaces, parking should be placed behind the buildings that front public spaces as to hide them from people's views, as seen in figure 35 (Speck, 2012: Alexander *et al,* 1977). Or alternatively parking should be screened with active uses for pedestrians in the public, and parking at the back of the building, as seen in figure 34.

Well-designed on-street parking can be important as it brings about immediate and convenient access to ground floor retail, adding to the vitality of the street in certain instances (Department of Transport, 2007).

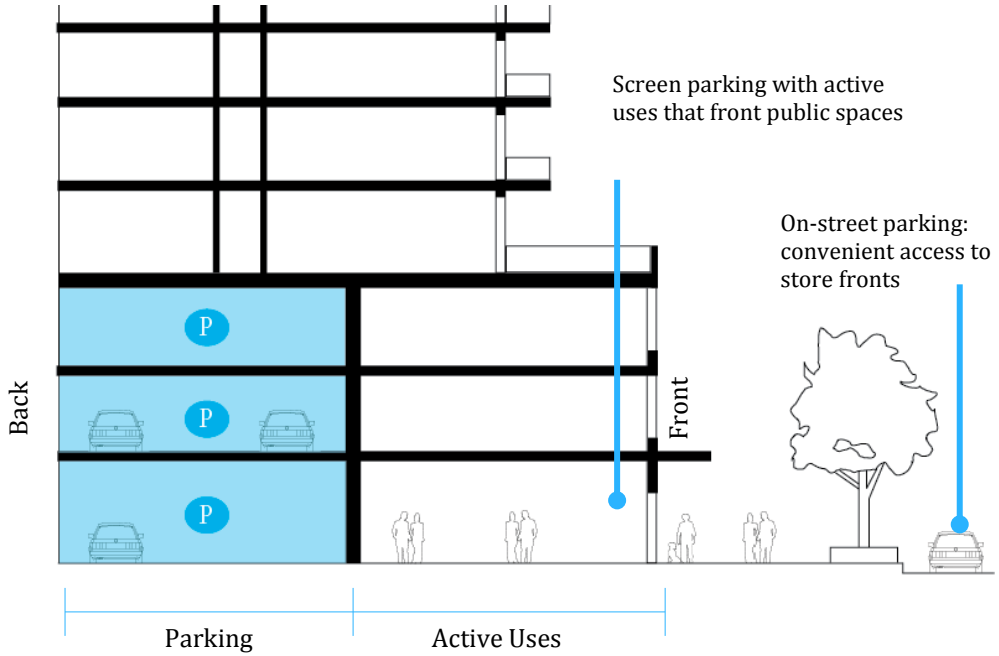


Figure 34- Concealing parking (Author)

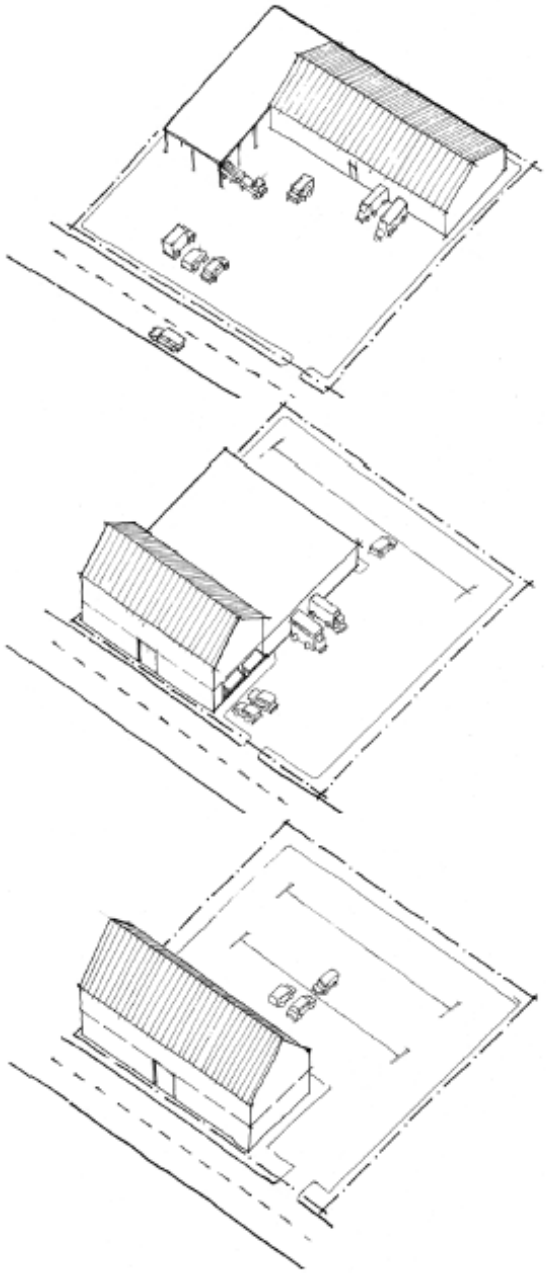


Figure 35- Parking design (Department of Transport, 2007).

Parking should be concealed behind buildings, with the building fronting the public spaces with its active use, and the back of the building taking on the private/inactive use, as discussed in the previous section on Fronts and Backs of Buildings see figure 32.

CONTINUITY AND RHYTHM

The pedestrians' interest in space and its legibility is enhanced through the continuation of a rhythm in spaces (CSIR, 2000). The speed and the complexity of public open spaces determine how pedestrians are given a chance to perceive the space (CSIR, 2000). Movement is influenced by the various changes and complexity along a path (CSIR, 2000). As pedestrians move relatively slow, a number of changes and complexity is required along their journey, by taking advantage of this slower speed and allowing them to engage in the various changes along a path, figure 36 (CSIR, 2000). The more activity there is, the more opportunities there are to capture pedestrians and make them linger in spaces. Lingering is crucial, as it give the pedestrian an opportunity to take in the space, interpret it and digest it, thus influencing and impacting their psychological response to the site. A site where pedestrians move straight through it, with no constant changes and complexity along their path, results in a surrounding that fads out, as no attractions encourage them slow down and take in the space. The lack of complexity along a path can also result in safety issues, as quiet, simple streets with no activity can make a pedestrian feel like they are walking through the street with a target on their back. However, the level of complexity along a path shouldn't be overwhelming in itself, as this may overcrowd the pedestrians' personal space, taking away from their comfort of walking through such a space. The changes and complexities along a path should be moderated, to create a comfortable, interesting and engaging environment to walk through. This means that a lot of richness is required in the detail of a space.

Whereas vehicles, which move at a faster speed, require less changes and simplicity along its path, figure 36 (CSIR, 2000).

- Vertical edge
  - There should be direct access to an open space, with routes continuing through it (CSIR, 2000).
  - Open space to be liked to surrounding context through major routes (CSIR, 2000).

As the main focus is the pedestrian, vehicle movement through the site needs to be slowed down to allow the pedestrian to move freely. This is achieved by introducing more complexity along the path of a vehicle, whether in the form of traffic calming measures, or pavement texture, or even changes in the road pattern.

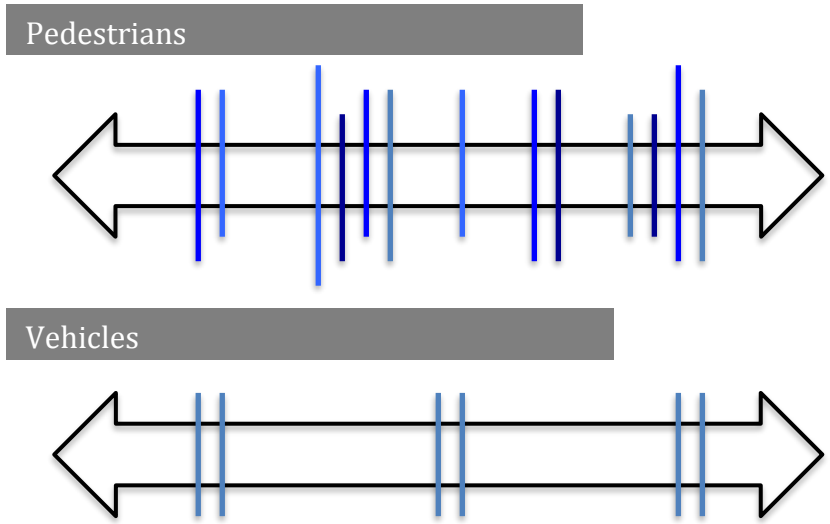


Figure 36- Changes and complexity of movement along a path (Author)

STREET LAYOUT AND PATTERN

As streets are the focal point of movement, it is extremely important to understand how the layout of streets influences access to and through the city, in an efficient and comfortable way for pedestrians (Department of Transport, 2007). The layout of a street pattern plays an important role in influencing peoples choices to travel and where they travel, encouraging a more sustainable design that makes navigation easier (Department of Transport, 2007).

STREET PATTERNS:

-Radial roads: a concentric pattern that is based on a central point, with all traffic flow influenced by this point (METRASYS, nd).

-The grid: this road pattern covers all areas of the city. Expansion in all directions is not limited to a central point, as seen in contextual examples in figure 38. Routes are shortened, and access is spread evenly, making the space easier to manoeuvre and more permeable (Bentley *et al*, 1985: METRASYS, nd). The grid pattern can take on an irregular or orthogonal shape, as seen in figure 37 (METRASYS, nd). A grid shape with 60-80m spacing is ideal for optimal use by various modes of mobility such as pedestrians, vehicles and cyclists (METRASYS, nd).

-Circular roads: these roads function as a combination of the radial road pattern and the grid pattern (METRASYS, nd).

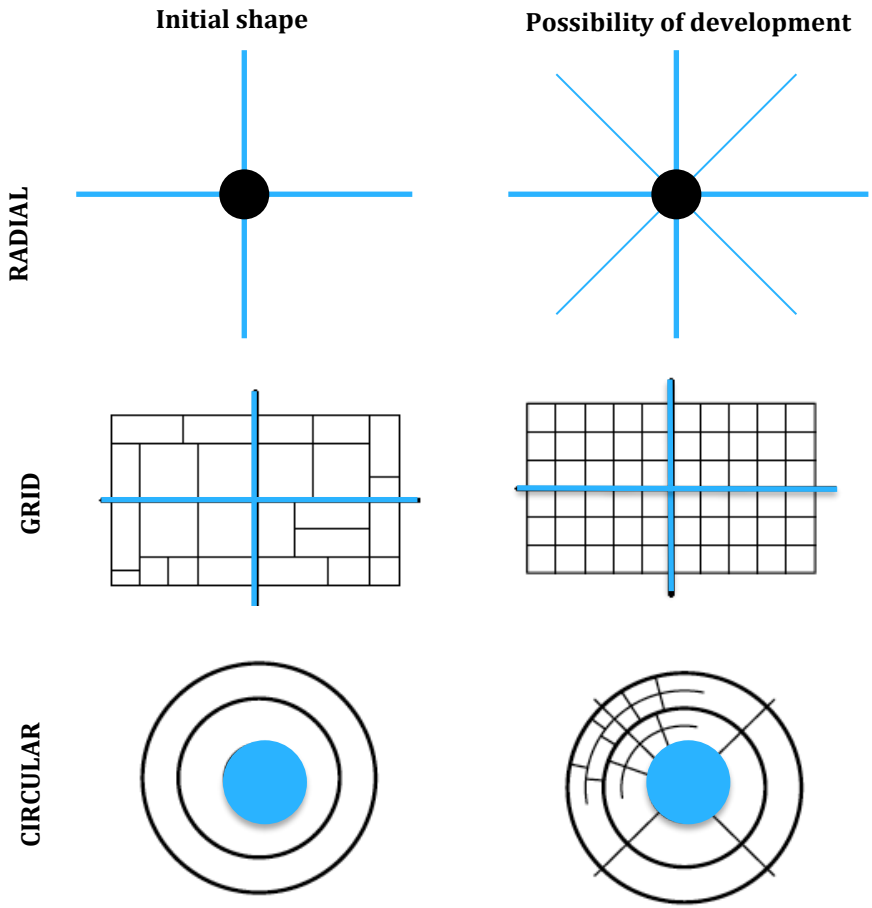


Figure 37- Street patters (Author)



Figure 38- Grid street pattern in different contexts (METRASYS, nd, p18)

ACCESSIBILITY- PEDESTRIANS, CYCLING, PUBLIC TRANSPORT & CARS



Figure 39- Accessibility to various modes of mobility- Alexander Platz, Berlin (Author)

PRINCIPLE 3- VARIETY OF USES

A hierarchy of activities is required in order to identify the various users of these spaces (CSIR, 2000). Activities can be classified into two groups, necessary activities and optional activities (CSIR, 2000). Necessary activities can be seen as activities that are essential to living, such as running errands, shopping, sitting to eat, etc (CSIR, 2000). Optional activities are optional as people partake in them when the opportunity presents itself (CSIR, 2000).

Once an understanding of the activities is established, user groups and their level of participation in these activities can thus be identified (CSIR, 2000). Gehl states that it is important for us to look at public spaces as places that bring people together through the activities it provides. Public spaces are meant to facilitate interaction and communication with other people, and quiet time alone. To support this activity, a number of uses are required to facilitate outdoor spaces (Gehl, 2011: Alexander: 1977). This basic need for interaction can be accomplished through ensuring there is a sufficient amount of residential densities, activity uses, a mix of uses, attractions and good edge conditions.

A variety in the use of space is able to unlock variety at other levels (Bentley *et al,* 1985). This includes:

- "varied building types, varied forms,
- varied people, at varied times, for varied reasons,
- different activities, forms and people provide a rich perceptual mix, different users interpret the place in different ways, it takes on varied meanings" (Bentley *et al,* 1985, p27).

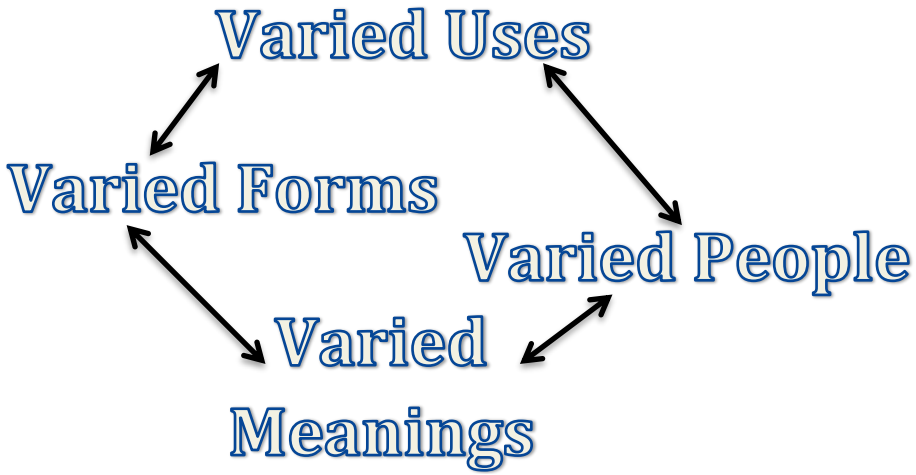


Figure 40- The variety of uses is the key to variety as a whole (Bentley et al, 1985, p27).

RESIDENTIAL DENSITY

For public open spaces to thrive residential densities are required, as to ensure that the capacity of people required to make public spaces vital is achieved (Jacob, 1993). Jacobs (1993) is one of a few authors who felt that residential density does contribute to the success of a public open space as this is not an essential element to its success (Jacobs, 1993).

MIXED USE

Buildings around public open spaces should not have singular uses but should facilitate a mixture of uses that brings variety and versatility to the space (Bates, 2013). This creates economic and physical diversity, resulting in an active public life with a variety of users who interpret the space in their own context and relevance to them, figure 41 (Jacobs, 1993: Speck: 2012, Gehl, 2011: Gibbs, 2012).



Figure 41- Mixed land use (Author)



EDGE CONDITIONS

The edge condition can be understood to be the relationship between architecture and the public realm. How the building relates to public spaces and people, determines the creation of good or bad edge conditions (Bentley *et al,* 1985). A variety of elements contribute to creating edge conditions. These include:

- Private and public realm
- Threshold
- Three dimensionality
- Land use
- Frontages

Private and public realm- The edge condition can generally be defined as the relationship between the public and private realm (Urban Issues 2007). The private realm can be defined as the building, spaces where movement is more restricted to a certain purpose. The public realm is found in public space, the street, and pavement, where movement is less restricted and all are welcome (Urban Issues 2007).

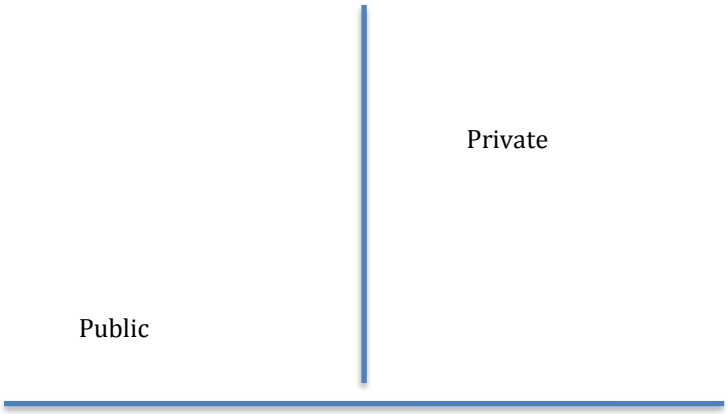


Figure 42- Private and public realm (Author)

The threshold- Definition _Oxford Advanced Learner's Dictionary "A transitional interval beyond which some new action or different state of affairs is likely to begin or occur."

This is the point where otherness occurs. The point where there is a transition from a building to the surrounding public space, from inside to outside, this can be understood to as the threshold, see figure 43 (Urban Issues 2007). This is an extremely crucial point as it affects activity in the public realm.

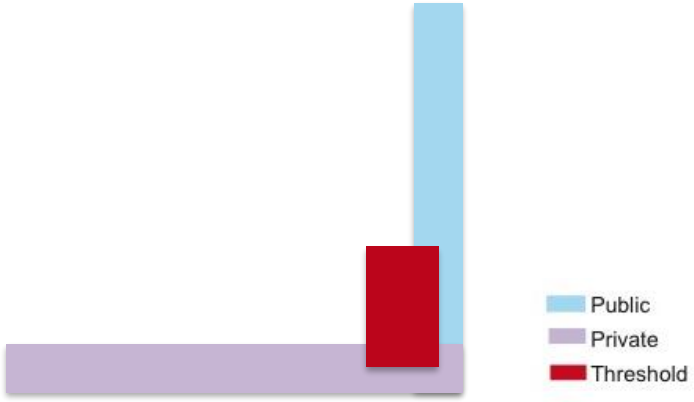
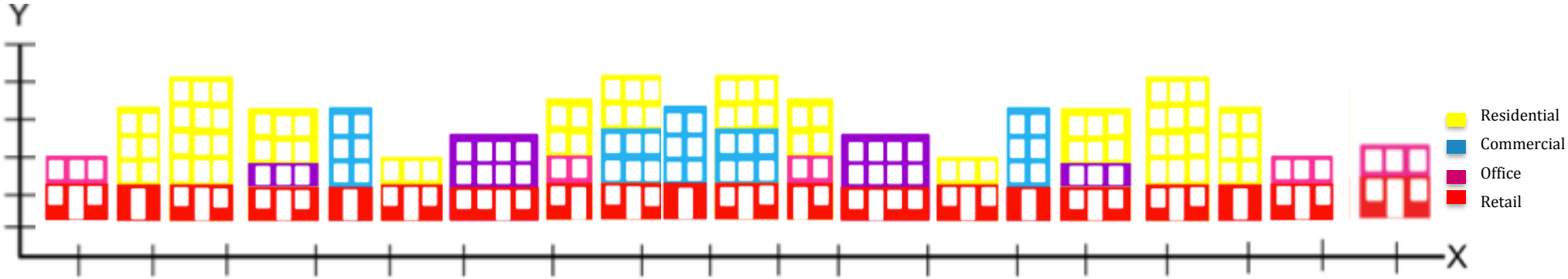


Figure 43- Public/private threshold (Author)

Three dimensionality- People experience and interact with spaces in three dimensionality, the x, y, z-axis. This demonstrates the spatial relationship between the public, private and people (Urban Issues 2007). The z-axis indicates the relationship between the inside and outside of a building, showing how connections are made at this threshold (Urban Issues 2007). The y-axis expresses the vertical use of a building with a diversity and mix of uses from floor to floor. The x-axis expresses the horizontal uses on the ground floor, showing the connection between pedestrians and the building. This further goes to show how the ground level activities contribute to activating the immediate public realm (Urban Issues 2007).

HORIZONTAL, VERTICAL AND GROUND FLOOR LAND USES (X,Y,Z-AXIS)



Y-Axis: Horizontal



Top- Residential



Middle- Offices, institutions, commercial



Bottom- Active land uses: retail

X-Axis: Vertical/ground floor



A variety of retail & commercial land uses



Land use that influences activity in public space



Land use that connects with and compliments public space

Z-Axis: Private/ public interface



Land uses on the ground floor create a connection between the inside and outside. If only residential land uses frame the public space then there would be no connection as this is private use. Land uses facilitate public activity, thus creating a relationship between the public and private and the people in public space.



GROUND FLOOR EDGE CONDITIONS

The ground floor edge condition exists at the ground floor of buildings, where the private meets the public. The ground level plays an extremely influential role in bringing public space to life with activity, eyes on the street, movement, lingering and interacting, extremely important factors that influence the way a pedestrian feels in public space (Urban Issues, 2007). Thus, the ground floor edge condition requires more attention as to direct how it impacts the public realm. This requires focus on the permeability and porosity of the building, along with the materials used (Urban Issues, 2007: Bentley, 1985).

To ensure public open spaces are well activated buildings should line the site, with fronts facing the space (The City of New York, 2010). Entries should immediately open up to the public open space as to directly influence and impact the space. The height of the ground floor should be comfortable yet commanding to attract the pedestrian. The ground floor should be 30%-50% higher than other floors as to accommodate activity uses throughout the day, and creating a sense of ownership for the pedestrian, as they are given more space to interact on the ground floor (The City of New York, 2010).



Figure 44- Active ground floor conditions (Author)

DIVERSITY

Vibrant spaces, that incorporate different people and their needs, are created through a diversity of cultures, uses and users. This brings about unique, exciting environments that are dynamic, intriguing and fun to engage with for individuals (Department of Sustainability and Environment, nd). A flow of activity and rhythm is thus achieved, connecting functions and spaces, ensuring that the city can perform throughout the day, at all hours (Department of Sustainability and Environment, nd).

Retail- The different needs of people in spaces is catered for through a diversity of retail activity, attracting a variety of people. This creates an interesting dynamic cohesion of sexes, races, cultures, ages and difference. The diversity of retail activity creates a compact and convenient environment that offers a variety of services in a walkable environment (Department of Sustainability and Environment, nd)

Operating times- A safe and walkable street must be alive at different times of the day, with eyes on the street and natural surveillance at all times to make the pedestrian feel safe in such a space (Department of Sustainability and Environment, nd). Spaces that women, children and the elderly feel comfortable in at any time, thus positively reacting to the space through their comfort of walking through and making use of the space at any time.

Users- As the city is made for people, it is critical for spaces to accommodate a variety of people. The diversity of user is achieved when a variety of social classes, ages, sexes, ethnic groups and races can interact and coexist in a public space that they feel accommodates their needs and facilitates their comfort and safety (Department of Sustainability and Environment, nd)



Figure 45- Diversity of retail activity (Author)



Figure 46- A variety of users and uses at different times of the day (Author)

FRONTAGES

Engagement between people and the ground floor of a building occurs through the visual and physical engagement they have with building fronts (Moreland City Council, 2010). Entrances to a building, storefronts, and façade should front public space, designed well with open fronts and signs as this plays a crucial role in attracting people into the public. Good urban design is not only a commercial benefit, but it also strengthens the character of the public (Department of Sustainability and Environment, nd).

The ground floor frontage expresses the threshold of a building, as the point where public and private meet (Department of Sustainability and Environment, nd). There are various frontages that define the threshold differently, as active or inactive (Moreland City Council, 2010). The frontage of a building forms the street wall, where lined-up buildings define the public realm (Moreland City Council, 2010). Street walls improve the walkability and comfort of a space, thus it is recommended that a continuous and active street wall define the public realm (Moreland City Council, 2010).

Active Fronts

Active storefronts create a safe, comfortable and interesting environment for pedestrians. Cafes, retail activity, restaurants, shops and open facilities provide the most active street fronts (Gehl *et al*, 2006). These are attractive pedestrians environments that people want to visit.

Active frontage type A- Retail core

Buildings with retail at the ground floor provide the following:

- Display windows and entrances that take up 80% of the street frontage, or 60% for other commercial activity (Gehl *et al,* 2006).
- Security grills should be visually permeable and transparent (Gehl *et al*, 2006).
- Lighting in the façade to incorporate security at night (Gehl *et al*, 2006).

Active frontage type B- Residential

Buildings with residential use provide the following:

- Individual entry doors to each dwelling (Gehl *et al*, 2006).
- Lighting and shelter at entries (Gehl *et al*, 2006).
- Private spaces such as bedrooms at the back of the building (Gehl *et al*, 2006).

DIFFERENT FRONTAGES IN THE INNER CITY







Figure 47- Frontages in the Braamfontein and Maboneng (Author).

PERMEABILITY AND POROSITY

As the ground floor edge condition is tasked with the duty of blurring the line between public and private, this can be achieved through creating a porous and permeable threshold. It is very desirable to see into a building and out of a building, visually engaging with and connecting the private and public (Moreland City Council, 2010). This encourages people to linger in a spaces as they window shop, or see what is taking place inside and get invited to make use of the space. Porosity is also extremely important as it adds to security by having constant eyes on the street, which encourages people to walk through such an environment, as they feel comfortable (Gehl *et al*, 2006).

INTERVALS AND OPENINGS

The edge of the ground floor should aim to be dominated with continuous and constant openings, large windows, doors, and porches. This brings about continuity in public open spaces that are required to ignite people's interest and encourage interaction with surrounding buildings (Moreland City Council, 2010). This can be achieved through creating entrances, doorways and outdoor areas at constant intervals. A long frontage can be broken up with intervals after every 10m, with a change or break in the frontage, and the use of various textures, and transparencies.

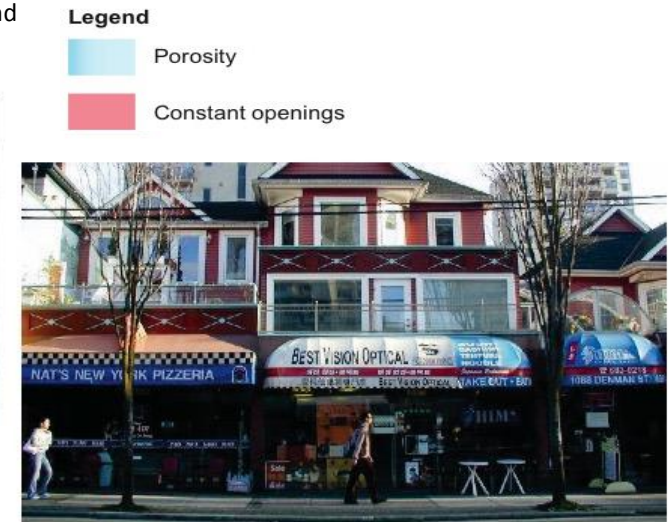
This brings about a frequency in the flow of energy through doors, windows and other elements that play an essential role in contributing to the pedestrian experience (Moreland City Council, 2010). Creating constant intervals and openings also adds to safety as walking along a long frontage with no breaks and opening is dangerous and uncomfortable, with no openings to run into in the case of danger.



(Anderson Glass, 2012)



(SARASOTA Glass, nd)



(Anderson Glass, 2012)

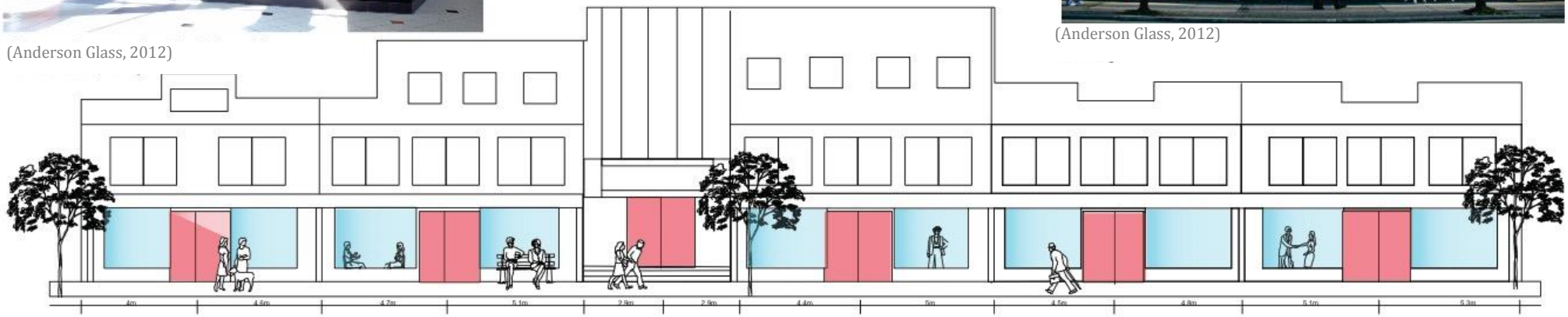


Figure 48- Continuous intervals and opening, with permeable fronts (Author).

ACTIVITY USES

A public space does not only require a variety of uses, but also active uses. These are uses that facilitate a large amount of activity such as a restaurant, market or coffee shop would (Bates, 2013). Public spaces that facilitate active uses encourage people to walking, window shopping, eat, sit, etc, encouraging pedestrians to participate in a variety of activities that activate the public life (Gehl, 2011: Gibbs, 2012). Public spaces should be designed to encourage people to linger, partake in social activities and move about (Alexander *et al,* 1977: Gehl, 2011).

The Project for Public Spaces believes that places should have 10 or more activities for pedestrians to partake in (PPS, nd). This is depicted in their Power of 10+ concept, as see in figure 49. This concept emphasises how critical it is to layer multiple uses and activities, as to create public spaces that are dynamic, attracting and encouraging to people to spend time in these spaces for longer (PPS, nd).



Figure 49- PLACE: The Power of 10+ (recreated b by author)

ATTRACTION

People need to be given a reason to participate in public life. To do this, a series of attractions should be located within the city (Alexander *et al*, 1977). Such attractions include public open spaces in the form of parks, or museums, markets and theatres, heritage buildings, all the way down to details in these spaces like interesting features, art or furniture (Alexander *et al*, 1977). To keep the flow of movement distributed around public open spaces, attractions should not be clustered in one place but distributed through the space, whilst not being too far away from each other (Bates, 2013). This ensures that people are moving around and filling the space, as appose to being clustered in one area (Alexander *et al,* 1977). Whilst Alexander (1977) feels that public open spaces are crucial to adding to the vitality of urban areas, Jacobs (1993) feels parks, open spaces and plazas are not essential to making the city a success.



Figure 50- FNB Open space- attractive public art/ furniture

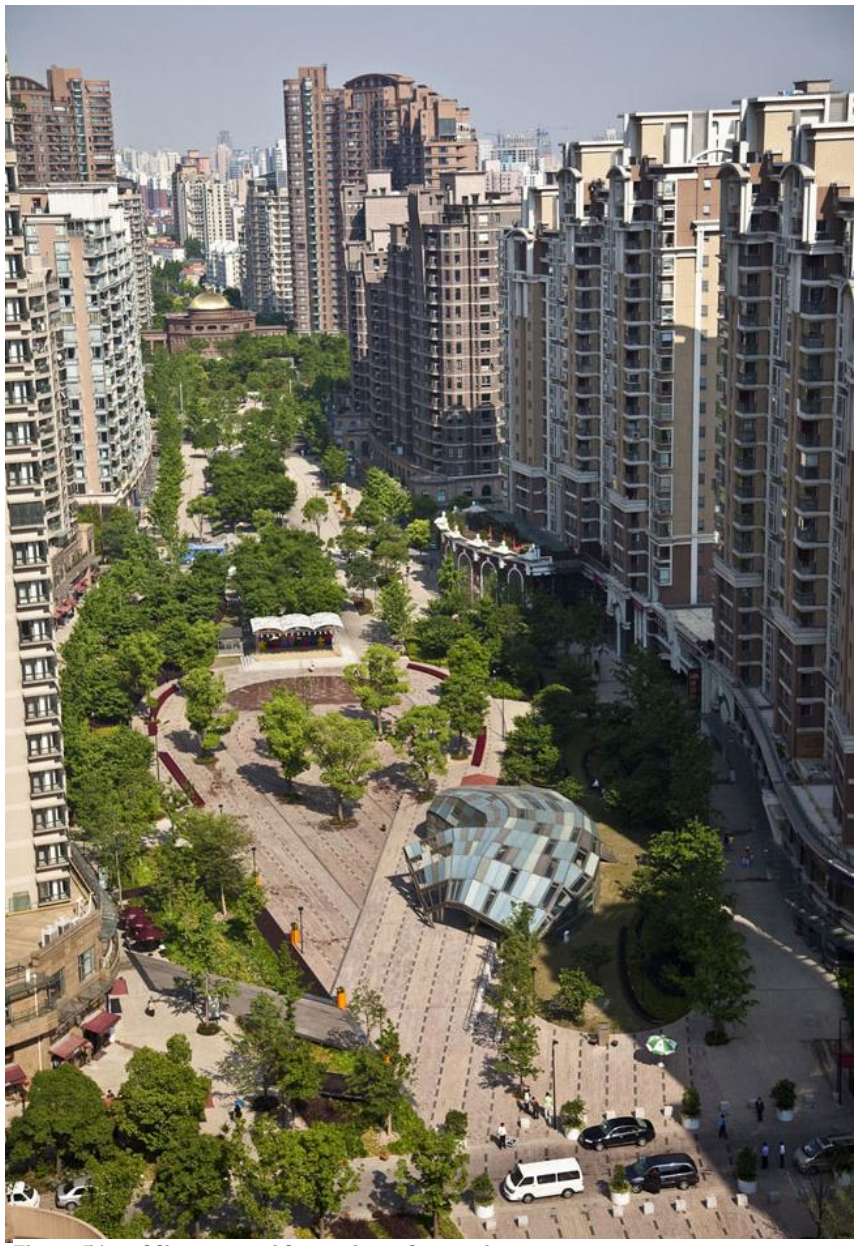


Figure 51- public spaces with a variety of attractions

PILLAR 4- PUBLIC REALM

In the process of creating public open spaces that are located appropriately, have a variety of uses that are effective, within a properly designed space, it is also important to make people feel comfortable in public open spaces. Comfort can be understood to be how a space makes people feel, can they be protected from different weather elements and how well maintained the space is.

WEATHER

The physical comfort of people in public spaces is a requirement in the creation of a successful space (Gehl, 2011: Jacobs, 1993: Whyte: 1988). Certain weather conditions, such as rain, or extreme heat hinder people from actively making use of public spaces as such weather conditions make individuals feel uncomfortable (Bates, 2013). If public open spaces are designed to facilitate the physical comfort of people, this will encourage them to walk around and make use of public spaces at any given time, regardless of the weather (Spek, 2012).

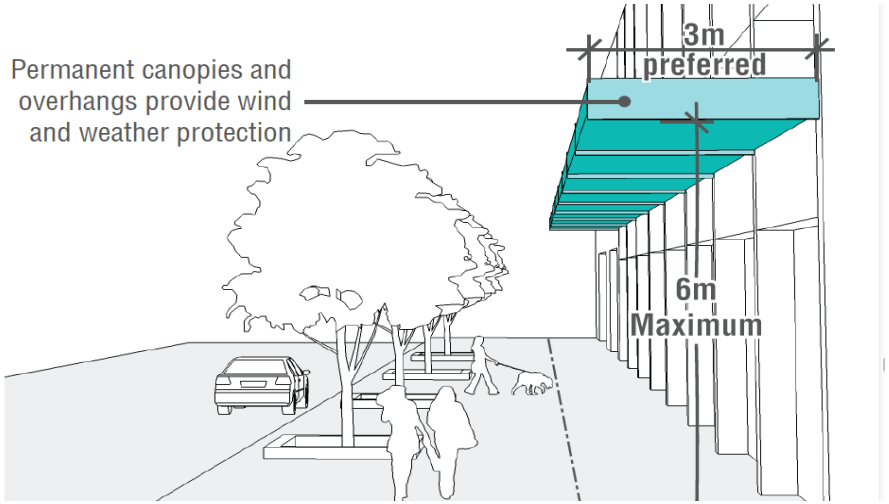


Figure 52- Overhang protecting pedestrians from weather conditions (City of Toronto, 2013, p62).

MAINTENANCE

The maintenance of a public open space is extremely important as this keeps a space clean and visually pleasing (Jacobs, 1993: Gibbs, 2010). The frequency of trash cans and their design to fit into the surroundings encourages people to keep the spaces clean by using them more often (Whyte, 1988).

AMENITIES

The manner in which amenities are designed in public space is another critical component of designing public open spaces that create positive responses amongst pedestrians. Amenities can be defined as a kit of tools used to enhance the pedestrian's comfort in public spaces and encourage more interaction and lingering. These tools can be seen as trees, paving, lighting, seating, signage, public art, and luxuries such as Wi-Fi.

Authors have varied views around the importance of amenities. Some urbanists believe that design details, down to the small scale, are crucial in the creation of a design foundation that is strong, thus making the development of activities possible (Gehl, 2011). Jacobs (1993) feels that design details are good, however, this does not determine the success or failure of a public space. Theorists on the opposite end of the spectrum state that the aesthetics of a space are not too important as this may take away from the other elements of the space such as economic activity from surrounding buildings (Speck. 2012: Whyte, 1988: Gibbs, 2012).

Some amenities to be surveyed are signage, paving, trees, seating, and lighting.

- Seating areas: One of the most important elements to include in public space is seating. Places for people to stop and sit in space (Bates, 2013). Public spaces need people to thrive, and empty spaces represent failed spaces as public spaces are made for people (Bates, 2013). Thus, it becomes

very important to have elements in space that allow people to stay, linger and interact with the surroundings. Whyte (1988) and Gehl (2011), emphasise the importance of seating and the role it plays in public spaces as a facilitator of more activity in public spaces.

- There should be a provision of 1m of seating for every m^2 of a public open space (CSIR, 2000).
- For personal space, with no communication, benches should be placed at a minimum distance of 3m away, figure 53 (CSIR, 2000).
- To allow for communication between people, benches should be no more than 1.2m apart, as the minimum distance for communication is 0.6m, figure 54 (CSIR, 2000).

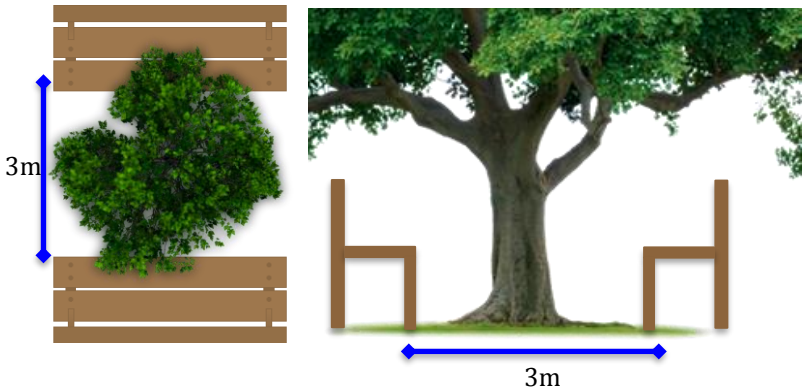


Figure 53- Personal spacing (Author)

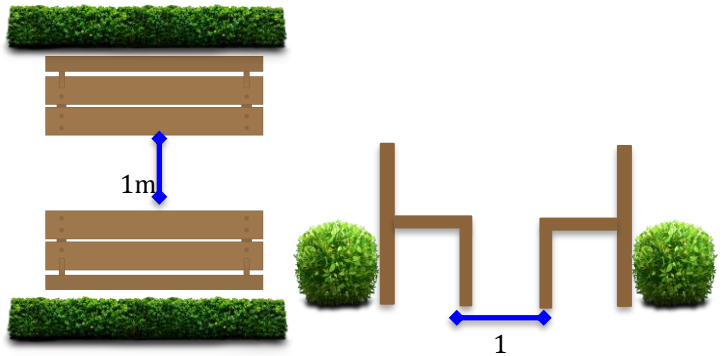


Figure 54- Intimate spacing (Author)

- Trees: Tress are a huge asset to public space as they take on a number of functions and roles:
  - Trees can be used to channel lines of movement.
  - Trees can act as buffers, edges or used to contain the scale of a space.
  - They enhance a space though creating spaces that are comfortable, liveable, and visually pleasing.
  - Trees have the ability to increase the value of a property.
  - They provide shade, clean the air of pollutants, and reduce runoff in sloppy areas.

  Jacobs once again, cautions the use of trees as this may hinder lines of sight, retail activity or store fronts, which detracts from the viability of a space (Jacobs, 1993).

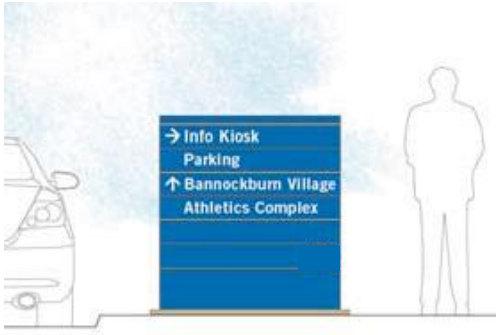
- Paving, lighting, signage- Wayfinding is extremely critical as people should easily navigate through public spaces, making the walkability of a space easy and comfortable (Bates, 2013). See figure 54 for further specifications on signage. The walkability of a space is further enhanced by paving that is comfortable to walk on and creates important linkages throughout the space (Gehl, 2011). Lighting plays a major role at night, as it determines where a person feels safe to walk or not. These three elements impact a person's orientation in spaces, and how they perceive their comfort in navigating the site.

FEEL

Once all of the elements discussed above are implemented in the correct way, a space is created that makes people feel welcome and comfortable to use, spaces that they see themselves in, thus responding positively to. Spaces that are lively and attractive are spaces people are attracted to (Bates, 2013). Thus if public open spaces are designed properly a relationship is forged where public spaces evoke a feeling that brings about an attraction, attracting people to these spaces,

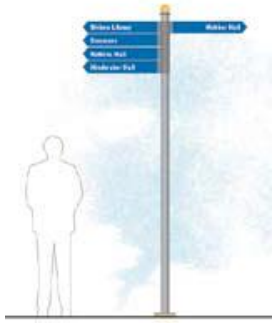
who in turn attract more people (Gehl, 2011). An attraction is as a result of a psychological process that has taken place in the mind of an individual, and the result being how they feel in a space. This is the critical point in the design of public open spaces. How does a pedestrian internalise the site, analyse it, and thus how do they feel making use of it?

CARS



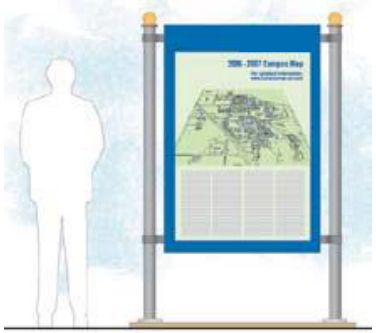
These signs should service the level of a car as well as pedestrians, with visibility from 45m away, as to be easily legible for approaching cars (WML Architects and Planners & TH Architects, 2007).

PEDESTRIANS



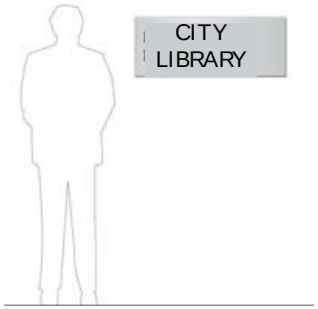
Pedestrian directional signs should be pointers, pointing pedestrians in the direction of important destinations (WML Architects and Planners & TH Architects, 2007). These signs should be at a height of 2,5m to 3m.

PEDESTRIANS



Map directories should be present for large complicated sites to navigate (WML Architects and Planners & TH Architects, 2007). This should have a map that can easily be changed, with lighting to illuminate it at night.

PEDESTRIANS



Building identification should be displayed on a sign, located close to the entrance of the building or establishment occupying the building (WML Architects and Planners & TH Architects, 2007). The sign should be highly visible from a distance.

Figure 55- Signage specifications



CONCLUSION

The creation of thriving public open spaces, that ignite positive responses and improve people's perceptions and experiences in public space, are a result of a number of elements coming together and working to create quality public open spaces. The 4 principles discussed above depict how quality public spaces are created from a number of important requirements.

These requirements can be summarised as follows:

- Public spaces should be easily accessible to pedestrians through a number of modes of transportation such as walking, cycling, public transit and vehicles;
- Public spaces need to be supported by high volumes of residential densities near and around them, and they need to have a mix of uses and activities as well as various attractions;
- Public spaces should be located in a central place that is enclosed by surrounding form, creating a human scaled space that is visually stimulating, with a number of amenities such as trees, seating, lighting, pavement treatments and signage.
- Finally these spaces should make people feel comfortable with protection from different weather conditions, in a well-maintained space that is safe and clean.

It is through this theoretical framework that the study site will be evaluated, as to test the physical elements and conditions of the sites. This will be done with the aim of interrogating if the urban design of the site affects and influences the experiences of user in a positive way.



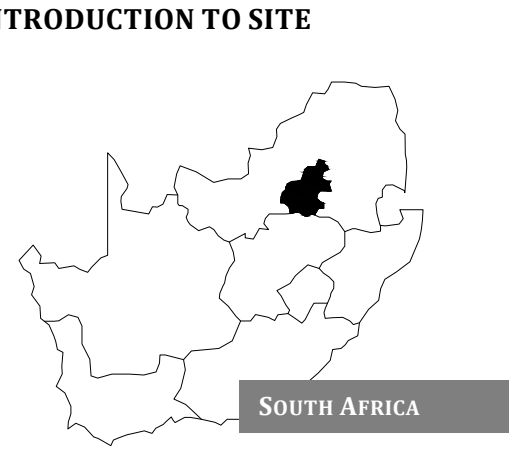
CHAPTER 5_CASE STUDY

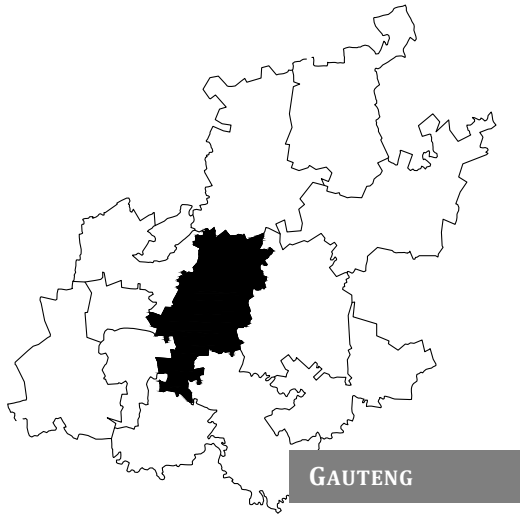
INTRODUCTION TO SITE
CASE STUDY EVALUATION:
- URBAN FORM
- ACCESSIBILITY
- VARIETY OF USE
- PUBLIC REALM

SWOT ANALYSIS
CONCLUSION



INTRODUCTION TO SITE



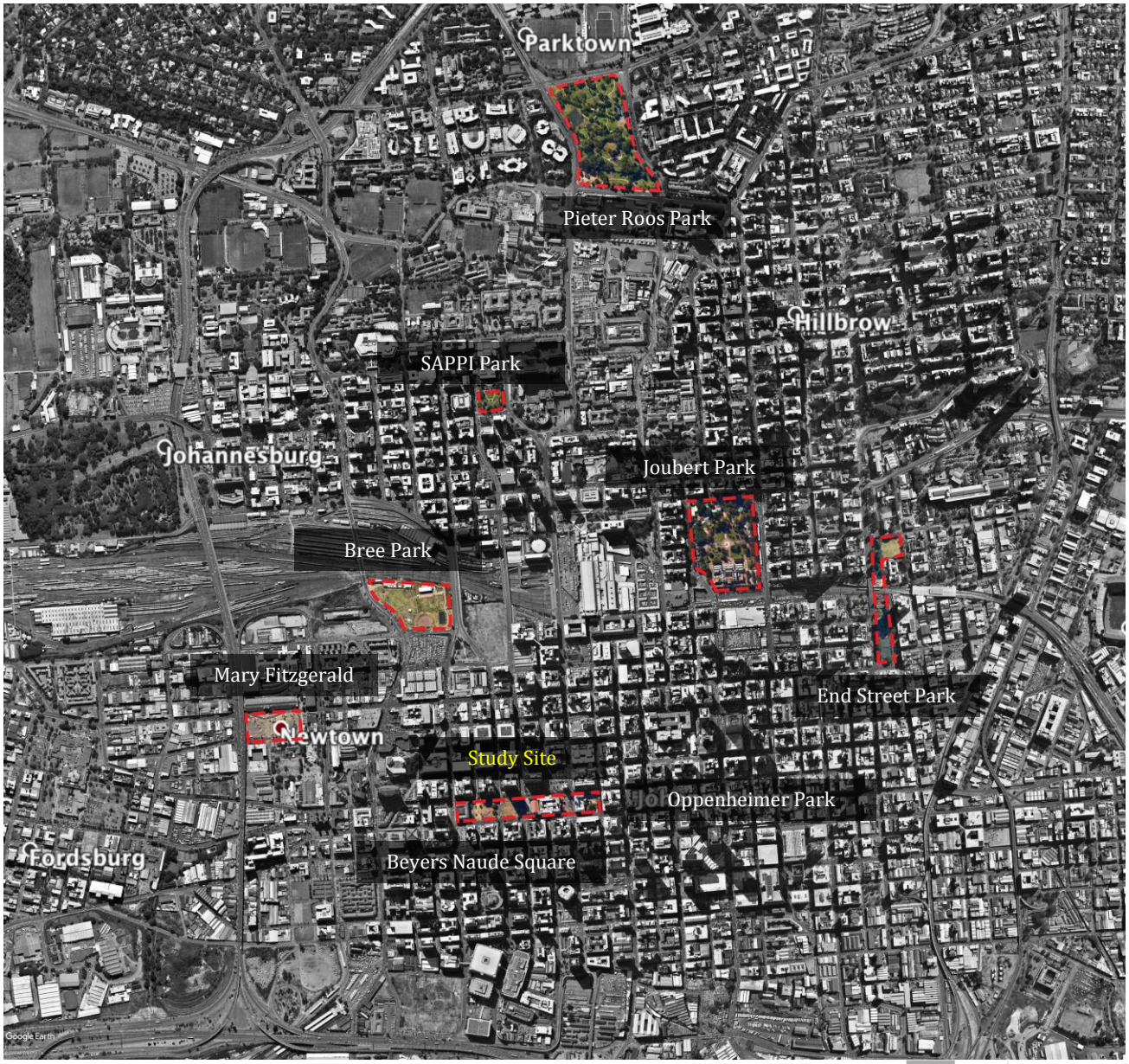






Map 1- Contextual introduction to site

PUBLIC SPACES IN THE INNER CITY OF JOHANNESBURG



Map 2- The site in context of major public open spaces in the Inner City Of Johannesburg

The Inner City of Johannesburg is a dense mixed-use residential and economic hub. It lies at the heart of Johannesburg as a central location between the north, east, south and west of the City. Quality parks, recreational and public open spaces in the CBD are lacking, with some facing immense pressure or being left desolate and underutilized. International standards state that there should be an allocation of 2 hectares of quality public open spaces for every 1000 residents in urban environments that are dense (Joburg, 2007). According to this standard, the CBD is severely lacking enough quality public open spaces for its ever so rapidly increasing population (Joburg, 2007). In 2011 the inner city's population sat at an estimated 198 143 people, with 800 000 commuters traveling into and out of the CBD on a day to day basis (Mavuso, 2016) This has resulted in public spaces being degraded over time, due to overutilization and lack of maintenance. Public open spaces in the CBD are in need of upgrades as well as the development of new spaces that are integrated into the public space system of the City.

The highlighted spaces indicate the main public open spaces (at a city wide scale) in the City of Johannesburg, with other spaces such as public parks highlighted in detail in Map 4. Of the eight major public spaces, five are classified as parks, one is an outdoor gym and park, one is a recreational square and one is an event space or a passive square outside of the occurrence of an event. The site of study consist of a square, a park and foyer.

STUDY SITE



Public space typology:

Civic buildings:

Map 3- Close scale map of site



BACKGROUND

The history of cities is hard to trace, as it is a complicated map of narratives. The form, structure and function of cities is something that has evolved over centuries and has been articulated by the relationship between its citizens and the multiple forces that operate in space. The history and development of the city has been shaped by a myriad of forces such as power relations, money, evolution, water, natural resources, and changing social relations. Understanding these forces and their impact on space helps one begin to grapple with the meaning of the city, what makes it, and what has shaped it over time. As soon as we understand the forces of change, we can understand the limits of the city and the driving forces behind its future development. Cities are also extremely fragile, especially in times of rapid expansion, thus, they require careful cultivation by all the actors of the city.

The discovery of gold in Johannesburg in 1886 resulted in the establishment of the city around the farm Langlaagter (Cripps, 2012). The shape and layout of Johannesburg was determined by the geology of the city, as the gold reefs were established on the east-west ridge of the Witwatersrand, and sloped towards the south, whilst mining companies bought land on the north of the ridge (Cripps, 2012). Suburbs started springing up in the north and eastern parts of Johannesburg, whilst the centre and the west of Johannesburg were designated for the working class, mixed races, work and residential (Cripps, 2012). Mining companies mostly controlled land, as they dominated the landscape through ownership and proclaimed land. This resulted in a stronghold over land for the purposes of building, and also forced the cost of housing up, which made the entire cost of living high (Cripps, 2012).

The town started taking shape around the market square, the largest market in South Africa (CoJ, 2004). The Johannesburg market was initially located in the centre of the CBD of Johannesburg in 1886. This was called the Market Square, where trading occurred in the form of bartering (Joburg market, nd). This was the first market in Johannesburg and the largest market in South Africa, stretching across over six city blocks (Munro, 2015). This historic market played a big role in defining the development of the city (Joburg, 2009). It stood as the focal point and spanned from President and Market Street in the north and south, Sauer Street in the west and Rissik Street in the east (Newtown, 2010).

The east of the square was dedicated to the sale of general items and produce, whilst the west was reserved for the sale of cattle (Joburg, 2009: Munro, 2015). The first structure built in the market area was in 1888, which housed fire-fighting equipment (Joburg market, nd). This was followed by the establishment of a government building on the east of the square (CoJ, 2004). This building was a low rise building with the post office located in the one wing of the building. The post office later took over the entire building in 1892 (CoJ, 2004). The Standard Theatre was then established in 1891. It was located between Market and President Street, behind what is now the Rissik Street Post Office (Latilla, 2013). In 1895 development started springing up all around the square, with offices, banks, and shops appearing all along the parameters of the square (Joburg market, nd: Joburg, 2010). In the late 1890s blocks of three story offices, shops and residential accommodation were established around the theatre (Latilla, 2013). In 1897 the post office, in its present form, was built, as more space was needed to accommodate its function (CoJ, 2004). Another floor was later added to the building, along with a clock tower in 1905 (CoJ, 2004).

In 1906 the City Council claimed ownership over the market, with the vision of eventually establishing government buildings in the square (CoJ, 2004). This required the square to be relocated to another location. Newtown, then know as Brickfields, was identified as a suitable location, thus leading to the market being relocated to what is know today as Mary Fitzgerald Square (CoJ, 2004).

Once the market relocated to Newtown in 1913, City Hall opened soon after in 1914, this was located opposite the post office. A small park was laid out in the



west of the square in 1915 with City Hall looking over the park. This was called the City Hall Gardens (CoJ, 2004). Following this development was the central library in 1935, developed on the west of the square (Joburg, 2009). These two establishments occupied large portions of square in the east and west (Joburg, 2009). The squares name was then changed to Library Gardens, which was then changed to Harry Hofmeyr Gardens from 1911 to 1912, and now Beyers Naude Square (CoJ, 2004). In 1947 the Standard Theatre was closed down as it was a fire hazard. It was then later demolished in 1956, making way for the establishment of a little park, now known as the Ernest Oppenheimer Park (Latilla, 2013).

Between 1989 and 1991 the Civic Spine Project was launched (The Heritage Portal, 2016). The project stretched from the Rissik Post Office to the City Library. A bend was created in front of the Post Office to allow for the development of a water feature in the middle of the road (The Heritage Portal, 2016). Kiosks were established along the Library Garden, in the north and south, for trading and retail activity. 200 trees were planted along the Civic Spine (The Heritage Portal, 2016). In 1978 the Rissik Street Post office was proclaimed a national monument and City Hall was proclaimed a National Monument in 1979. However, in 1995 the Gauteng Legislature located to the City Hall building as the City Council relocated to Braamfontein (The Heritage Portal, 2016). The Post Office was asked to move out of their building in 1996 (The Heritage Portal, 2016: Joburg 2002: All At Sea, 2011). When the Post Office vacated the building this resulted in it being left derelict as it deteriorated over time (All At Sea, 2011). A fire later destroyed the internal structure of the building, followed by another fire in 2009 (All At Sea, 2011). In the 1990s the park behind the post office fell into disrepair, with the statue of impalas left vandalised and thus relocated outside the Anglo American building (Gauteng, nd).

WHY HAS THIS SITE BEEN CHOSEN?

Today the site stands as a significant space depicting the genealogy and progression of the City. This is a historic site with a beautiful and tragic story of the city of Johannesburg and how it has fallen into despair over the years. The lack of maintenance has left this space derelict, dangerous and unwelcoming to many people. However, the richness of the site and its surroundings houses the potential to stand as a showcase of history and the rich architectural inheritance of the city.

This site has been chosen as it is very well located in the centre of Johannesburg, with ample access to social amenities, such as the library, post office, schools, and residential apartments, office spaces, restaurants, shopping stores and a variety of other facilities in the greater context of the site, however its potential to strengthen the socio-spatial relations of the surroundings space has not been maximised. Access to this site is ideal as there is ample access to various modes of public transport. As this space is the only pubic space system in the centre and south of the inner city, it plays a major role in bringing about added richness to these parts of the inner city. This site has the potential to act as a catalytic project in the creation of a vibrant, liveable space that forms part of the social fabric, adding to the public dimension, as a missing piece of this puzzle.

The three spaces have been looked at as one system, as a space that provides variety in public space that no other public space in the city provides. It is a public space system that is made up of soft, hard, passive and active spaces, that create an interesting dynamic and provides a variety in the choice of spaces provided in the public realm as well as the functions it may take on. This site is also very interesting as it sits in a context that is predominantly for commercial use and with a number of heritage buildings, which presents another sensitive spatial dimension that needs to be addressed in conjunction with the creation of a quality public space.





First building on Market Square 1888 (Newtown, nd)



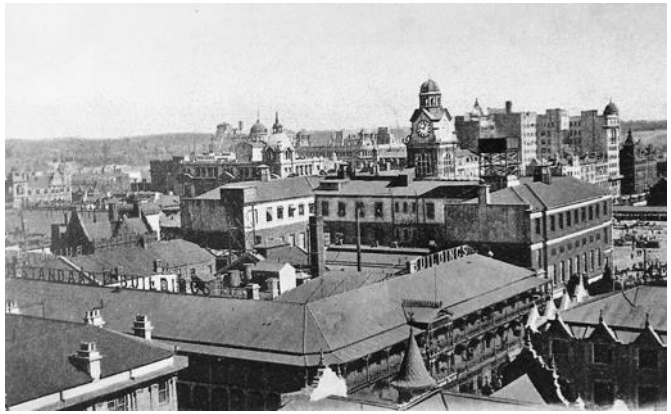
Old photo of Johannesburg Market Square (The Heritage Portal, 2016).



The Standard Theatre 1890 (Latilla, 2013).



Rissik Street Post Office 1905 (The Heritage Portal, 2016)



Standard Theatre and Post Office in Background (Latilla, 2013).



City Hall under construction (The Heritage Portal, 2016)



City Hall and Post office foyer (All At Sea, 2011)



Johannesburg Library 1935 (CoJ, 2004).



Beyers Naude in 1988 (CoJ, 2004).

CURRENT CONDITION

Beyers Naude Square

In the 2008/2009 financial year, the JDA initiated a plan to rehabilitate the square based on a concept of improving: access to disabled users and to the underground parking, flattening park levels, improve visibility by demolishing the steel structures to open up the space and incorporating art work (JDA, 2011). Work commenced in February 2011 to June 2011 (JDA, 2011). A total of R8.2 million was spent on the project (JDA, 2011). Today the square has been designed to be a pedestrian friendly space that accommodates a number of gatherings such as strikes and social events (JDA, 2011). The Square sits between President Street, Albertina Sisulu Road, Harrison Street and Sauer Street.

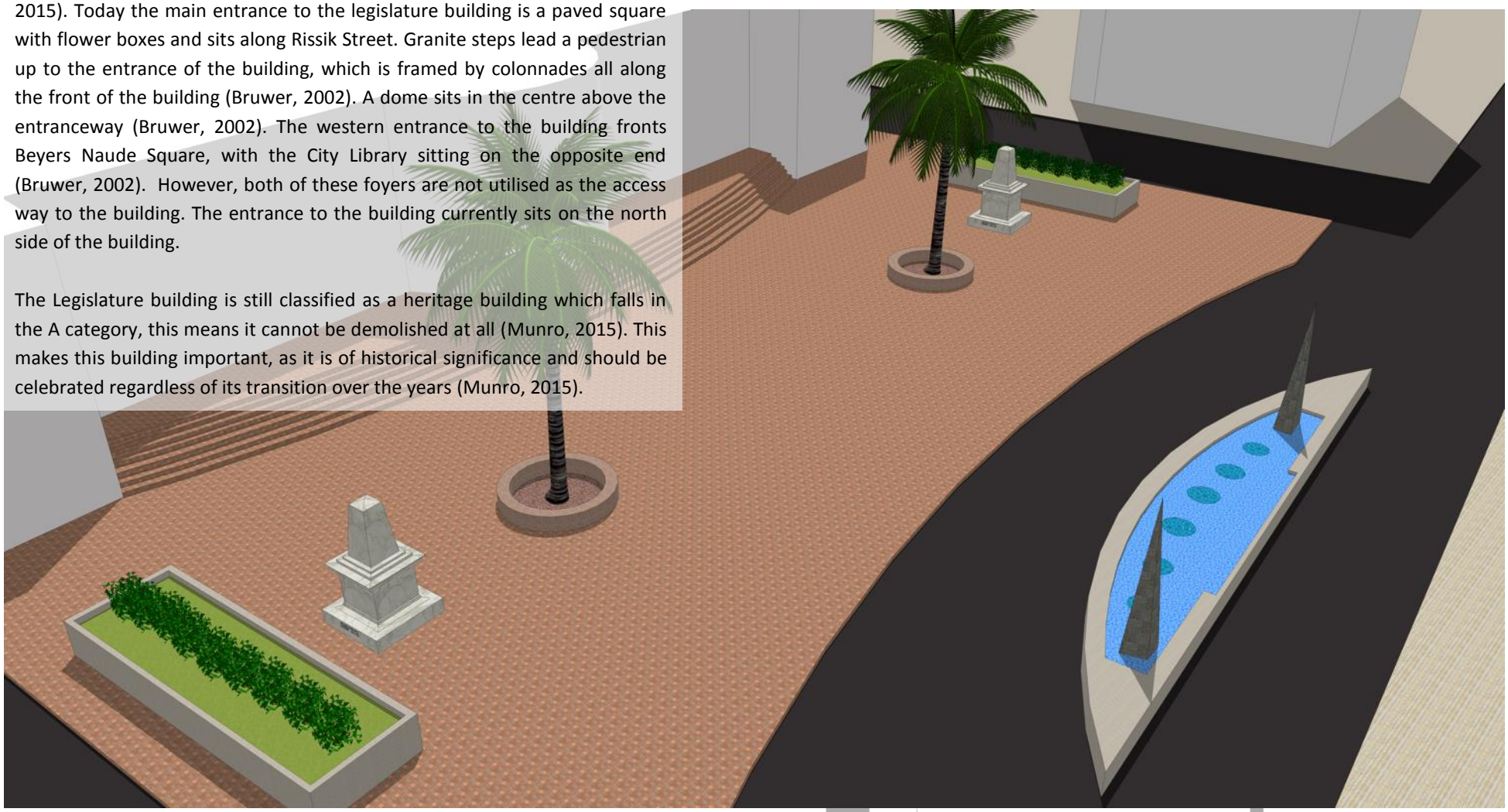


CURRENT CONDITION

Legislature Foyer

City Hall has seen a number of religious and political activity occurring on its steps in the past, a culture that has been carried through till today (Munro, 2015). Today the main entrance to the legislature building is a paved square with flower boxes and sits along Rissik Street. Granite steps lead a pedestrian up to the entrance of the building, which is framed by colonnades all along the front of the building (Bruwer, 2002). A dome sits in the centre above the entranceway (Bruwer, 2002). The western entrance to the building fronts Beyers Naude Square, with the City Library sitting on the opposite end (Bruwer, 2002). However, both of these foyers are not utilised as the access way to the building. The entrance to the building currently sits on the north side of the building.

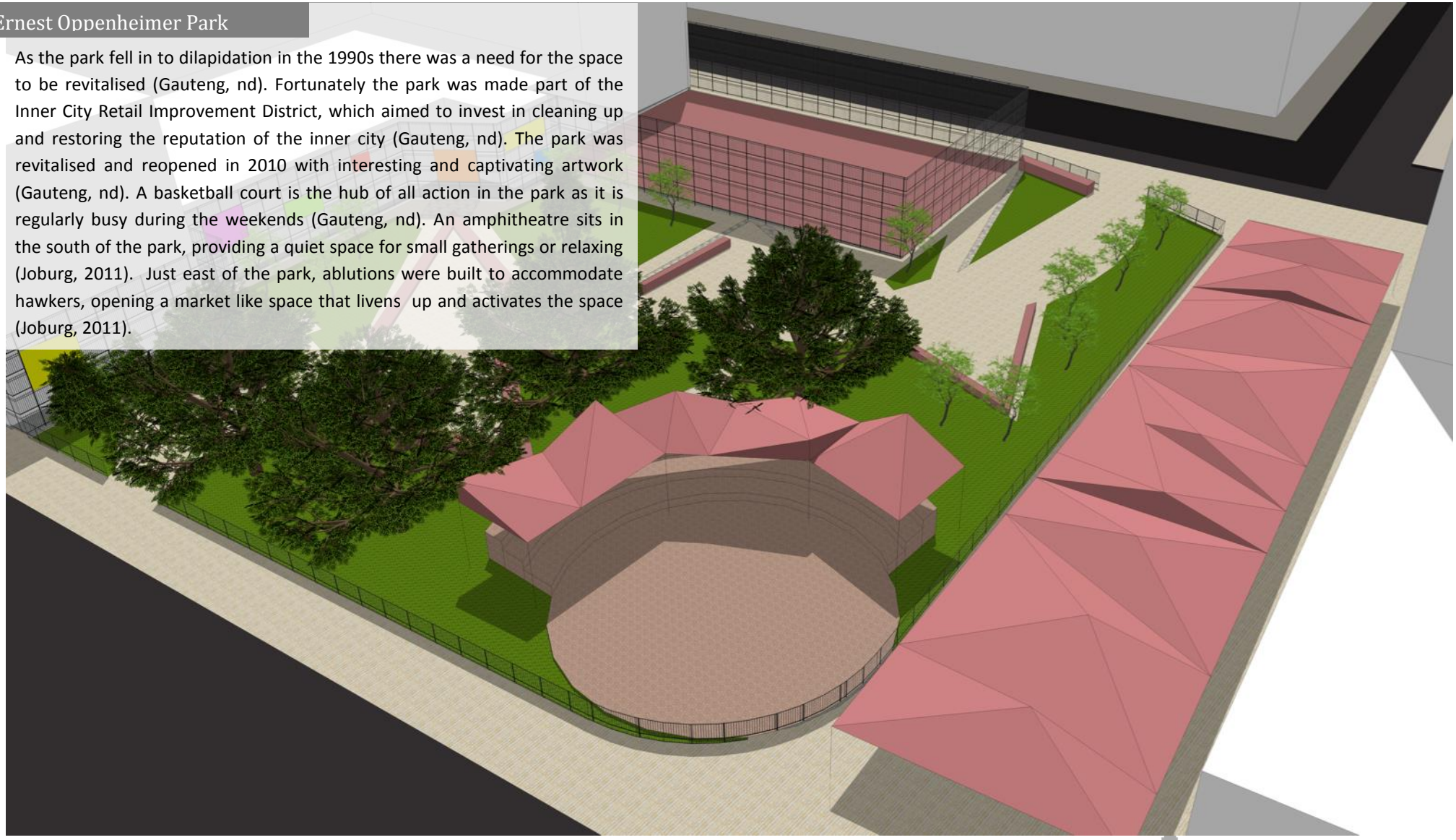
The Legislature building is still classified as a heritage building which falls in the A category, this means it cannot be demolished at all (Munro, 2015). This makes this building important, as it is of historical significance and should be celebrated regardless of its transition over the years (Munro, 2015).



CURRENT CONDITION

Ernest Oppenheimer Park

As the park fell in to dilapidation in the 1990s there was a need for the space to be revitalised (Gauteng, nd). Fortunately the park was made part of the Inner City Retail Improvement District, which aimed to invest in cleaning up and restoring the reputation of the inner city (Gauteng, nd). The park was revitalised and reopened in 2010 with interesting and captivating artwork (Gauteng, nd). A basketball court is the hub of all action in the park as it is regularly busy during the weekends (Gauteng, nd). An amphitheatre sits in the south of the park, providing a quiet space for small gatherings or relaxing (Joburg, 2011). Just east of the park, ablutions were built to accommodate hawkers, opening a market like space that livens up and activates the space (Joburg, 2011).



Beyers Naude Square





Legislature Foyer



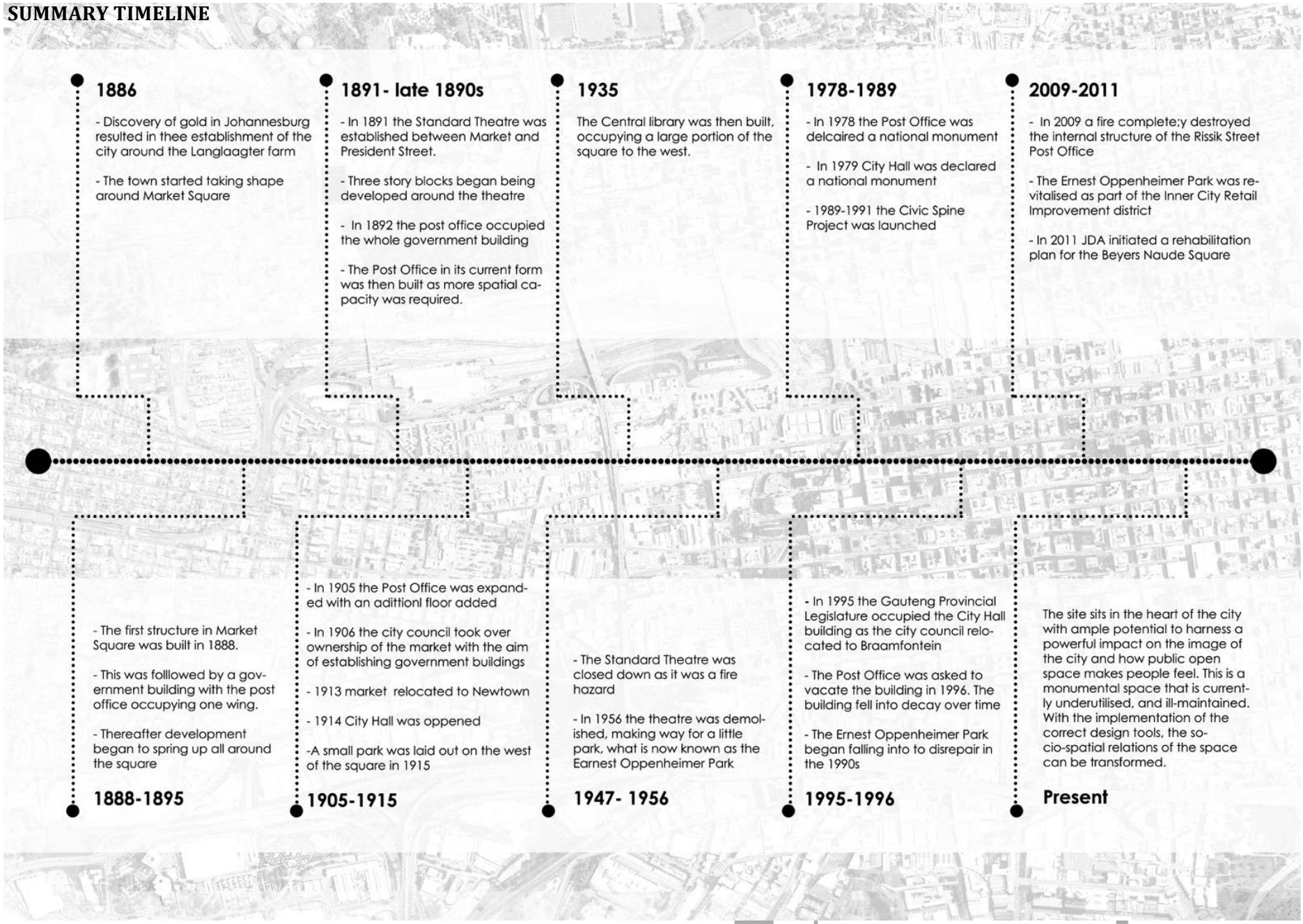


Ernest Oppenheimer Park





SUMMARY TIMELINE



CONTEXT: THE CHALLENGE OF INNER CITY PUBLIC SPACES

The use and access of pedestrians to public spaces is extremely important as this should be the main emphasises and the priority of the design of public spaces in the city (Jacobs & Appleyard, 1987). However, public spaces in South Africa face a crippling challenge that has been shaped by historical dimensions. The spatial legacy of apartheid robbed black citizens of their equal rights and denied them access to quality public spaces (Safer Spaces, nd). Informal settlements, townships and inner cities were seen as unsafe, frightening, un-kept and dirty spaces, as is the case still today in many public spaces in the city. This is still the case as the spatial legacy of apartheid policies is reflected in many cities in South Africa (Safer Spaces, nd). Over the last few years of democracy public spaces have further deteriorated resulting in the development of perceptions around public spaces being unsafe, therefore, being uninviting. Malls have now become the more desirable spaces of social gathering, leaving less and less attention being paid to the revitalisation of public spaces in South African cities (Safer Spaces, nd).

Public spaces in Johannesburg face an immense amount of deterioration due to the lack of supporting social infrastructure and maintenance. A number of public space upgrades have taken place in the inner city, however, despite these efforts, there is still a largely negative response and perception of public spaces as seen in the lack of the use of these spaces. This has resulted in the growing perceptions of the lack of safety in a majority of the public spaces in the city, further resulting in the isolation of a large portion of the cities population, but specifically women, children and the disabled, from using these spaces freely and comfortably. Public spaces in the inner city have been taken over by the characteristic of a lack of public furniture, underused facilities, high fences and the lack of vibrancy and appeal.

Simone (2004) states that the lack of social cohesion between inner city users and residents has contributed to the poor level of social control in these spaces, thus creating the breeding grounds for unlawful activities like robberies, sexual harassment and the dealing of illegal substances. The built environment professionals that play a critical role in shaping and designing public spaces need to shift their understanding and perception of public open spaces, how they are used, and the value that these spaces carry in facilitating the needs and preferences of the user in the inner city. There is a gap in the knowledge and research that has gone into the design process of inner city public spaces and this has resulted in hastily decision making with a lack of community and stakeholder engagement as to gain a better understanding of how public spaces affect city users interaction and their perceptions of these spaces.

In the attempt to redress the social and spatial inequalities of the apartheid city the provision of quality public spaces becomes a key driver in bridging the gap between the leafy well maintained and serviced northern suburbs, which are predominantly white, and the underserviced and dusty townships in the south, which are predominantly black (Crankshaw & Parnell, 2002). However, the task of creating quality public spaces is difficult, specifically in the context of the inner city, as the government often has a very limited budget to be allocated to projects of this nature. Funds are often allocated to housing budgets and infrastructure development. The lack of social cohesion in the communities of the inner city of Johannesburg makes this task even more difficult as this has resulted in the lack of control over these spaces (Simone, 2004).

In the attempt to address this issue, the City of Johannesburg (CoJ) and the Johannesburg Development agency (JDA) had put more focus on the regeneration of the inner city through the Inner City Regeneration Strategy in 2003. The main aim of this strategy was to upgrade and maintain public spaces as to attract investment back into the inner city (City of Johannesburg, 2007). However, the efforts made through these public space upgrades yielded very



marginal results as there is still a number of public spaces that require intervention. However, a number of interventions have shown promise in their aim to reclaim public spaces. This is seen in local initiatives such as the Braamfontein Regeneration Project, the Main Street Gandhi Square CID, or even the Open Street Cape Town campaign. These are initiatives that have shown how people's perceptions of safety can be improved, whilst also unlocking the social, economic and spatial potential of public spaces that influence and impact positively on peoples behaviour.

Johannesburg has branded itself as a world class African city and carries a vision to create a good standard of living and improving the quality of life for every citizen. However the plague of apartheid spatial policies has greatly hindered this vision from being fulfilled. The current public space policies and by-laws, which seek to redress the spatial ramifications of the apartheid city, are still not adequate enough in the creation of quality public spaces in the inner city. The current spatial policies in place often speak in contradiction of the creation of spaces that are democratic and appropriated by the users. The everyday users of the inner city, pedestrians, street traders, artists and public transport users, battle to appropriate public spaces in the inner city as these spaces are associated with fear, surveillance, and restrictions.

The idea of public space needs to be recreated, with emphasis put on consolidating the city, its political, social, economic and spatial dynamics as to bring about a transformation in the socio-spatial relations of space in the inner city. This being done with the users of the city in mind, where do people go, what do they do, how do they get there, what keeps them in space, what are their needs and how can the city marry the spatial, political, social and economic needs of its users in public spaces.

The inner city has a number of public spaces, mostly public parks. Despite these public spaces being in a deficit, these spaces also fail to incorporate the social, economic, political and spatial needs of everyday users in the CBD.

Map 4 bellow indicates where all public parks are located in the inner city of Johannesburg, with 2 public squares, Mary Fitzgerald and Beyers Naude Square. This map clearly indicates that there are a few public spaces in the north and east of the inner city, these areas are predominantly residential areas. The west, centre and south of the inner city are predominantly mixed use, a majority of which is commercial. These parts of the city lack public spaces with 6 public spaces servicing this entire region of the inner city, as indicated by the orange circle on the map. This part of the city carries the highest building densities, however, it has the least amount of public spaces servicing the needs of the users in and around this area.

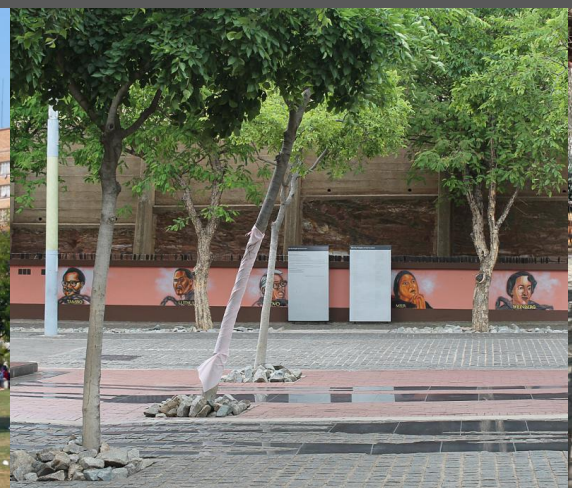
Mary Fitzgerald Square- sterile and empty



Joubert Park- lack of infrastructure and maintenance



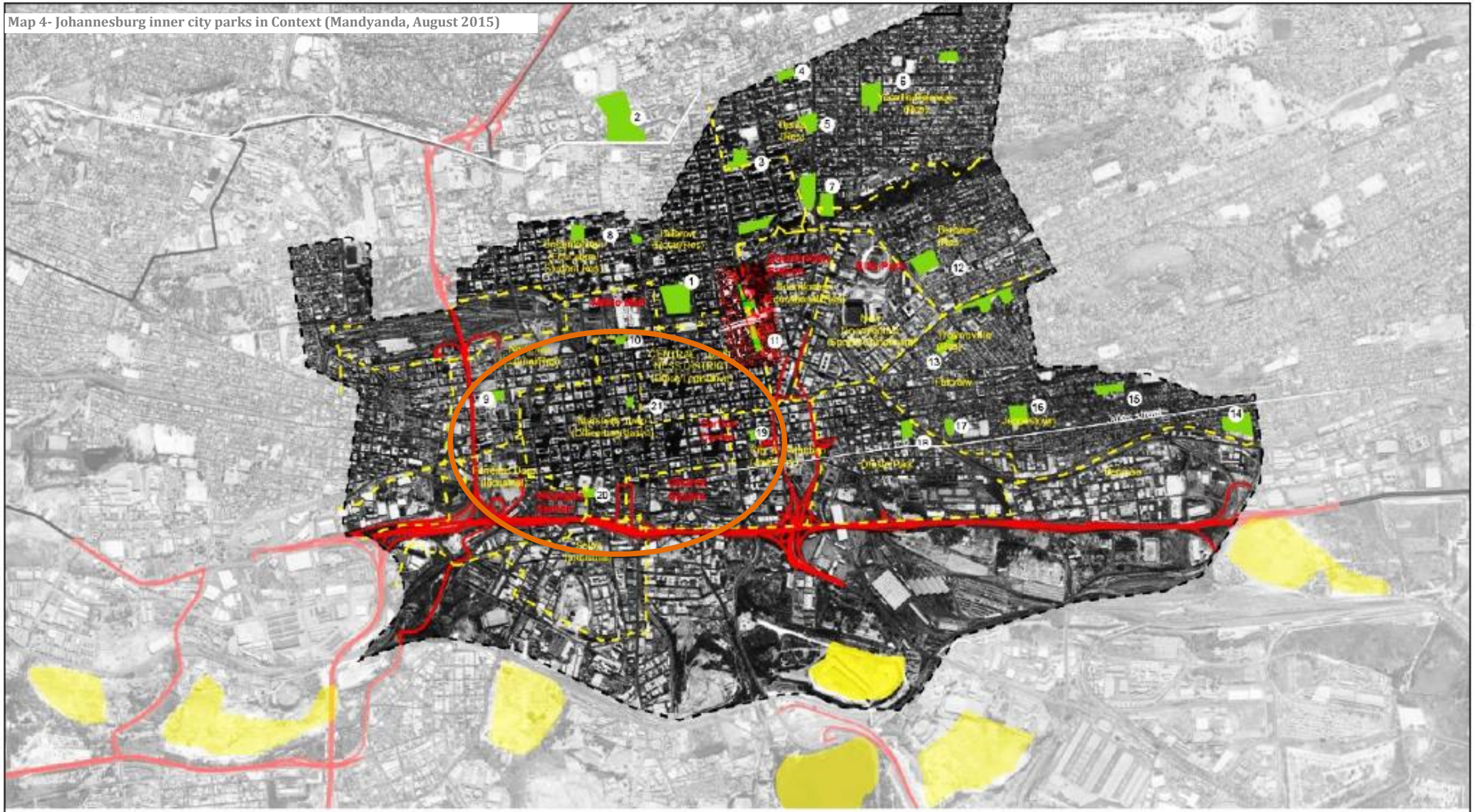
Constitution Hill- sterile & lifeless



Oppenheimer Park- controlled access



Map 4- Johannesburg inner city parks in Context (Mandyanda, August 2015)



End Street Park as it sits amongst other parks in the innercity of Johannesburg

LEGEND

Existing Parks

National routes

The Inner City Boundary according to the city of Johannesburg

Innercity Districts according to the City of Johannes-

Existing Parks

1. Joubert Park
2. Pieter Roos
3. Alec Goschel
4. Mitchel
5. JL de Villiers
6. Yoeville Park
7. Donald Mackay
8. Sappi
9. Central Place
10. Attell Gardens
11. End Street (Site)
12. Fuller
13. Maurice Freeman
14. Vickers
15. Abe Bailey
16. Murry
17. Bertha Solomon Oval
18. Clifton
19. Port Plein
20. Standard Bank (Private)
21. Park behind Rissik Street Post Office (Private)

N

SITE IN GREATER CONTEXT

The study site is very well located in terms of accessibility and connectivity to the greater context. This map indicates how the site is directly connected, via the highlighted routes, to a number of major public spaces up to 10 km away from the site. All of these sites have direct access to the study site making them easily and directly accessible. This creates a public space system that feeds into each other. However, the site has the potential to anchor the other public spaces, as it is located in the centre of this public space system, and brings about a fusion of hard and soft public space, as the only space of its kind in the greater context shown in the map. The site also has potential to expand this public space network along the M1 and Booysens Road as to bring about more of a distribution of public spaces in the south. This map indicates the unequal distribution of public spaces, as more public spaces are located in the north, with a deficit of public spaces centrally and south of the site.



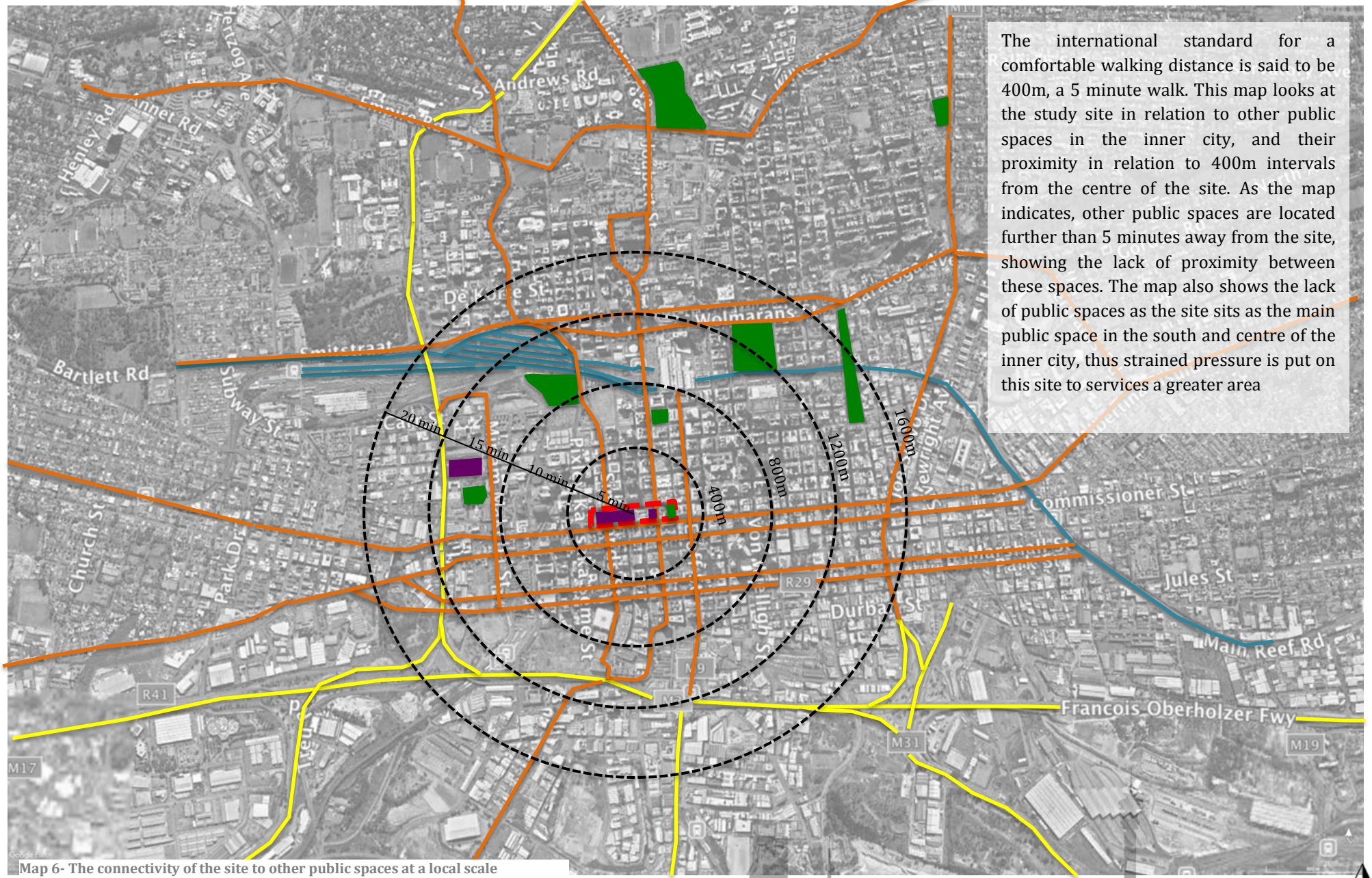






Map 5- Routes directly linking study site to other public spaces within 10 km

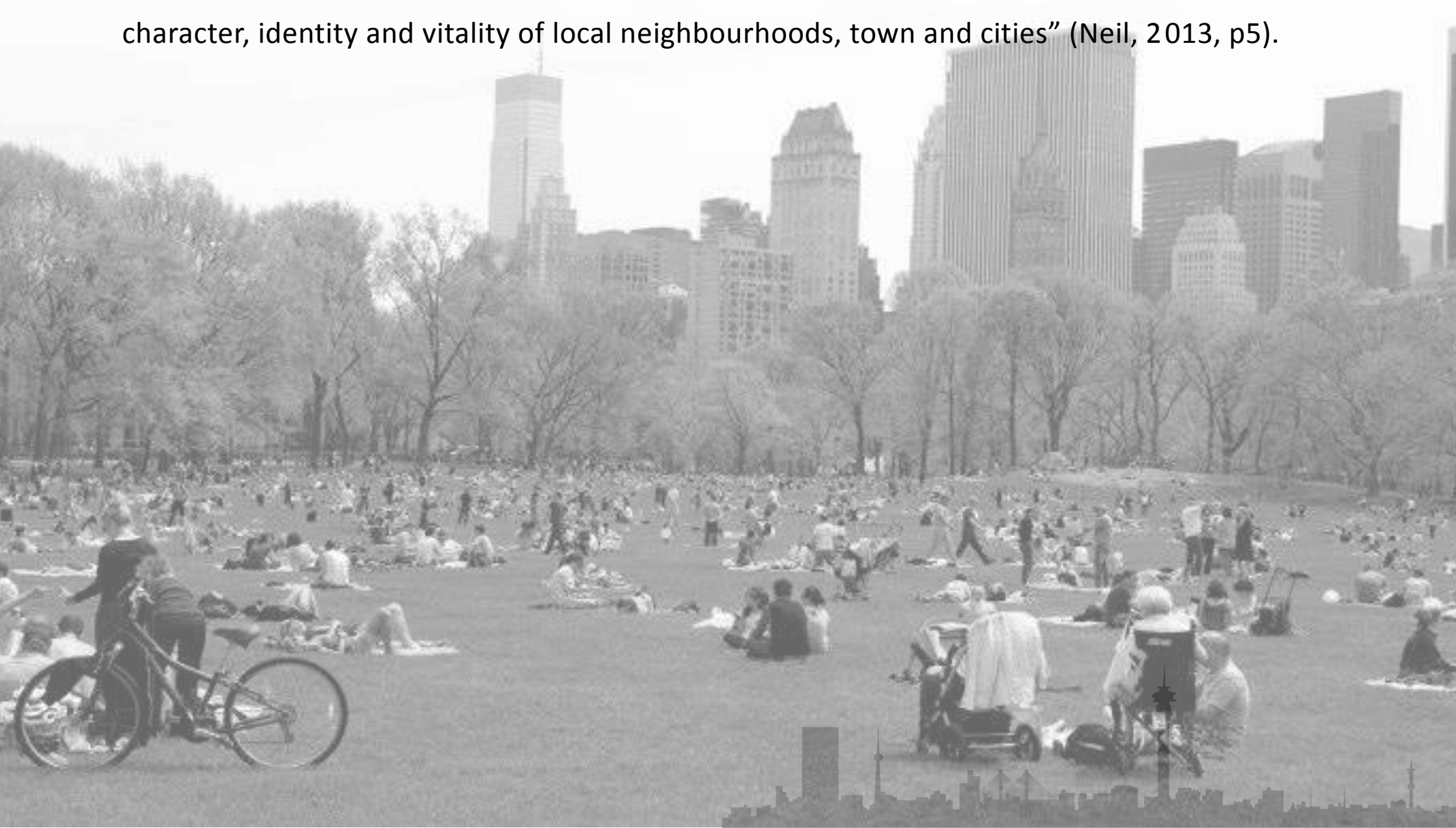
SITE IN LOCAL CONTEXT



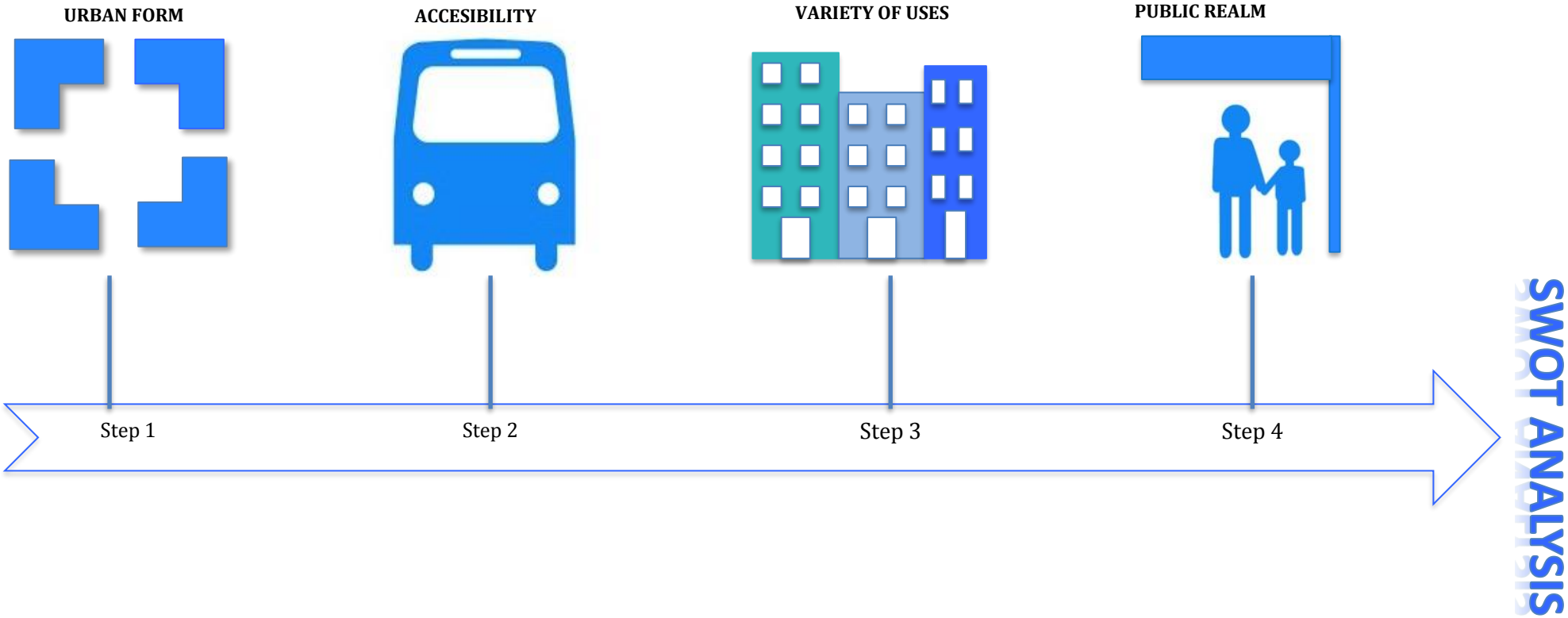
The international standard for a comfortable walking distance is said to be 400m, a 5 minute walk. This map looks at the study site in relation to other public spaces in the inner city, and their proximity in relation to 400m intervals from the centre of the site. As the map indicates, other public spaces are located further than 5 minutes away from the site, showing the lack of proximity between these spaces. The map also shows the lack of public spaces as the site sits as the main public space in the south and centre of the inner city, thus strained pressure is put on this site to services a greater area

Map 6- The connectivity of the site to other public spaces at a local scale

"Public open spaces are an essential part of the social life and fabric of communities across the world. They are heavily used and much loved public asset that enhances the character, identity and vitality of local neighbourhoods, town and cities" (Neil, 2013, p5).



SEQUENCE OF ANALYSIS



URBAN FORM- LAND MASS & STREET GRID

The landmass of the city is shaped by road networks, dividing a majority of the city into square blocks. The area shown in the map is around the site and shows how some blocks around are much longer forming more rectangular shapes, which may be more uncomfortable to travers along the longer length of the block for pedestrians as there are less breaks and intersections along such blocks.

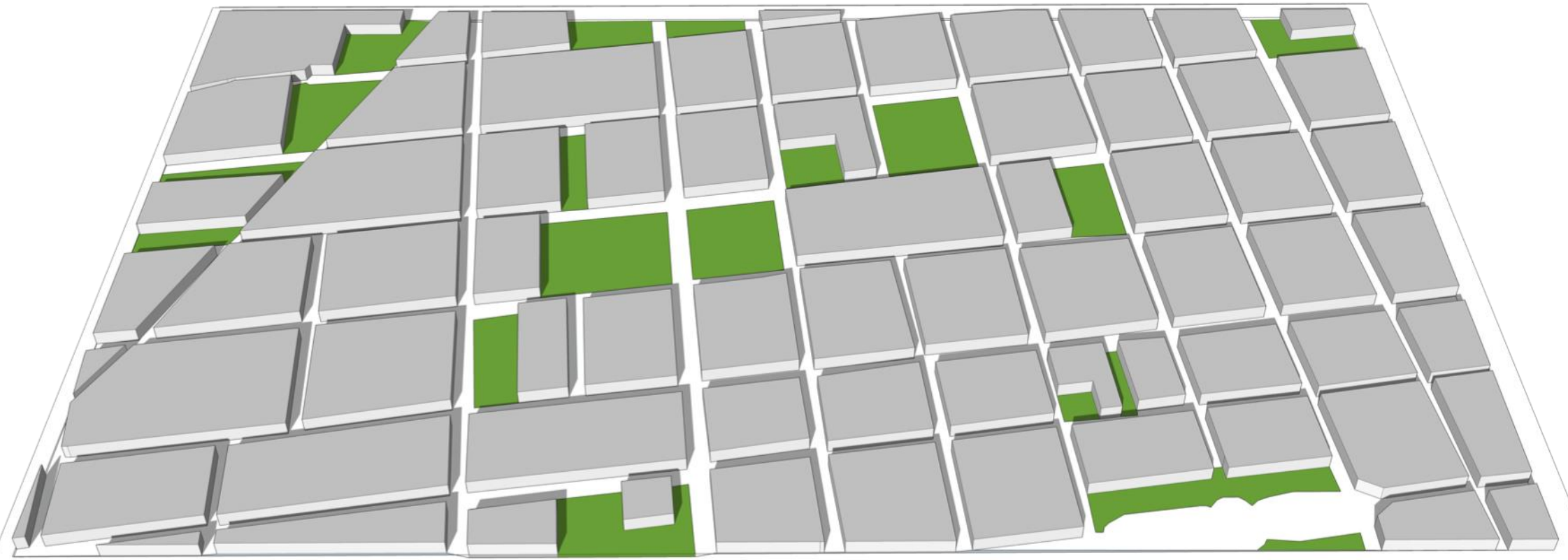


Map 7- Map of street pattern

URBAN FORM- URBAN MASSING AND OPEN SPACE

The block size is an average of 60m x 60m, making it very easy for pedestrians to navigate, as well as cars. The size of the blocks are neither to long for pedestrians to walk comfortably, or too short for vehicles to drive through. This encourages pedestrian to easily and comfortably walk through and around the site, with constant intervals breaking up the street wall.

This brings about the provision of choices to the pedestrian, as shorter city blocks allow for more intersections, which in turn means more options for a pedestrian, the space becomes a place where pedestrians can exercise their choice and free will. The length of the blocks is optimal to influence the ease of access, movement and an economic threshold.



Map 8- Map of urban mass and the open spaces formed in-between this

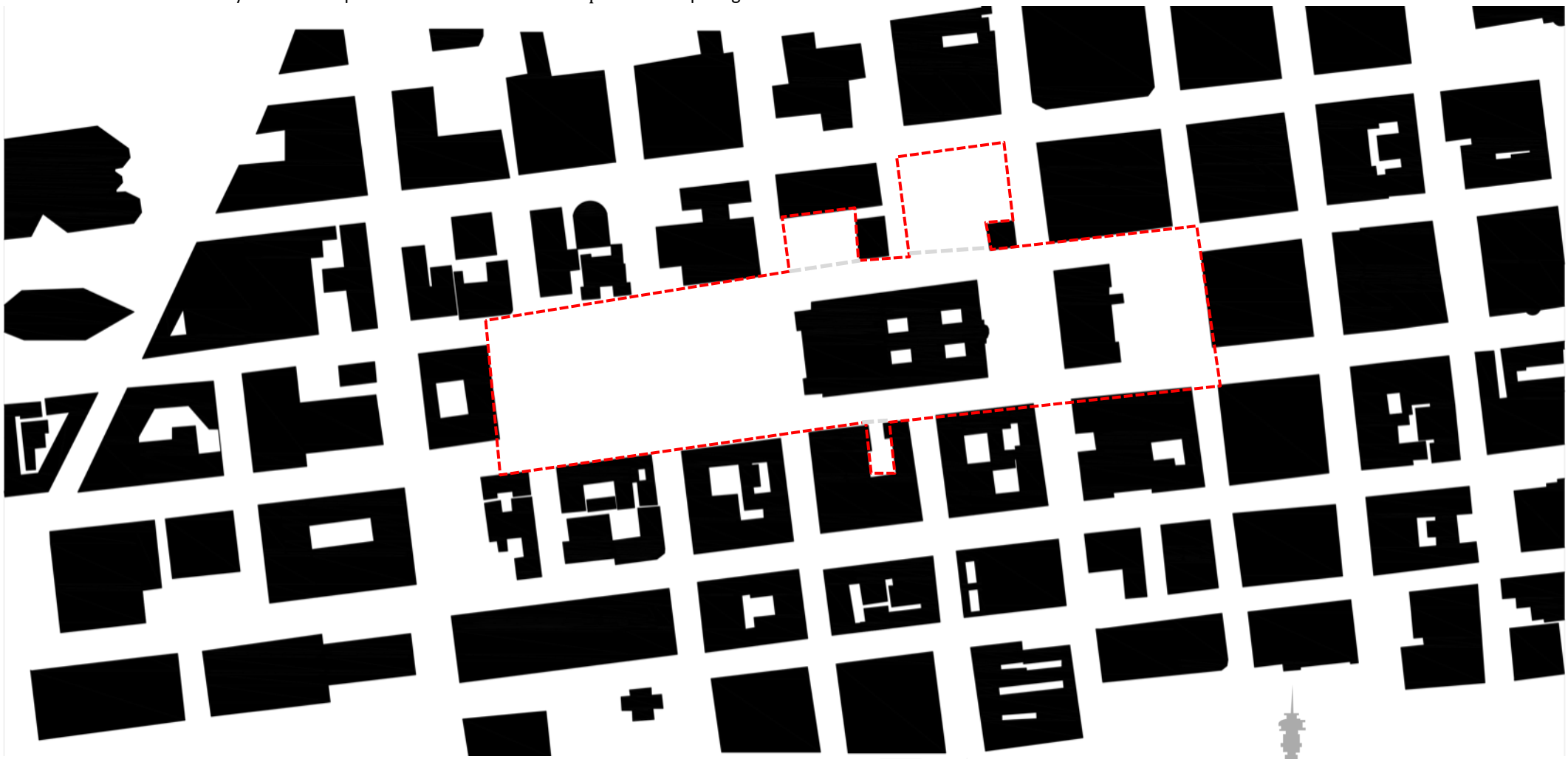
LEGEND

Open space- hard and soft



URBAN FORM- SOLIDS AND VOIDS

The space is enclosed by hard enclosure, buildings. This enclosure is full, with a few leaks in space as indicated by the building threshold line in red. However, the buildings hold the spaces well. The solid and void map depicts how the voids create a comfortable distance between the solids, no more than a 100m walk. However the distance across Beyers Naude Square from east to west is far apart thus requiring a break in space as to create areas of pause, that accommodate pedestrians in an intimate human scaled space. This influences the pedestrians experience, as to create room for people to experience spaces with all their senses, therefore informing their experience and perception of public open space.



Map 9- Solid and void form of the city

URBAN FORM

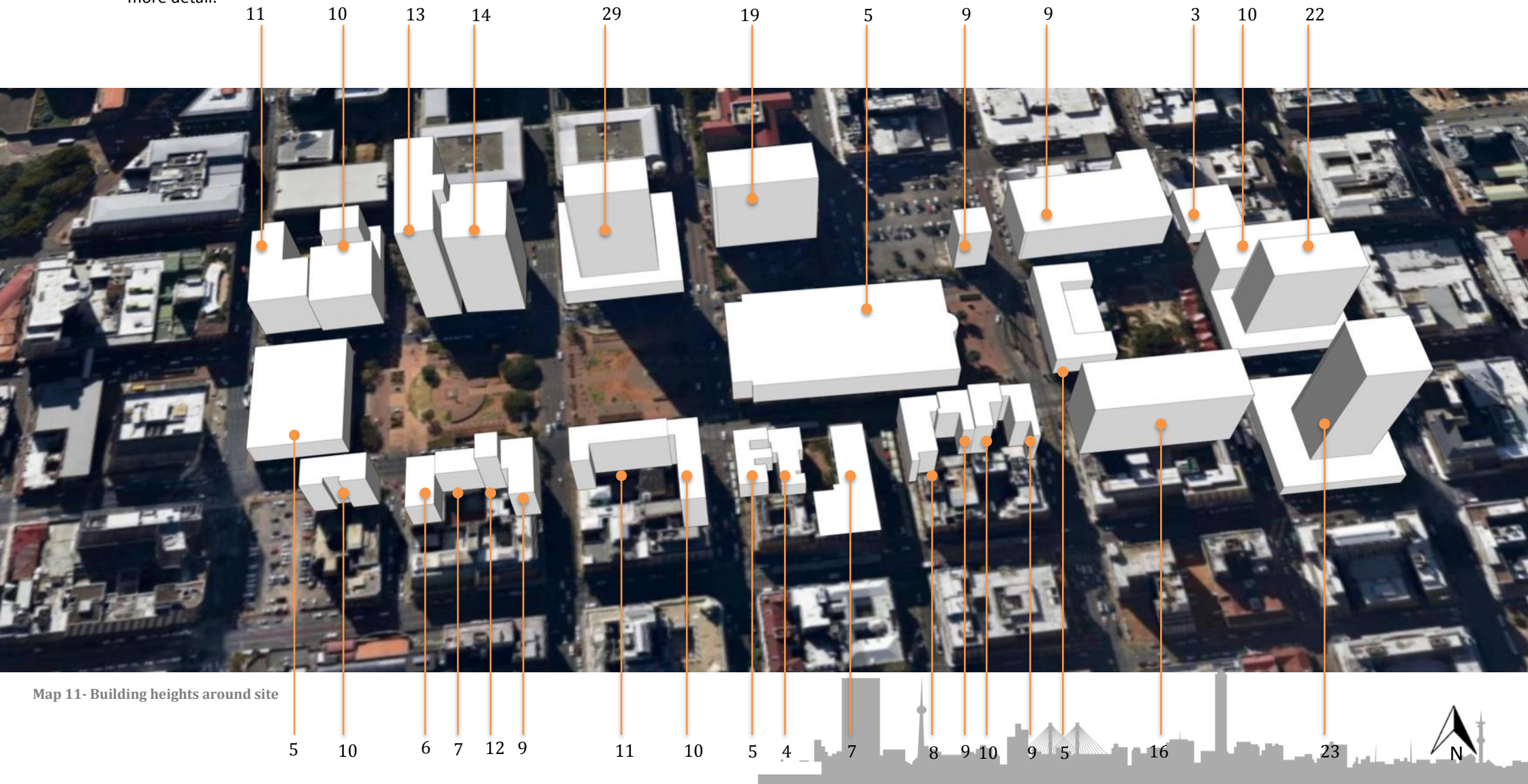


Map 10- Consolidated map of grid, massing and open spaces

URBAN FORM- BUILDING HEIGHTS

The heights of buildings around the site are average, and contain the space fairly well. Most of the tall buildings are located south of the park and the foyer, however, 2 of the tallest buildings, are located north of Beyers Naude Square which casts a shadow over the space at certain times of the day. This creates an uncomfortable space for pedestrians in certain weather conditions, like winter. The shadow study in the following pages will discuss the effect of buildings and the shadows they cast on the site in more detail.

<u>BUILDING HEIGHTS</u>
Min= 3 floors
Max= 29 floors
Average= 11.47 floors

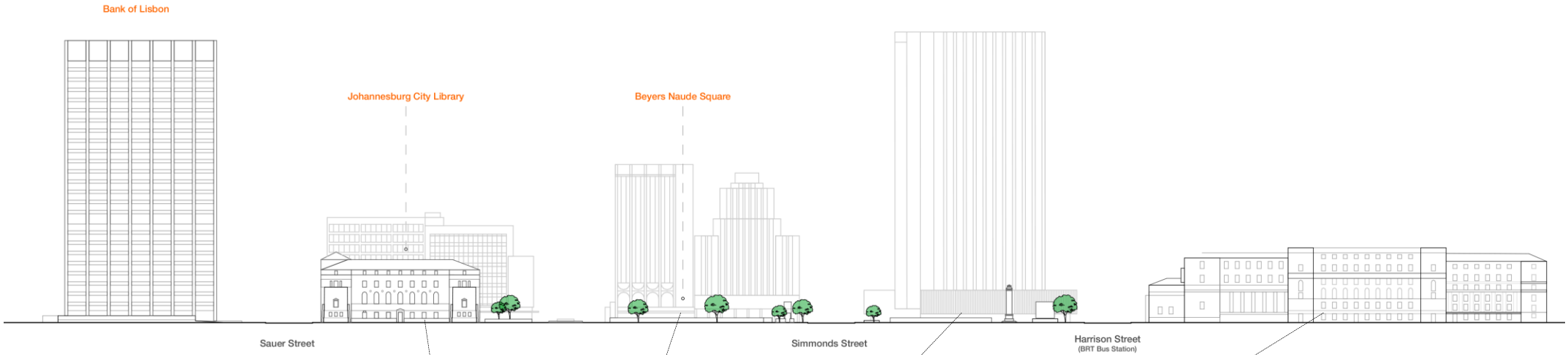


Map 11- Building heights around site

URBAN FORM- BUILDING HEIGHTS

Due to the geographical location of the site, in the southern hemisphere, tall buildings should be located south of an open space, as to avoid shadows being cast over the space. The map and section bellow illustrate how the buildings around Beyers Naude Square do the opposite of the above stated.

Two extremely tall buildings are located north of the site, casting a shadow over the site, affecting where people feel comfortable to sit and engage in various activities in certain seasons.



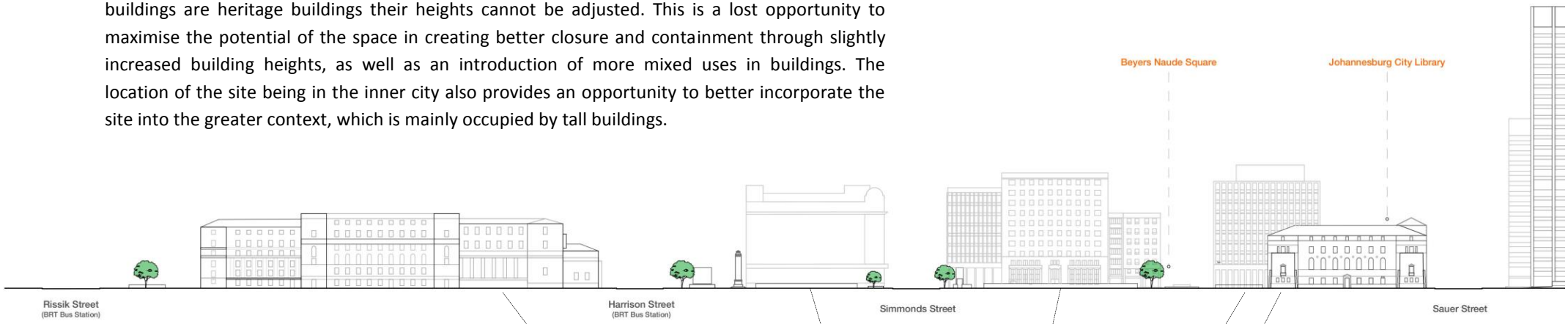
(Ludwig Hansen Architects and Urban Designers, 2017)



Map 12- Tall building heights around west of site

URBAN FORM- BUILDING HEIGHTS

Short buildings predominantly occupy the east of Beyers Naude Square. As most of these buildings are heritage buildings their heights cannot be adjusted. This is a lost opportunity to maximise the potential of the space in creating better closure and containment through slightly increased building heights, as well as an introduction of more mixed uses in buildings. The location of the site being in the inner city also provides an opportunity to better incorporate the site into the greater context, which is mainly occupied by tall buildings.

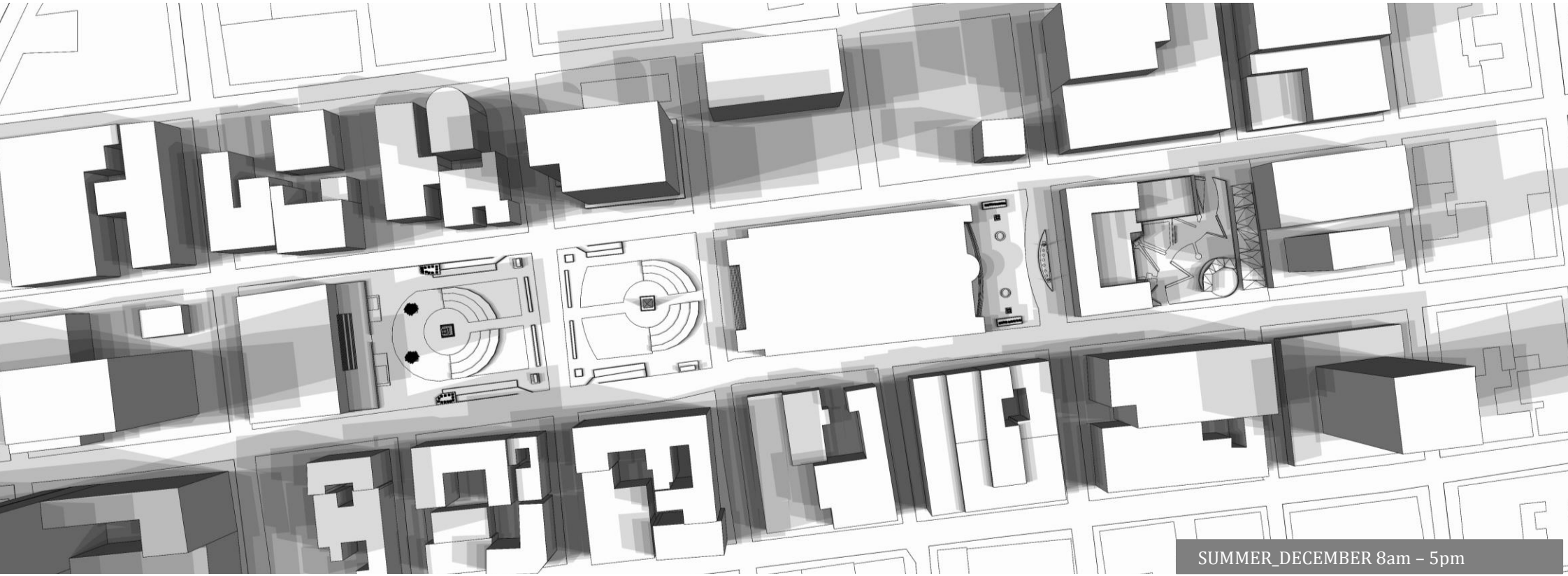


(Ludwig Hansen Architects and Urban Designers, 2017)

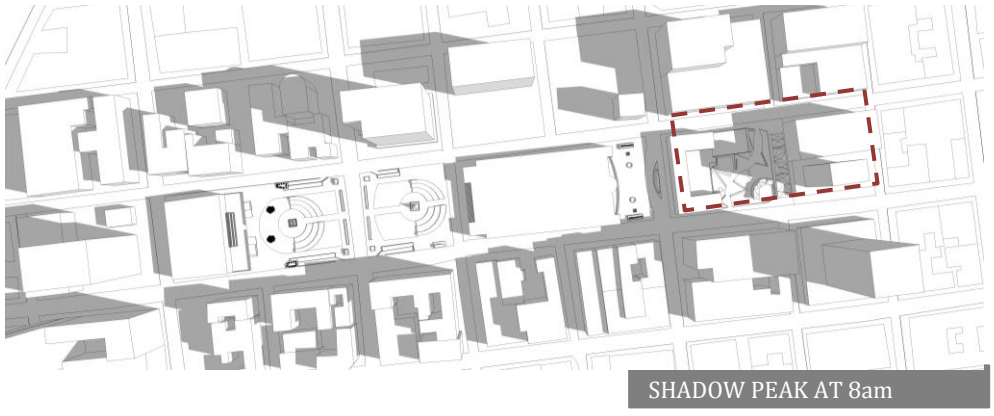


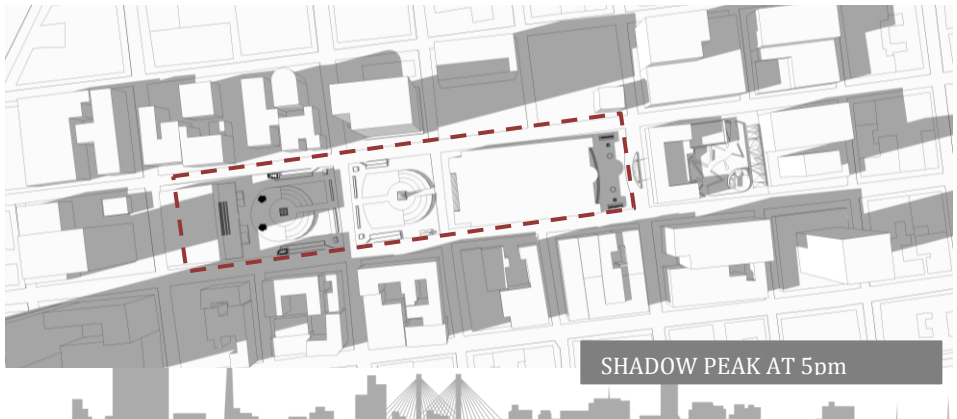
Map 13- Short building heights around east of site

URBAN FORM- SUMMER SHADOW STUDY



Map 14-Shadow study in summer





URBAN FORM- WINTER SHADOW STUDY



Map 15-Shadow study in winter

In winter various parts of the sites are covered by shade a majority of the day. The shadow moves through the site, casting shade onto different parts of the site through the day. As the site is located in the CBD of Johannesburg, it is surrounded by tall buildings, thus this is inevitable. This may create a hostile environment during this season for the users of this space as very little direct sunlight makes it into the site. This means that the site cannot be covered by trees, as there is a need to let in as much sunlight as possible in winter.



URBAN FORM- FRONT AND BACKS OF BUILDINGS

Only 21.74% of the buildings have their backs facing the site, this is a minimal amount, with the majority of the buildings fronting the site. However, the buildings that have their backs facing the square, are very imposing, and create a hostile environment in those areas, as there are no eyes on the street, no permeability, making the pedestrian feel very unwelcomed and uncomfortable in the spaces around these buildings.

Front and Backs
5 buildings backs front the site
23 buildings front the site



Map 16- Map of building fronts and backs

LEGEND
Front of building
Back/side of building

N

URBAN FORM- THE EFFECT ON HUMAN BEHAVIOUR



People gather around the trees outside the library entrance

People gather around this end of the square as it is shaded by the north buildings

Area shaded by trees attracting more people

Street traders all located north of the site as there is shade

Less people located on the east of the square as it is less shaded, and has less active fronts facing the square

Even though well shaded at certain times in the day less people located in the foyer as it has no active fronts or activity drawing pedestrians in

Pedestrians in the park are mostly located along the fence of the basketball court or in the amphitheater where there is ample shade

A lot of traders are located under this shaded and weather protected area

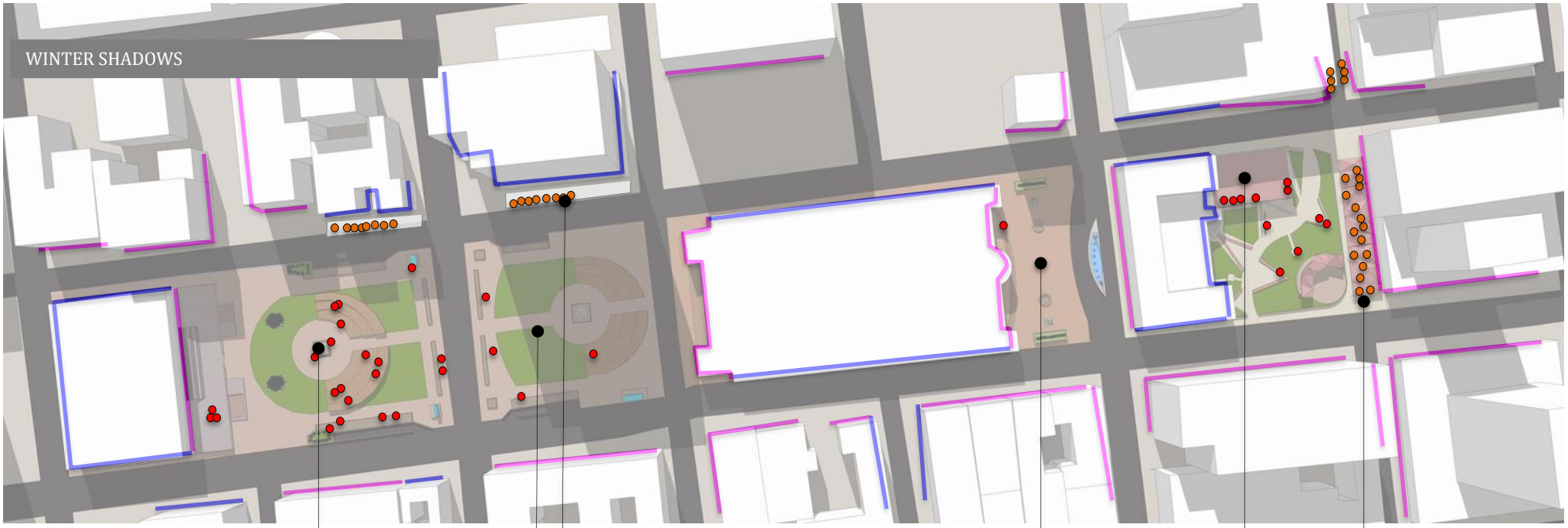
Map 17- Map of analysed built form and its effect of where people gather in space

LEGEND

- Front of building
- Back/side of building
- Pedestrians
- Street traders

N

URBAN FORM- THE EFFECT ON HUMAN BEHAVIOUR



More people will possibly gather in the center and south of this portion of the square as more sunlight enters this part. Less people will probably locate in the east of the square as this portion is shaded by the northern buildings.

Street traders stay located here regardless of the change in season as this portion of the site has more foot traffic and it has no active fronts, therefore no clashes with businesses

Even though a lot of light enters the foyer less people located in the foyer as it has no active fronts or activity drawing pedestrians in

Pedestrians in the park will possibly relocate more towards the center of the space as it has more sunlight coming in as trees shed their leaves

A lot of traders are located under this shaded and weather protected area, as this is a dedicated area for trading staying here regardless of the change in weather

Map 18- Map of analysed built form and its possible effect on where people gather in space in winter

LEGEND

- Front of building
- Back/side of building
- Pedestrians
- Street traders

N

URBAN FORM- CONCLUSION

The site is very well human scaled, with three open spaces in-between the tall buildings that generally characterise the Inner city of Johannesburg. This allows for a break in the imposing urban form of the CBD, releasing the tension of the building heights and creating a valley that has the potential of capturing the energy of the city and pedestrians, as seen in the graphic bellow. The inner city is known as the concrete jungle with hard surfaces and tall buildings. The study site creates a valley as the amount of concrete and its presence decreases and the pedestrian is given more priority in a human scaled public space. A few of the tall buildings around the site have a base, which breaks the imposing height of the building, creating a more human scaled space around the ground floor. The ground floors of most of the buildings in the east of the site have active edges, engaging the pedestrian with the building and encouraging pedestrians to comfortably move through the space and interact with it and the surroundings public sphere. The opposite can be said for the west of the site.

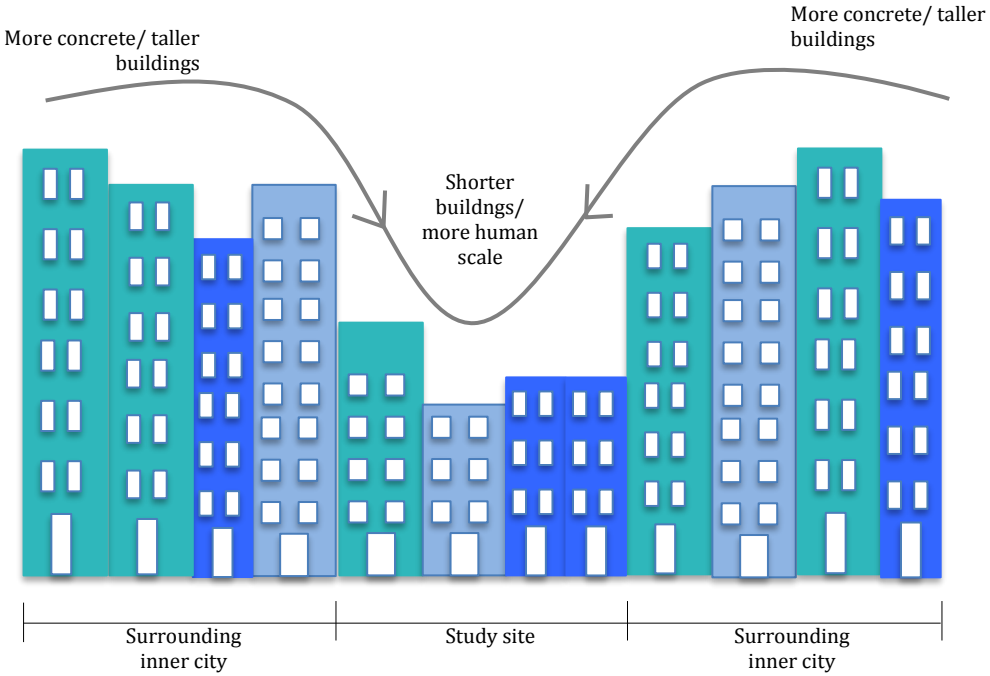


Figure56: Change in building height between site and surrounding inner city creating a valley effect

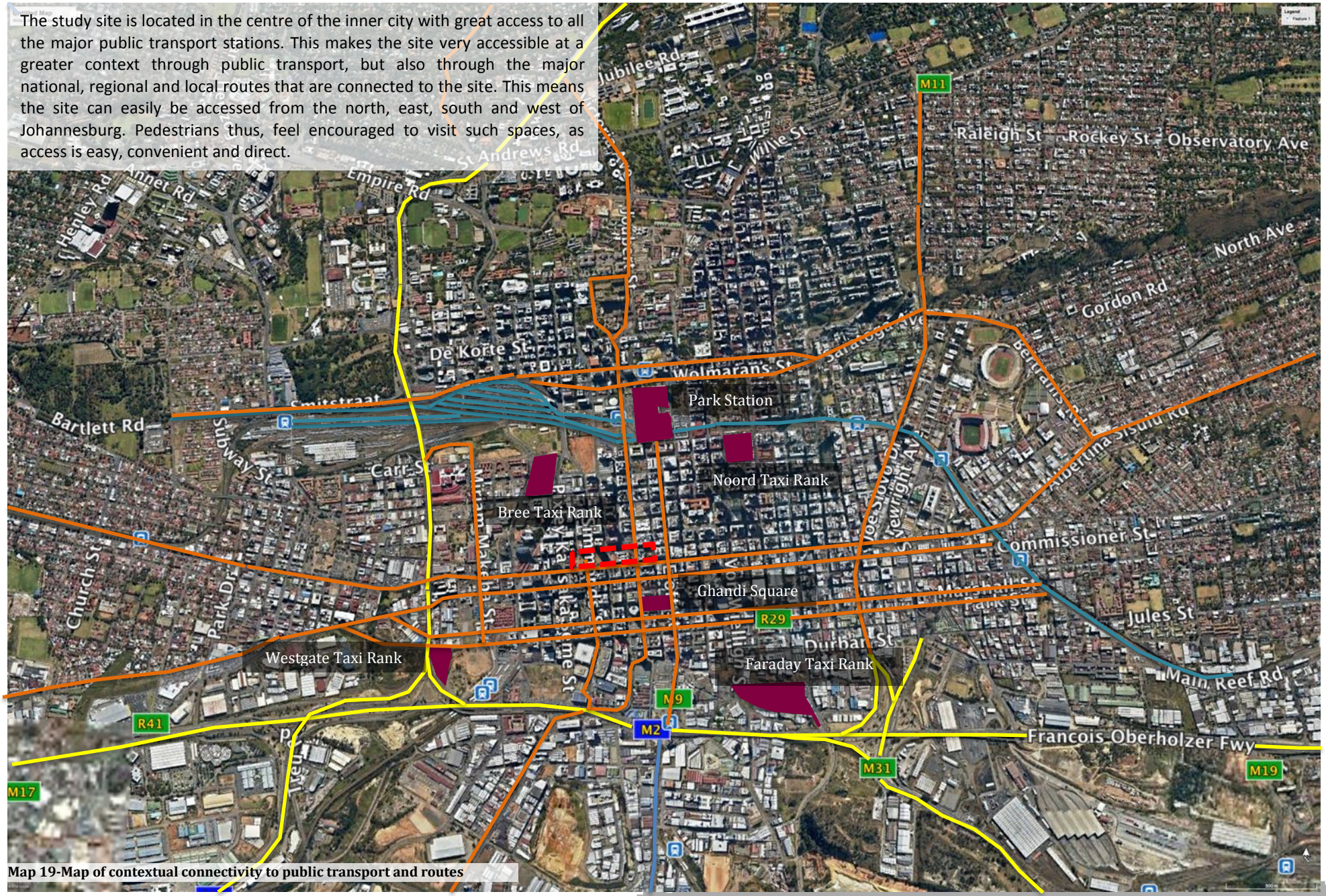
The building shadows that are cast on the site play a very influential role in determining the comfort of pedestrians, where they sit and gather. This behaviour has been evaluated in summer and assumptions based on the summer analysis, have been made for winter. Based on logic, the analysis of shadows and how they affect pedestrians proves that shaded areas are more comfortable and draw people in warmer weather, and the opposite is the case for colder weather as seen in the analysed location of people in the maps. The effects of the shadows on the site play a critical role in determining the outcomes of the design proposal, as consideration needs to be given as to where shade is needed and where more sunlight is needed, as well as what activities that can take place in these certain spaces at different times of the day.



Figure 57: The effect of shadows on human behaviour

ACCESSABILITY- CONTEXTUAL CONNECTIVITY

The study site is located in the centre of the inner city with great access to all the major public transport stations. This makes the site very accessible at a greater context through public transport, but also through the major national, regional and local routes that are connected to the site. This means the site can easily be accessed from the north, east, south and west of Johannesburg. Pedestrians thus, feel encouraged to visit such spaces, as access is easy, convenient and direct.



Map 19-Map of contextual connectivity to public transport and routes

ACCESSABILITY- PEDESTRIANS

The site is accessible from 15 entrances. The Oppenheimer Park has a fence around it, which stops the flow of pedestrian movement into the site, and it restricts access to 2 entrances, in the north and south, restricting interaction with the market of traders west of the park. Beyers Naude Square and the Legislature foyer allow for fluid entrance, with no restrictions to the pedestrian.

The pedestrian pathways through and around the site are in a bad condition. With tiles missing or loose, making it difficult for pedestrians, walking or in a wheelchair, to traverse through or around the space. This creates a very hostile environment for pedestrians, as this will deter them from accessing the spaces. However, the widths of the pathways are wide, ranging from 2m to 3m. The north and south of Beyers Naude Square does not allow for pedestrian movement at all as there are no pathways to accommodate pedestrians, only vehicles.

The site only has two pedestrian crossings marked at the intersection of Albertina Sisulu Str and Harrison Str, which has a BRT station located close to it. Another crossing is found further down Albertina Sisulu Str and Rissik Str, where there is another BRT station located. For a space with public open spaces located in it, there should be more pedestrian crossings, as pedestrians safe access to these spaces should be the priority not the vehicle.

The site has a number of signs, that indicate where parking and trading are restricted or permitted. However, there are very few signs cautioning cars of the presence of pedestrians and crossings throughout this area. Wheel chair access ramps are available at every intersection, allowing for access to all. However, navigating some of the pathways that are in a bad condition may be difficult for disabled pedestrians, which excludes them from the spaces.

The above analysis can be seen in the imagery taken from the site bellow and Map 20 on the following page.

Bad paving condition



Wheelchair ramps at every intersection



Wide pavements



One of the two pedestrian crossings



ACCESSABILITY- PEDESTRIANS

Park Station



Gandhi Square

Map 20- Pedestrian orientated design around site

LEGEND

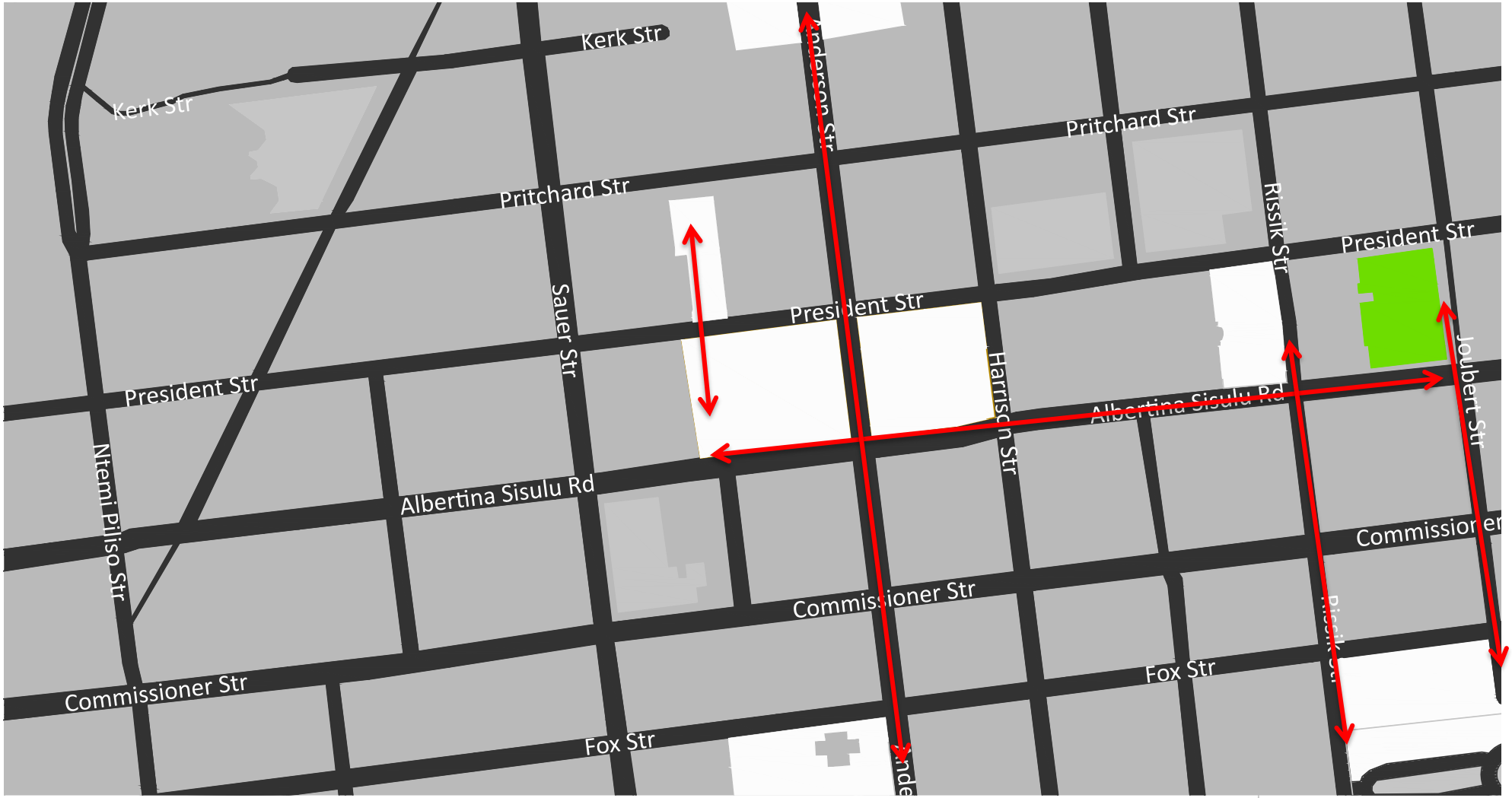
Condition of sidewalks:
Good condition
Bad condition
≥3m
2>3
≤2m
0m (No pavement space)

Pedestrian entrances to space
Zebra crossings
Disable access
Pedestrian link between Gandhi Square and Park Station
Fence

N

ACCESSABILITY- PUBLIC SPACE CONNECTIVETY

The site is easily connected to a number of privately owned public spaces in this area.



Map 21- Connections between public spaces around site and to site

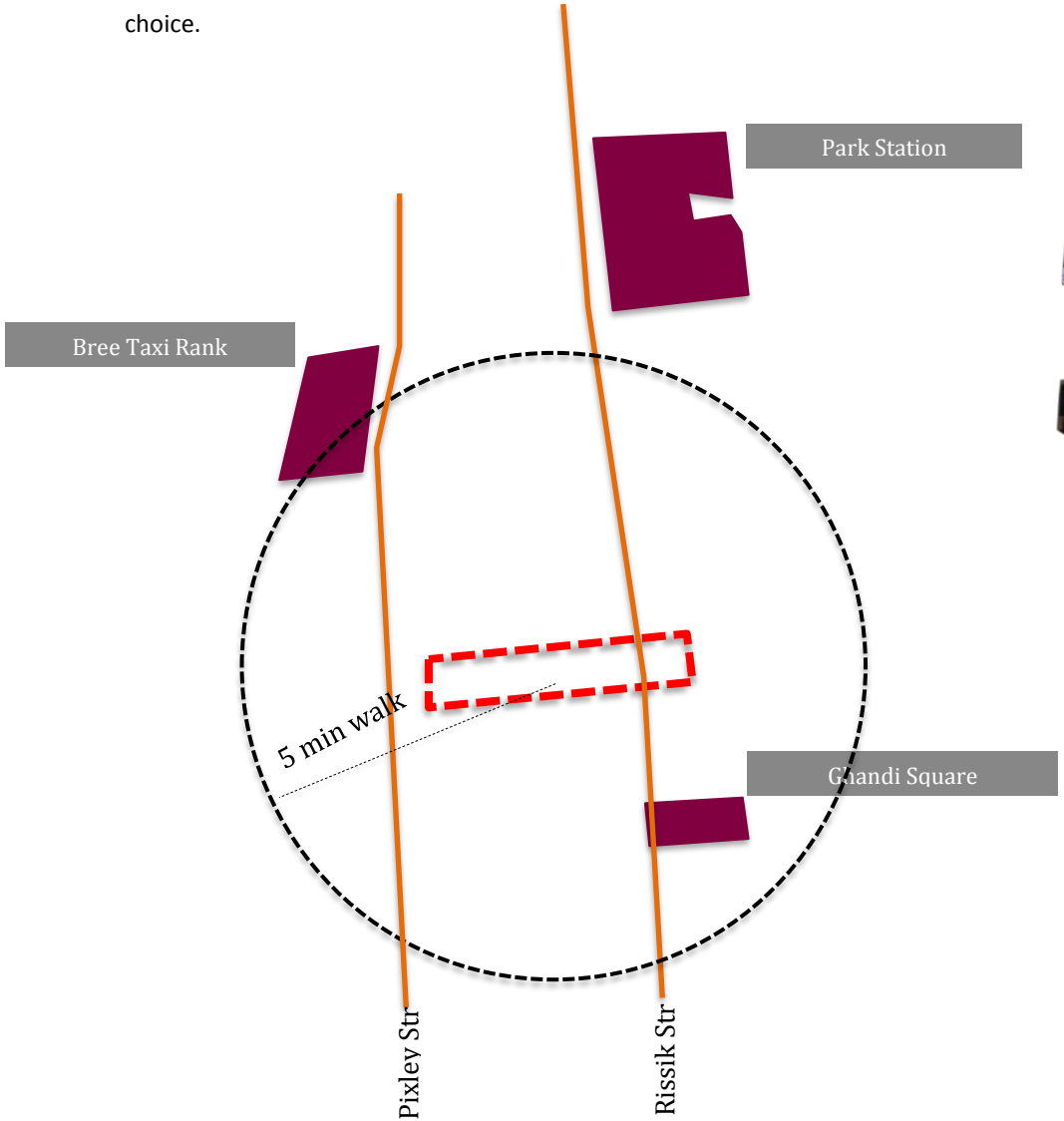
LEGEND

- Pedestrian connections
- Hard open space
- Soft open space

N

ACCESABILITY- PUBLIC TRANSPORT LOCAL CONNECTIVITY

The site is very well connected to various public transport facilities, as previously discussed. Park Station, Bree taxi rank and Ghandi Square are all directly connected to the site. These stations provide various modes of public transport, making the site accessible to various groups of people, providing them with a choice.



Map 22- Sites connection to public transport nodes

There are 4 BRT stations located within 500m of the site, 2 Gautrain stations, and a small taxi rank on Loveday Str. Ghandi square is located 2 minutes away from the site, this is a major Metro Bus stop. The site is accessed by all modes of public transport making a convenient space to access from anywhere. Map 23 bellow indicates all public transport routes, through and around the site.

TRANSPORT STATIONS: AVAILABLE MODES OF PUBLIC TRANSPORT

Park Station



Long distance buses



Gautrain Bus



Gautrain



Metrorail



BRT



Local and long distance minibus taxis

Bree taxi rank



Local minibus taxi

Ghandi Square



Metro bus

Figure 58- Public transport nodes and transport services on offer

ACCESABILITY- PUBLIC TRANSPORT LOCAL CONNECTIVITY

Route to BREE TAXI RANK

Route to PARK STATION



Map 23- Public transport routes, stations and stops around site

LEGEND

- BRT route
- Route to major public transport nodes
- Gautrain bus route
- Metro bus route
- BRT bus station
- Guatrain bus stop
- Metro bus station (Ghandi Square)
- Taxi rank

N

ACCESSIBILITY- ACCESS TO VEHICLES



Map 24- Vehicle routes, directions and parking

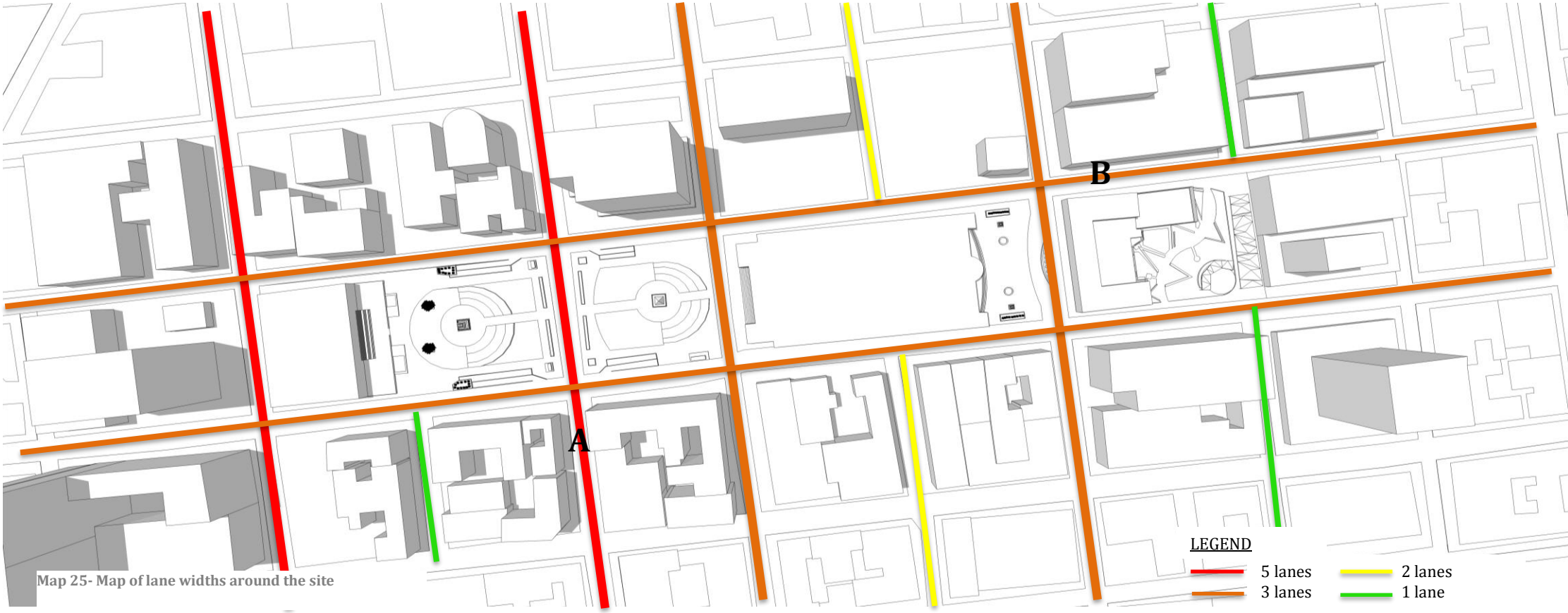
LEGEND

- Direction of vehicle movement On street parking
- Private parking
- UP Underground parking

All the routes that pass around and through the site are one-way roads. This slightly restricts the ease of access to the site. The north-south, south-north and west-east access to the site are good. However, there is no east west access to the site as there are no routes that run east west connecting vehicles directly to the site. The parking beneath Beyers Naude Square is restricted to the Legislature staff members, however it is only 35% utilised. Other parking spaces are privately owned, and are not open for public use. There are a few on-street parking bays, however this is not enough as people have resorted to parking in unmarked areas all along the street.

N

ACCESSIBILITY- LANE WIDTHS



Map 25- Map of lane widths around the site

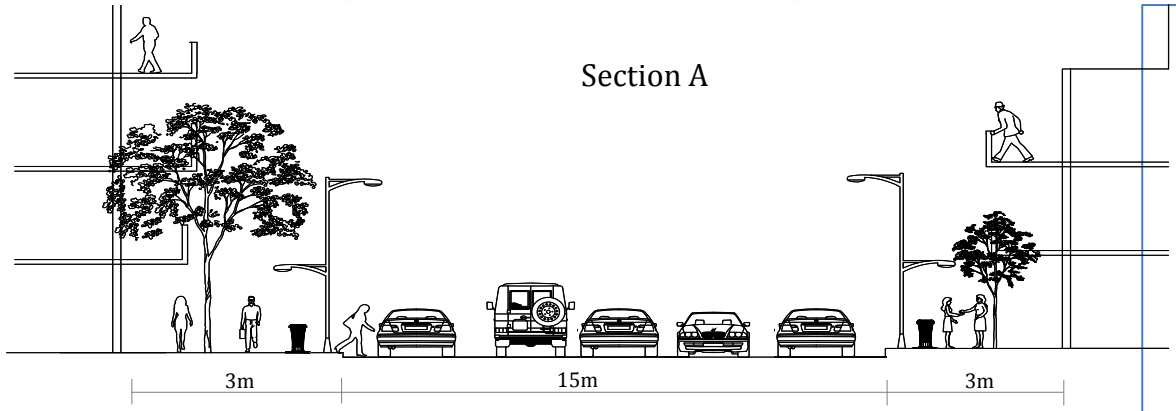


Figure 59- Section A_5 lane road width

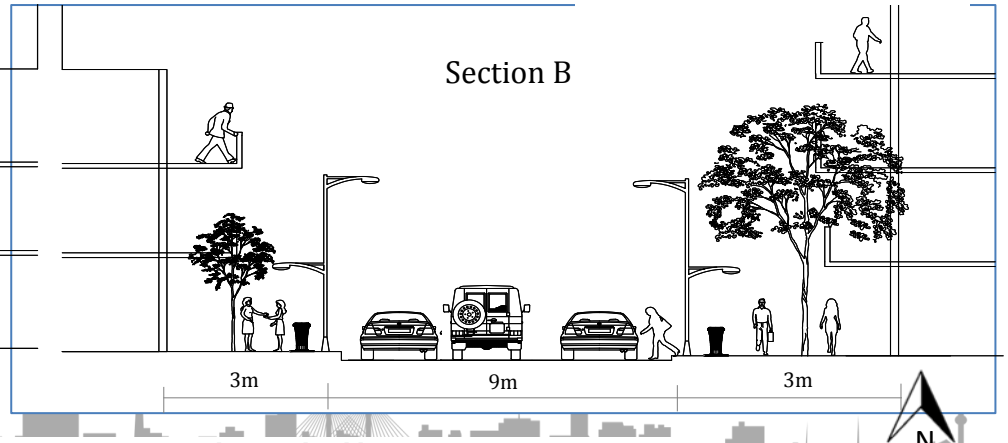
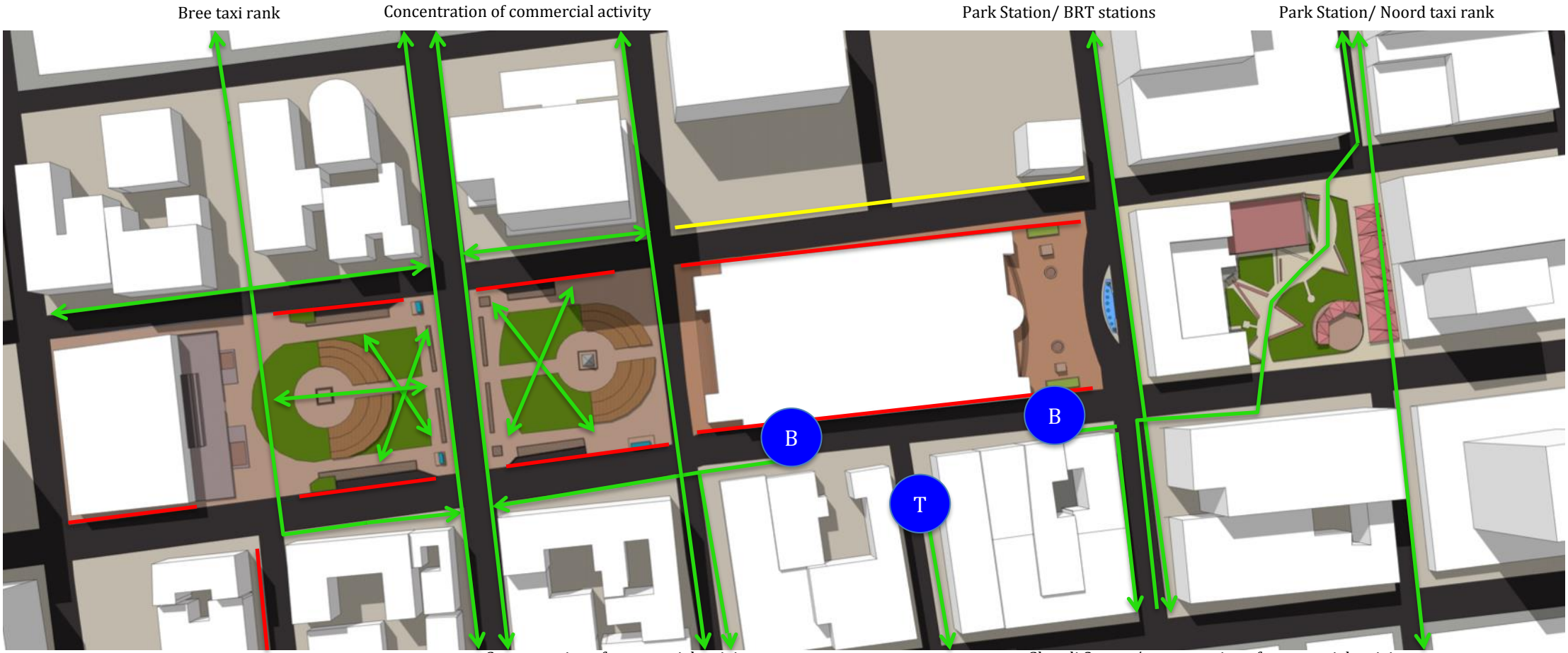


Figure 60- Section B_3 lane road width

ACCESSIBILITY- THE EFFECT ON HUMAN BEHAVIOUR

The movement of pedestrians is mostly detrmined by where people are going and where they come from. As seen in the map, there is less foot traffic around the legislature building as there are no active uses drawing people here. The environment is also uncomfortable to walk through so people avoid it more.

More foot traffic is seen moving through the public spaces as people navigate their way from public transport hubs/nodes, to areas where there is a concentration of commercial activity. Movement is mostly from the south to the north and visa versa.



Map 26- Pedestrians movement through the space

ACCESSIBILITY- CONCLUSION

Access to and through the site is fair as public transport routes and access increase the ability of pedestrians, from various locations, to access the site with ease. Where the site fails with access is with pedestrian access through and to the site. The pavement conditions are in a bad state, and this makes it very difficult to access parts of the site. This is a pity, as pavement widths are very wide, allowing for a number of pedestrians to walk around the site comfortably with strollers or wheelchairs. However, due to the state of the pavements this is hampered. Most pedestrians are seen crossing through the two public open spaces as a means of getting from transport nodes to work, shopping or for lunch, and visa versa. Through Beyers Naude Square actual paths have been created as pedestrians cut through the site diagonally to get from the south, to the north and back.

Less pedestrian movement is seen where there is also less activity, as seen around the Legislature building. Cars are over facilitated in the inner city with wide road reserves that create a hostile environment for people to cross, with this in mind there are also very few pedestrian crossing around the site, further hampering the pedestrians movement across roads. A few on street parking bays are provided, however this is not enough as parking in the city is an issue and this may hamper pedestrians who make use of private vehicles from accessing the space. Overall the space is used more as a means of getting to another place, and less as a place of pause and stop, a place where people can gather and meet new faces, work, eat or play.

Wide road reserve



Pedestrians moving through site to destination



No pavement for pedestrian forced to walk in street





VARIETY OF USES- LAND USE

There is a lack of mixed-use buildings as a majority are commercial, mostly in the form of offices. After hours when all business close down, the space dies out, with no uses attracting people into the site. Buildings around public open spaces should not have singular uses but should facilitate a mixture of uses that brings variety and versatility to the space. This creates economic and spatial diversity, resulting in an active public life with a variety of users. For public open spaces to thrive residential densities are required, as to ensure that the capacity of people required to make public spaces vital is achieved.



Map 27- Map of land uses around site

VARIETY OF USES- HERITAGE BUILDINGS

Heritage buildings are a crucial spatial element to consider as they hold a number of restrictions to the changes that can be made to their façade. Heritage buildings also add a layer of richness to the space, as they are a reflection of the inherited heritage of a city, or a space. There are 8 heritage buildings around the site.

Most of the buildings are concentrated around the south of the square. The buildings all have no active ground floors, which presents a very large problem for the spaces as no structural changes can be made to these buildings, leaving them detached from the space and adding no vitality to the public realm.



Map 28- Map of heritage buildings

LEGEND

Heritage building

N

VARIETY OF USES- BUILDING ENTRANCES

The building fronts and backs, entrances and edge conditions all play a crucial and critical role in directing activity to certain spaces. The building entrances determine where people go and the point at which they transition from public to private, Thus there is an opportunity to capture people at this point by creating a public space that attracts them to linger.

The site has a total of 51 entrances facing, 18 of which are entrances to buildings, 27 are retail store entrances and 6 are inactive entrances. Retail entrances bring a variety of people in to the spaces, and this is desirable, where as building entrances are only for specific people, who maybe work in the building, The site has a great opportunity to maximise on these entrances all around it.



Map 29- Building entrances that front the site

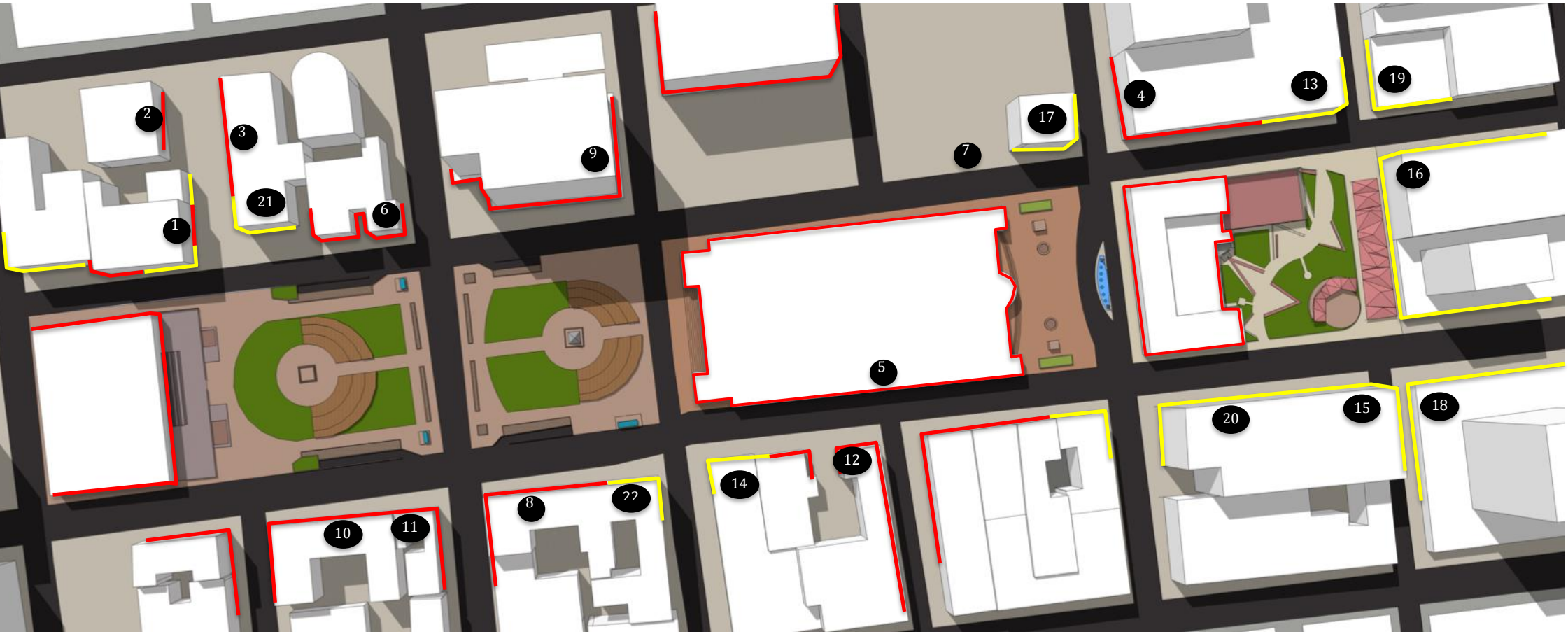
LEGEND

- Entrance to building
- Entracnce to retail store
- Inactive entrance

18 entrances to buildings
27 retail stores
6 inactive entrances

N

VARIETY OF USE- EDGE CONDITIONS



Map 30- Active and inactive edge conditions around site

LEGEND
Inactive edge
Active edge

A majority of the ground floor edge conditions are every poor as there is a lack of mixed-use buildings, thus leaving the ground floor to be used as entrances to the buildings. Only 4 of the 14 buildings around Beyers Naude Square have some retail activity occurring on the ground floor, bringing about marginal activation to the space. However, there is more ground floor activity occurring around the park, with the majority of the ground floor of buildings have retail activity. This has activated the space and attracts more pedestrians.

N

VARIETY OF USE- INACTIVE EDGE CONDITIONS


1


2


3

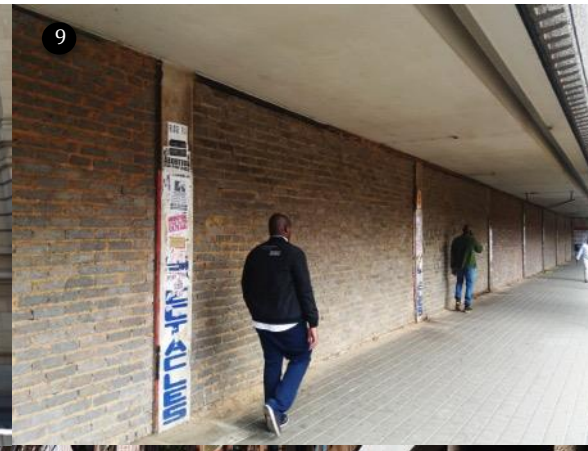

4


5


6


7


8


9

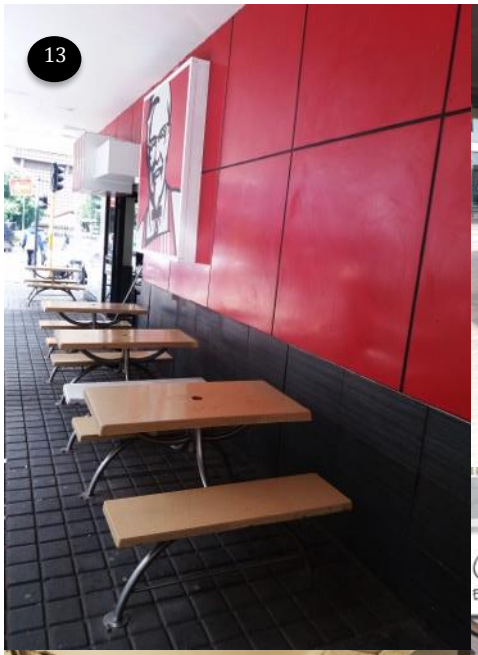

10

11


12

VARIETY OF USES- ACTIVE EDGE CONDITIONS

13



15



18



21



16



19



22



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17



VARIETY OF USES- PAVEMENT ACTIVITY



Map 31- Map of activity along pavements

LEGEND

Street trading

Formal street trading

Spillover of retail activity

N



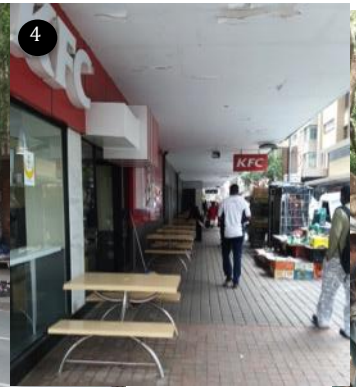
Pedestrian street is completely inactive, with great potential to be a bustling space



The only formal street trader on site, with a mobile lockup kiosk that is kept in this space



Street traders gather in the space as pavements are wide and building fronts inactive

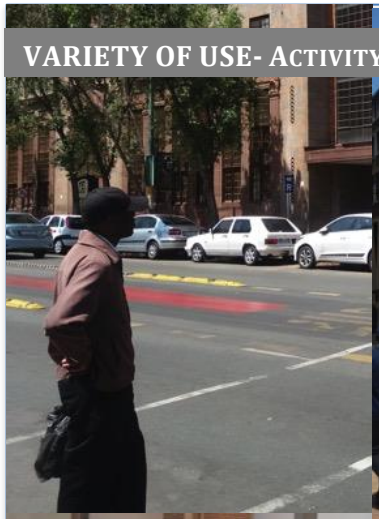


The second restaurant that interacts with the public realm

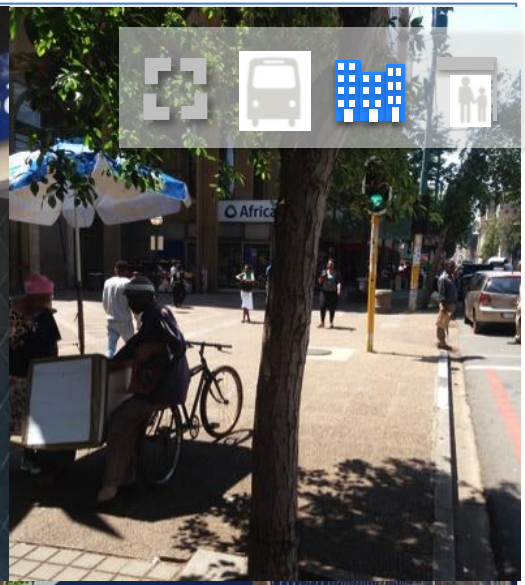


Dedicated market for trading, that attracts a lot of foot traffic into the area

VARIETY OF USE- ACTIVITY MATRIX



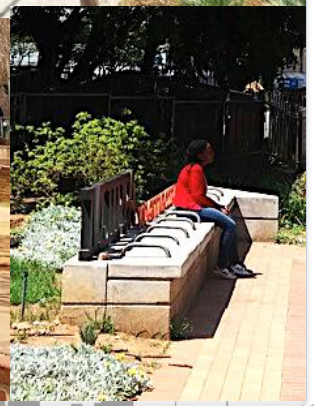








VARIETY OF USES- THE EFFECT ON HUMAN BEHAVIOUR

The site has a few activity uses in various parts, however, there is not eough activity uses to activate the space and make a vibrant, bustling destination for people to come into. The areas highlighted in green indicate where activity uses attract people the most, thus there is a lof of foot traffic in and out of these buildings, activating the public spaces directly outside of them.

The highlighted areas also depict how crucial it is to have active edges, uses and entrances to buildings speaking to each other, as it is these areas that are the most active and viable during the day.



Map 32- Map of uses and its effect on human behaviour

VARIETY OF USES- CONCLUSION

The uses around a site play a critical role in activating the public spaces around it. If the uses and edge conditions of a site are not active, people have no reason to be drawn into the public realm.

A variety in the use of space is able to unlock variety at other levels (Bentley *et al,* 1985). This includes:

- "varied building types, varied forms,
- varied people, at varied times, for varied reasons,
- different activities, forms and people provide a rich perceptual mix, different users interpret the place in different ways, it takes on varied meanings" (Bentley *et al,* 1985, p27).

The site lacks in this area as it does not accommodate enough variety in its uses. The land uses accommodate activity at certain hours of the day, as they are predominantly businesses, thus after hours the space dies out and very few people are active in this area.

During the day there are a number of retail activities occurring at the ground floor of the buildings, this, along with the street traders around the park, activates the public realm. The east of the site thus accommodates more pedestrians and provides an opportunity to capture this foot traffic in the public open spaces, by creating a space that they desire to further linger in. The retail activity is accompanied by active fronts, which further livens up the space.

The foyer and the square lack in any retail activity and active edges, thus creating a very dull space that people do not come to as a destination, but just pass through. The lack of any interaction between the public and private realm has greatly affected pedestrian activity in a negative way.

It is extremely important to ensure that spaces not only have active building fronts and activity uses, but the spaces around them should also encourage pedestrians to access this activity and to stay and linger in the public realm thereafter. The next section will unpack the public realm and spatial elements that could possibly be attractive or uninviting to pedestrians.

Blank façade of heritage building



Blank uninviting facade



Active inviting retail front



Retail activity spilling out into public realm



No active edge and no public realm



PUBLIC REALM-Trees, seating and colonnades



Map 33- Map of public amenities and elements: trees, seating and colonnades

LEGEND

- Colonades
- Trees
- Seating

All but 8 of the buildings around the public open space have colonnades. This creates a comfortable environment for pedestrians to walk through in any weather. Trees are planted along some of the pathways, further cooling the space down in summer and adding greenery to the space, which makes it more attractive. The Legislature foyer only has two trees, which stand more as decorative pieces and provide no function for pedestrians. There is ample seating provided in the two public spaces, with no seating in the foyer, discouraging people from lingering in this space. The amphitheatre seating provided in the square creates a barrier and cuts of the space behind it, it stands as an edge which divides the space into the back and the front.

N


PUBLIC REALM-Public furniture
IMPOSSIBLE
BECAUSE A
SPICY CAJUN
CHICKEN
MEDIUM MEAL
IS NOW ALSO
R39,90

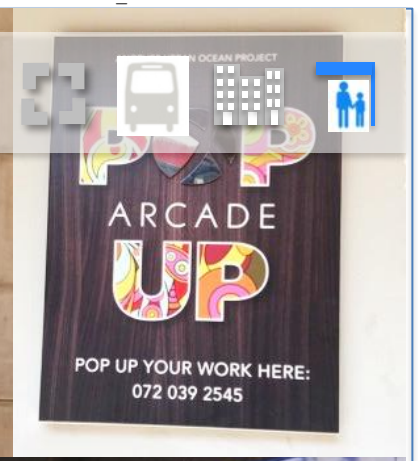
PUBLIC REALM- Wayfinding & building signs





























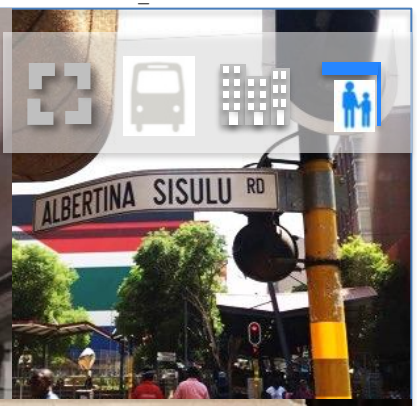


PUBLIC REALM- Wayfinding & building signs





















PUBLIC REALM-Street signs































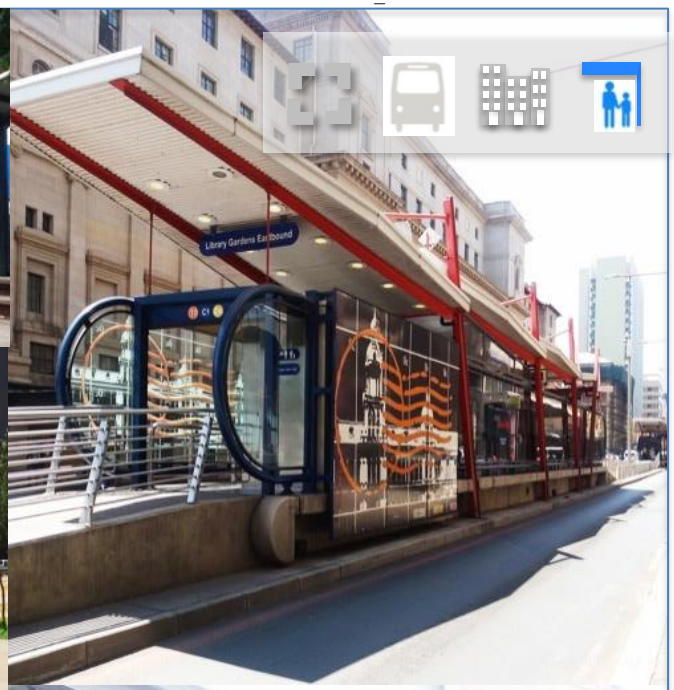
PUBLIC REALM-Public art



PUBLIC REALM-Public facilities







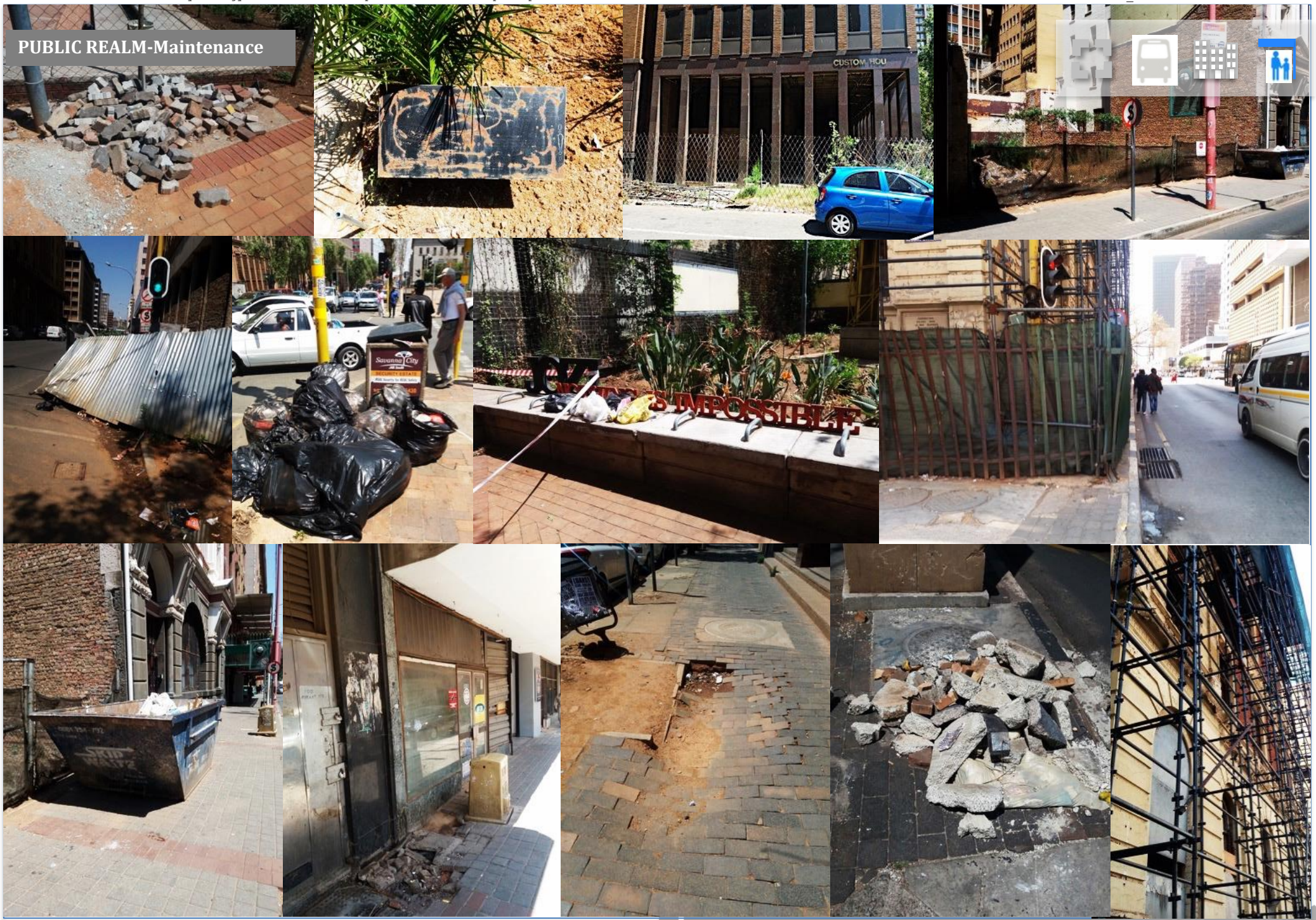











PUBLIC REALM-Maintenance
CUSTOM HOU
IMPOSSIBLE

PUBLIC REALM-The effect on human behaviour

The public realm and all the other elements that have been analysed play a crucial role in determining how people make use of the space and interact with it. It is important that all the analysed emelments in this chapter work together to influence the behaviour of pedestrians in the study site. The site bellow shows the behaviour of pedestrians in and around the site, as previously discussed. There is a high concentration of pedestrians in the two circled areas as these spaces accommodate the needs of pedestrians the most.

However, there is not enough people lingering in the public realm and people are merely using these spaces as a means of getting to another destination. A number of elements do not work together in creating the public realm, there are not enough amenities and active uses in the area, pavement treatments do not encourage lingering, along with the lack of public furniture beyond the square and park. If elements such as uses around the site, and public amenities spoke to each other, this space will encourage more people to linger and interact here.



Map 34- Map of the effect of the public realm on human behaviour

PUBLIC REALM-Conclusion

The public real is not in good condition, however, better conditions are found in the park and the square. These two spaces accommodate pedestrian activity more that the rest of the site, however, still they require a major urban design intervention to improve this and better facilitate pedestrians and their daily activities.

Seating is well provided in the park and the square, encouraging people to linger and pause in these spaces. The Legislature foyer doesn't have a lot of seating, thus leaving the space empty with no pedestrians.

Lighting is provided throughout the site. However, the square is not well lit at night, creating an environment that is not comfortable for all users when it gets dark.

There are a number of bins in and around the public open spaces, however, there seems to be a lack of maintenance as bins are full, and some running over, with rubbish bags placed around the bin. This creates an unclean environment that is not inviting or pleasant to look at and carries a foul smell.

There is ample signage around the site, which makes wayfinding easy. There are previous and new street names, with the previous street name scratched through with a line, but still visible for those who are not familiar with the new street names. A few of the buildings are well labelled with the store or business name. Street numbers are also seen in parts of the site.

Road and restriction signs are located throughout the site. However, there is not much cognisance taken of pedestrians as there was only one pedestrian crossing sign spotted on site. This shows how pedestrians are not the priority.

As this site is a landmark in itself, there should be more showcase pieces of the history of the site, and the amazing heritage it has inherited. The current art in the space is slightly dull and does not liven up the space.

Some public facilities are provided at various places in the site. Public toilets are located in the park, with no toilet facilities in the square or anywhere else around the site, this puts pressure on this one public toilet facility. There is a large trading shelter that is provided, west of the park, and a basketball court in the park, this livens up the space as children fill it up on weekends. There are two bus stop shelters along the site that are in bad condition.

The space is extremely dilapidated, and is in need of maintenance. Some of the buildings around the site are also in need of refurbishment and are in a bad condition, this has an influence on the surrounding public spaces, and its image. The Rissik Street Post Office is one such building that needs to be renovated, as its derelict façade is extremely imposing and unsightly.

The space has the potential to be a hub for pedestrian activity, movement and interaction. However, a lot of work is required to consolidate the public and private realm as to create a good quality public open space, that encourages and builds good perceptions and experiences for pedestrian that use this space.



SWOT ANALYSIS

STRENGHTS

-The site is well located in the heart of the CBD
-The surrounding buildings contain the space well
-The site is very accessible to pedestrians, public transport and cars
-Parts of the site have great edge conditions
-The site is surrounded by rich heritage, making it a significant space in Johannesburg

WEAKNESSES

-The west of the site has very poor interaction with the surrounding buildings
-Some of the tall buildings are located north of the public open space in the west of the site, casting a shadow on the site
-The west of the site is surrounded by active edges
-No bicycle lanes and not enough parking
-The public realm lacks appeal

DESIGN RECOMMENDATIONS

OPPORTUNITIES

-A lot of the ground floors of the buildings have the potential to be opened up to the public space
-The space is located along transport routes, and in a busy part of town, allowing for the opportunity to capture pedestrians in and around this area
-The site has a number of landmark and heritage building as the space is rich in history

THREATS

-The roads around the site allow for high speed traffic as roads are wide and have many lanes. This threatens the pedestrian
-The maintenance of the space is very bad, threatening the potential it has to attract people
-The dominant office use around the site threatens the viability of the space after hours
-Restrictions of heritage buildings



CONCLUSION

The evaluation criteria, which has been determined by the design principles set out in chapter 4, has systematically broken down the analysis into four sections. Each section has been scored in terms of its success in the creation of a space that promotes the comfort of the pedestrian above all else and positively influences their behaviour. This rating is done for each component analysed under the four sections, the details of the evaluation can be found in annexure A, B, C and D.

Urban form was the first component analysed. The urban form sits fairly well in the context of the site, and communicates with parts of the space. The public open spaces are well enclosed by the surrounding urban form, creating a comfortable, defined and contained human scaled public open space that pedestrians can arrive into, a space that does not leak out, leaving the presence of the pedestrian uncontained and lost in space. The good condition of the urban form is rated 78.75%.

Accessibility was the next section to be analysed and is rated 35% as the site doesn't not provide comprehensive access to all modes of transportation, as seen in the lack of bicycle lanes. The uneven pavements around the site do not allow for pedestrians and physically impaired individuals to comfortably access the site. This brings about a barrier to the extent in which individuals feel they can interact with the site, due to their hindered access to it. Leaving individuals, feeling uncomfortable, unwelcomed and associating the site with negative perceptions.

Variety of use is rated 40% as some of the conditions around the site create a harsh environment. The lack of good edge conditions, around parts of the site, creates an uncomfortable environment for pedestrians as edges are created between the pedestrian and the surrounding buildings. Whilst the west portion of the site has very good edge conditions, creating a vibrant environment. A number of the buildings are for office use, creating a space that dies after hours, due to the lack of residential accommodation that would make the space viable throughout the day. This hinders pedestrians from interacting with the site beyond a certain time, creating restrictions associated with the site. This puts the pedestrian in a position of feeling excluded from using the site when they desire to. Thus equating it with safety related and spatial limitations.

Lastly, the public realm is rated 59%. Public furniture is provided around the site, as well as good wayfinding measures. However, the lack of maintenance has resulted in the space becoming deteriorated and run down. This makes the space uninviting, as it is not appealing or welcoming to all pedestrians. This also leaves individuals feeling uninvited to a space that is visually unappealing, creating a lack of safety.

SUMMARY OF RATING

Urban form

TOTAL RATING	**31.5/40= 78.75%**

Accessibility

TOTAL RATING	**24.5/70=35%**

Variety of use

TOTAL RATING	**12/30=40%**

Public realm

TOTAL RATING	**29.5/50= 59%**



TOTAL EVALUATION SCORE

= 66/190

= 34%

The comprehensive analysis of the site has resulted in a total evaluation score of 34%. This indicates that the site is in serious need of urban design measures to create a successful public space that positively impacts and influences the interaction and perception of people towards this pubic open space in the city of Johannesburg. With the rich history and landmark buildings around the site, there is immense potential to create a space that injects life back into the city, as it stands as the heart of the Inner City of Johannesburg. Uniting the city, and creating a space for pedestrians to comfortably and freely escape to, in the midst of the concrete jungle.

The design recommendation is informed by the comprehensive analysis conducted in this chapter. The SWOT Analysis summaries the major areas to be addressed and focused on in the next chapter. Through the application of the design principles, set out in Chapter 4, the next chapter seeks to spatially provide an answer to how “urban design can play a transformative role in the socio-spatial relation of public open space in Johannesburg”.



CHAPTER 6_DESIGN RECOMMENDATION

INTRODUCTION
THE PROCESS TO DESIGN
VISION
DESIGN CONCEPT
DESIGN RECOMMENDATION:
- URBAN FORM
- ACCESSIBILITY
- VARIETY OF USES
- PUBLIC REALM

BEYERS NAUDE SQUARE
LEGISLATURE FOYER
ERNEST OPPENHEIMER PARK
PEDESTRIAN STREET
FINAL PLAN
CONCLUSION



INTRODUCTION

A number of factors play a role in shaping and influencing the various ways in which public spaces can be used for different social benefits (RUDI, nd). The urban design of the public realm is one such factor that plays a critical role in shaping social benefits in public spaces (RUDI, nd). Urban design has the potential to bring about a modification in the social practices existing in a space, encouraging more positive social behaviour and building social interaction in public spaces (RUDI, nd). To have a better understanding of the urban landscape and how it has the potential to impact behaviour and interaction, there needs to be an adoption of an expanded understanding of urban design practices (RUDI, nd). “We need to view the urban environment as an integrated system and, in order to achieve real integration on an urban scale, to consider the design of space holistically. This means taking account of urban space and social interaction space” (RUDI, nd, p54).

The previous chapters take the reader on a journey of first unpacking the research, the literature that helps us understand the main concepts of this research, then how this determines the design tools required to achieve the creation of public open spaces that respond to the socio-spatial relations required to improve people’s perceptions and experience in public space.

The following chapters looked to then further explore these design tools through unpacking identified principles, and the detailed spatial specifications to achieve the creation of great public open spaces. These principles where used to formulate a design criteria to evaluate the study site in accordance to what makes a great public space. This evaluation forms the basis of the chapter, as urban design tools will be used to shape the socio-spatial relations of the site.

The design recommendation will mainly focus on the public space however, the surrounding buildings and urban environment play a major role in influencing and impacting the feel and function of the public. Thus, recommendations will be made to improve the relationship between public and private.

The main design area is highlighted in map 18 bellow in yellow, whilst the surrounding space, which will not be designed in detail but addressed, is highlighted in red.



THE PROCESS TO DESIGN

1. INTRODUCTION

How can urban design play a transformative role in the socio-spatial relations of public open space in Johannesburg as to improve people's perceptions and experiences in public space?

2. LITERATURE

- The role of public space
- Culture Identity and Human Behaviour
- Environmental Psychology

3. DESIGN TOOLS

- Contextual Envelope
- Responsive spaces
- 5 elements of Space
- Place Making
- Ingredients of a successful public open space

4. PRINCIPLES AND ANALYSIS

Design Evaluation Criteria:
- -Accessibility
- -Urban form
- -Variety of uses
- -Public realm

- Case Study evaluation
- SWOT Analysis

5. DESIGN RECOMMENDATION



VISION

Good design does not sit in isolation of its surroundings, it recognizes and values the difference between surrounding spaces. As each space is unique and has its own identity, it is crucial to enhance and protect this through the buildings, landmarks, materials and streets. The design of space has the powerful ability to define identity and create a sense of place and belonging for its users.

The public space system of study, needs to be better incorporated into the greater system of the urban, through better links and connections between the site and varied spaces of social, political and economic activity. The site is already very well linked through vehicular routes, however pedestrian connectivity to its surrounds is not highlighted and stressed. This would bring about better navigation through the city and its different spaces, connecting them but also connecting pedestrians to this greater network of social, political and economic spaces. This brings about a socio-spatial transformation in the inner city.

The city of Johannesburg is a mesh of cultures, practices, social groups, classes and sexes. Economic, social, political and spatial conflicts and clashes are continuously a problem in the city. Public space is the stage upon which life unfolds, therefore the site should facilitate this variety of difference. To achieve this, special attention will be given to the complex relationship between individuals and the surrounding built environment, as to successfully create a space of quality that in turn shapes the versatile quality of life that takes place in the public open space of study. Creating a space where people of all kinds can express their political views, through strikes, gatherings and addresses. Where varied forms of economic activity can take place such as formal and informal trading, the latter being a major part of the cultural practices in the inner city, thus it needs to be facilitated through provision of structures and spaces for this activity to occur. Johannesburg is a young and vibrant city bustling with talent and young blood, thus social spaces that can accommodate various social activity becomes crucial, as all actors of the city should be able to express themselves in public space, through art, showcasing their talent and creativity. A space that culminates the needs of people in the inner city. The interface between public and private need to be improved through upgrading the public realm, with the use of urban design, as to facilitate better facilitate this social activity.

As the site is of great historical richness, it should be seen as the heart of the inner city of Johannesburg. Thus the historical inheritance of the site, will be captured and celebrated. This will take the pedestrian on a journey through time and space, in an environment that is comfortable, safe, appealing and inviting. A space that will encourage people to get out of their cars and experience the public realm on foot. In the rush of the concrete jungle, individuals seldom get a chance to pause, take a break, relax and have a conversation with someone or eat lunch, read, write, in a calm environment away from the rush. The design of the site will create this space for all in the city.

AIM

The aim of the design recommendation is to create a quality public open space that facilitates the various social, political and economic needs of people, encouraging positive human responses to public open space in the inner city of Johannesburg. This will be done through the use of the four design principles that have been identified in Chapter 4:

1. Urban Form
2. Accessibility
3. Variety of use
4. Public realm

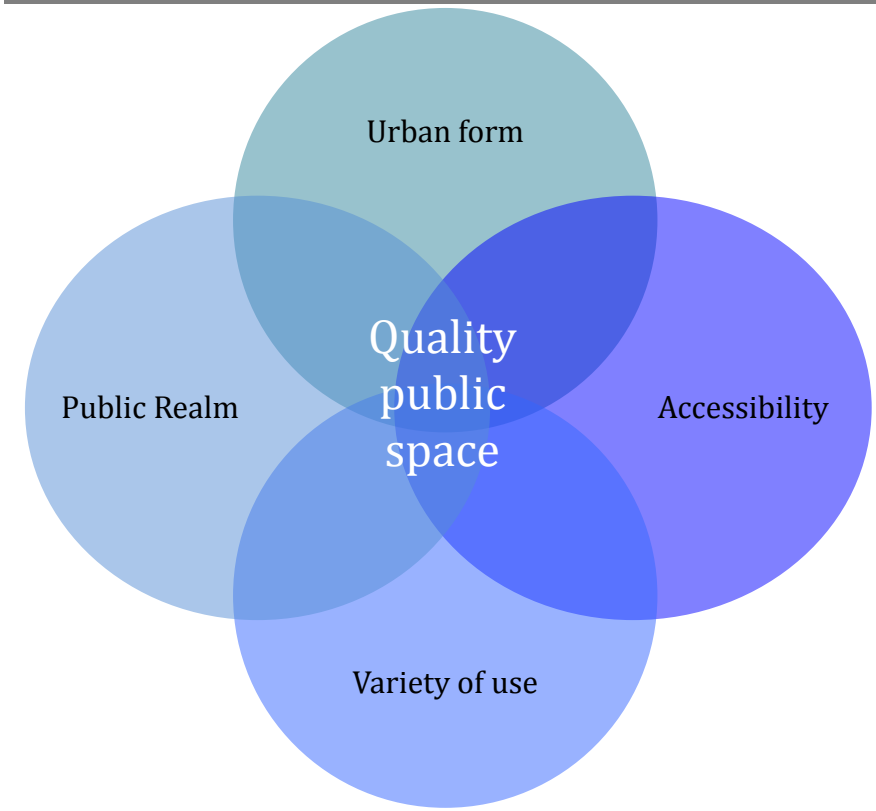
Urban design measures and strategies will be implemented to create a socio-spatial environment that caters to the cultural, social, political and spatial requirements of individual's in the inner city, with specific focus on creating a pedestrian friendly, walkable environment within a 400m radius, a 5 minute walk from the centre site.



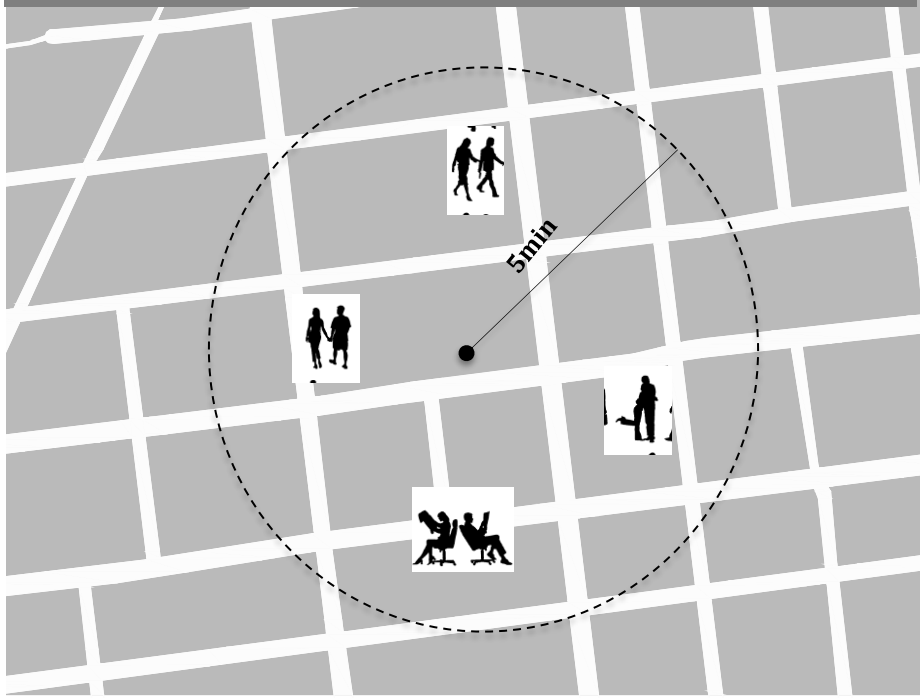
DESIGN CONCEPT

Based on the 4 principles that make a quality public space, the site will be designed within a 400m radius, as to enhance the intimacy and pedestrian scaled experience of the space and its surroundings. Making it an easy space to navigate and link to from various other parts of the inner city. Thus links between the site and areas of social and economic activity need to be enhanced through better connections and links.

INGEDIANTS OF A QUALITY PUBLIC SPACE



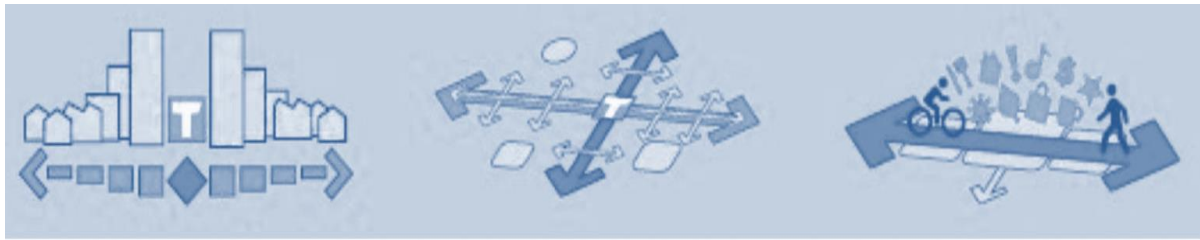
400m RADIUS WALKING DISTANCE- DESIGN FOCUS





CONNECTIONS & LINKS

Connectivity to surroundings **Local connectivity** **Vibrant streets**



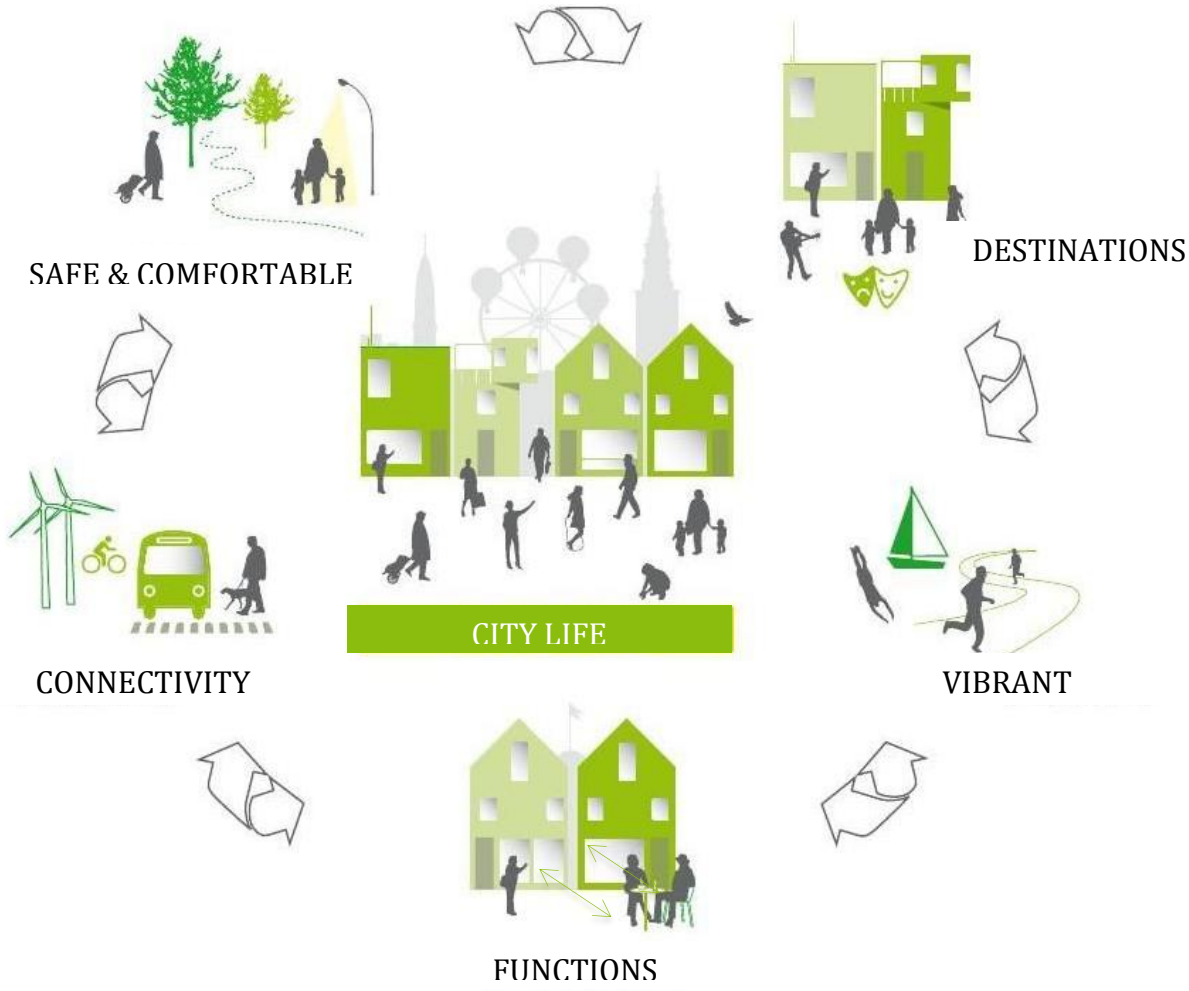
DESIGN CONCEPT- STRATEGY



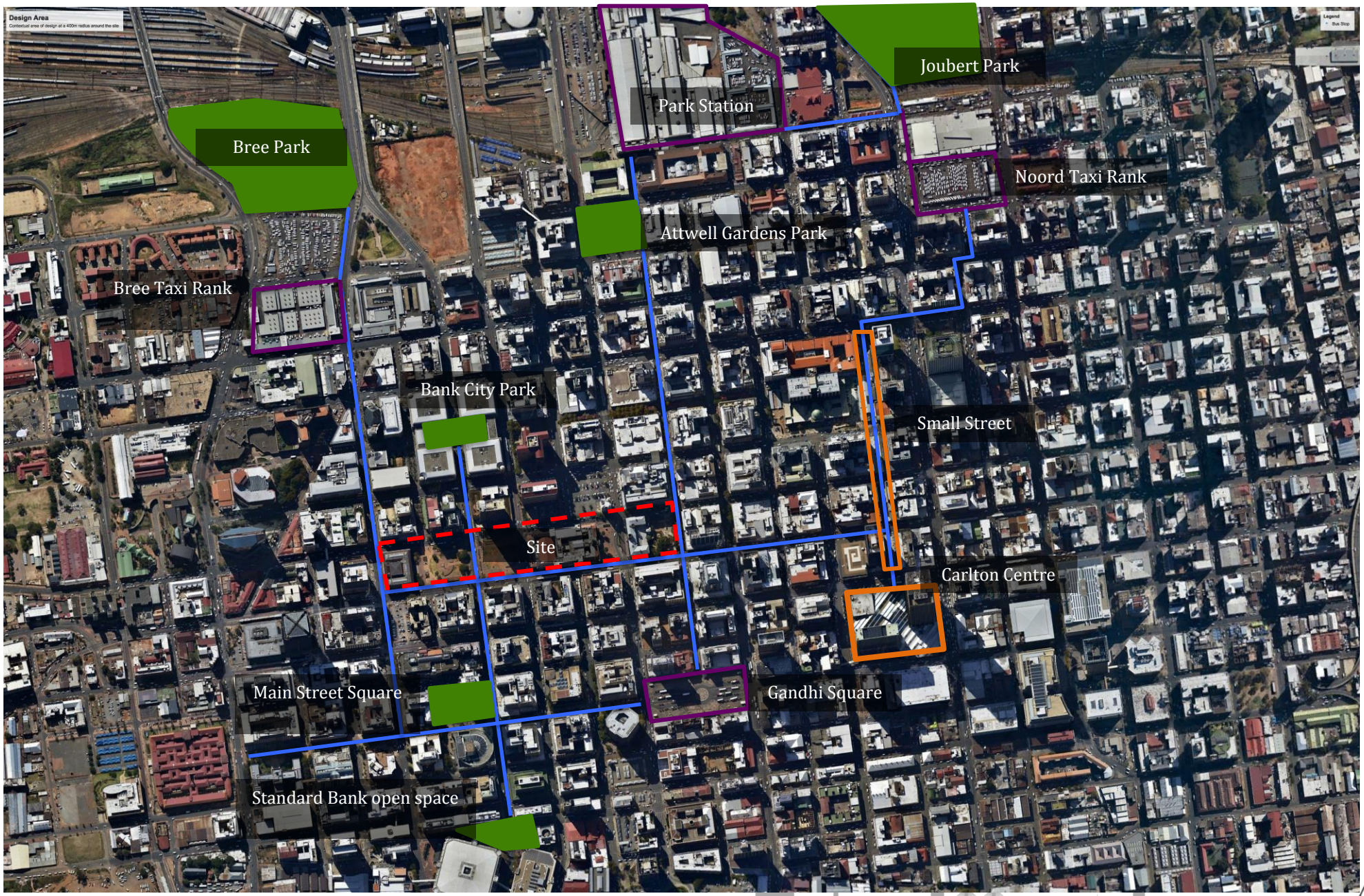


CITY HEART	VIBRANT DESTINATION	LIVEABLE WALKABLE CENTRE	SOCIO-ECONOMIC IMPACT
Premier public open space Cultural and community events	Mixed use buildings- ground floor retail activity	Pedestrian links with easy access to surroundings, shops and public transport	Entrepreneur support
Active edges with retail, restaurants, bars etc	Terraces, balcony's, cafes overlooking site	Traffic calming measures on street Easy access for all- prams, wheelchair etc	Reduced inequality
Interaction between the public and private	New residential community	Improved car parking planning Enhanced public realm	Economic opportunity
A place of celebration and historical inheritance	Activated pathways and high quality streetscape		Centralization vs fragmentation
	Safe, inviting and secure space		Formal and informal trading
	Connected to other social spaces		Job creation

CONTEXTUAL DESIGN



CONTEXTUAL SURROUNDINGS



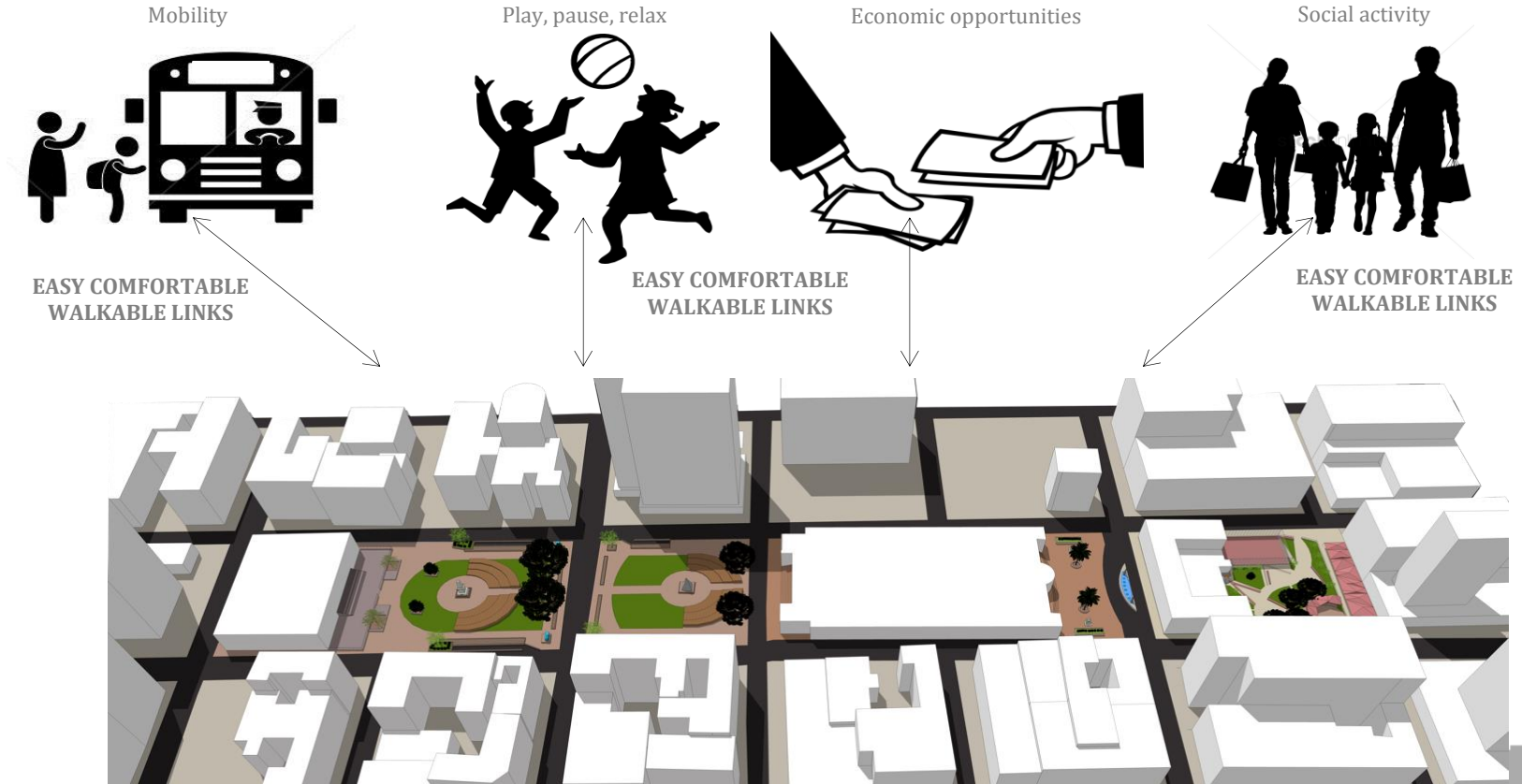
Map 35- Map of surrounding context

CONTEXTUAL SURROUNDINGS- DESIGN CONCEPT

The inner city has a number of social and economic facilities and spaces close to the site. As to bring about better connections between the site and these spaces pedestrian links are to be enhanced to bring about a consolidation of a network of spaces to create a greater social system.

The spaces highlighted in the above map vary from privately owned public spaces, to public transport hubs, economic spaces and other public open spaces. The links between these spaces are also highlighted above with the selected streets enhanced through urban design strategies such as lighting, pavement upgrades, way finding means, pedestrian crossings, public amenities, vegetation and a programme to encourage more retail activation along the ground floor of the buildings along these routes.

Parklets will also be introduced at various parts of the streets highlighted above. As there is a lack of public spaces, these mini parks will inject some interest back into the street as a public space, a place where can stop for a moments and enjoy the city, enjoy watching people and their interaction with the surroundings.

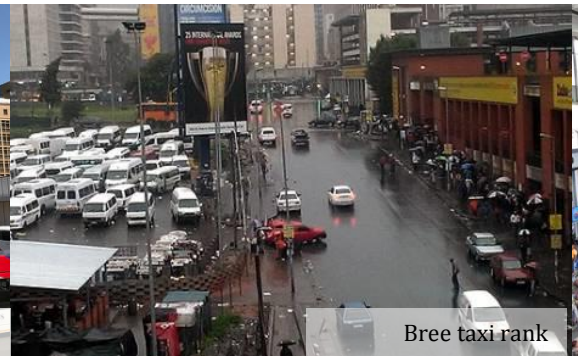


CONTEXTUAL SURROUNDINGS – SPACES AND ACTIVITY

Mobility


Noord taxi rank

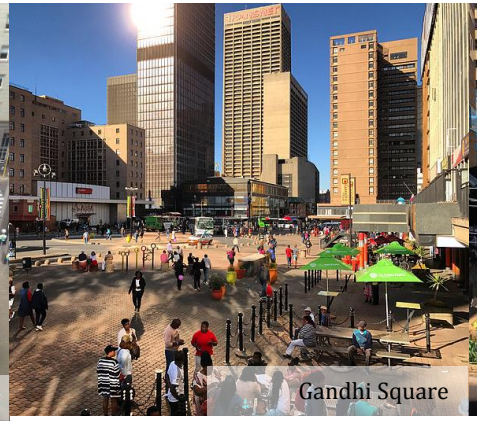

Gandhi square


Bree taxi rank


Park Station

Play , pause, relax


Bank City Park


Gandhi Square


Fox Street


Joubert Park


Attwell Gardens Park

Economic & social


Carlton Centre

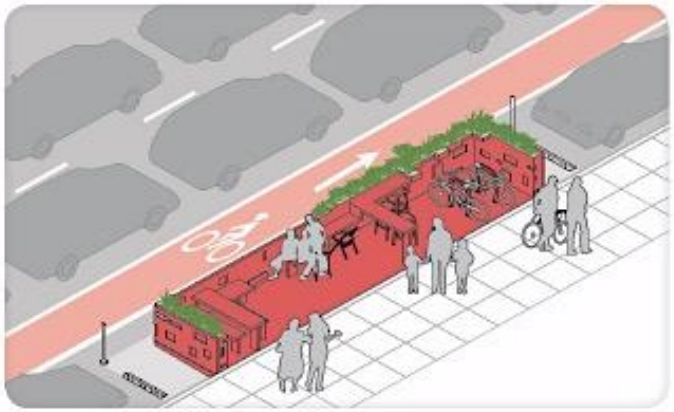






Small Street Mall

CONTEXTUAL SURROUNDINGS- PARKLETS



RE-IMAGINE THE POTENTIAL OF CITY STREETS

Complete streets balance the needs of people walking, riding bicycles, taking transit and traveling by car. Parklets are relatively a low-cost, easily implementable approach to achieving better balance for all users of the street.



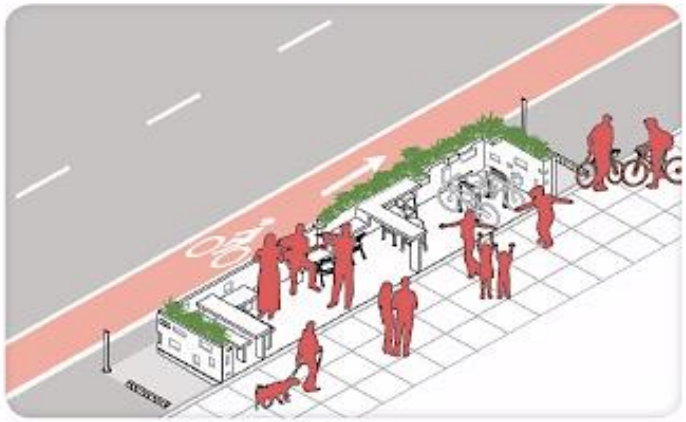
ENCOURAGE NON-MOTORIZED TRANSPORTATION

Parklets encourage walking by providing pedestrian amenities like public seating, landscaping, and public art. Parklets often provide bicycle parking which makes it easier for people to make the choice to bicycle.



ENCOURAGE PEDESTRIAN SAFETY & ACTIVITY

Parklets provide buffer areas between traffic lanes and the sidewalk. They also provide outdoor gathering place in areas where City parks are few or far away.



FOSTER NEIGHBORHOOD INTERACTION

Parklets invite pedestrians to sit and gather with friends and neighbors. In many cases, neighbors have participated in the design, financing, construction, and stewardship of parklets.



SUPPORT LOCAL BUSINESSES

Parklets enhance the pedestrian environment which can help make the street feel more safe and comfortable for people shopping, running errands, and accessing services in their in their own neighborhoods.

Parklets will be introduced at various parts of the site as to enhance the street as a public space. Streets in the inner city are associated with the lack of safety, speed and traffic. Thus they are not seen as places for pedestrians to linger in. Most people make use of the street to get from one place to another, not making use of the street as a social space, where people can pause, where economic activity can take place, where people can interact, without being intimidated by vehicles. By bringing people back out onto the street the destinations that these street link become spaces that pedestrian are more comfortable to explore, and thus discover the city through its street.

CONTEXTUAL SURROUNDINGS - PUBLIC REALM UPGRADE OF CONNECTING STREETS



Parklets



Figure 61- Example of a parklet along connecting routes to the site

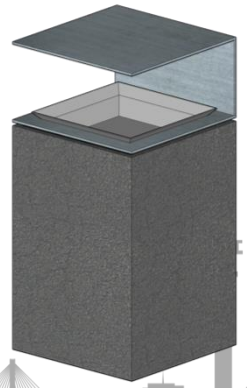
Public Amenities













CONTEXTUAL SURROUNDINGS- VISUALIZATION OF CONNECTING PATHWAYS



Figure 62- Illustration of revitalisation of connecting streets from site to surroundings

LOCAL CONNECTIVITY- DESIGN CONCEPT

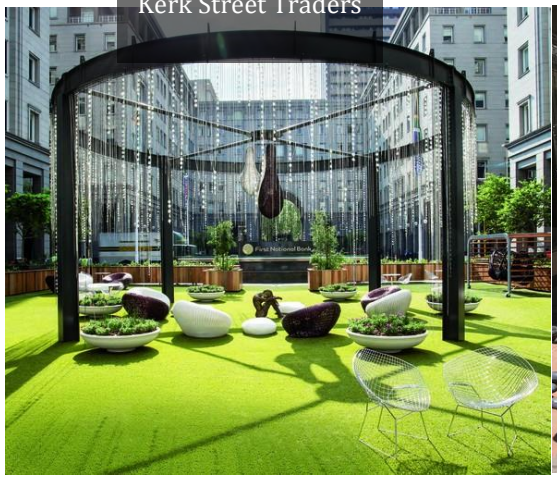


Map 36- Map of local connectivity

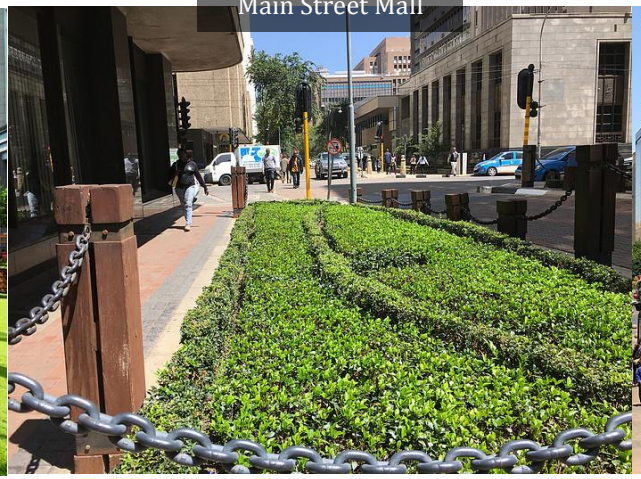
LOCAL CONNECTIVITY- DESIGN CONCEPT



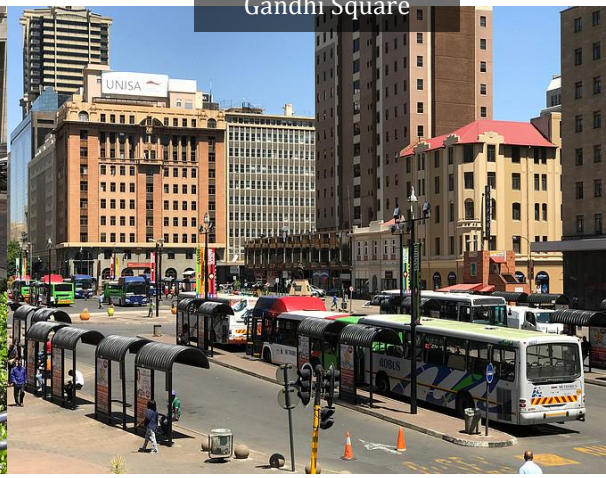
Infomrmal trading zone- from Joubert to Kerk Street- 1 way road, with no on street parking, and widened pavement to accommodate trading



Pedestrianized street- from FNB to Main Street to slow down vehicle movement and create a more pedestrian friendly link



Pedestrianized street the design of main street with a cobbled road surface to slow down traffic will be continued through to Bank City, to create a better pedestrian link



Improved public realm link between the site and Gandhi Square, along Joubert Street, continuing as a one lane road, without son street parking, and widened pavement as to accommodate pedestrians and a spill over of retail activity at the ground floor.



LOCAL CONNECTIVITY- JOUBERT STREET



Map 37- Map of Joubert Str trading



(Jouberg 2016)



Joburg(, 2016)



(Joburg, 2016)

LOCAL CONNECTIVITY- JOUBERT STREET PEDESTRIANIZED

Joubert Street is infamous for the trading activity that takes place along the pavement. Traders are located in demarcated spots to trade all along Joubert Street. Joubert Street also happens to be the main link between Gandhi Square and its surroundings to Park Station. Thus, there is a lot of activities occurring on the pavements of Joubert Street, where pedestrians and traders find themselves fighting for space. To alleviate this pressure it is proposed that the portion of Joubert Street, highlighted above, be pedestrianized, completely removing cars from Joubert starting from Kerk Street, down to Albertina Street. One block is already pedestrianized with trading stalls setup parallel to the Oppenheimer Park. The two blocks to be pedestrianized will not inhibit cars from accessing buildings along Joubert Street, as there are no building entrances or loading zones along the proposed portion of the street. The proposed pedestrian street will arrive into the Kerk Street Mall, which is another pedestrianized street with trading stalls that span across 4 blocks. This will create the largest demarcated and sheltered trading zone on the streets of the inner city. The space will be livened up with activity making it crucial that this space is linked to the site, as to attract pedestrians into the space.

The rest of Joubert Street up to Plein Street will be cobbled and narrowed, by removing all on street parking as to make more space to accommodate traders and pedestrians. More trading stalls are placed on along Joubert at Plein and De Villers Street, and this portion is currently pedestrianized, the pedestrian finally arrives into Park Station once passing this last pedestrianized street. The entire Joubert street thus becomes a comfortable and active space for pedestrians to connect between the site and south of the site, to Park Station and Noord Taxi Rank, with plenty of eyes on the street, but also enough space not to feel over crowded. The pedestrian moves thorough the city with their personal space respected, as pavements are no longer dense and narrow, unable to accommodate the capacity of pedestrians and economic activity.

Precedents

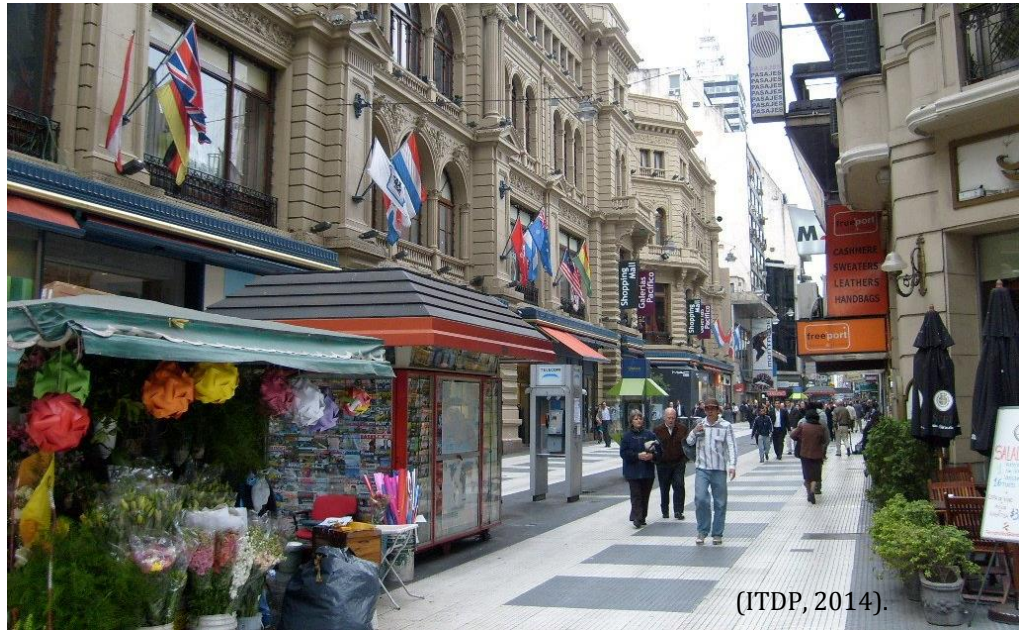


Avenue de 16 Septiember in Mexico City was redesigned to accommodate more non-motorised modes of transportation in the city centre. The pedestrian is the priority as traffic-calming measure put in place to create a shared space through levelled roads, bollards and wide pavements (ITDP, 2014).



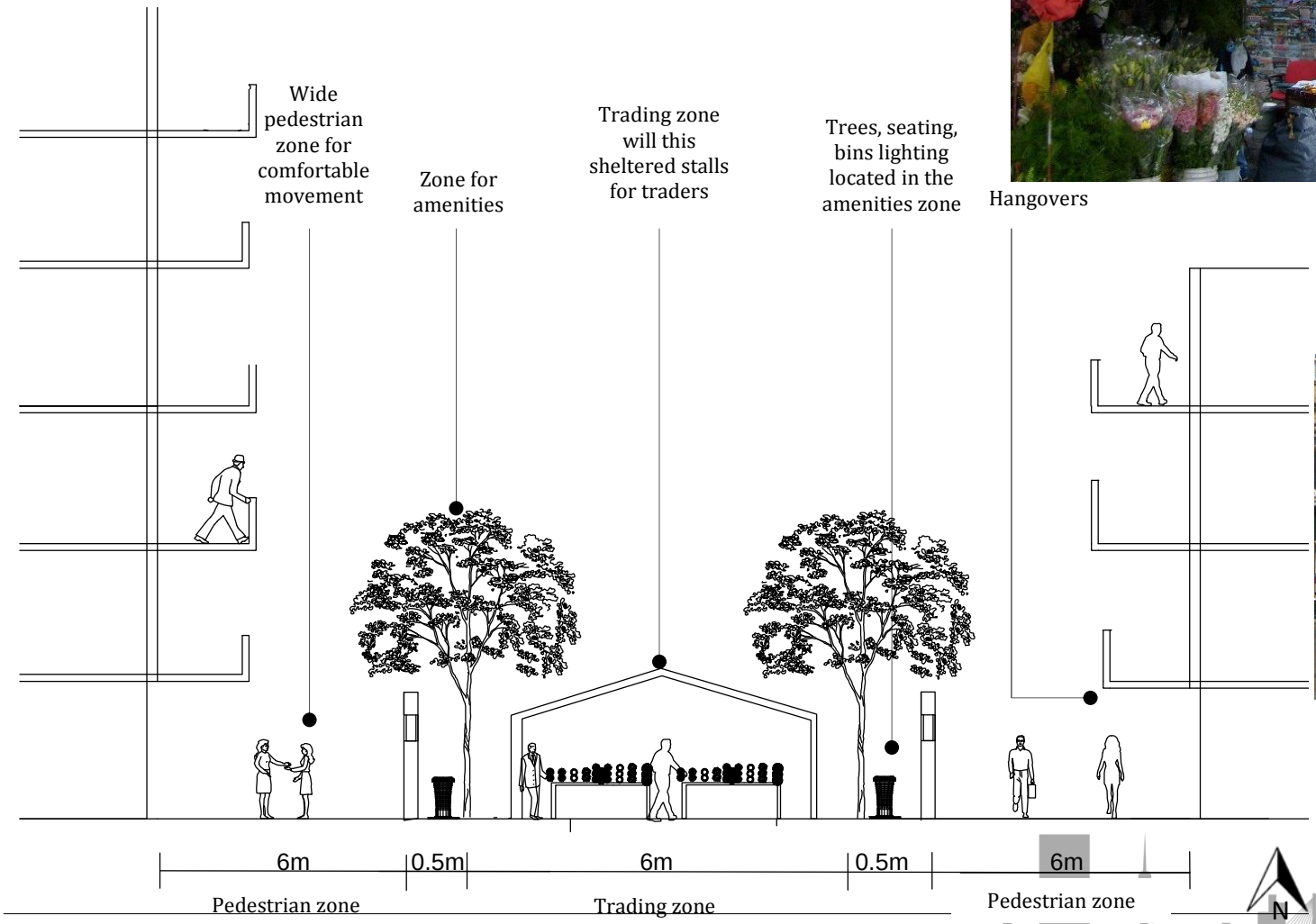
The street is designed to be comfortably shared between cars and pedestrians, with emphasis being put on the amount of space the pedestrian claims (ITDP, 2014).

LOCAL CONNECTIVITY- VISUALIZATION OF PEDESTRIANIZED STREET



(ITDP, 2014).

Figure 63- Cross section of Joubert Str trading space



A typical precedent of street life in Florida, with pedestrians centred as the priority. Cars are completely barricaded from this space. Trading space is allocated in the centre of the street with pedestrian and retail activity parallel to this (ITDP, 2014).



A pedestrianized street in London, with some trading activity in the centre, retail activity parallel to one another and pedestrians in between. Parents are seen comfortable pushing a number of prams, and pedestrians walk safely and comfortable with no competition with cars (ITDP, 2014).

LOCAL CONNECTIVITY- VISUALIZATION OF PEDESTRIANIZED STREET



Figure 64- A visualization of Joubert Street completely pedestrianized



A visualization of Joubert Street completely pedestrianized, with a marked zone for trading in the centre. Pedestrians and traders no more have to compete for spaces, as there is ample of room. Pedestrians lighting, bins, vegetation and seating are provided to make it a comfortable environment to walk though, and pause in.

LOCAL CONNECTIVITY- JOUBERT STREET 1 LANE

Covered trading zone with a demarcated area of 3.5m, this area includes space for customers and a trading stall/table.

One lane access to vehicles down Joubert Street. This lane will be cobbled, similar to Main Street.

Wide pavement for a free flow of pedestrian movement along Joubert Street. A comfortable 5m wide pavement.

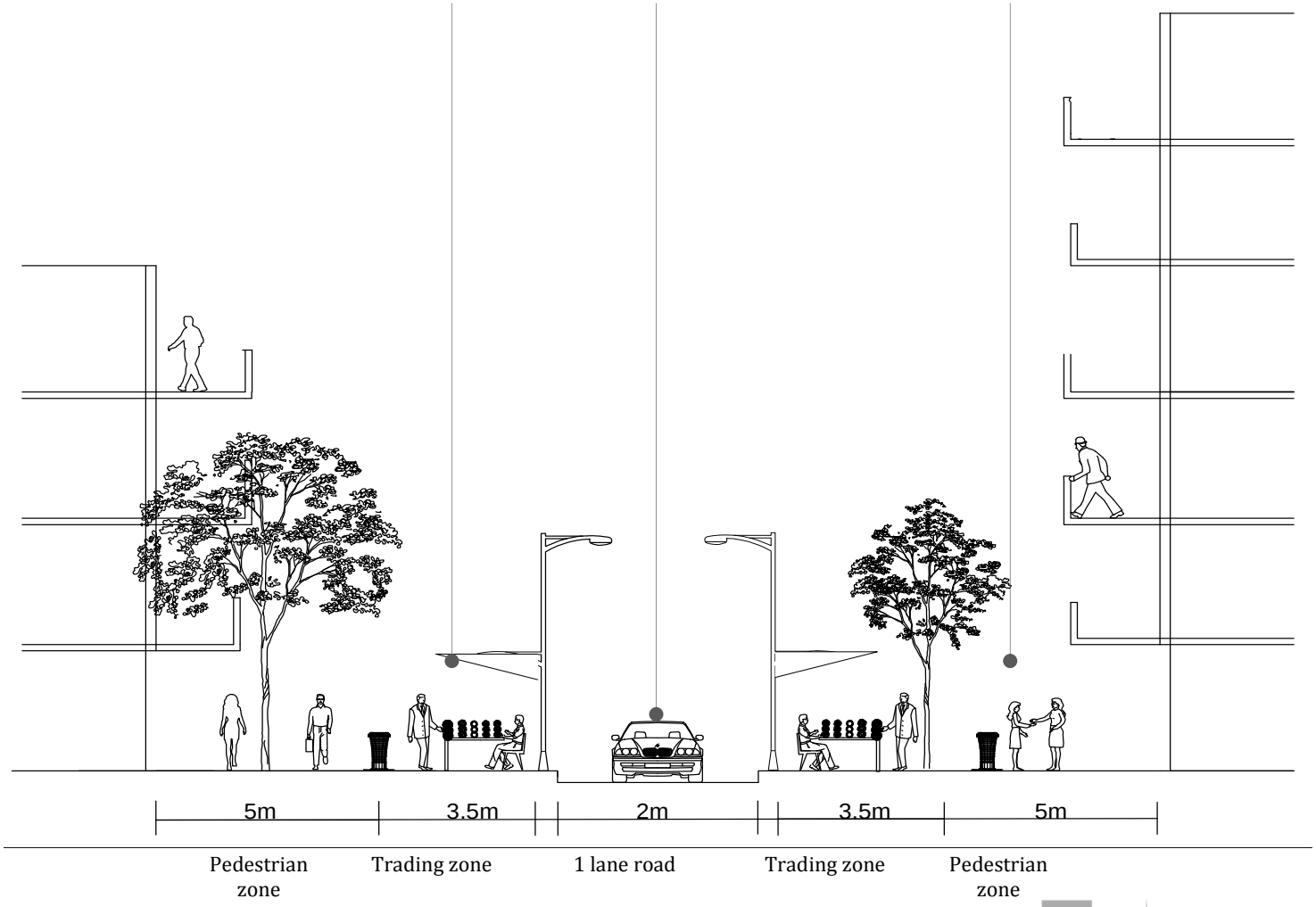


Figure 65- Cross section of one lane on Joubert Str



Over crowded pavements, with traders and pedestrians fighting for the space (Joburg, 2016).



On street parking on the right of Joubert Street to be removed as to extend pavement to accommodate more pedstrian activity (Joburg, 2016).



Pavements on Joubert street between Plein and De Villers to be cobbled and leveled to create a shared space, separated by bollards, as to slow down cars. Main Street being a precedent for this.

LOCAL CONNECTIVITY- MAIN STREET, GANDHI SQUARE & BANK CITY

Map 38- Map of local connectivity





Simmonds Str, from Bank City to Main Str, as well as Joubert Str, from Gandhi Square to the Oppenheimer park, will be cobbled as a means of slowing down and calming traffic along these connecter routes. In the attempts to create a space that is connected to its surroundings and that works in a greater system of interconnected activity, these streets become vital in acting as conduits of activity, encouraging a pedestrian to navigate the city through the site and all the spaces it is connected to at a 400m radius from the site.

The behavior of pedestrians is instantly affected, as they are enticed to see more, to uncover more, and to learn more about the various spaces in the city. This means more people will get out on the streets, as they are no longer intimidated by fast moving traffic, which is more accommodated in the city than pedestrians.

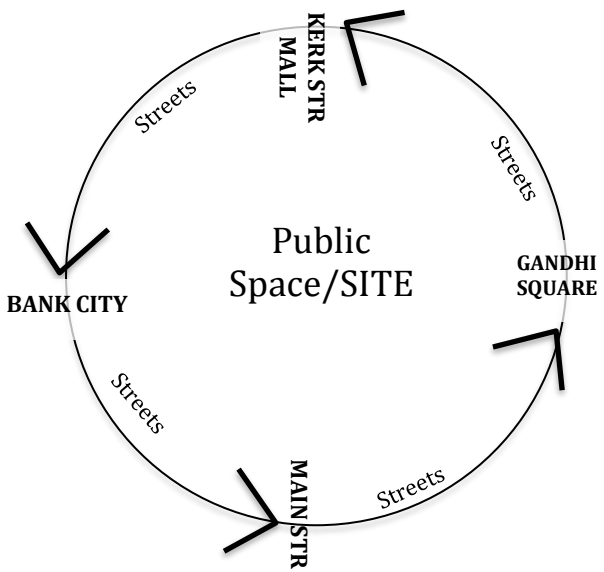
Retail activity adds to the vitality of streets, thus a number of ground floor retail activity will be enhanced to interact with the street as a public spaces. However, there are also a lot of heritage buildings, and thus all unmarked buildings will not be able to accommodate retail activity as no changes can be made to their façades.

LOCAL CONNECTIVITY- A PUBLIC SPACE SYSTEM



Map 39- Map of local interconnected public spaces

INTERCONNECTED SYSTEM OF PUBLIC SPACES



The public space system is formed through the interconnectedness of these spaces. The system of public spaces all connect to the site as it sits in the center of this system.

The spaces are all connected through well design streets that are enhanced to also pay a critical role in this public space system, as a public space itself.

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CONCLUSION- CONNECTIVITY

A pedestrian is person with or without a car, a person who walks between spaces in the city to get to their destinations, a person who just got off the bus has to commute to their place of work or rest. It doesn't matter how a person gets into the city, they still have to get on their feet and navigate their way to their destination. Thus, cities are for people, however the pedestrian is so rarely planned for and included in the urban vision of the city.

For the city to thrive people are needed, the manner in which they navigate the city, connecting spaces and bring about activity to the city all depends on how cities are designed. The urban design of cities is a powerful tool that can influence and impact the behaviour of pedestrians and how they make use of cities. Where people go is determined by the connections that are created between these spaces, a street that is designed to encourage pedestrian activity, comfort and movement is a street people will desire to use, streets where the pedestrian is the priority.

Spaces in the city really and thrive off people as these spaces are made for people, however, if people cannot comfortable connect to and from various spaces, space often become unsuccessful and desolate places. Different spaces in the city create vibrant destination to go to with a network of activity that is interconnected and feeds of each other. For these spaces to create a network of social, economic and political activity, the connectivity of the pedestrian between these spaces is vital. The proposed designs for the inner city attempts to create streets as public spaces where pedestrians can comfortable go to without being intimidated by vehicles. The street then becomes inviting to the pedestrian to use as a means of navigating the inner city and the spaces they connect.

The inner city lacks the ability to take the pedestrian through a journey in the city as the pedestrian finds it very difficult to navigate the streets. The design proposal not only looks to connect the cite to various other spaces in the city it looks to also create the street as a public space. Removing the notion that one only goes out onto the street when they have to make their way to another destination. This will encourage pedestrians to interact with the city more and explore, navigate and discover new spaces.



(ITDP, 2014).

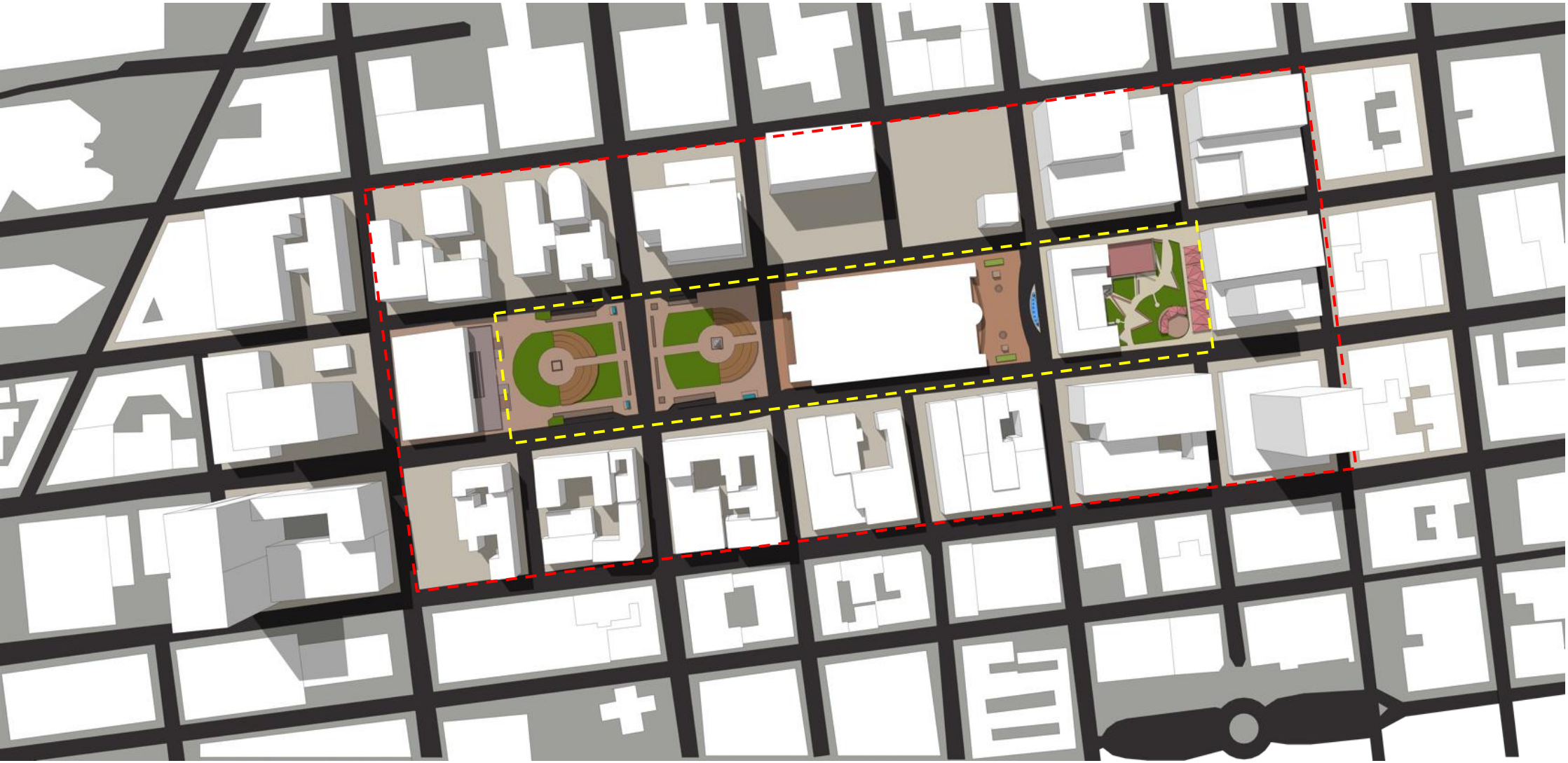


(ITDP, 2014).

DETAIL SITE DESIGN



DETAIL DESIGN AREA- FOCUS



Map 40- Map of design focus area

LEGEND

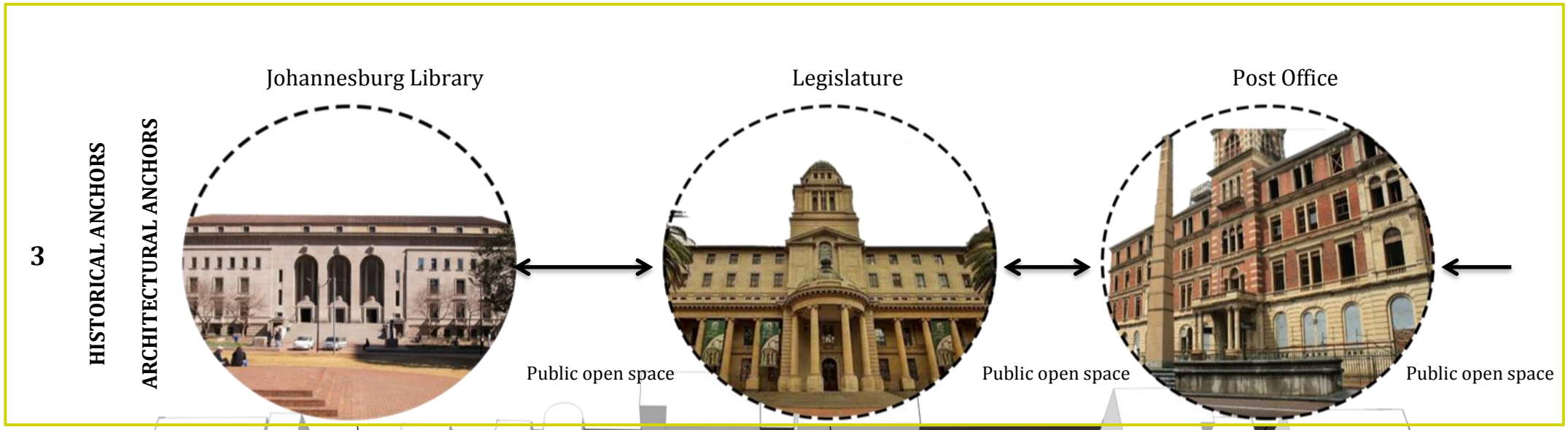
Detail design focus area

Surrounding design area- not designed in detail

Detailed attention will be given to the design of the public open spaces, as highlighted in yellow above. As discussed in the previous section, the design of site cannot be done in isolation, thus the surrounding buildings will be designed, however, at a more conceptual level, where design recommendations will be discussed.

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DEATAIL DESIGN AREA- HISTORICAL ANCHORS

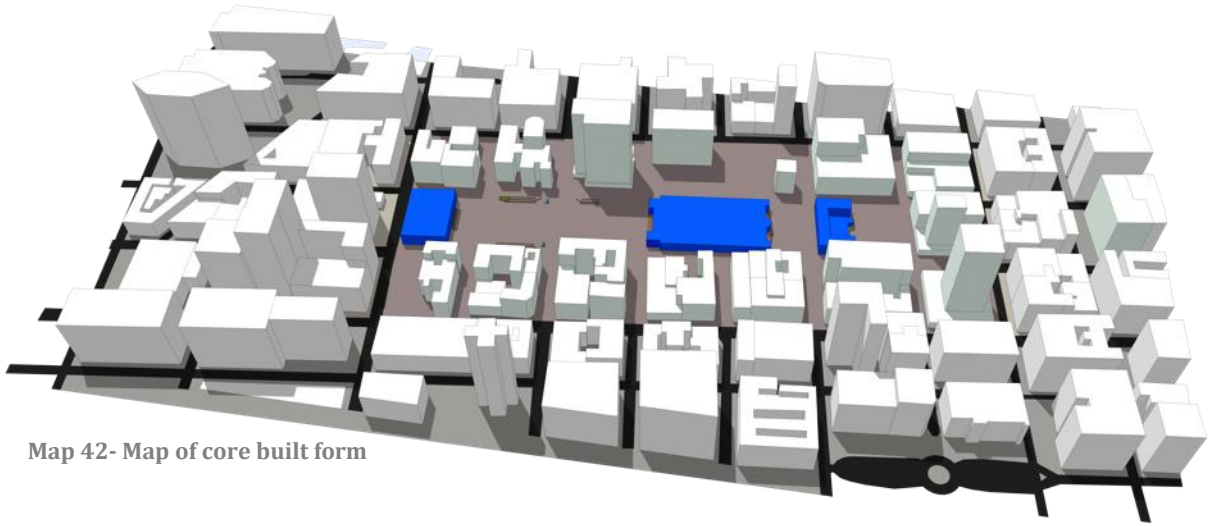


Map 41- Map of design conceptual

Within the area of focus highlighted in yellow above, three crucial anchors divide the space into 3. There is a need to connect the three spaces through these buildings as to ensure that they do not stand as barrier that divides the space into three different spaces.

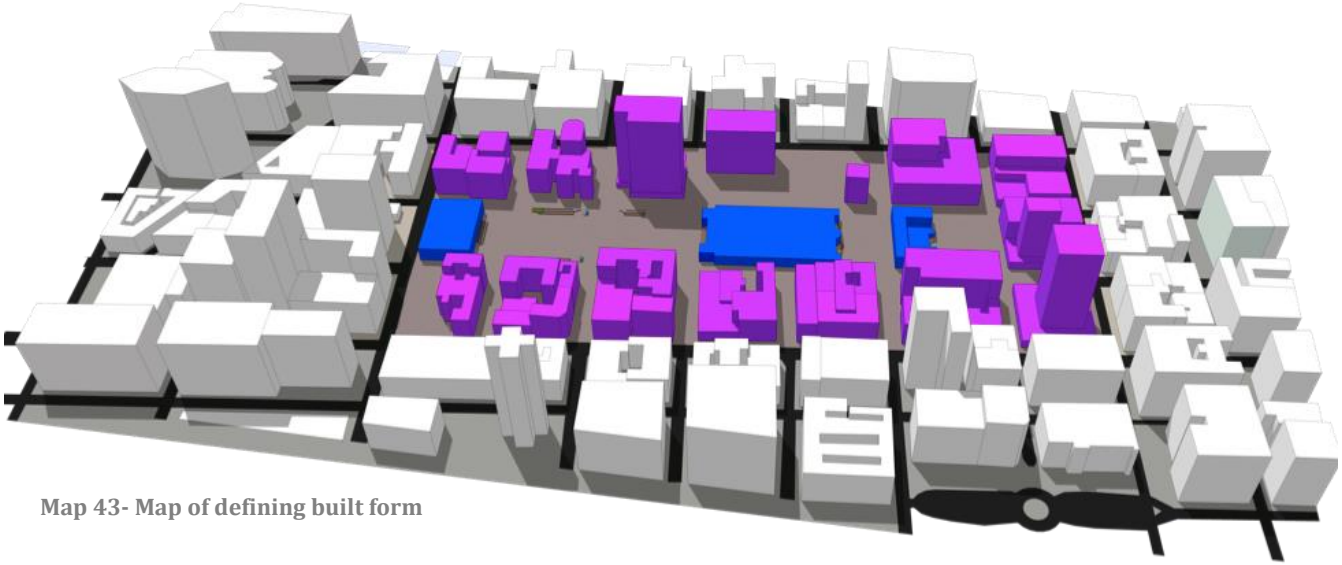
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URBAN FORM- ENCLOSURE



Map 42- Map of core built form

Core built form
3 Heritage Buildings that define the core of the space

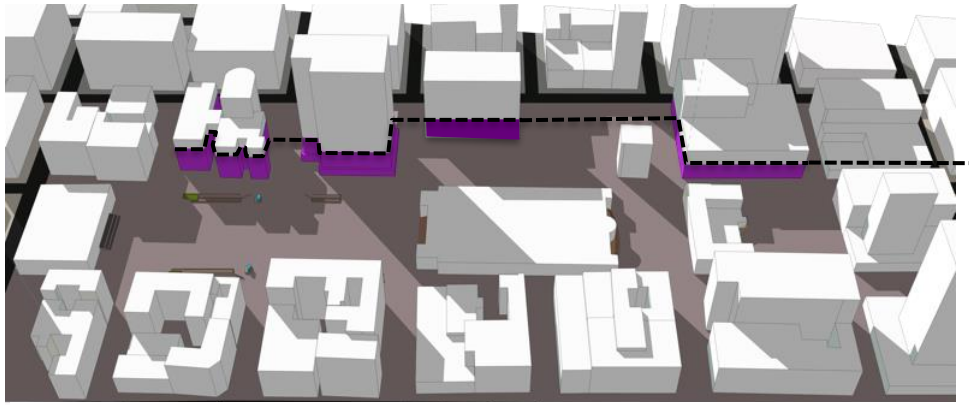


Map 43- Map of defining built form

Defining and containing built form
Built form defining the parameters of the space and containing the public open space. The built form to be focused on in the design recommendation.

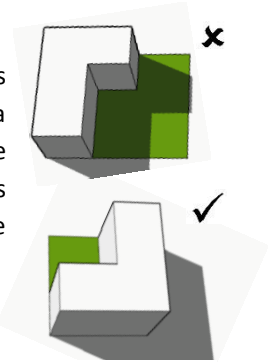


URBAN FORM- BUILDING HEIGHTS

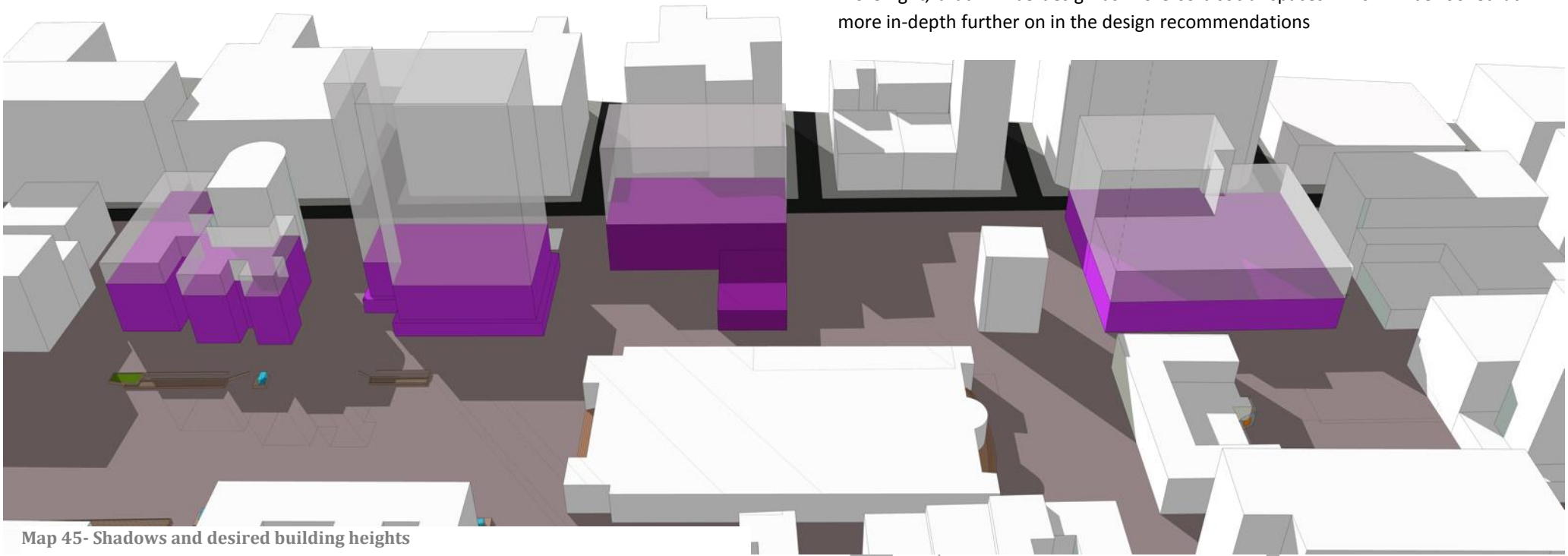


Map 44- Desired building heights

Building heights in the north should be limited to 5-7 stories (15m-21m), as to avoid having towering buildings casting a shadow over the public open spaces at certain times of the day, as shown in the shadow reflection map 22. This creates an environment that is uncomfortable for pedestrians as the shadows are imposing.



However, as the site is in the core of the CDB, building heights cannot be limited to 5-7 stories (15m-21m), as illustrated in the map 23. The design of the public space will be influenced by the shadow study conducted in the previous chapter. Shadowed areas will be designed as harder spaces, versus areas where there is more light, that will be design as more soft social spaces. This will be looked at more in-depth further on in the design recommendations



Map 45- Shadows and desired building heights

URBAN FORM- INFILL DEVELOPMENT

Development no higher than recommended 15m-21m (5-7 floors)

These two vacant plots created a slight loss in the containment of the space. By using this opportunity to infill these open spaces with development, the design area is completely contained.

Development varies in height as to allow light in.



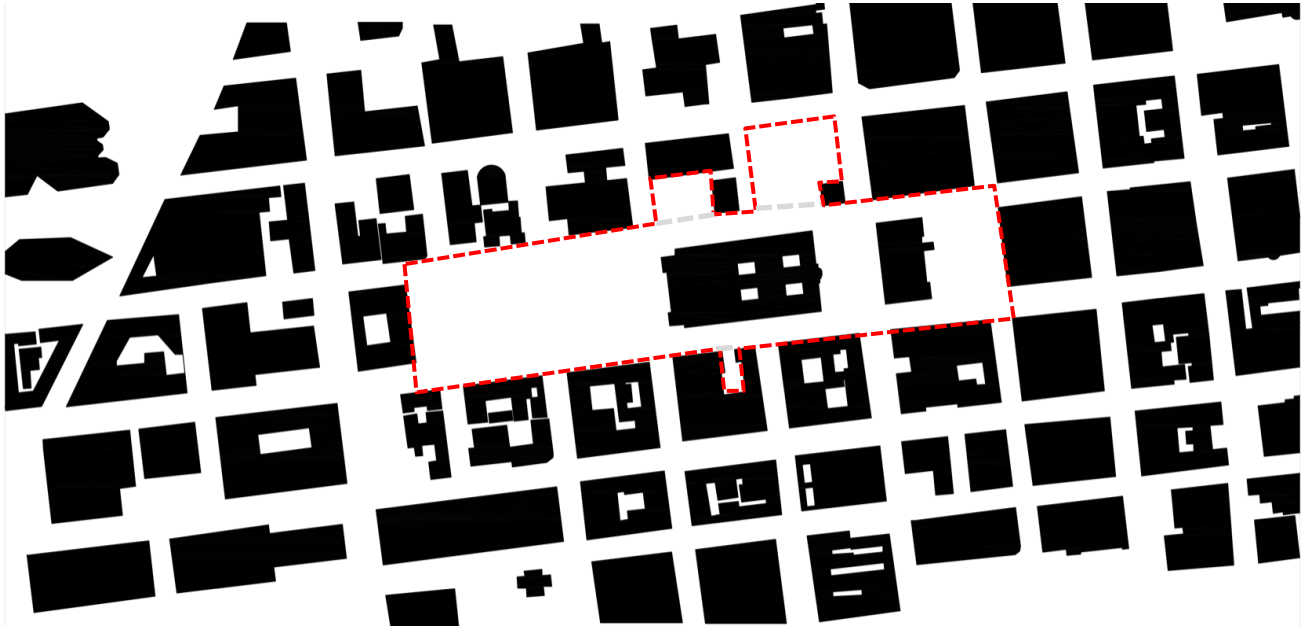
These two vacant sites present an opportunity to introduce a variety of land uses around the site, as this is currently not the case.

As the Post Office is a heritage building no amendments can be made to the façade, however additions are allowed. This addition will open up to the public space creating a direct visual and physical connection between the space and the building.

Map 46- Map of proposed infill development

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URBAN FORM- INFILL DEVELOPMENT





Map 47- Map of previous development and proposed infill development

As the sites urban containment is very good, there were a few spaces where the containment leaked, as seen in the analysis. As to maximise on these open spaces and to completely fill the space, infill development shall be used. This infill development will mostly be residential, as this component is missing from the site. The site faces another issues as a lot of the buildings are heritage, thus no changes can be made to the facade of the buildings, however, additions can be made as an attachment to some of the buildings. Retail is another component that is missing from parts of the site, thus, some of the infill development will allow for retail activity to be introduced at the ground floor of some of the heritage buildings. The space needs a mixture of land uses as to keep it vibrant after hours, this development will be used to introduce this mix. Land uses shall further be discussed in the next section of design recommendations.

URBAN FORM- SHADOWS

SUMMER DECEMBER

9am- 2pm- entires site unaffected by buildings shadows

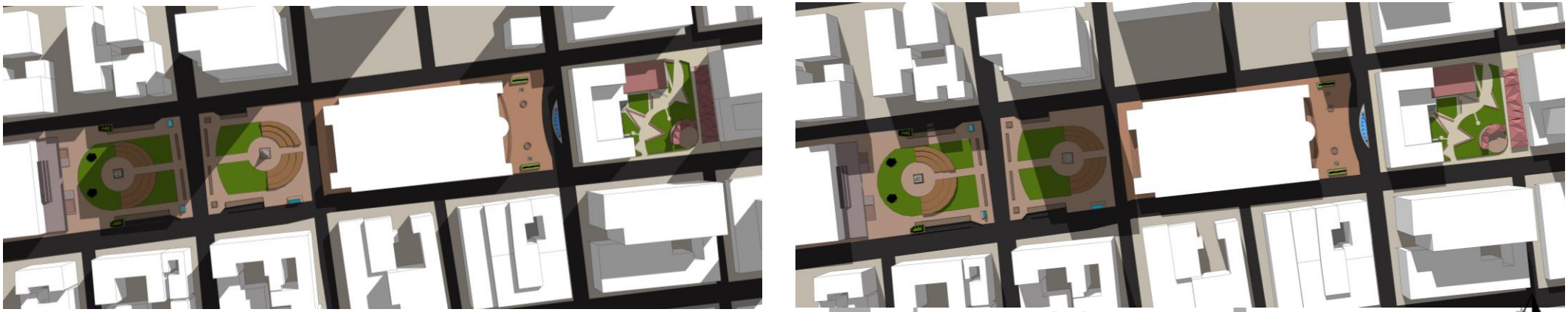


The shadows affect the site in a negative way, and this is seen in how people make use of the site. As to design a space that will be utilized to its maximum, the shadow study depicts the effects of shadows in winter and summer, at the peak times people normally make use of these spaces. In summer the site is barely covered by shades, making it uncomfortable for pedestrians to site in the scorching sun. thus the site needs to be cooled down drastically with the use of vegetation, to be discussed further down in detail. In winter, the opposite is experienced as the square is mostly covered by shaded, with a part of the park also covered. This not only affects how the public open spaces will be designed, but also where retail activity can take place and create a comfortable place for pedestrians to go to.

WINTER JULY

9am- 11am- west of square, and south east of park covered by shadow

11am- 2pm- east of square, and north of foyer and park covered by shadow



Map 48- Map of building shadows on the site at peak hours of use

URBAN FORM- SHADOWS

The shadow study above depicts the effect that shadows have on the public open space. Another area of consideration is retail activity. For this design recommendation, retail activity will mostly be located north of the site with stores that people walk into and out of. Restaurants and more social economic activity that will require pedestrians to linger will be placed on the east of the site, where the weather conditions are more comfortable to accommodate this typed of activity. The issue of Heritage comes to play on the east side, however, the way in which this will be addressed will be discussed further on in this document.

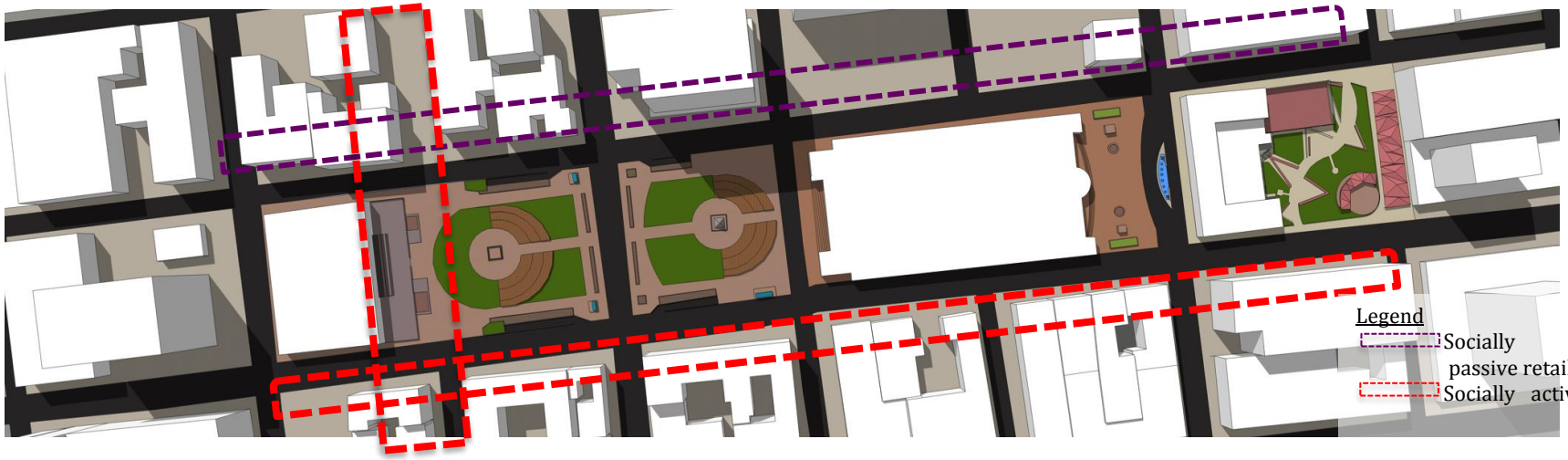
Map 49- Map of development considering shadows

Retail stores- people are in and out









Social retail- where people linger







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URBAN FORM- THE EFFECT ON HUMAN BEHAVIOUR

The built form cannot act as a barrier between public space sand pedestrians, it is meant to guide pedestrians into the spaces, and contain them, creating a comfortably enclosed spaces and environment. The site has a number of issues pertaining to the built form, the major one being the shadowing of tall buildings north of the square. To address this issue a recommendation has been made to allocate certain activity in certain parts of the site as to avoid the discomfort created and caused by the shadows cast over the site. The main effect this will have on human behaviour is to direct their movement and location in and around the site. Pedestrians will feel comfortable to locate on the street or in the open spaces, at varying times of the day, as the public realm of streets are also enhanced to capture pedestrians, and create a space that they feel they have possession of.



(ITDP, 2014).

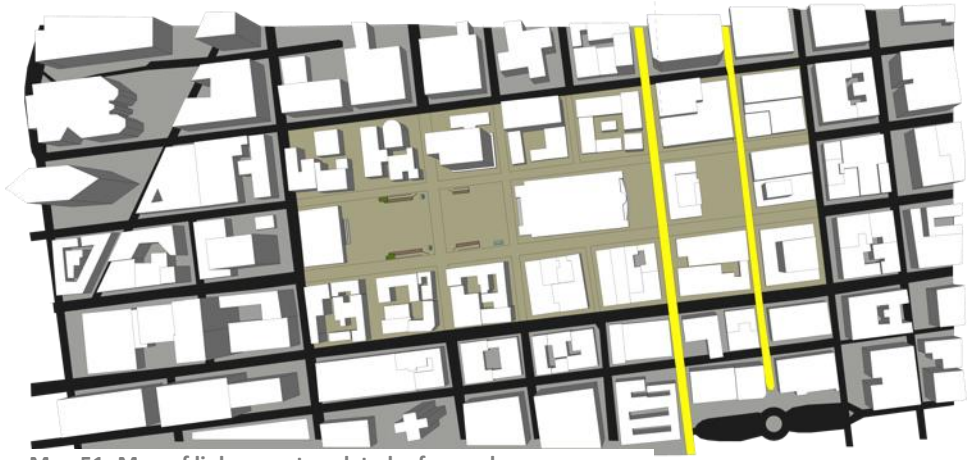
ACCESSABILITY- ROAD NETWORK



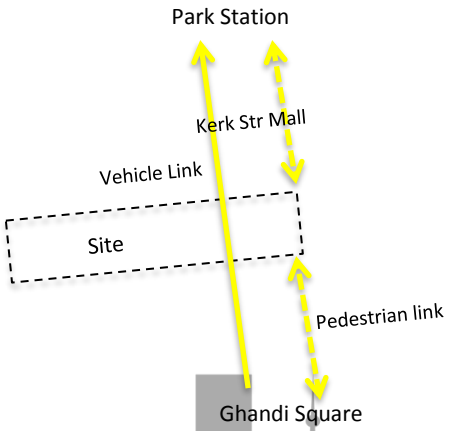
Map 50- Map of road network to be designed

Road network

The main road network through the site runs along the existing road network. As this is the central Business District, traffic is already an issue, and heavy congestion is experienced on some of the roads through the site, as these are major routes in and out of the city. Thus the aim is to minimise any disturbance to traffic, by making minimal alterations to the existing network. The alterations to be made along this network are traffic-calming measures, as pedestrians need to be accommodated. This will be discussed further on.



Map 51- Map of linkage network to be focused on

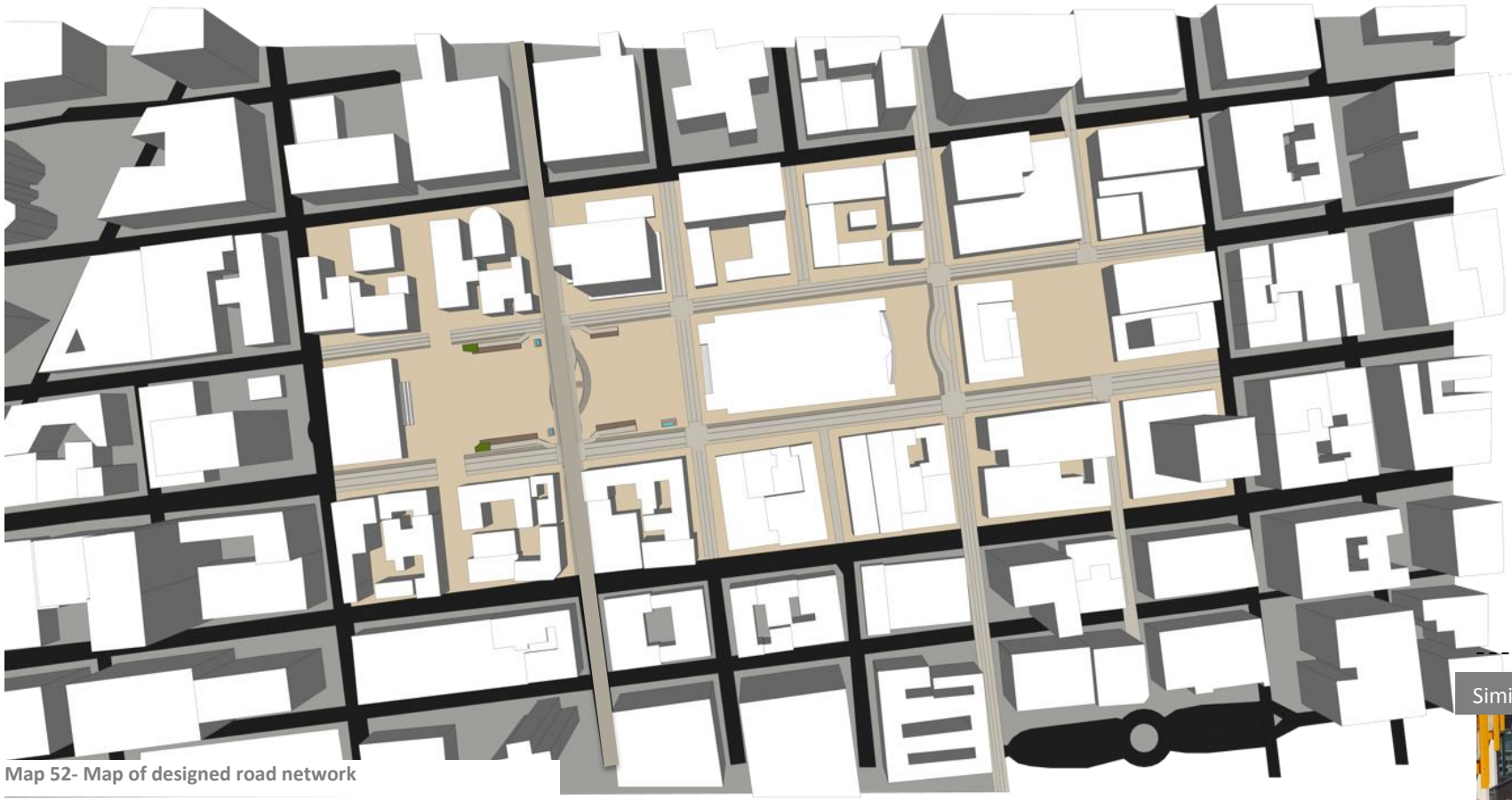


Linkage

Rissik and Joubert Street link to major transport nodes, Ghandi Square and Park Station. There is also a pedestrianized market on Kerk Street that intersects Rissik and Joubert Street. Thus the emphasis of the two streets, as linkages through and to the site, will be made through the continuity of the road treatment along these streets and through the road network highlighted above.

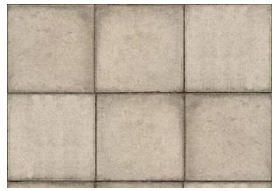
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ACCESSABILITY- SHARE THE STREET



Map 52- Map of designed road network

Materials



Large tiles

Pavement



Smooth paving

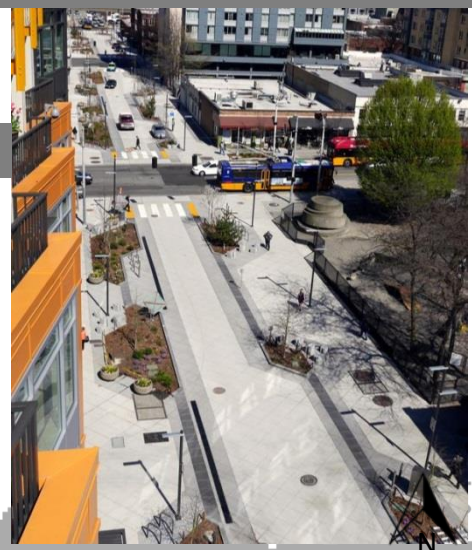
Bicycle lanes



Rough paving

Road

Similar materials to remove hierarchy



The aim to create a public space that enhances and compliments the context, creating a memorable and welcoming space. Walking, cycling and public transport will be encouraged, enabling all modes and users in the space to move in an efficient, convenient and safe manner. Some principles from the Shared Space concept will be used as to create a pedestrian safe zone, whilst also accommodating the existing flow of traffic through the site

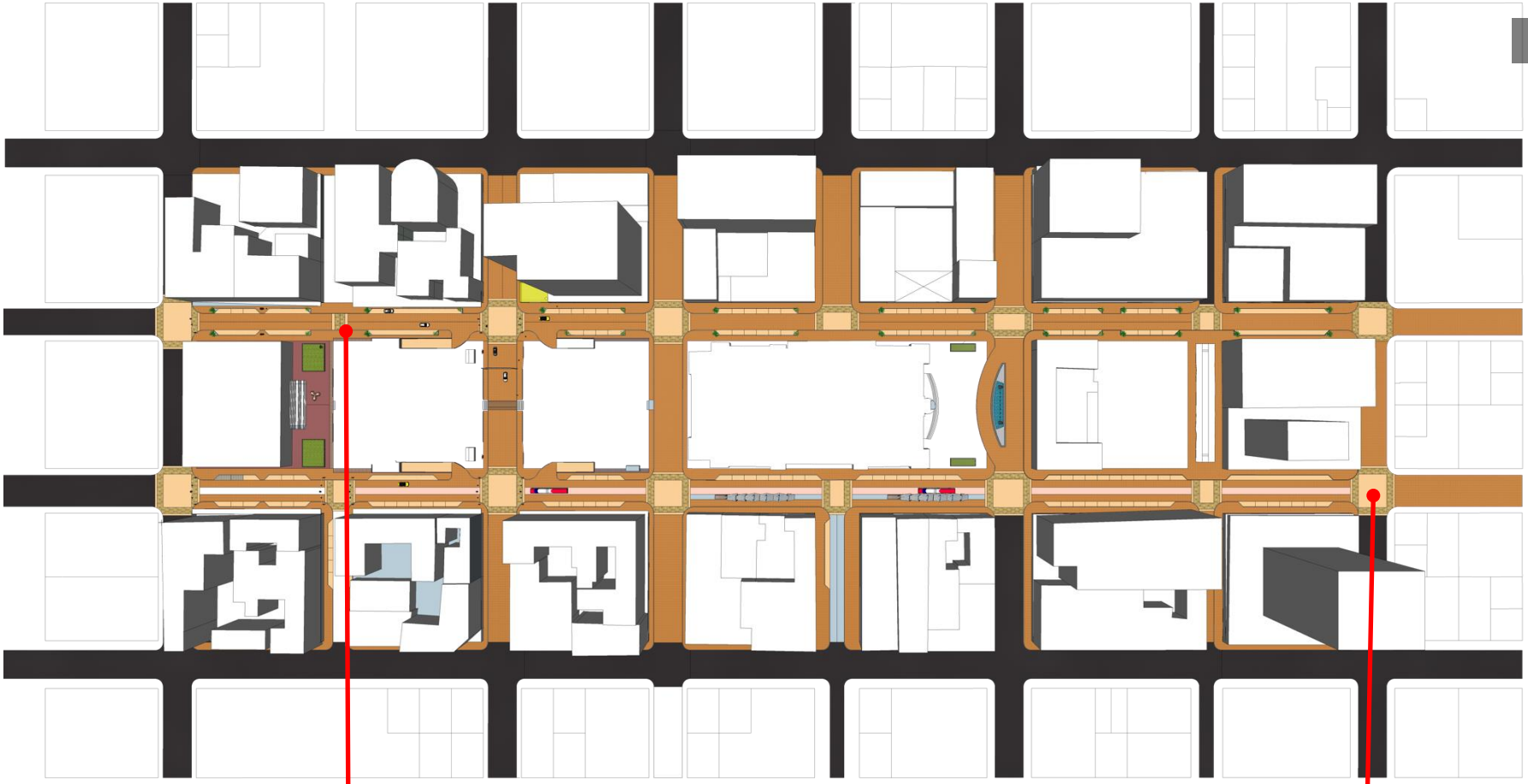
Slowing down traffic



Pedestrians feel safe to move through space



ACCESSABILITY- SPEED CONTROL MEASURES



Map 53- Map of speed control measures

Various speed control measurements have been put in place. This includes street signs that caution drivers of the pedestrian, as well as their speed. Speed bumps are also used to slow down cars. Zebra crossings have been placed at all intersections, and strategic places, as to encourage the continuous flow of pedestrians through the site.



Speed bump



Pedestrian crossing

Street signs





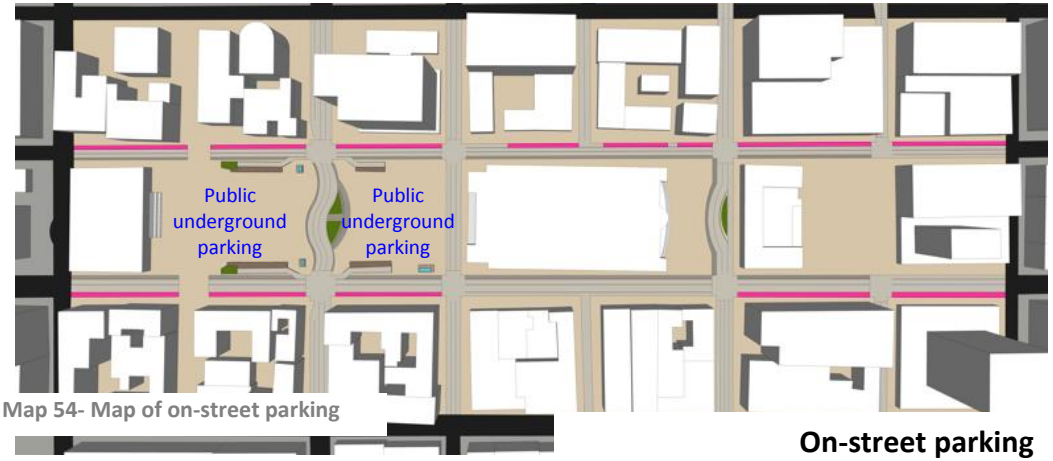






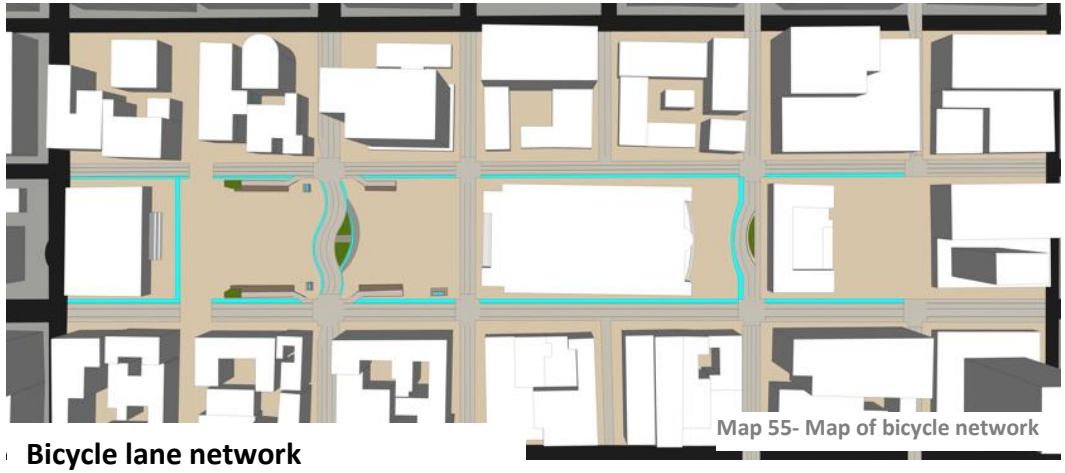
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ACCESSABILITY- BICYCLE LANES AND ON-STREET PARKING



Map 54- Map of on-street parking

On-street parking



Map 55- Map of bicycle network

Bicycle lane network

A paring around and n the site is an issues, it is proposed that the legislature parking, underneath Beyers Naude Square be open to the public. The legislature parking is currently only occupied about 35% on average, meaning there is plenty of space for the public to occupy as well. This will free up spaces for pavement extensions in certain parts of the site. However, as to create a trade off with Legislature, this parking will be paid secure parking to also give car owners the comfort that their cars are parked safely.

On-street parking will be provided, as to allow direct access to retail activity on the ground floor of some building. Charged parking will be provided under Beyers Naude Square, as legislature does not fully occupy the parking space. This creates a barrier for the pedestrian zone

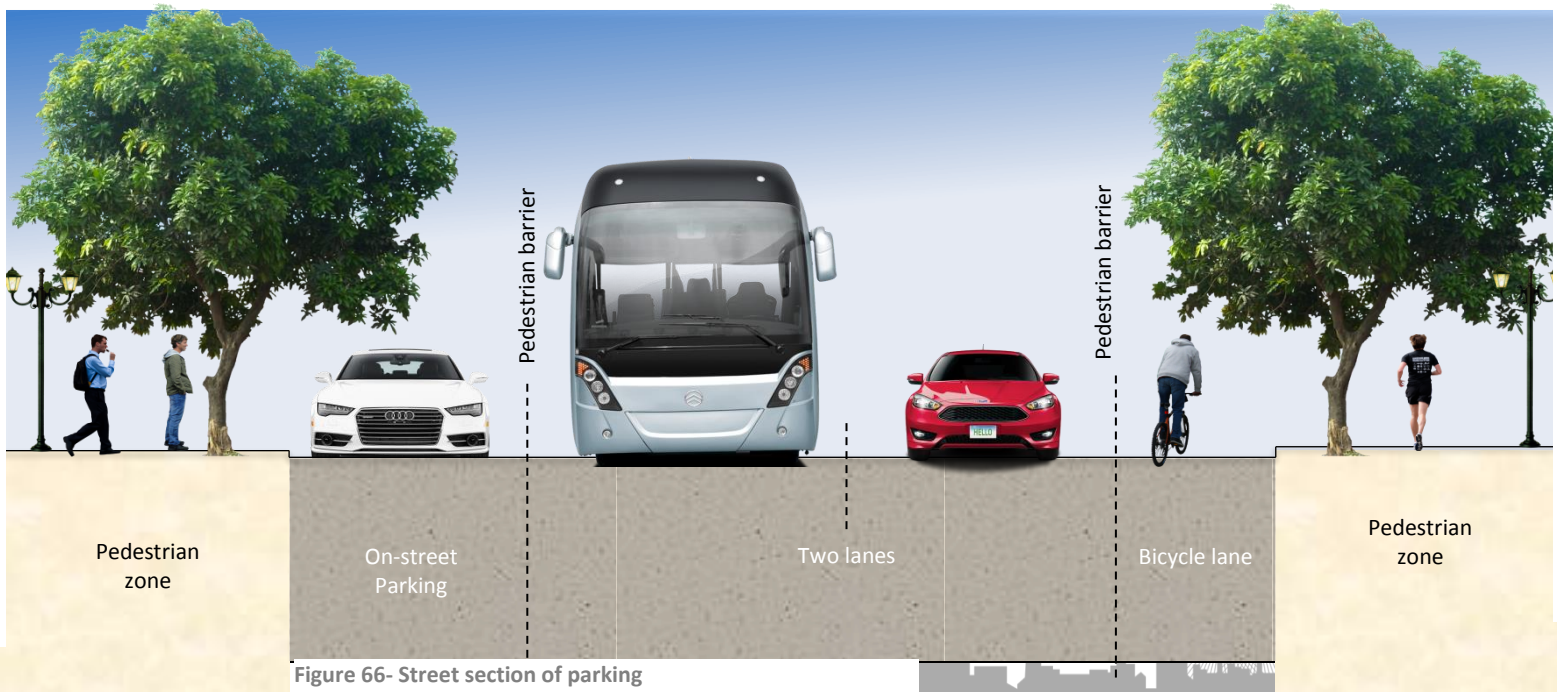


Figure 66- Street section of parking

Bicycle lanes will be provided for around the site, for sightseeing, for a relaxing ride, or for individuals who make use of this mode of transportation. The cycling network runs immediately around the public open spaces as to make access easier. This also creates a barrier for the pedestrian zone

N

ACCESSABILITY- PEDESTRIAN PATHWAYS

The pedestrian pathways around and through site have been made very spacious, as to allow pedestrians to comfortably move through the space. This also gives room for families with prams, or disabled individuals to make use of the space without feeling excluded by the lack of efficient and comfortable access to various spaces along or in the site.

The width of pavement along residential or office blocks with no retail or economic activity is between 3-4 meters, whilst areas with retail and economic activity on the ground floor will allow for pavement activity, thus pavement will be wider, ranging from 4 to 6 meters.



Figure 67- Path width along residential or office building

Demarcated areas will be dedicated to street trading, within marked spaces. These pavements will be much wider, as to allow this activity to take place. This will be discussed further in the next section.



Figure 68- Path width along building with ground floor retail

ACCESSABILITY- PEDESTRIAN PATHWAYS



Map 56- Map of designed pedestrian pathways

LEGEND

Pavement widths
≥3m
2>3
≤2m
≥4m
Pedestrian entrances to space



ACCESSABILITY- LANE WIDTHS



Map 57- Map of proposed lane widths

LEGEND

5 lanes
3 lanes
Pedestrian Str
2 lanes
1 lane

As the site sits in the context of fast moving traffic, a number of speed control measurements have been implemented as discussed above. The lane numbers will stay the same with the exception of the 2 section highlighted by A and B. A is the three blocks of heritage buildings. As to mitigate their blank facades and how this negatively affect the opposite pedestrians, the on street parking, and one lane will be removed as to widen the pedestrian space and create a social spaces where people can linger. This will accommodate a number of food stalls, and retail social activity, as this portion of the site is not affected by the shadows of the buildings as discussed in the previous section.



ACCESSABILITY- LANE WIDTHS

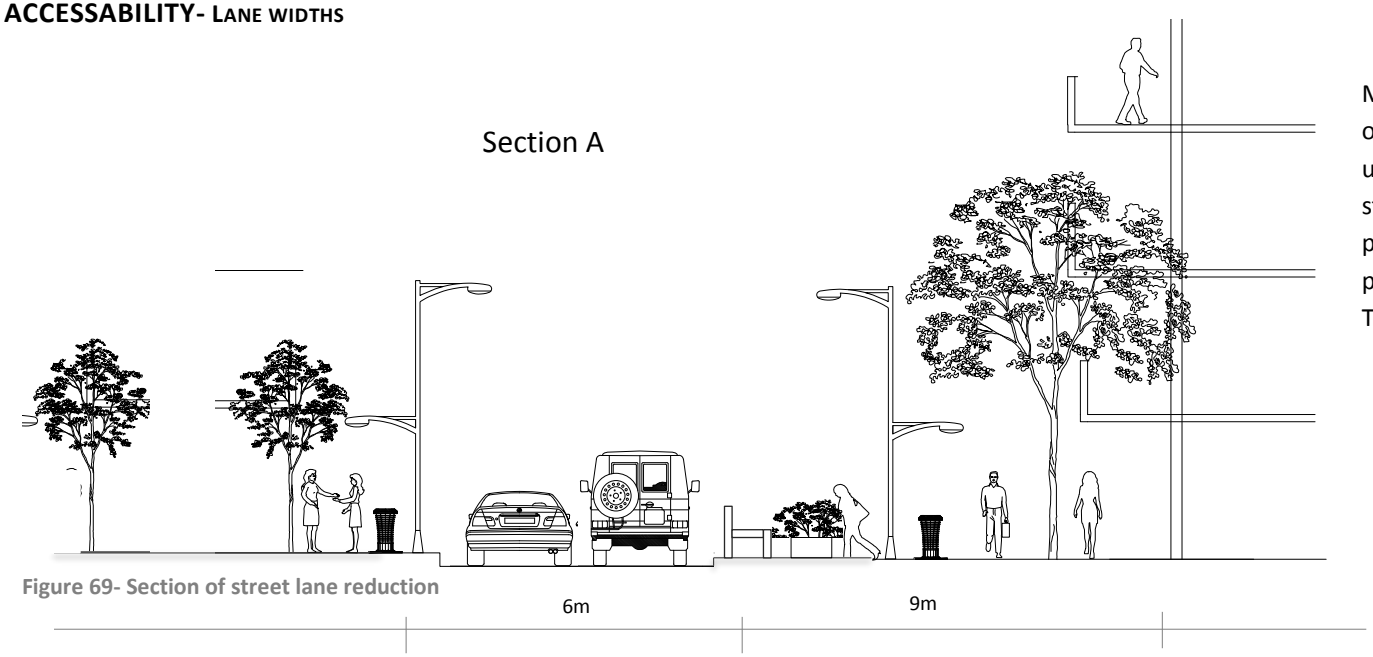
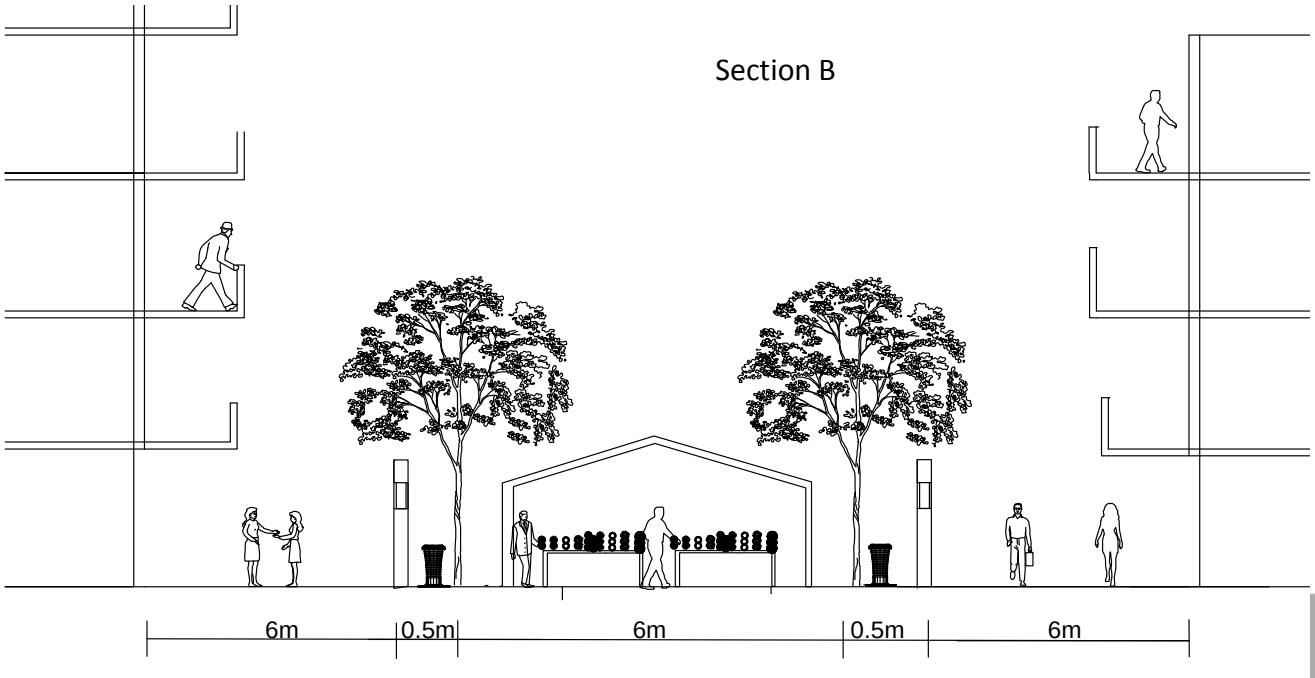


Figure 69- Section of street lane reduction

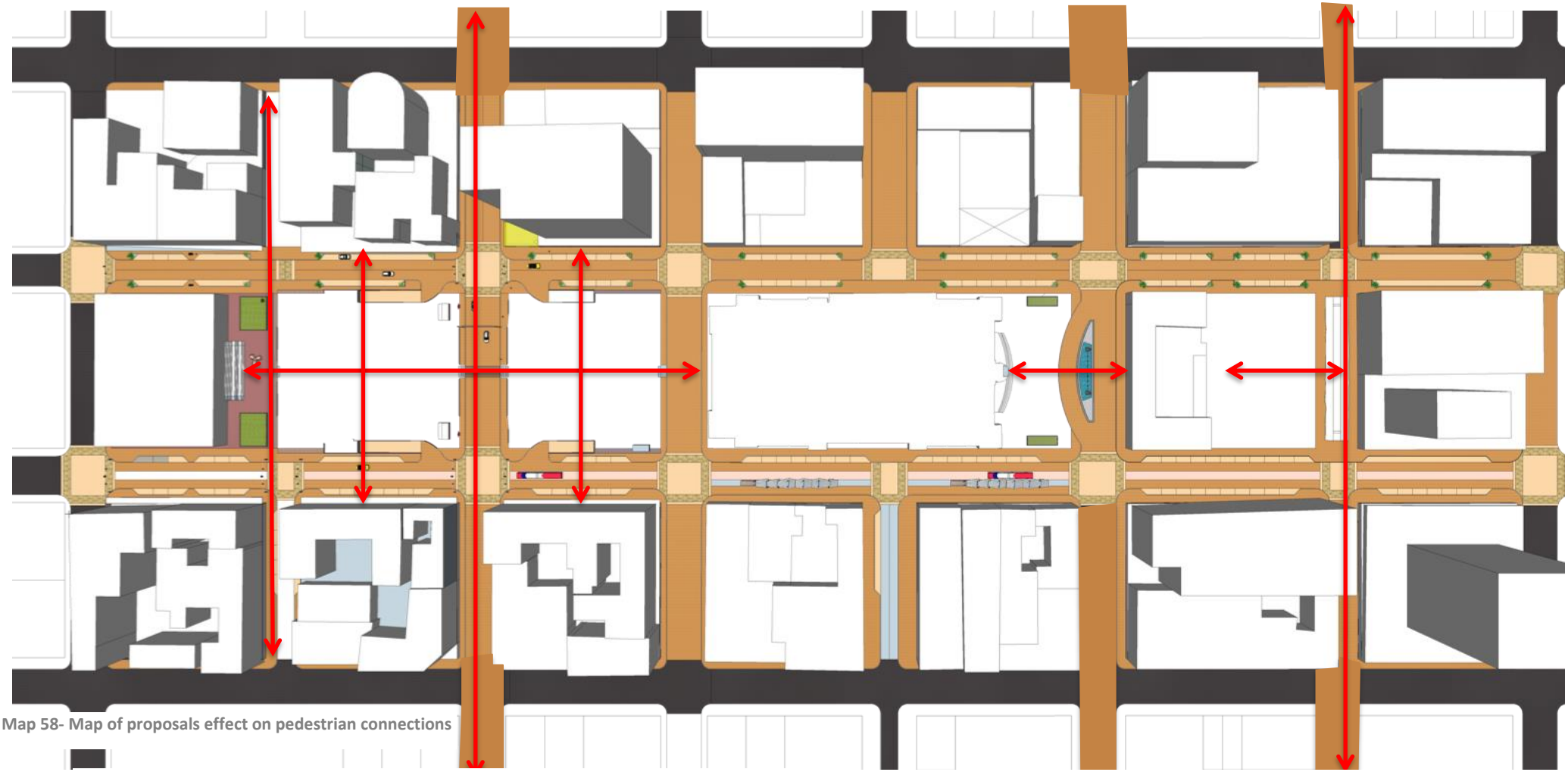
More space provided for social activity to occur on the street. As parking is provided under Beyers Naude Square the need for on-street parking is not in as much demand as it previously was. This one row of on street parking will be sacrificed, as well as one lane. The BRT and cars will use the 2 remaining lanes

Figure 70- Section of pedestrianized Frasier & Joubert Street



As discussed in the contextual design recommendation, Joubert Street will be pedestrianized, thus this lane will complete be closed off to vehicle traffic, and only open to pedestrians. Frasier Street will also be pedestrianized as to create a mini park.

ACCESSABILITY- EFFECT ON HUMAN BEHAVIOUR



Map 58- Map of proposals effect on pedestrian connections

New lines of movements will be established as to better connect the site to its surrounds, and connect the buildings to each other. This creates a space that speaks to each other, making the pedestrian feel more invited to a space that is well connected. Better north south connections will be established through Beyers Naude Square. As the buildings in the north and east cultivated no movement and connection between each other. The post office and Legislature sit opposite each other however pedestrian movement is divided by the waterfall hindering a direct line of connection between the two buildings. Thus a pathway, that cuts through the waterfall is introduced, with a zebra crossing on each side. The park restricted movement to two entrances and completely blocked off the trading activity. Thus, the fence that stopped the fluid flow of pedestrians in an out the site will be removed, allowing access to the site from the north, east and south. With the new activity uses being introduced into the park, there will also be improved access and connectivity between the trading zone and the activity spaces in the park.

N

VARIETY OF USES – LAND USE

As to create an environment that is not only sustainable, but also viable through the day, mixed land uses will be introduced around the site. Office accommodation currently dominates the site, creating a dead space after hours. This becomes an unsafe and hostile environment, which can be avoided by the right mix of land uses. Map 31 and 32, on the next page, indicates the proposed land use mix around the site.

The section bellow indicates the type of mix to be introduced around the site. The ground floor, and in some instances the second floor, will take on a retail function, as to activate the immediate public spaces around the building. Office/ commercial accommodation will then follow. Residential accommodation will be places at the top of the building, as to encourage more privacy and less public traffic through this space. Retail activity can also be used between the office and residential use as to create a transition zone, from the one use to the other. Some buildings will remain office accommodation only, as they are in their current state, and some buildings will only take on a residential use. This is determined by the buildings, as some buildings are heritage and cannot be altered to take on a residential function, thus they will not be suited for a mix. The section bellow indicates the idea of mixed land uses around Beyers Naude Square.

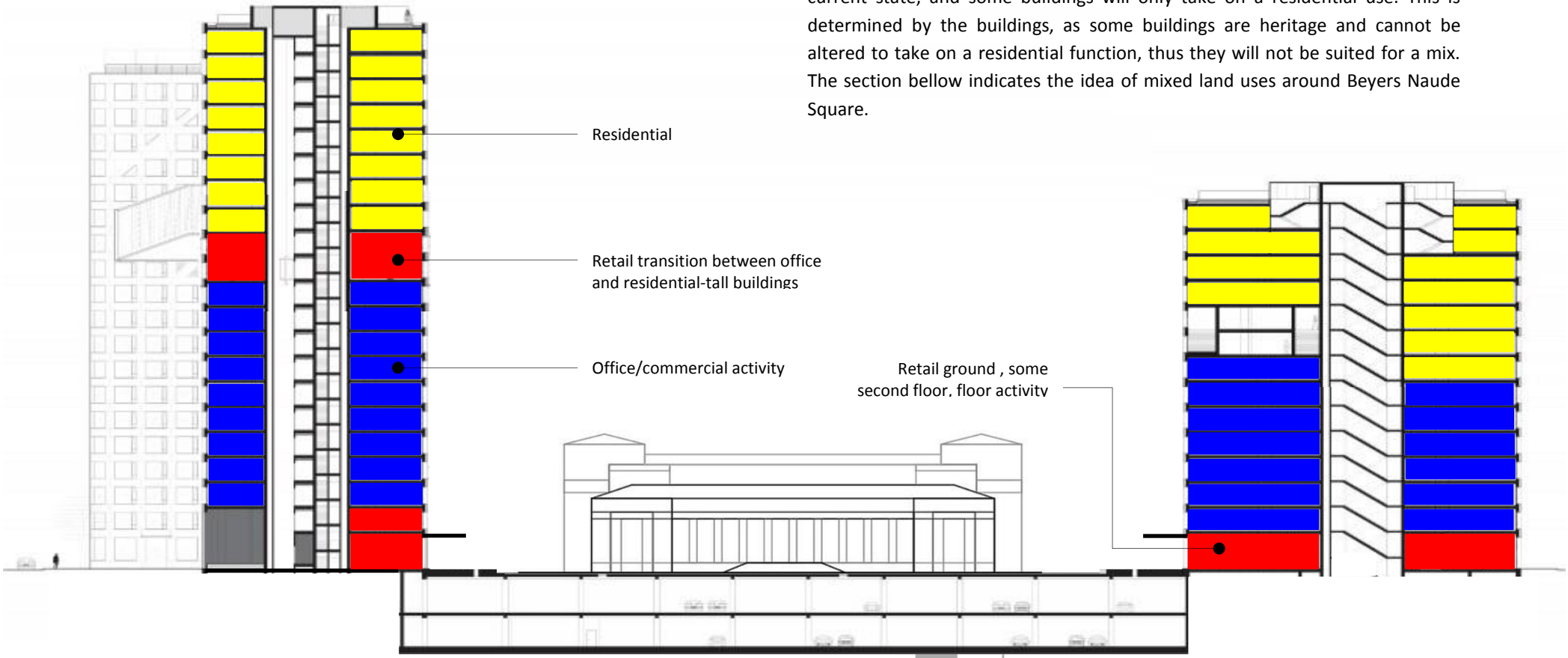


Figure 71- Section across Beyers Naude Square as an example of the mix of land uses in a mixed building

VARIETY OF USES – LAND USE PROGRAMME

The site is blessed and cursed with heritage buildings, this means that the function and façade of the buildings cannot be altered beyond its original design. Thus the introduction of residential and mixed land uses into the buildings will be difficult for a lot of buildings as they cannot be changed. Thus mixed land uses will mostly be introduced into the new infill development.





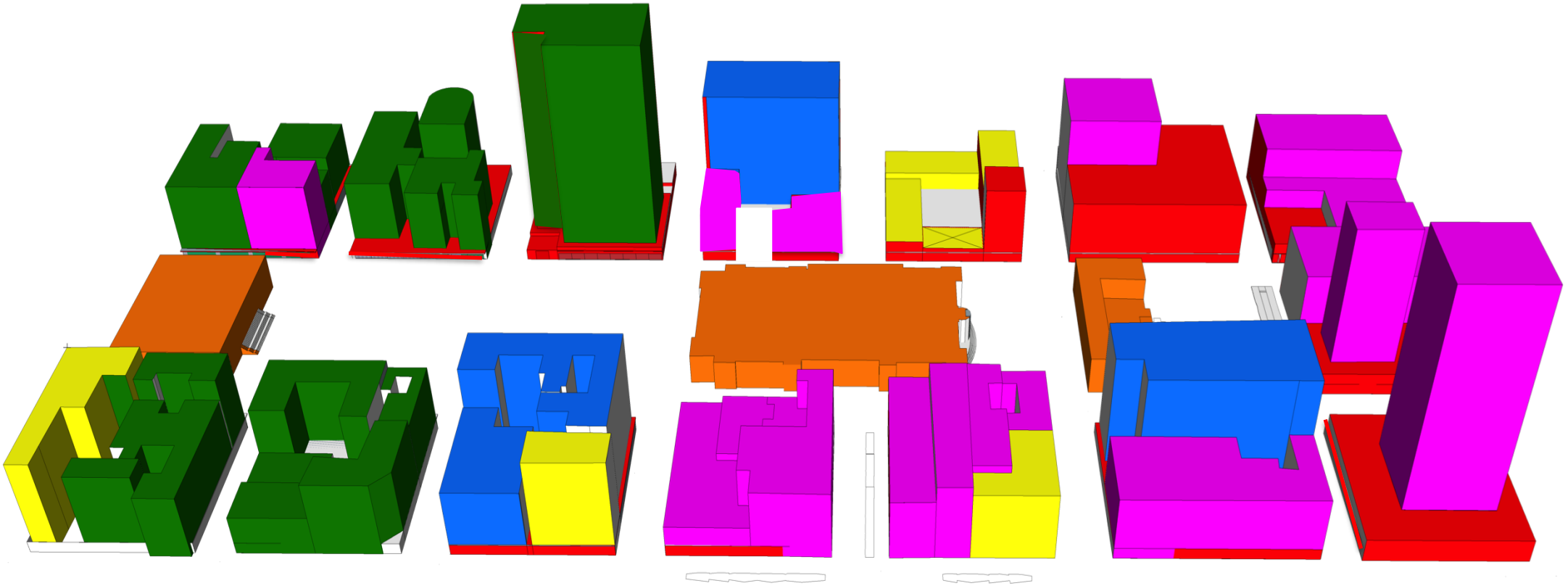
Map 59- Map of proposed land use

LEGEND

- Government
- Residential
- Office
- Civic
- Retail
- Mixed land use (Offices and residential)

N

VARIETY OF USES – LAND USE PROGRAMME



Map 60- 3D map of proposed land use

LEGEND

- Government
- Residential
- Office
- Civic
- Retail
- Mixed land use (Offices and residential)

This map indicates how retail will be introduced to all ground floors of buildings that can accommodate it. This will activate the spaces around it, creating a place that pedestrians are attracted to, a space that is buzzing with activity, thus attracting more pedestrians into the public realm. This provides an opportunity to capture pedestrians in the public open space, and encourage them to linger, in a comfortable space that can socialise, interact in and relax or play.



VARIETY OF USES – BUILDING ENTRANCES



Map 61- Map of proposed building entrances

A number of new entrances will be activated around the site as a retail stores will be introduced to a majority of the ground floors of the buildings. This activates that space as a majority of these entrances face the public open spaces, thus people make contact with the space. The presence of buildings entrances also indicate the fronts of the buildings, thus making pedestrians feel comfortable to come into the spaces as natural surveillance is offered, via permeable facades, windows, balcony etc.

LEGEND

- Existing entrance to building
- Existing entracnce to retail store
- Activated entrance
- New entrance to building
- New entrances to retail store



VARIETY OF USES – LAND USE



Figure 72- Section of mixed land use in an office building

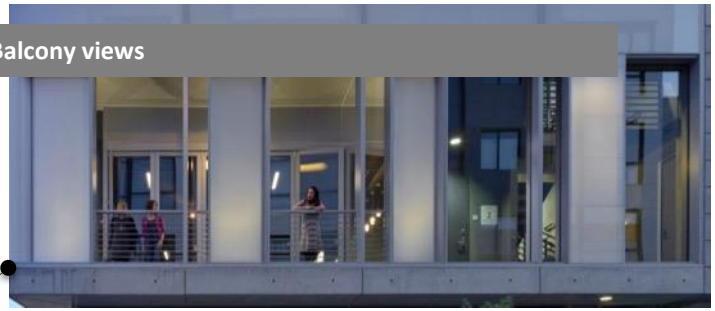
As indicated on the land use programme above, some buildings will take on one sole function. In such instances, and where possible, retail activity will be introduced at the ground floor. To avoid having buildings that do not interact with the space, the ground floor is given to the public and used to activate the public realm around the buildings, as see in the two sections bellow. One building is solely utilised as office accommodation, and the other is solely residential, however, both with retail activity at the ground floor.

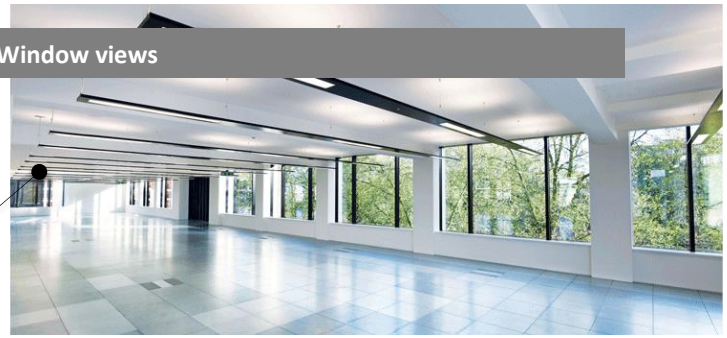


Figure 73- Section of mixed land use in a residential building

VARIETY OF USES -NATURAL SURVEILLANCE/ VIEWS/ SECURITY







The design of buildings and its functions play a critical role in creating natural surveillance. People feel safer when they are aware that eyes are on the street, that someone is watching. Thus wide windows and baloneys will be introduced to various buildings, as to create a safer space for pedestrian by enhancing natural surveillance, and the comforting feeling. Views of the public space are also pleasing for individuals in the building, and this creates a permeable threshold between the public and private. A pedestrian on the street, or in a building are thus all integrated into the public realm.

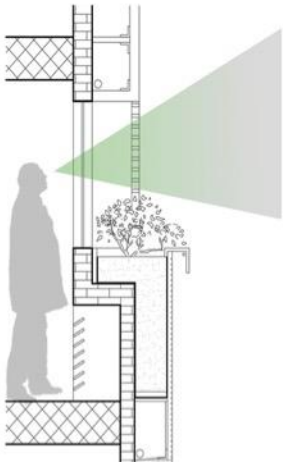


Figure 74- Section of surveillance, views and security from buildings

VARIETY OF USES – EDGE CONDITIONS



Retail activity

Buildings that allow for the ground floor to be opened will be opened to retail activity: restaurants, bars, stores etc. This is the best way to activate the ground floor, with activity from this use spilling out onto the pavement through permeable and porous fronts.



Entrance to building – type one

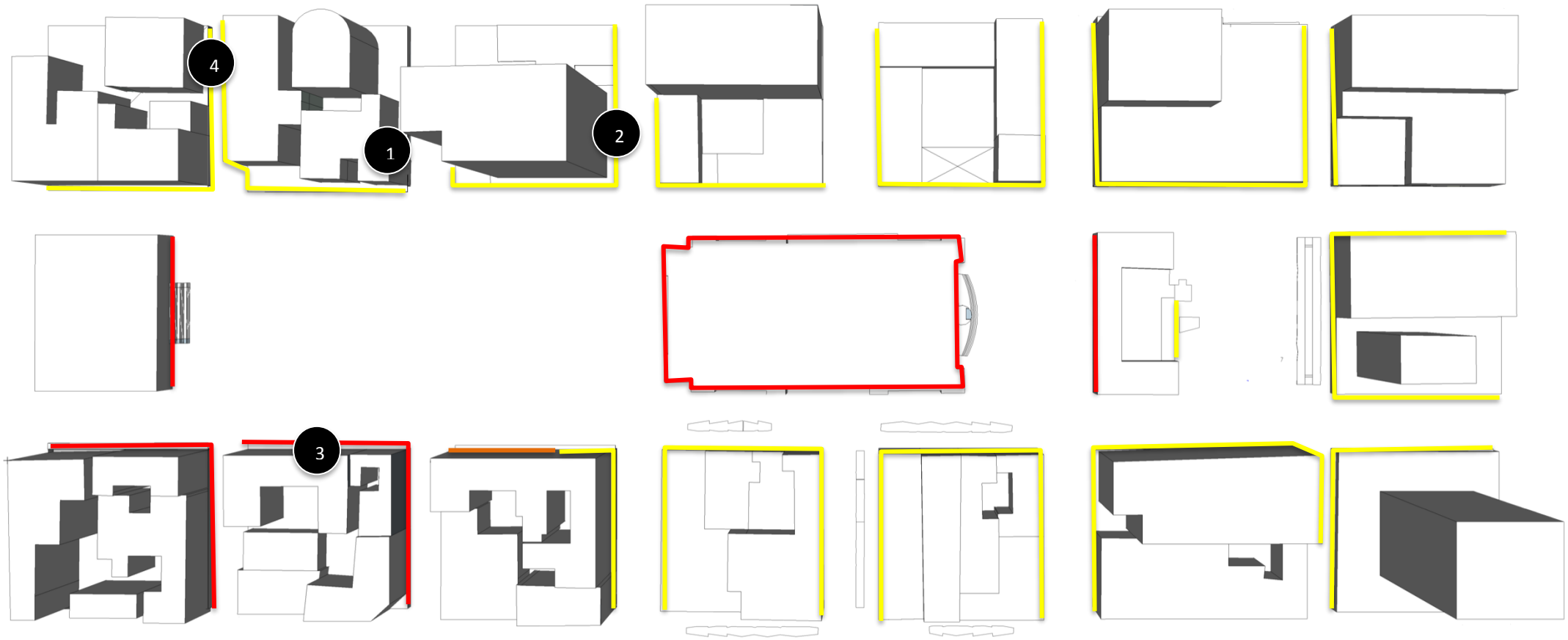
Buildings that allow for the ground floor to be amended will be opened up at the ground floor with porous facades. The entrances to office accommodation are currently blank and uninviting. By opening up the façade with a visually permeable façade and good lighting, the buildings positively contribute to the public realm, and invite pedestrians to freely walk along any building without feeling unsafe.



Entrance to building – type two

Heritage buildings that do not allow for changes to be made to the façade can be enhanced with the use of lighting and vegetation. Lighting will play a critical role at night as it will contribute to safety and visibility, making people feel safer walking past such buildings, instead of blank facades, that are dark.

VARIETY OF USES – EDGE CONDITIONS



Map 62- Map of proposed edge conditions

LEGEND

- Retail
- Visually permeable ground floor entrance
- Heritage building with lighting and vegetation



VARIETY OF USES – EDGE CONDITIONS

Opening up the ground floor with permeable facades, allowing for inside outside connectivity. Dark, blank buildings are thus livened up, making pedestrians comfortable to walk along such buildings, this adds to the character of the public realm.

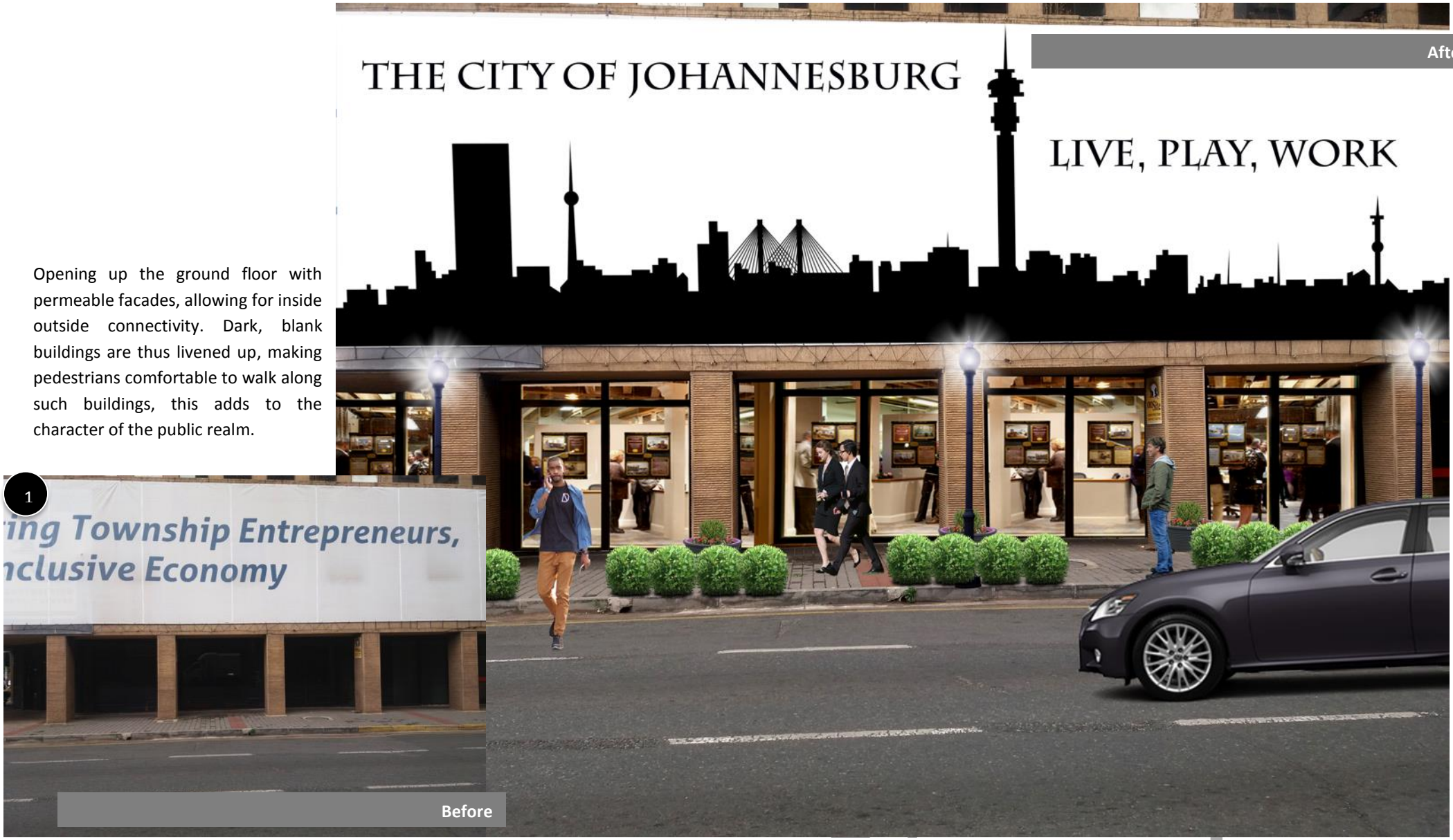


Figure 75- Edge conditions before & after

VARIETY OF USES – EDGE CONDITIONS

Blank walls that have the potential to be opened up for retail activity that spills over into the public realm, plays a critical role in breathing life back into the space. Giving the space a lifeline that pedestrians thrive on.

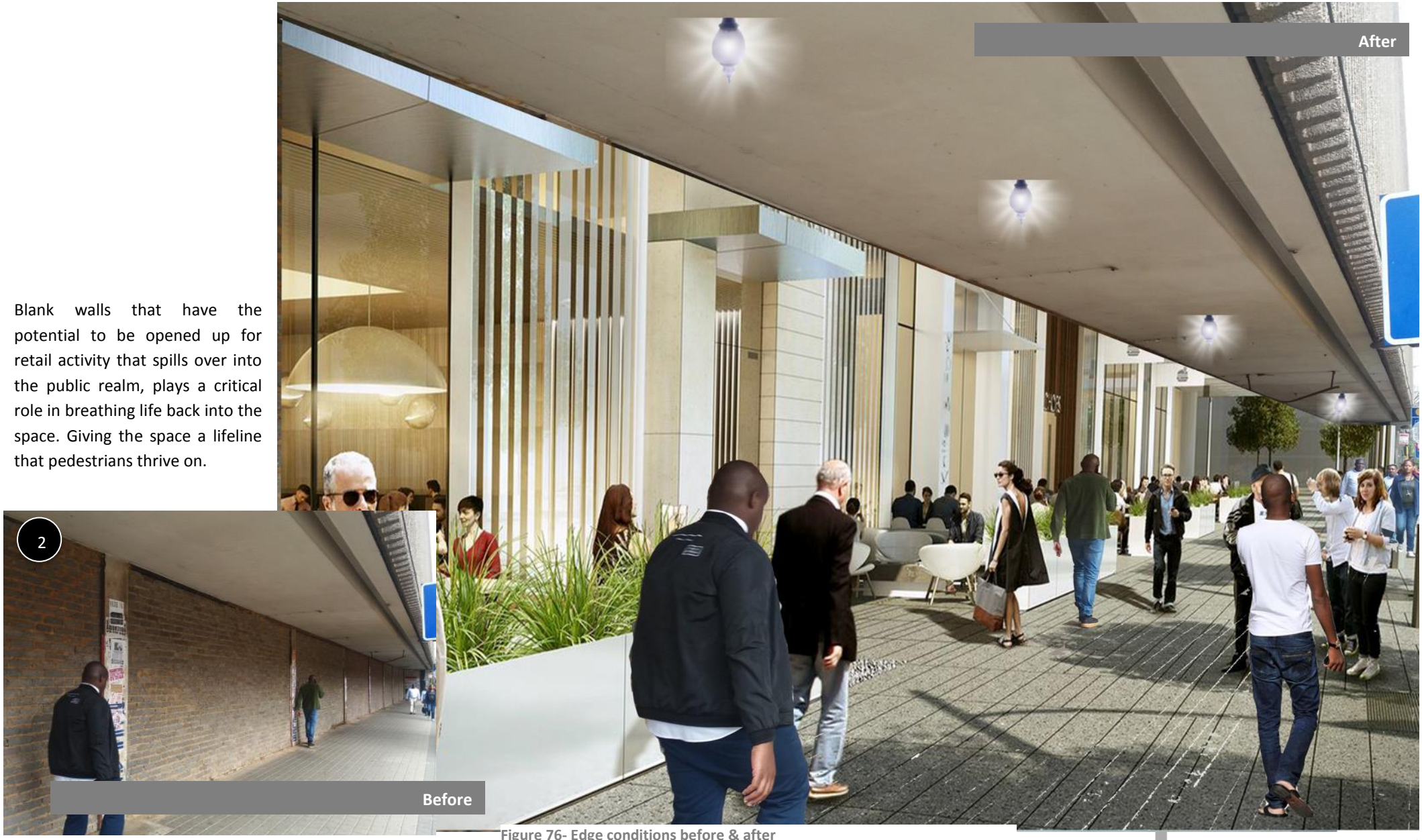


Figure 76- Edge conditions before & after

VARIETY OF USES – EDGE CONDITIONS

A number of heritage buildings that cannot be altered will be livened up with the use of vegetation and lighting to make pedestrians feel comfortable walking along these buildings any time of the day. Turing an inactive edge into something visually pleasing with safety measures



Figure 77- Edge conditions before & after

VARIETY OF USES – EDGE CONDITIONS

Parts of the site have the ingredients for active edge conditions, however there are either vacant or not being used to their maximum potential. These facades will be enhanced and improved with new window treatments, active uses and lighting.



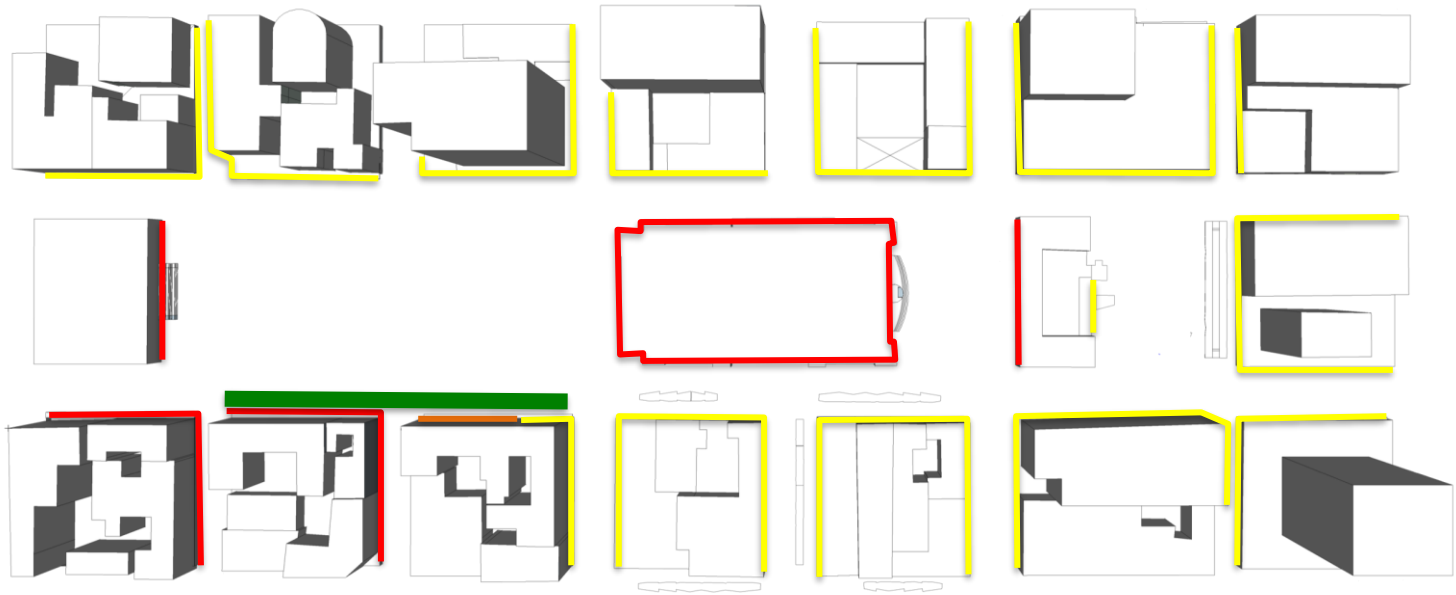
Figure 78- Edge conditions before & after

VARIETY OF USES – SOCIAL ACTIVITY

The heritage buildings that have been outlined above create a very hostile environment on the south side of the site. As to mitigate this, a strip of social activity will be introduced outside of these buildings, in the street and parking bays that have been removed as to accommodate this activity without hindering pedestrian movement and access to the buildings.

A strip of food trucks, and stalls will be placed along this area, with little parklets as placed where people can sit and eat, socialise and stop in space.

This will activate the south of the space, and create a place where people can gather, without being affected by building shadows cast over the site.



Map 63- Location of social strip of activity



Asia (English Stake Exchange, nd)



Bangkok, Thailand (Travel By Chance, 2016)



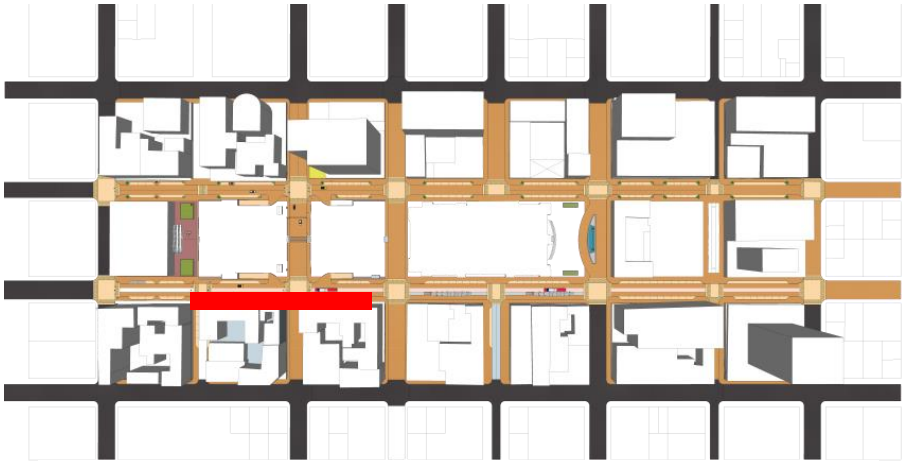
Zurich, Switzerland (Food NDTV 2016)

VARIETY OF USES – SOCIAL ACTIVITY_ THE FOOD STRIP



The strip of social activity to be placed in front of the heritage buildings will ok like the images depicted. The amount of food stalls or trucks will be limited as we would like to avoid creating a barrier between the buildings and the public open space. This strip will liven up the dead edge of these building as well as the street, creating a social environment where people can interact with the space.

The food strip will run from 8am to 4pm, as to accommodate the rush hour traffic of pedestrian going to work, or coming from work. There are a number of office spaces around the site, and people are always looking for places to eat, thus, this space has the potential to attract a lot of people from in and around the area into the space.



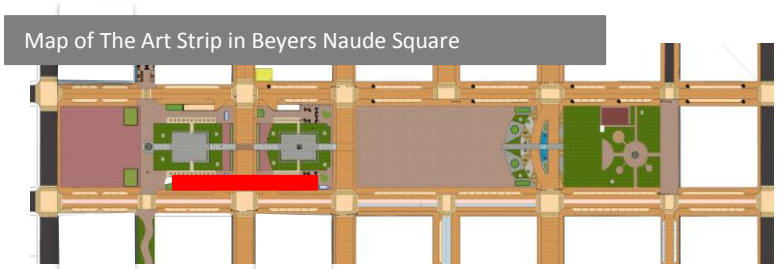
Map 65- Location of street food strip



Figure 79- View of food strip design

N

VARIETY OF USES – SOCIAL ACTIVITY_ PARKS IN THE SQUARE



Map 66- Location of parks

Two parks will be introduced to the south of the site, as to address the issue of over shading due to the tall buildings north of the site. To design with this in mind, as more soft space, with a lot of vegetation and greenery, will be placed in the south, as space that will maximise on the sunlight, especially in winter, however, it will still remain cool enough in summer with the provision of ample trees that shade the space adequately. The space has pockets of spaces within it that accommodate peoples varied needs, groups can gather, people who want to escape alone can find private space, and strangers can also enjoy each other's company. In the top north corner, there is a kiddies play area, which is surrounded by a short 0,5m high wall as to protect kids, and contain them in this space.

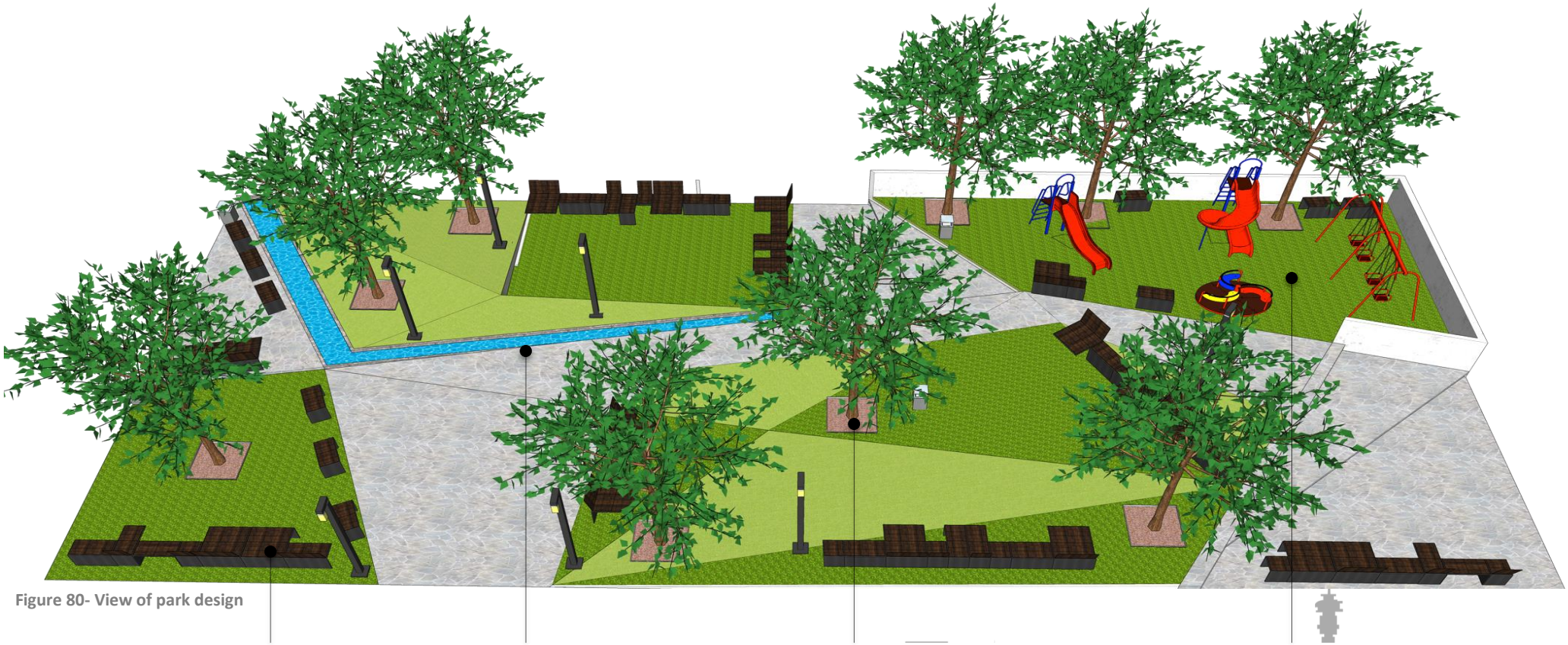


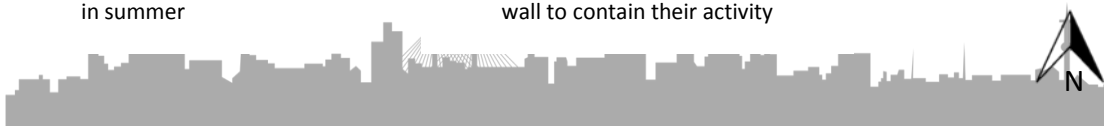
Figure 80- View of park design

Benches to accommodate single or group seating

Water feature to cool the space down

Trees to keep the space cool in summer

Kiddies play area with a 0,5m protection wall to contain their activity



VARIETY OF USES - THE SOCIAL STRIP

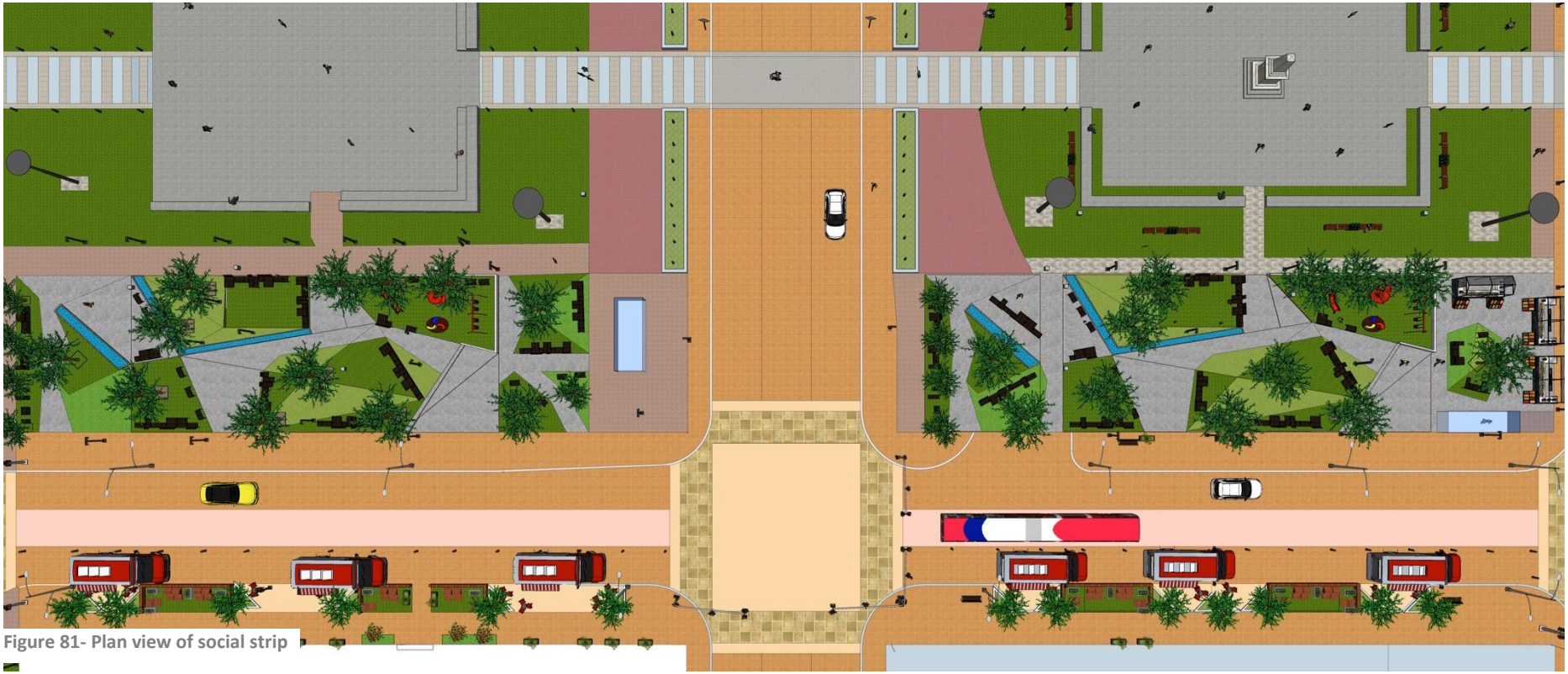
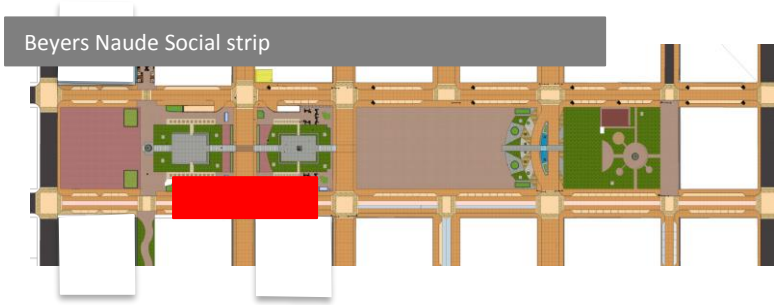


Figure 81- Plan view of social strip



Map 67- Location of social strip

Due to issues of shading and heritage buildings, the design recommendations prescribed in this document have created a strip of social activity in the south of the park. This part of the square was previously dead, with no activity or interaction with that space by pedestrians. It thus created a very hostile space for pedestrians, and very little movement was experienced in this part of the site. However the north side of the site has more potential for retail activity as the ground floors of these buildings allow for it. Thus, to create a well-balanced space that pedestrians can feel safe, comfortable and invited to use, social activity will be introduced on both sides of the square. The strip of social and retail activity on the street along with the park liven up the south of the square and further reduces vehicle movement, making it an ideal space for a park and the a strip of retail activity that spills out into the street. .



VARIETY OF USES – SOCIAL ACTIVITY_ POST OFFICE RETAIL

The Park was mostly used as a pathway, to get from one space another. People rarely dwelled in the space. There was also a lack of interaction between the park and the trading space that runs along the park. The design recommendation removes the barrier between the park and trading space, as well as the barrier around the park that restricts access to 2 entrances. People are now fluidly able to enter in and out of the space from all three of its sides. Above this, retail activity has been introduced behind the Post Office. This livens up a completely blank faced that drew life out of the park. This will attract more people into the space, and give them a reason to linger. The kids play set to be introduced into the site will also cater for a diversity of users. The basketball court remains, as this was one successful element of the space, and the only space of its kind within the 400m radius around the site.



Figure 82- View of Post Office Retail activity design

VARIETY OF USES- POLITICAL ACTIVITY_ GATHERING SPACE

SPATIAL DESIGN OF WEST SQUARE

Tall trees on half of the square as to not block the gathering space in front

Double seating as to create an amphitheatre like space as to accommodate people gathering in the space

One level of seating as to accommodate more people gathering and standing behind the seating

No seating, as to allow for gathering and for all to have a straight view of people addressing the crowd. The addresses would stand on the stairs of the library as to reach the entire crowd being addressed.

No trees as to avoid blocking gatherers and taking up space for more people to gather.



Figure 83- View of gathering space design

The west of the square has been design to accommodate political and social gathering, where people can protest and address large crowds. Thus there are very few obstructions stopping crowds from gathering comfortably. The various elements such as seating and trees have been located strategically as to create more of an open space to accommodate larger crowds and addresses. The stairs of the Library also play a critical role in this space as crowds can be addressed from there, a high point where everyone can see the addressers and their message can be spread across the square.

VARIETY OF USES – ECONOMIC ACTIVITY_ INFORMAL TRADING

As informal trading is an integral part of the economic environment of the inner city, space has been allocated to accommodate this in a more desirable location. The trading will be relocated within the square as well as along pedestrianized Frasier Street. Trading in the square will be on the far east, as to feed on the Art Strip, to be introduced later on in the document. Stalls and demarcated areas will be allocated for traders as to facilitate the needs of people in the site. Other traders will be located in the north of Frasier Street. The facades of this space will be activated bringing about retail and social activity at the ground floor, this will draw people into this spaces creating high foot traffic, thus, more customers for the traders. This space is currently highly used as a connection through the site to Bank City, thus pedestrians are already present and create a demand for the traders to meet.

SPATIAL DESIGN OF FRAISER STR

Tress and vegetation are introduced to create a comfortable and pleasant environment for the pedestrians making use of the space, as well at the traders located in the space.

Ground floors to be activated to accommodate retail and social activity

Retail activity spilling out onto the public spaces

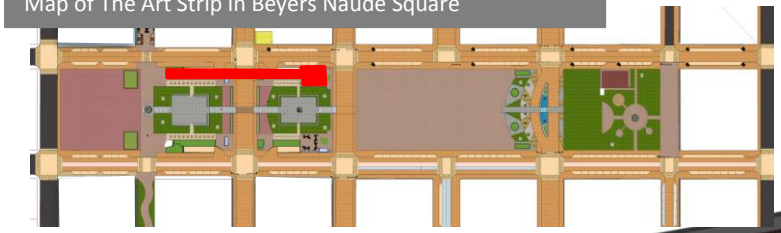
A strip of retail activity will be centred in the space as to maximise on all pedestrians who make use of the space or pass through it. This area will capture more foot traffic than the previous location of the traders along blank facades and spaces that pedestrians didn't feel welcomed or comfortable to walk along



Figure 85- View of Frasier Str design

VARIETY OF USES- CULTURAL ACTIVITY_ THE ART STRIP

Map of The Art Strip in Beyers Naude Square



Map 68- Location of art strip

Figure 86- Illustration of Art Strip

To activate the space beyond the public space upgrade, an art strip will be created where local artist can put their work on display for sale. This socio-economic introduction into the site allows the local economic needs of people to be incorporated into public space. This will activate the space as an attraction that brings more people into the space for a purpose. This art strip, as highlighted in the map, allows for public space to be altered and personalised by pedestrians, adding a unique touch that creates place and reflects local culture.

Jackson Square, New Orleans







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VARIETY OF USES- CULTURAL ACTIVITY_ THE ART STRIP



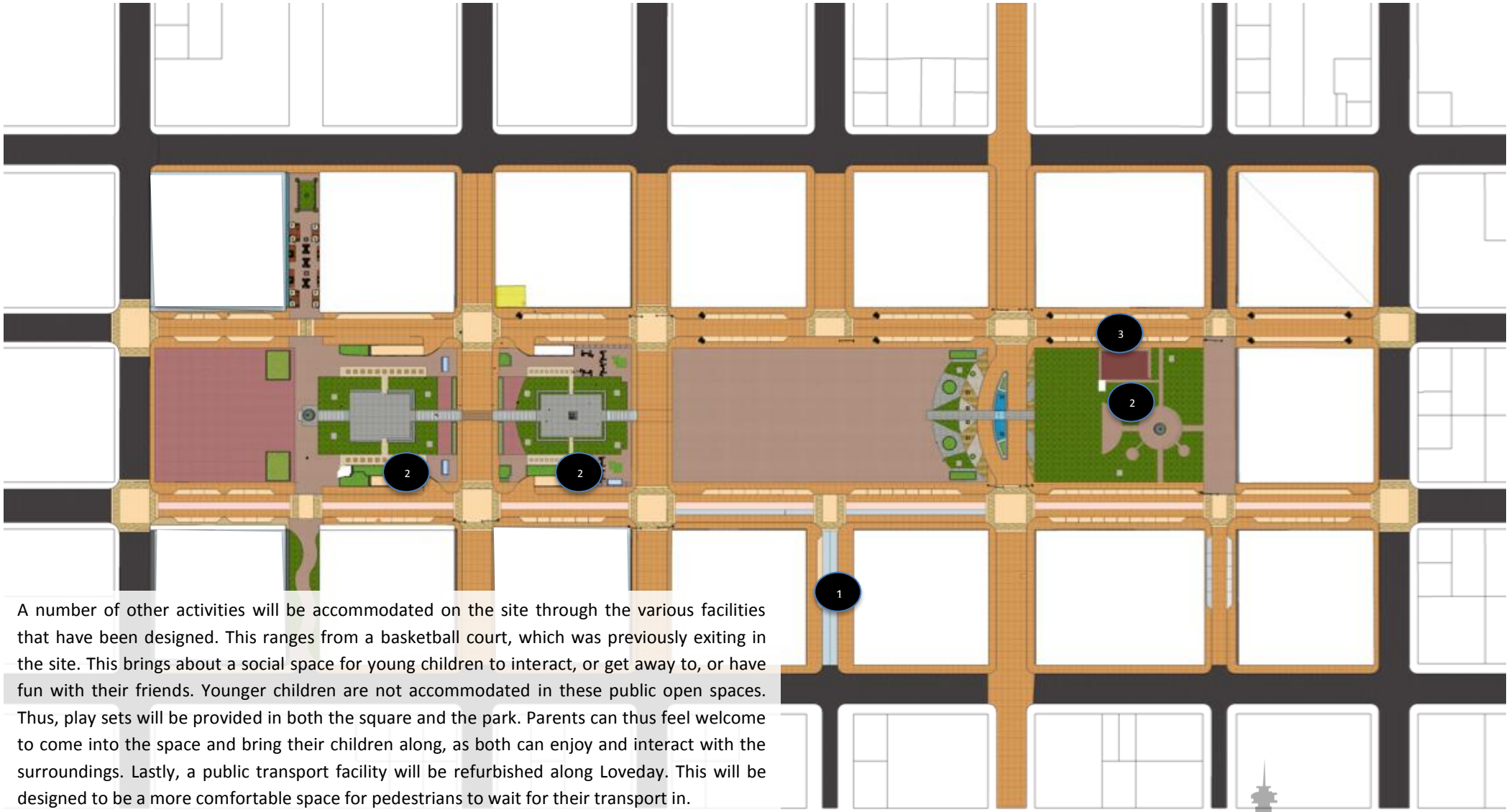
Figure 87- View of Art Strip design

Art Strip with local art being displayed and sold

Trading space for local artist continues, where art and handmade and crafted items can be sold to continue the culture of art in this space.

Seating area, shaded, with a number of amenities around this space.

VARIETY OF USES - OTHER ACTIVITIES



A number of other activities will be accommodated on the site through the various facilities that have been designed. This ranges from a basketball court, which was previously exiting in the site. This brings about a social space for young children to interact, or get away to, or have fun with their friends. Younger children are not accommodated in these public open spaces. Thus, play sets will be provided in both the square and the park. Parents can thus feel welcome to come into the space and bring their children along, as both can enjoy and interact with the surroundings. Lastly, a public transport facility will be refurbished along Loveday. This will be designed to be a more comfortable space for pedestrians to wait for their transport in.

Map 69- Map of other activity facilities

VARIETY OF USES - OTHER ACTIVITIES

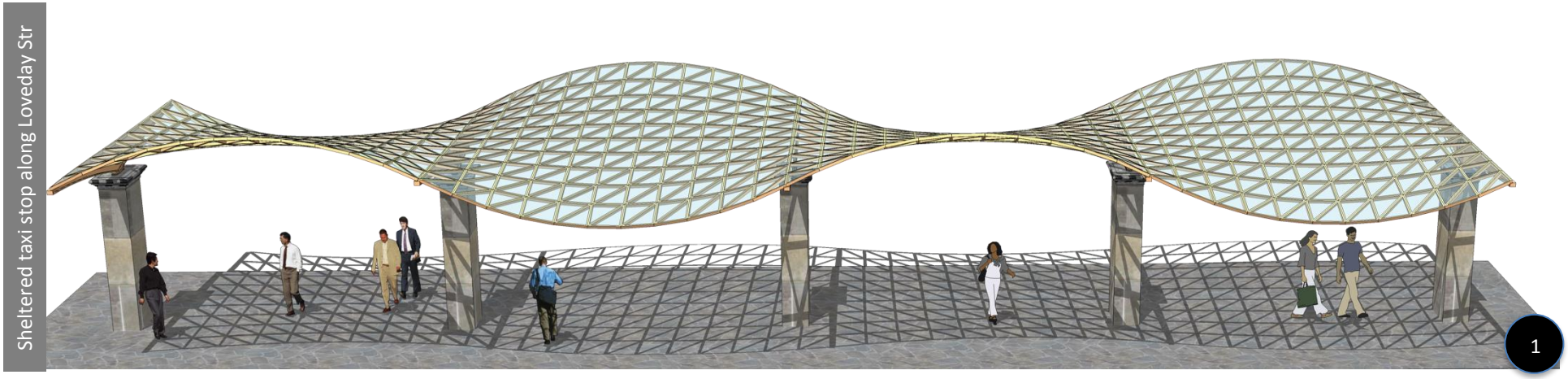


Figure 88- Redesign of sheltered taxi stop on Loveday



Figure 89- Illustration of kids play area

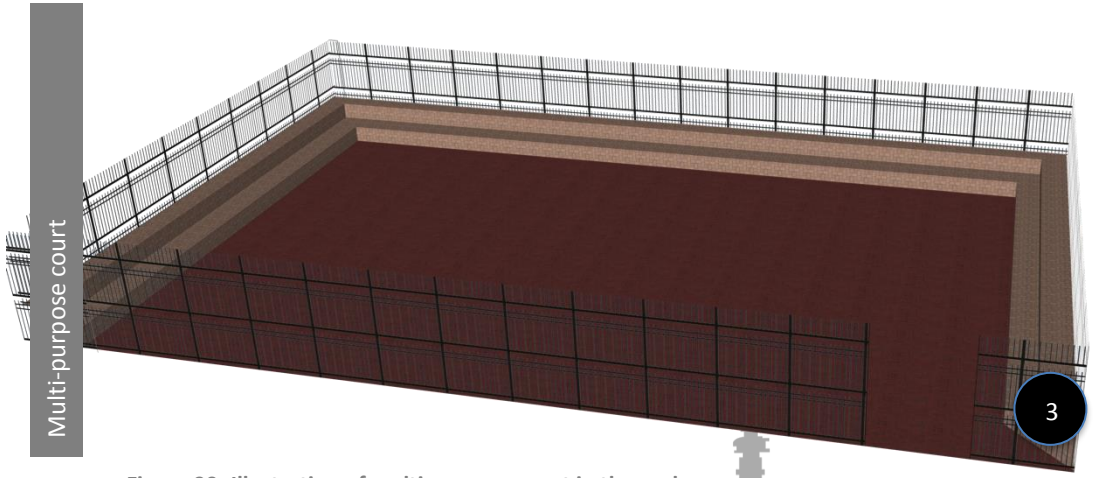


Figure 90- Illustration of multi-purpose court in the park

VARIETY OF USES - EFFECT ON HUMAN BEHAVIOUR

The variety of uses offered in the site attracts different users, with different needs and desires. This thus creates a versatile space with diversity and inclusion for all. A number of the needs of people in the area have been considered. Spaces for young children are not catered for much in the city, as there is fast moving traffic and empty and dangerous public spaces that don't facilitate them. The site has accommodate children of different ages with facilities that will attract and keep them in the space. Adults now have a space that they can come to to fulfil their cultural, social, economic and political needs. A space that they feel comfortable to interact with on a daily basis, without any hindrances and unwelcoming elements.

The design of the site brings people into the space at all hours of the day, during the day the office and commercial buildings keep the space busy, at night the residential spaces keep the space busy. This creates a 24 hours space that thrives thought the day. Pedestrians movement through the site and interaction with the spaces and its surroundings will change as the scene of the space and it activities has changes. More people will come out on the street, into the space to linger, to interact, as this is space that has been created to accommodate a variety of activity for a variety of users and a variety of needs.

MATRIX OF ACTIVITIES ON SITE

SOCIAL ACTIVITY	POLITICAL ATCIVITY	CULURAL ACTIVITY	ECONOMIC ACTIVITY
			
			

PUBLIC REALM- LIGHTING

4 Types of lighting

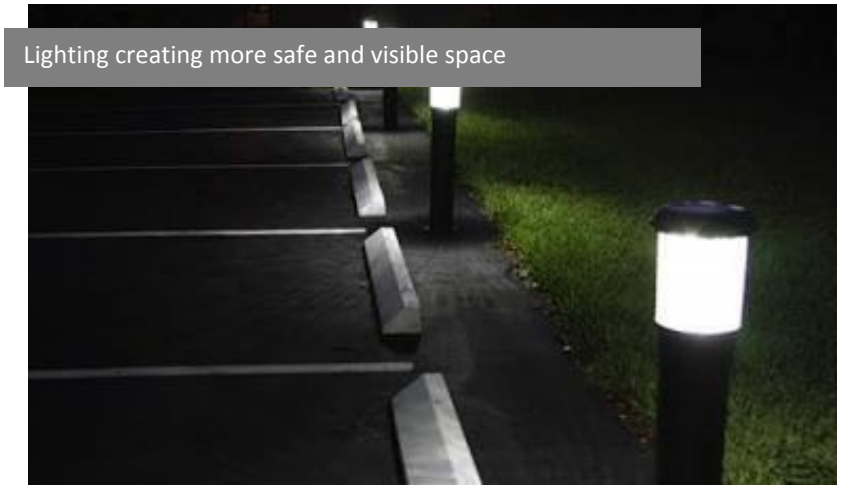


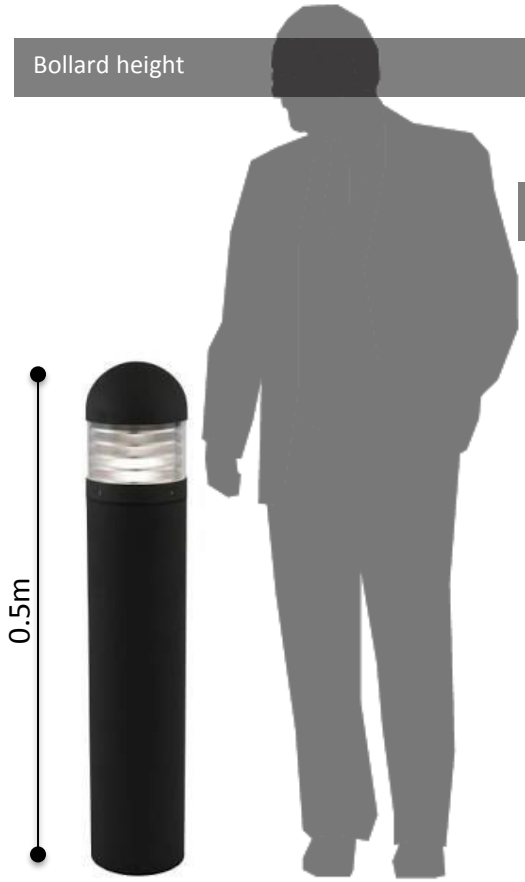
Figure 91- Types of lighting on site

PUBLIC REALM- BOLLARD LIGHTING

Bollards will be placed throughout the site, as to provide direct light along the pedestrian footpaths. The bollards are spaced very closely, as to avoid a break in the light, and provide full illumination along all footpaths.

Bollards also bring about an elements of safety, as the space will be more light, making it visible. The pedestrian thus feels more comfortable to walk through and make use of the space from day to night time.





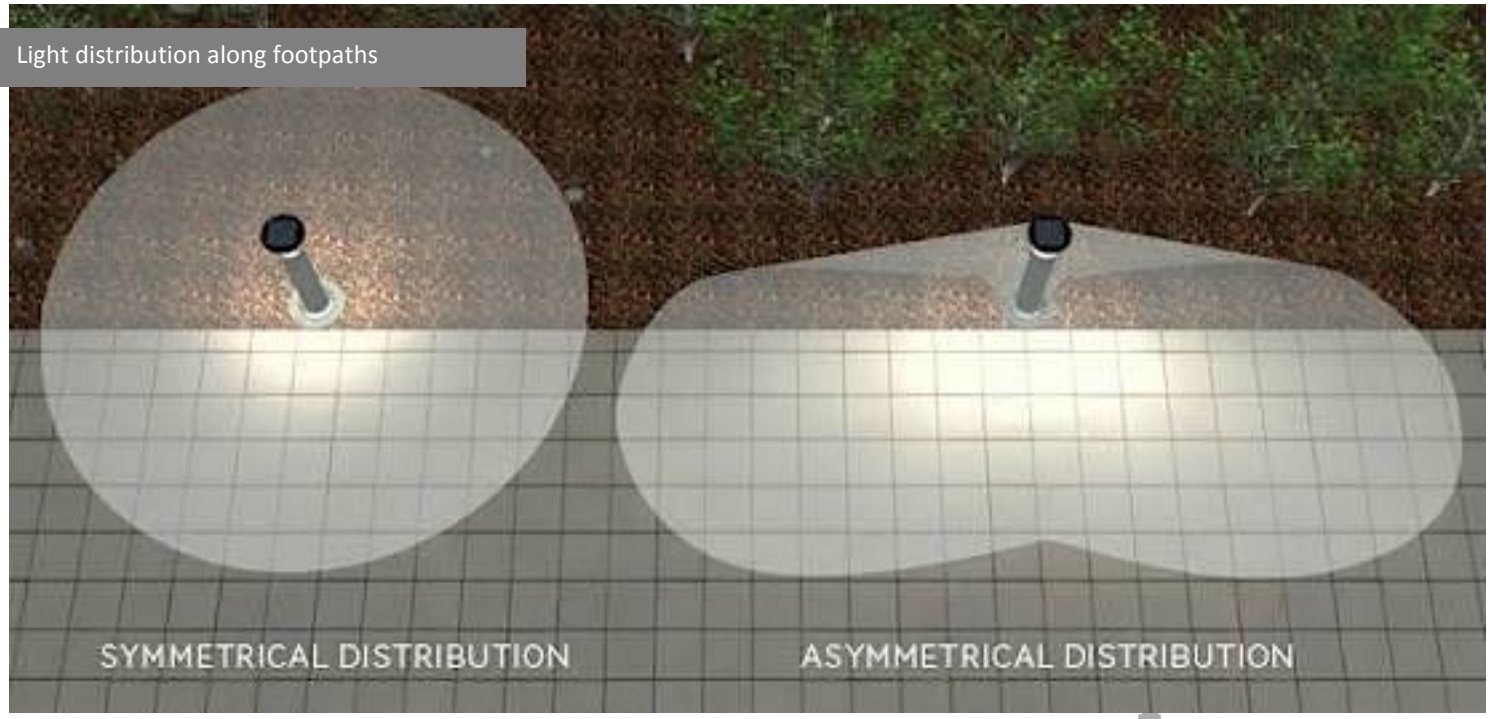
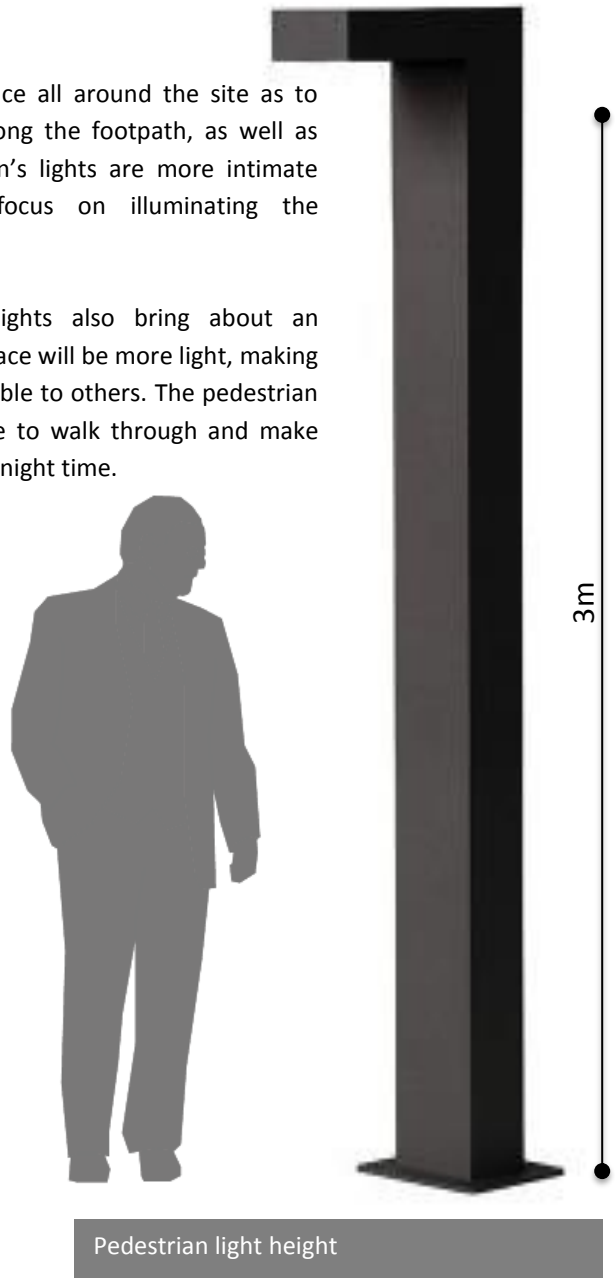


Figure 92- bollard lighting dimensions and distribution

PUBLIC REALM- PEDESTRIAN LIGHTING

Pedestrian lights will be place all around the site as to provide stronger lighting along the footpath, as well as the surroundings. Pedestrian's lights are more intimate that street lights, and focus on illuminating the pedestrians space

Like bollards, pedestrian lights also bring about an elements of safety, as the space will be more light, making it visible and pedestrians visible to others. The pedestrian thus feels more comfortable to walk through and make use of the space from day to night time.



Pedestrian light height

Pedestrian lighting at night



Light distribution along footpaths

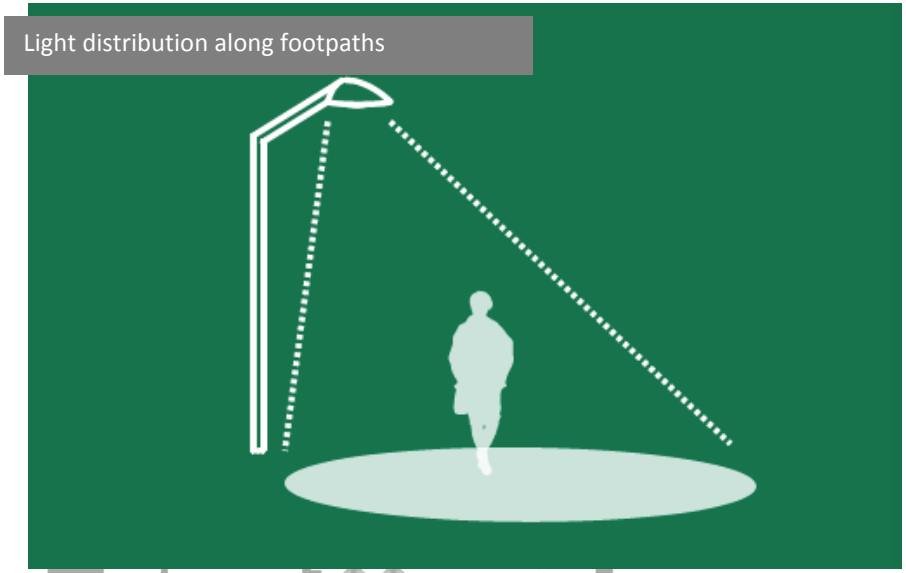
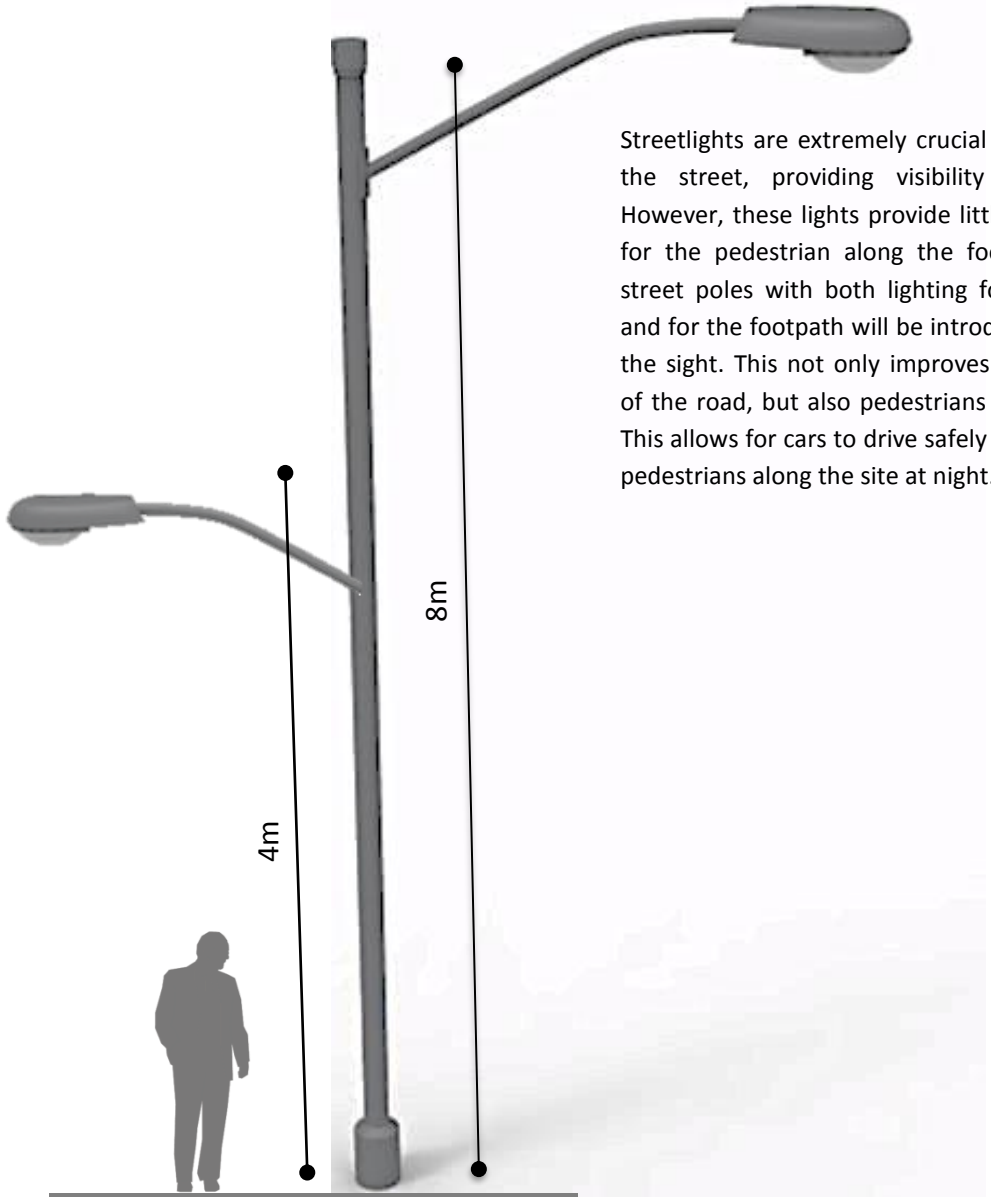


Figure 93- Pedestrian lighting dimensions

PUBLIC REALM- STREET & PEDESTRIAN LIGHTING



Streetlights are extremely crucial as they light the street, providing visibility to drivers. However, these lights provide little to no light for the pedestrian along the footpath. Thus street poles with both lighting for the street and for the footpath will be introduced around the sight. This not only improves the visibility of the road, but also pedestrians on the road. This allows for cars to drive safely and consider pedestrians along the site at night.

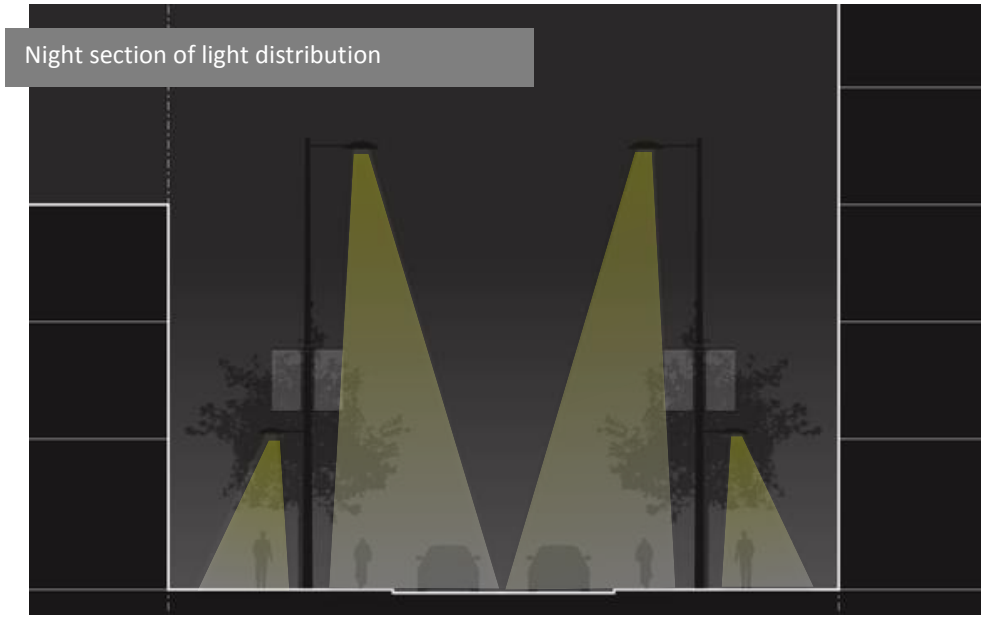
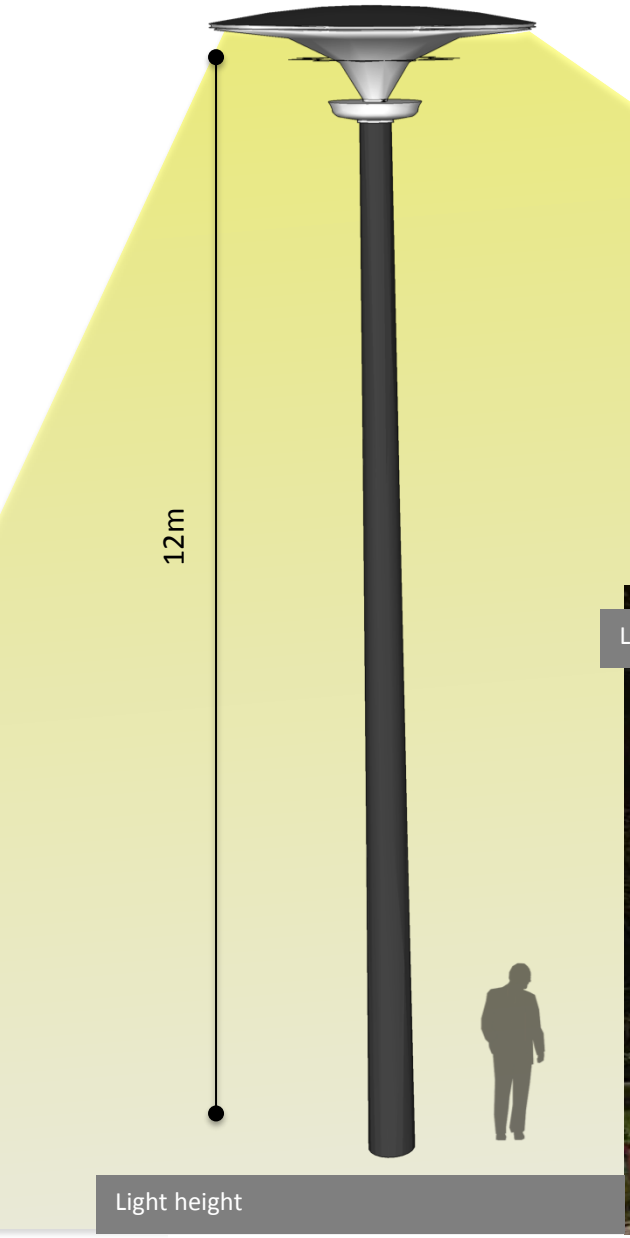
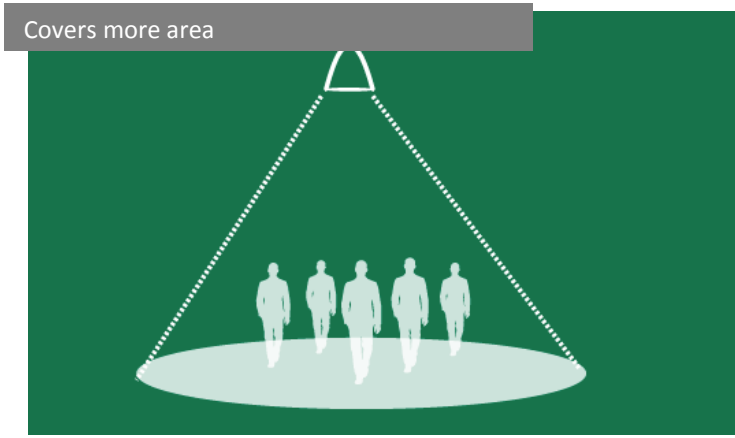




Figure 94- Street lighting dimensions and distribution

PUBLIC REALM- LARGE PUBLIC SPACE LIGHTING





Large lights will be strategically places in the site. As these large lights illuminate a larger surface area, 4 will be place in Beyers Naude Square, 2 in the Legislature Foyer and 2 in the Ernest Oppenheimer Park.

These lights are used to illuminate the entire site, however, the more intimate surface lighting provided by the bollards and pedestrian lights is still required.

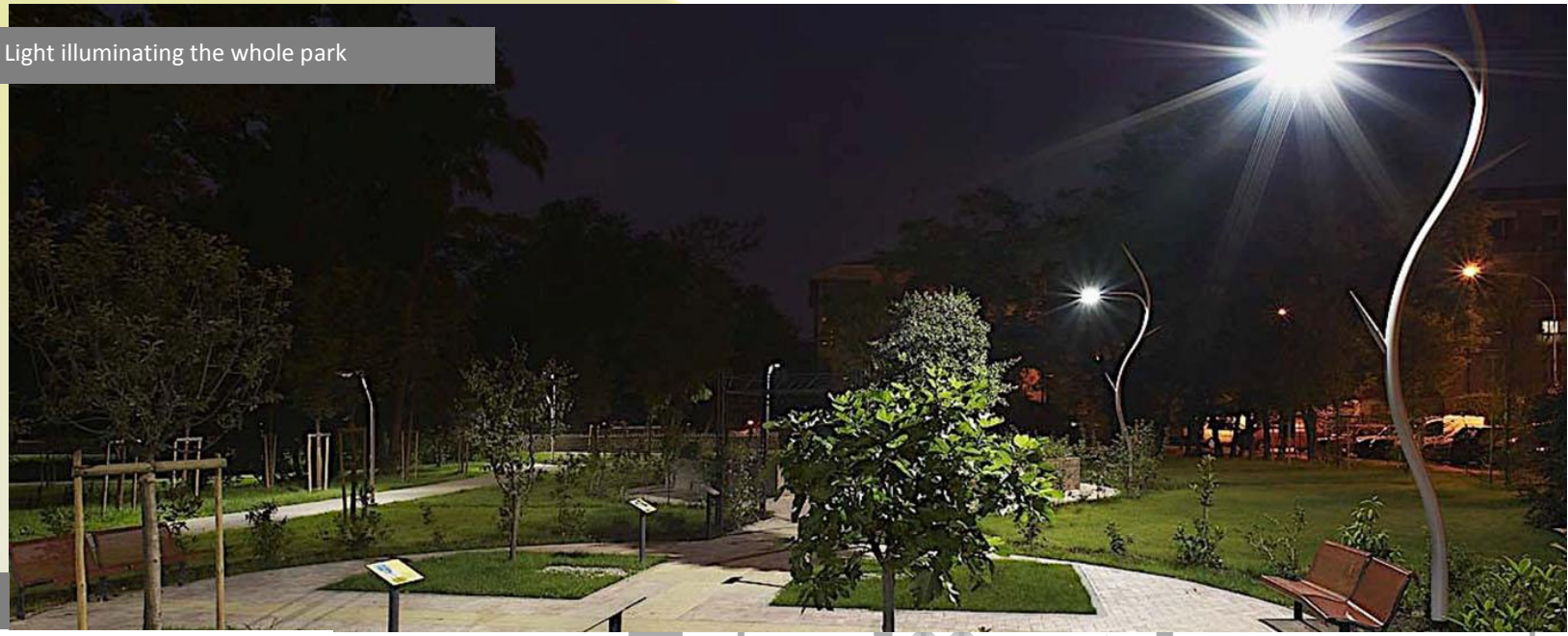


Figure 95- Large public space lighting dimensions and distribution

PUBLIC REALM- WAYFINDING

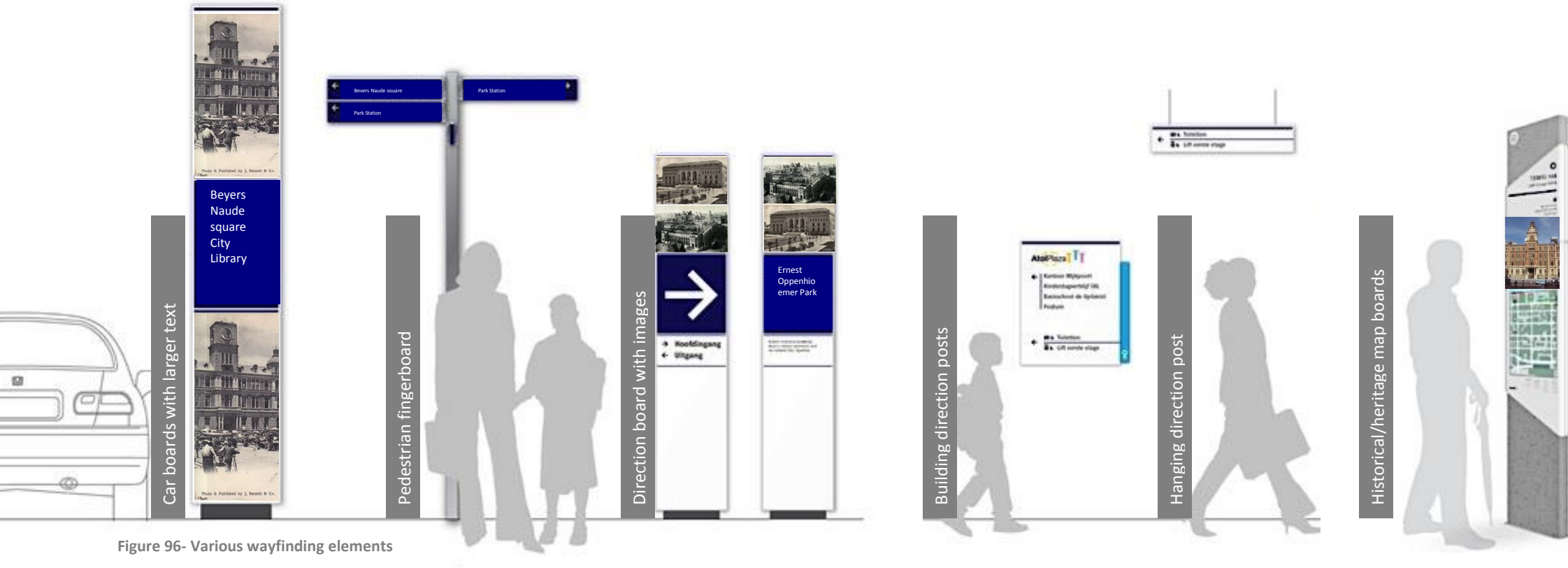


Figure 96- Various wayfinding elements

Various wayfinding elements will be placed in and around the site. As the historical significance of the site is to be highlighted, the various wayfinding signs will have historical images of the site. Celebrating the old and the new of the site. Different types of signs will be found around the site, catering for the needs of pedestrians as well as drivers.

Historical boards will be incorporated around the site. These boards will have information about historical buildings and spaces in the site. A photo and a historical background will be accompanied by a map, indicating where this building or spaces can be found.

PUBLIC REALM- PUBLIC AMENITIES

Bench with planter



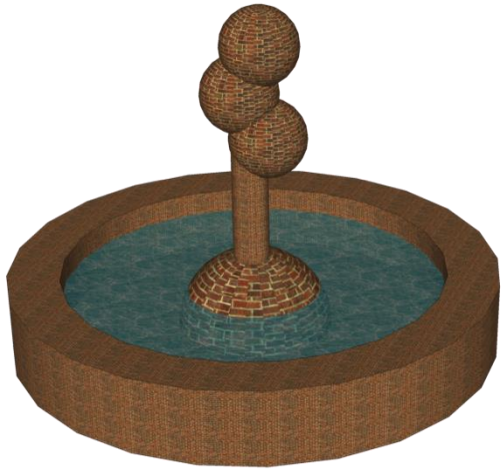
Bench



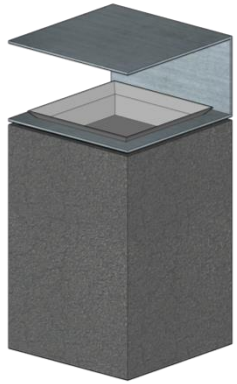
Planter



Fountain



Bins



Bench and table



Trading stalls



Emergency pole



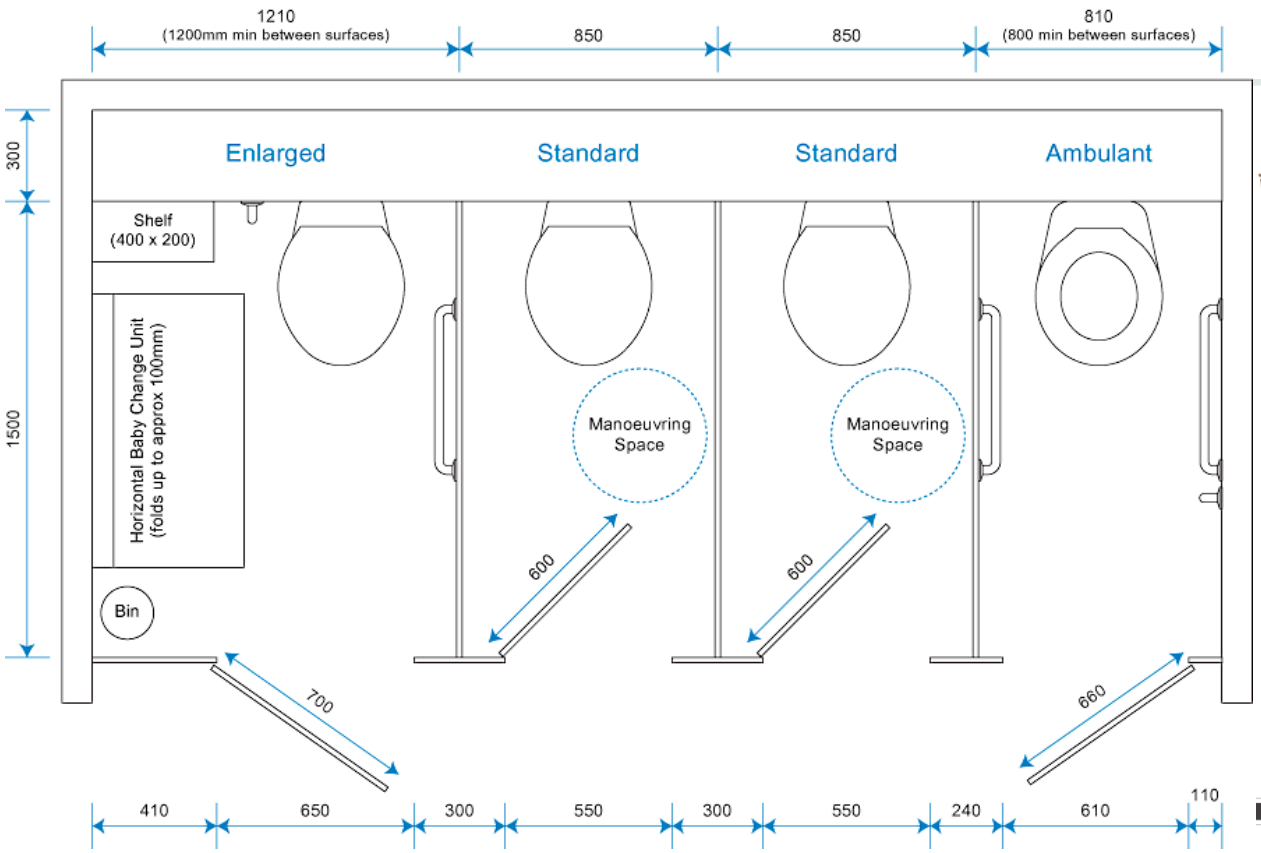
PUBLIC REALM- TREES



Figure 97- Various trees

PUBLIC REALM- PUBLIC FACILITIES

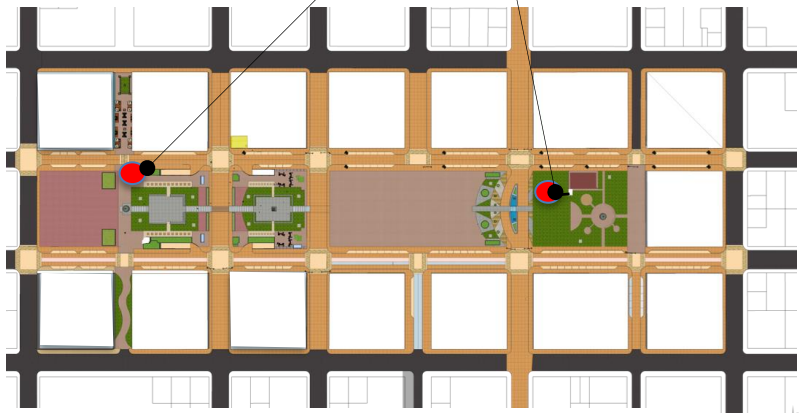
PUBLIC TOILETS





Two public toilets will be located on the site. One currently exists in the Ernest Oppenheimer Park, and a second one will be introduced in Beyers Naude Square. Both facilities will be available for all pedestrians to use, with separate male and female facilities. Pedestrians can feel comfortable being in the space the whole day, as all the facilities they will need are readily available.



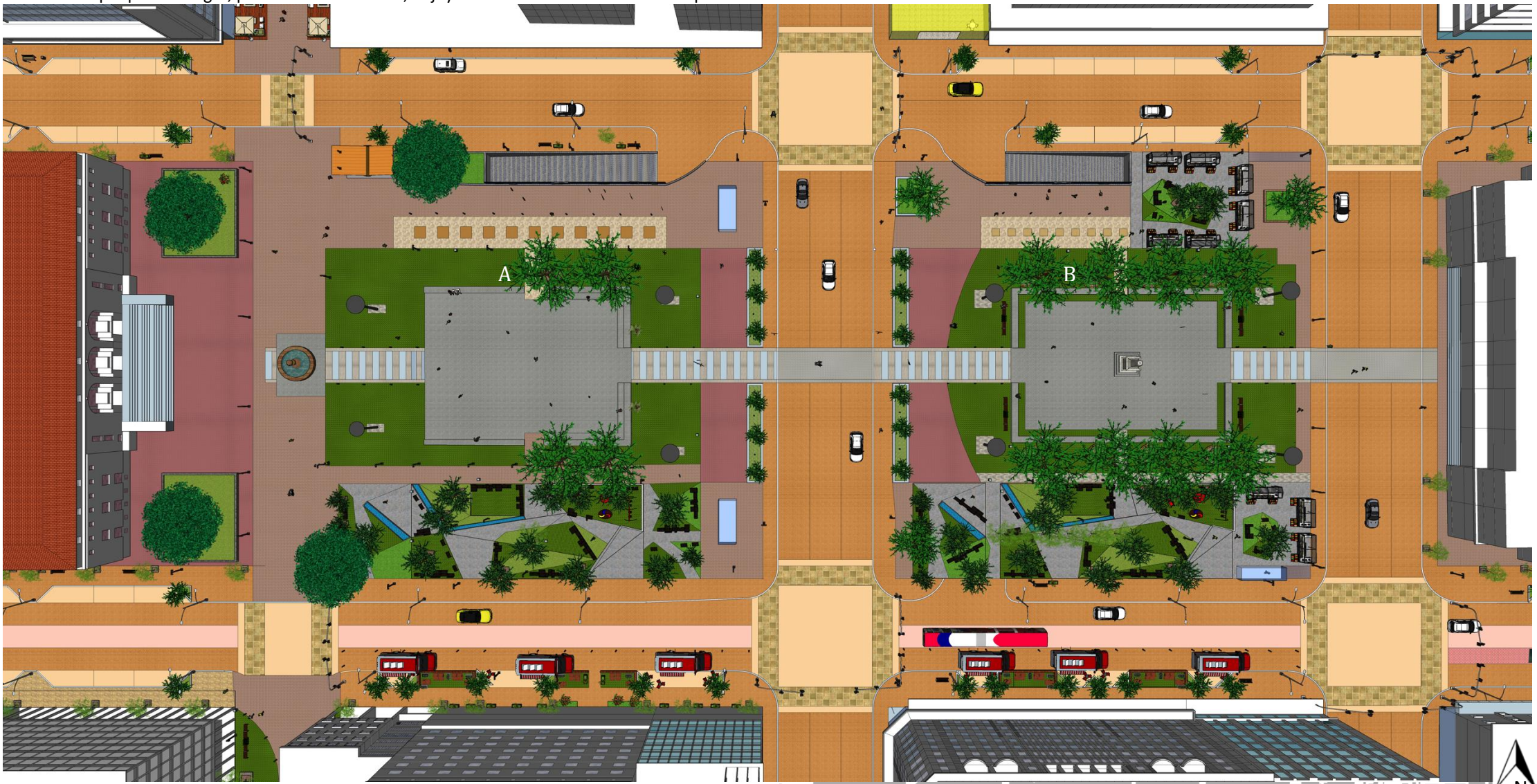


Map 70- Location of public toilets

BEYERS NAUDE SQUARE

Beyers Naude Square has been designed as two spaces. A and B, as indicated in the plan. Square A is the gathering space for political and social events, thus it has been designed to be more opened, and accommodate larger crowds of pedestrians. The full detail of the design has been discussed earlier on this document. The B square is more of the social spaces, where people can linger, purchase form traders, enjoy artwork and sit in isolation and peace.

The south of the square is a park space with various activities accommodated in it. Further south, there is a strip of social activity with food stalls along the façade of the heritage buildings with blank facades. In the north the ground floors have all been activated to accommodate retail activity, livening up he spaces. Beyers Naude Square has been transformed to a space that integrates the public realm and its surroundings built form to enhance its use, comfort, and desirability for pedestrians.



Map 71- Final plan of Beyers Naude Square

BEYERS NAUDE SQUARE- SQUARE A



Gathering space- for social or political events- open space with few obstacles

-Open to accommodate more people

-Different levels of seating

-Trees cover half of the site as to avoid being a barrier

- the monument in the centre has been relocated as to open up the square and allow for more gathering to occur without barriers



Art Strip continues into the West square- a fence of artwork displayed by local artists

-The art strip runs all along the north of the square

- Ample spaces for artists to display their art and work for sale

- Adds a cultural dimension to the site, encouraging pedestrians to personalise the site, making it theirs.

BEYERS NAUDE SQUARE- SQUARE B





Social space- for lingering and relaxing

-The east of the square is more or everyday activity, where people can sit and read, meet new people, have their lunch break

- Various types of seating are provided in both squares, as to accommodate different pedestrians needs, for those who want private space, or those who want to gather together in groups. There is one level of seating around this portion of the square, as to keep the seating low and raised up, blocking the sight of people.

- Trees are lined along the entire square and canopy over the space. Creating a cool environment for pedestrians in summer. In winter the leaves are shed and allow sun in.

Public realm

-The site is well lit with different lighting to create a comfortable space that pedestrians feel comfortable at all hours of the day

- Intimate and private seating spaces located around the square

BEYERS NAUDE SQUARE- SOCIAL STRIP



Social strip

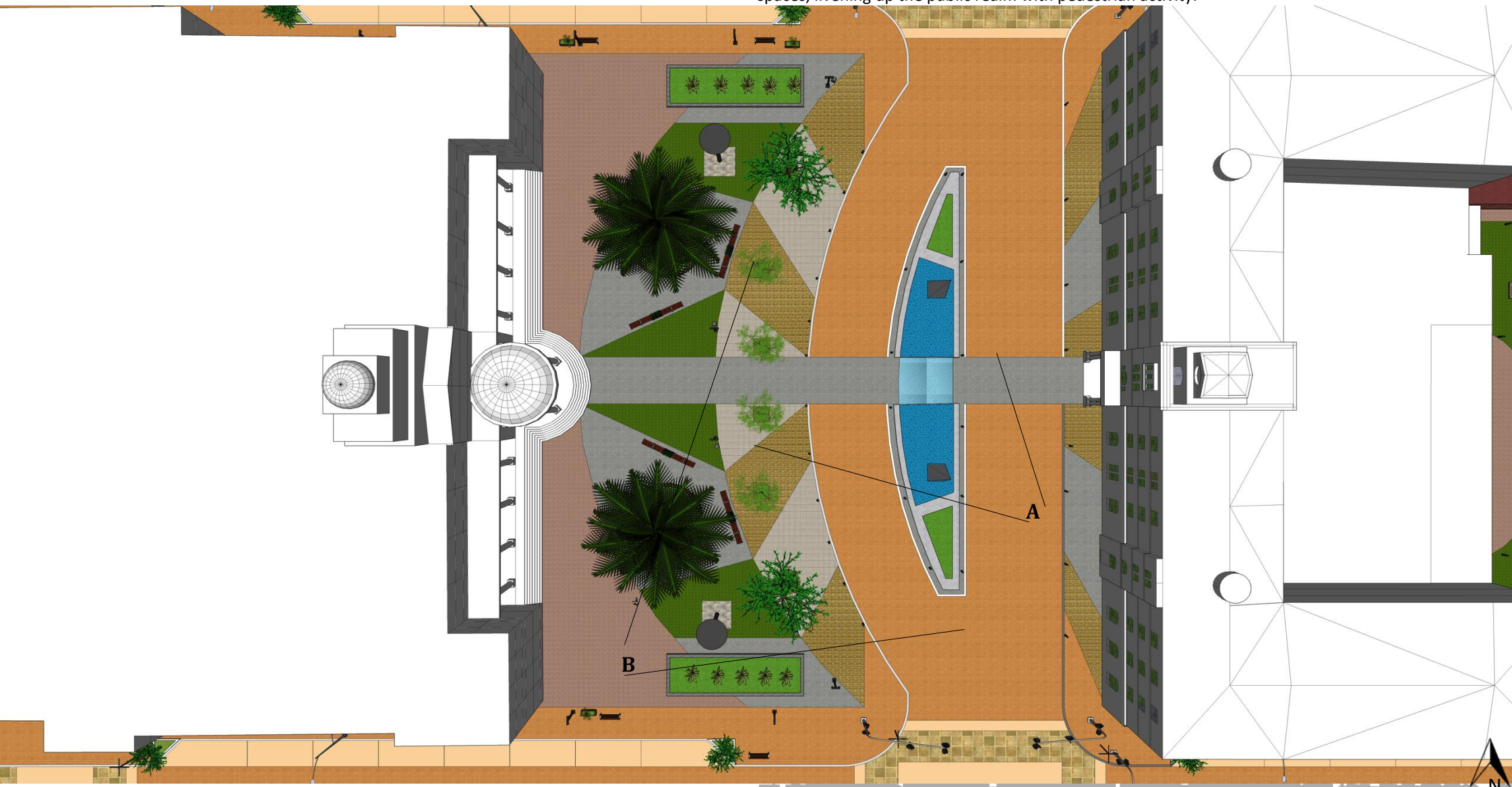
-Two lanes run along this portion of the site, calming down car movement and enhancing pedestrian movement through the space.

- Food truck and stalk will be parked on the closed lane
- Parklets to encourage people to linger on the street
- The park will bring life to the park and a different space of activity
- This portion of the space will encourage people to move through here more than they previously did as it accommodates them and

LEGISLATURE FOYER

The Legislature Foyer Is currently completely vacant, no pedestrian's linger in this spaces or use it to enter or exit the buildings. The entrance to the Legislature building will be reactivated as the main entrance as to bring about some foot traffic into this space.

The Old Rissik Post Office will be refurbished and used as an extension of the Legislature building. This will allow for more movement between the two buildings, thus to accommodate this a pathway will cut through the fountain feature directly connecting the two buildings. The public realm is enhanced to accommodate more of the pedestrians that will be moving between these spaces, livening up the public realm with pedestrian activity.



Map 72- Final plan of Legislature Foyer

LEGISLATURE FOYER- VIEW A AND B



View A- view of Legislature Building from Old Post Office

-Activate public space with more seating and trees as to encourage people to linger on the space more.

- A direct connecting path between the two buildings cuts through the water feature in the centre of the road. This creates a better line of access between the buildings.



View B- view of Old Post Office from Legislature Building

- Post office refurbished to once again stand as the glorious heritage building it once was.

- This livens up the spaces as this dilapidate building was unsightly and deteriorated the image of the space

ERNEST OPPENHEIMER PARK

The park is a little jewel that currently sits underutilized. The redesign introduces retail behind the post of as to activate the pace with active uses.

The barrier around the park is also removed as to allow movement through the space to be more fluid. Paths also connect the trading space to the park, creating one system with multiple activities for pedestrians to engage in.



Map 73- Final plan of Ernest Oppenheimer Park

ERNEST OPPENHEIMER PARK- VIEW A AND B



View A- Kiddies play area and basketball court

- As to accommodate a variety of users and families a play set area is provided as kids don't have any safe space to congregate

- The basketball court currently exists and will be refurbished to continue functioning the same way. This will be a great place for youth to gather and socialise.

-The centre of the park will be a gathering space with a water feature and shading. The paths connect the centre to the north south, the post office retail in the west, and the trading space in the east.



View B- Trading space

- The trading space will be upgraded with stalls as to create a more orderly and neat environment.

-The trading shelter will be removed and replaced with a visually permeable overhang as to lighten up the space and remove the shelter that caused a barrier.

- Retail activity at the ground floor will be activated to further enhance the space.

ERNEST OPPENHEIMER PARK- VIEW C



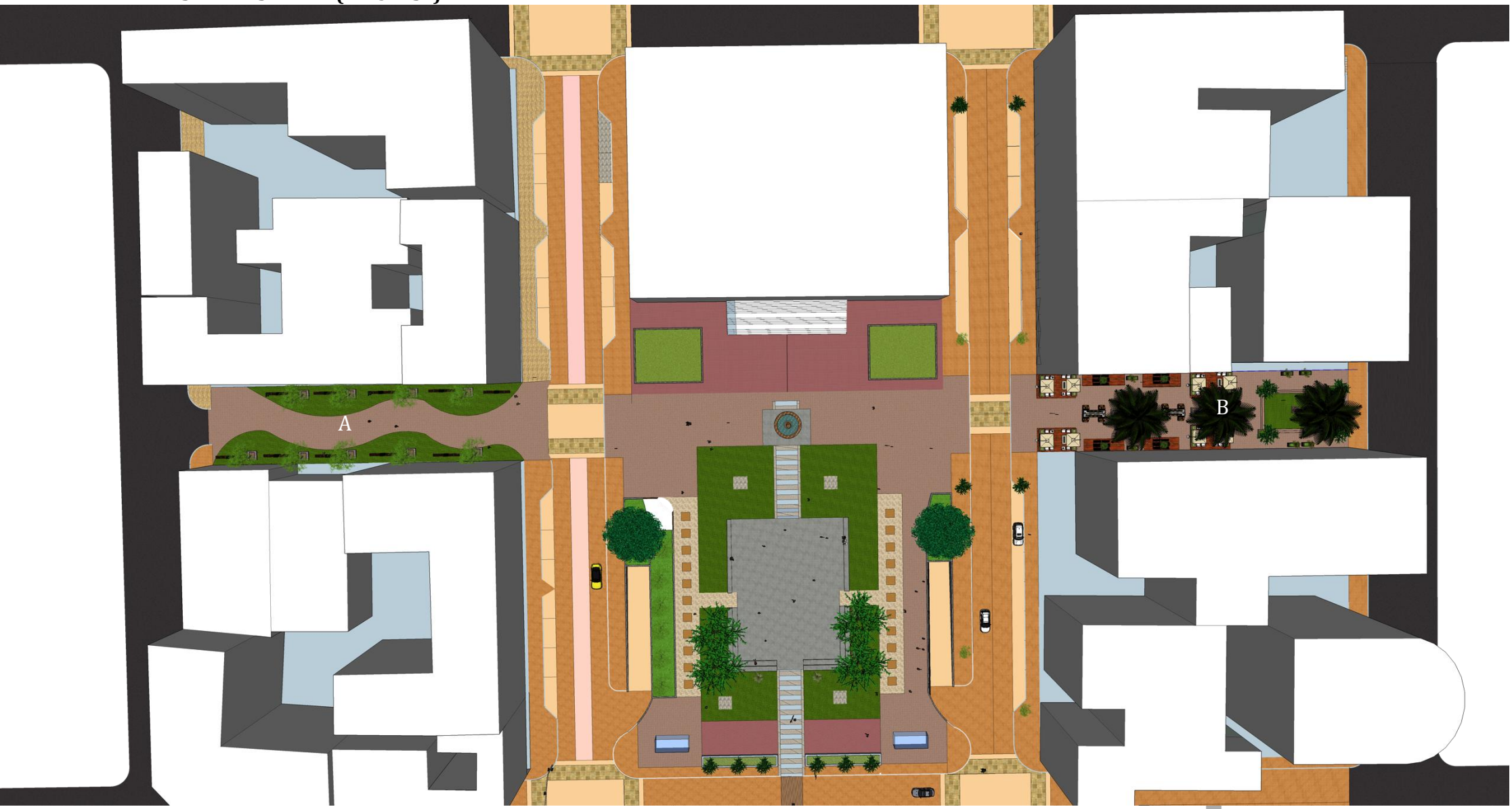
View C- Post Office Retail

- Retail activity will be introduced behind the Post Office opening directly onto the park. This will activate the space and attract people to come in the park and dwell.

  -Parent can come with their kids, as they will have direct view of them from the restaurant space

  - The retail space directly connects to the trading space.

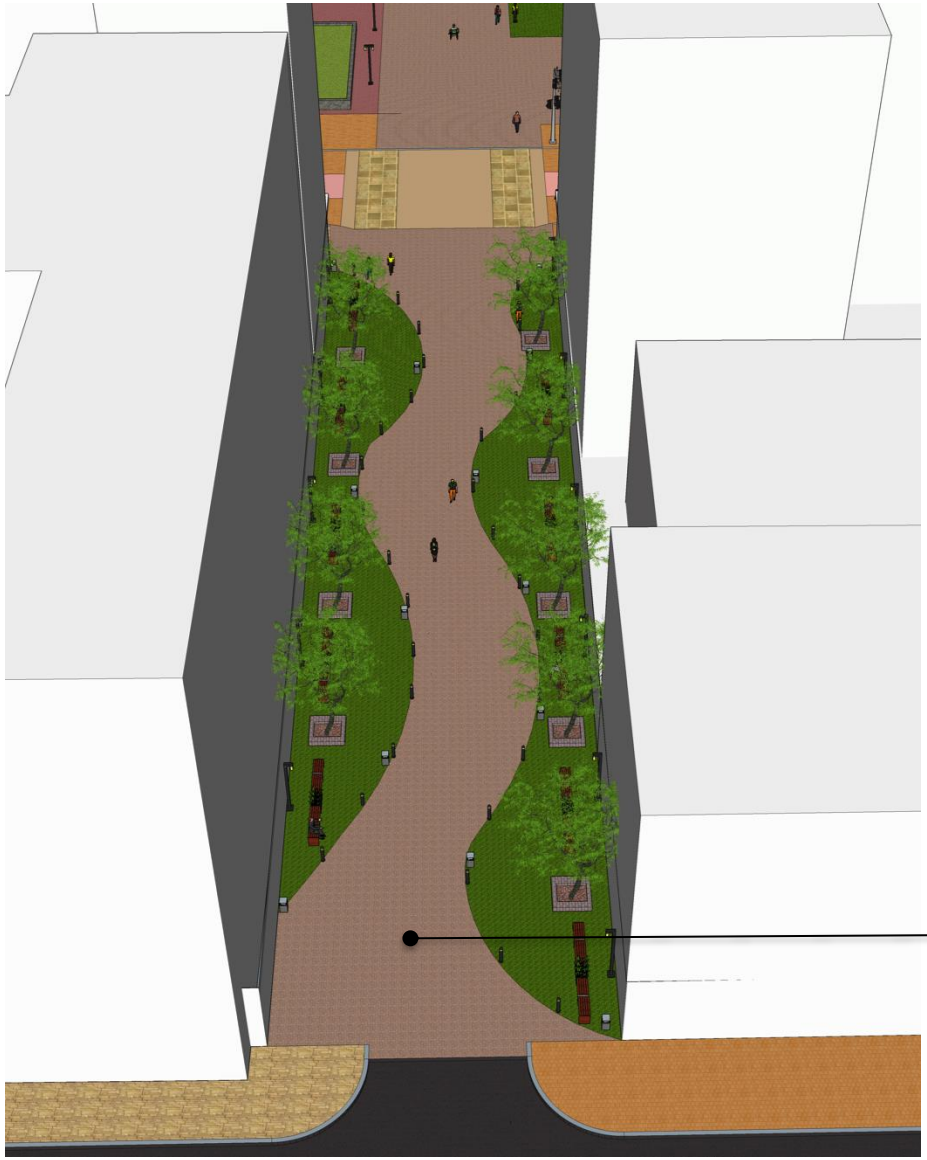
PEDESTRIAN STREET (FRASER ST)



Map 74- Final plan of Frasier Street (Pedestrian Street)



PEDESTRIAN STREETS (FRASER ST)- VIEW A



View A- Street Park

- This portion of Frasier Street is currently used a parking. To enhance the space for pedestrians, this street will be completely closed off to cars and converted to an alley park. A quiet getaway with grass, seating, tree, lighting and bins.

  -This will be a clam =, quiet space for pedestrians to escape to.

  - The street is directly connected to the square, which leads to the other side of Frasier Street, which is also pedestrianized.



PEDESTRIAN STREETS (FRASER ST)- VIEW B





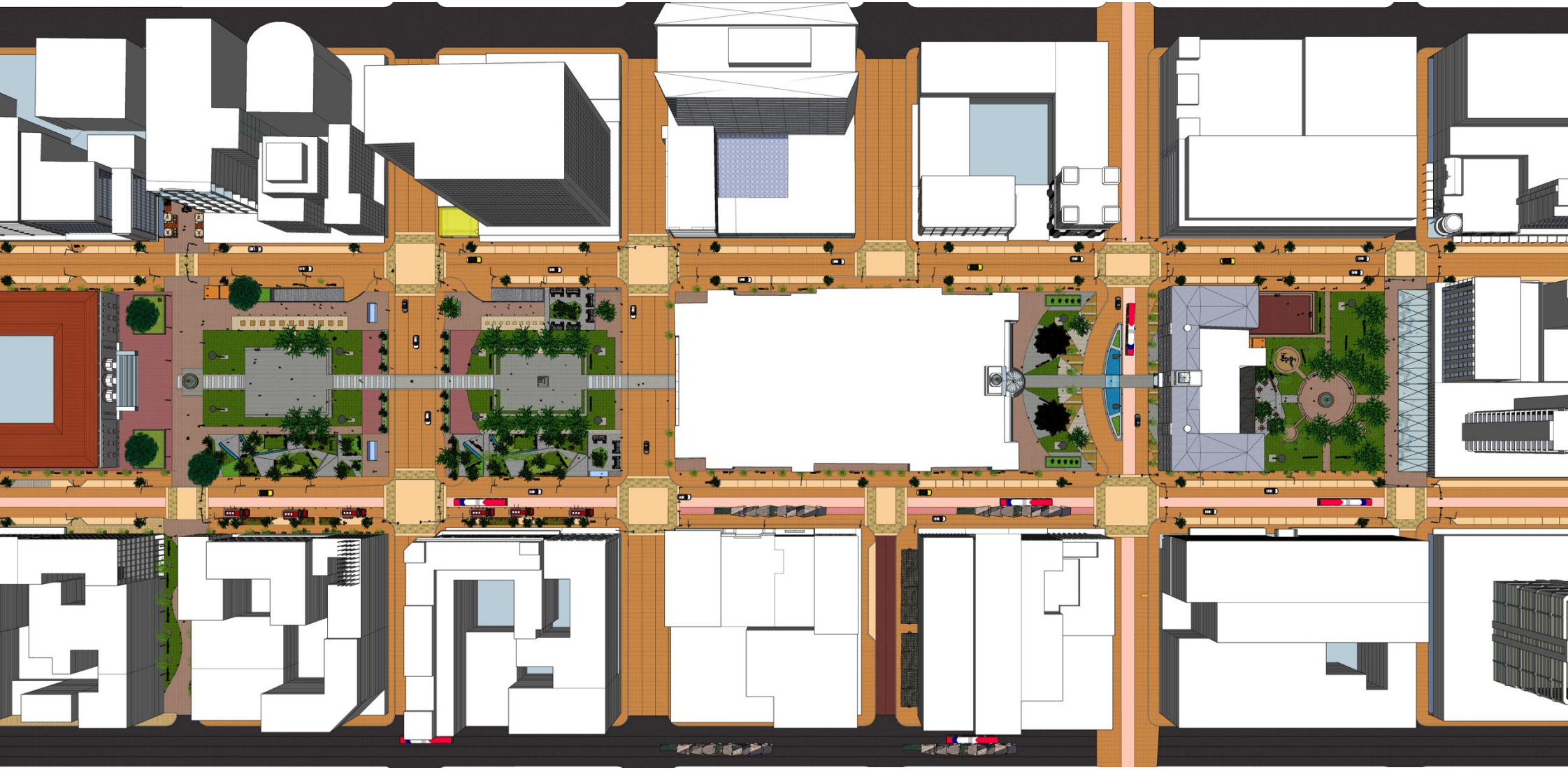
View B- Pedestrian mall

- All ground floor facades will be activated with retail activity, as the space has the potential however the ground floors are inactive.

  -This activity will spill out into the public space as to liven the street and activate it.

  - Street trading will be accommodated in the middle strip of the street, with dedicated trading space.

FINAL PLAN



Map 75- Final plan of Site

This public space system is all bought together by the connect streets and public realm, creating and atmosphere of activity, liveliness and a variety of activity, catering to the different needs of the pedestrians. As people will be more encouraged to get out onto the street and into these spaces the spaces will be active and bustling with various characters and personalities, people for all backgrounds, gathering, meeting and lingering in the public with the various needs met.

FINAL PLAN



Map 76- Final 3D plan of Site

CONCLUSION

Environmental psychology is a broad area of study that looks to unpack and understand what elements of the built environment affect the behaviour of individuals in space. This report has taken on a specific angel of looking at urban design and how it can be used as a tool to create public open spaces that positively influence the individuals perceptions and experiences of public open space in the City of Johannesburg.

The perceptions and experiences of people in public open spaces in Johannesburg have often been attached to negative responses. This has been due to years of degradation, lack of safety and maintenance backlogs. Subsequently, public life has withdrawn into the private, as people feel less and less safe to be out in public space. Malls have become gathering spaces, and public open spaces have become neglected and lifeless, leaving them left with no use and meaning.

This research has unpacked a number of design theories, principles and tools a that can applied to public open spaces in Johannesburg as to bring life back into spaces that people once feared and don't enjoy.

Four design principles were used to initially analyse the site, then formulate design recommendations.

Urban form- The urban form of cities plays a crucial role in shaping the city and the various spaces in-between the built form. A pedestrians behaviour is influenced and impacted by the envelop of the space, and how it contains them in public open space. This section looked at the various built form elements that influence the function of public open spaces in urban environments.

Accessibility- The access to a public space is critical as this affects the extent to which a public open space is utilised and people can interact with it. Access is not limited to pedestrians on foot, but also spans out to other modes of transportation such as cycling, utilising public transport or a private vehicle to access these spaces. Public spaces should be open to all forms of mobility to accommodate and welcome everyone.

Variety of use- It is important for us to look at public spaces as places that bring people together through the activities it provides. Public spaces are meant to facilitate interaction and communication with other people, and quiet time alone. To support this activity, a number of uses are required to facilitate outdoor spaces (Gehl, 2011: Alexander: 1977). This basic need for interaction can be accomplished through ensuring there is a sufficient amount of residential densities, activity uses, a mix of uses, attractions and good edge conditions

Public realm- In the process of creating public open spaces that are located appropriately, have a variety of uses that are effective, within a properly design space, it is also important to make people feel comfortable in public open spaces. Comfort can be understood to be how a space makes people feel, can they be protected from different weather elements and how well maintained the space is.

These 4 principles were used to unpack the site, and redesign it based on these principles. The site was evaluated according to the design criteria formulated through the 4 principles. The design criteria looked to interrogate these 4 areas of design through the site. The site scored a total of 34%, indicating that the site is in a very bad state with dire attention required to revive it, and create a pedestrian orientated space that speaks to the people who make use of the space

The design recommendation specifically goes into the details of the space that would encourage positive experiences and perceptions to be formulated. This includes lighting, signage, seating, vegetation, scenes, attractions, various public amenities, arts and culture, history and many other factors that have created a space that is inviting for all to make use of and stay in, giving people a chance to experience the space and thus develop a perception of the space according to how the feel, how comfortable they feel, how safe they and how attractive the site is to them.



These design tools have depicted how urban design can play a critical role in transforming a formally underutilised, unattractive and unsafe space into an exciting, vibrant and safe space that positively influences individuals psychologically, thus, shaping positive experiences and perceptions of public open space in Johannesburg.

In conclusion, I have come to the finding that the application of the right urban design tools plays a critical role in transforming public open spaces in Johannesburg, as to create pedestrian focused and orientated environments that positively influence and impact their psychological responses to the built environment. Thus, urban design is a field of study that should engage beyond the physical realm of public open spaces in Johannesburg, but also the psychological dimensions of spaces and the effects that design tools can have on an individual, as to create spaces that people positively respond to through their perceptions and experiences.



ANNEXURES

ANNEXURE A- URBAN FORM EVALAUATION CRITERIA
ANNEXURE B- ACCESSIBILITY EVALAUATION CRITERIA
ANNEXURE C- VARIETY OF USE EVALAUATION CRITERIA
ANNEXURE A- PUBLIC REALM EVALAUATION CRITERIA



ANNEXURE A- URBAN FORM EVALUATION SUMMARY

ASSESSMENT	STATE	COMMENTS	RATING
Location of site	Johannesburg Inner City	The site is very well located in the centre of Johannesburg, with ample access to social amenities, such as the library, post office, schools, and residential apartments, office spaces, restaurants, shopping stores and a variety of other facilities. There is also ample access to various modes of public transport.	★★★★★
Street pattern	Grid	The site is shaped by a street grid pattern.	★★★★★
Block size	60m x 60m average size	The block size sits at an average of 60m x 60m, making it very easy for pedestrians to navigate, as well as cars. The size of the block is neither to long for pedestrians to walk comfortably, or too short for vehicles to drive through.	★★★★½
Building heights	Min= 3 floors Max= 29 floors Average= 11.47 floors	The height of buildings around the site are a good height, and contain the space well. Most of the tall buildings are located south of the open spaces, however, 2 of the tallest buildings, are located north of Beyers Naude Square which cast a shadow over the space at certain time of the day. This creates an uncomfortable space for pedestrians in certain weather conditions, like winter.	★★★☆☆
Solid and voids	Hard enclosure Full enclosure	The space is enclosed by hard enclosure, buildings. This enclosure is full, as the buildings enclose and hold the space well.	★★★★★
Fronts and backs of buildings	5 of the buildings backs front the site, 23 buildings front the site	Only 21.74% of the buildings have their backs facing the site, this is a minimal amount, with the majority of the buildings fronting the site. However, the buildings that have their backs	★★☆☆☆



		facing the square, are very imposing, and create a hostile environment in those areas, as there are no eyes on the street, no permeability, making the pedestrian feeling very unwelcomed to the spaces around these buildings.	
Environmental factors	Tallest buildings located north of the site.	As the tallest buildings are located north of the square, they completely overshadow the square, creating a cold and uncomfortable environment.	
Human scale	The site is human scaled	The site is very well human scaled, with three open spaces in-between the tall buildings that generally characterise the Inner city of Johannesburg. This allows for a break in the imposing urban form of the CBD, releasing the tension of the building heights. A few of the really tall buildings have a base, which breaks the imposing height of the building. The ground floor of some of the buildings have active edges, engaging the pedestrian with the building.	
		TOTAL RATING	**31.5/40= 78.75%**



ANNEXURE B-ACCESSIBILITY EVALUATION SUMMARY

ASSESSMENT	STATE	COMMENTS	RATING OUT OF 5
Pedestrian entrances	15 entrances	The site is accessible from 15 entrances. The Oppenheimer Park has a fence around it, which stops the flow of pedestrian movement into the site, and it restricts access to 2 entrances, in the north and south. Beyers Naude square and the Legislature foyer allow for fluid entrance, with no restrictions to the pedestrian.	★★★½☆
Pedestrian pathways through space	The width of pavements allows for pedestrian movement through the space very well, however, the surfaces are in a very bad condition	The pedestrian pathways through and around the site are in a bad condition. With tiles missing or loose, making it difficult for pedestrians, walking or in a wheelchair, to travers through or around the space.	★★☆☆☆
Speed control measures	There a few speed control measures	The site only has pedestrian crossing marking at the intersection of Albertina Sisulu Str and Harrison Str, which has a BRT station located close to it. Another crossing is found further down Albertina Sisulu Str and Rissik Str, where there is another BRT station located. The site has a number of signs, that indicate where parking and trading are restricted or permitted. However, there are very few signs cautioning cars of pedestrians crossing through this area.	★☆☆☆☆



Condition of pathways	A majority of the pathways are in bad or fair condition.	A lot of the pathways are either uneven, damaged, or completely cannot be walked on. This creates a very hostile environment for pedestrians, as this will deter them from accessing the public open spaces. The pathways are a good width, ranging from 2m and 3m. The north and south of Beyers Naude Square does not allow for pedestrian movement at all as there are no pathways to accommodate pedestrians.	
Disabled access	There are wheel chair access ramps at every intersection.	Wheel chair access ramps are available at every intersection, allowing for access for all. However, navigating some of the pathways that are in a bad condition may be a difficult for disabled pedestrians which excludes them form the spaces.	
Public transport routes	There are 2 Gautrain bus routes that go through the site, a BRT route south of the site, and taxi access on various routes that pass the site.	The site is easily accessed by various mode of public transportation, making it desirable for pedestrians to easily access the site from other locations.	
Public transport stops (within a 5 minute walk (400m distance) from site)	8 public transport stops/stations	There are 4 BRT stations located within 400m of the site, 2 Gautrain stations, and a small taxi rank on Loveday Str. Ghandi square is located 2 minutes away from the site, this is a major Metro Bus stop. The site is accessed by all modes of public transport making a convenient space to access from anywhere.	
Bicycle lanes	-	The lack of bicycle lane diminishes the accessibility to the site by cyclists.	
Bicycle parking	1 parking facility	There is only one parking facility	
Vehicle routes/access	Direct access from the north, east and west of the city.	All the routes that pass around and through the site are one-way roads. This slightly restricts the ease of access to the site. The north-south, south-north and west-east access to the rsite are good. However, there is not east west access to the site	



		as there are no routes that run east west connecting vehicles directly to the site.	
Parking	There are no public parking areas.	The parking beneath Beyers Naude Square is restricted to the Legislature staff members. Other parking spaces are privately owned, and are not open for public use.	☆☆☆☆☆
On street parking	There are a few permitted on-street parking spaces.	There are a few on-street parking bays, however this is not merely enough, as people have resorted to parking along the street throughout the site.	★★☆☆☆
Number of lanes	Average number of lanes= 3.2	The road reserves around the site are very wide, which could be very uncomfortable for a pedestrian to cross. The number of lanes also means more cars driving around and through the site, which means cars dominate the space, and this can also be intimidating to pedestrians, especially the young, elderly and physically impaired.	★★☆☆☆
Connectivity to surrounding areas	Connections to Bree taxi rank, to Newtown, from Braamfontein,	The site is very well connected to its surroundings, with routes that lead directly to and from Bree Taxi Rank, Park Station and Ghandi Square.	★★★★☆
		TOTAL RATING	**24.5/70=35%**



ANNEXURE C-VARIETY OF USE EVALUATION SUMMARY

ASSESSMENT	STATE	COMMENTS	RATING OUT OF 5
Land uses	The space is dominantly used for office accommodation	There is a lack of mixed-use buildings as a majority are offices. This makes the site very monotone as it lacks vitality.	★☆☆☆☆
Mixed land use buildings- variety of vertical and horizontal uses	4 buildings have retail on the ground floor, all other buildings are		☆☆☆☆☆
Residential density			☆☆☆☆☆
Ground floor edge conditions:	18 entrances to buildings 27 retail stores 6 inactive entrances	A majority of the ground floor edge conditions are every poor as there is a lack of mixed-use buildings, thus leaving the ground floor to be used as entrances to the buildings. Only 4 of the 14 buildings around Beyers Naude Square have some retail activity occurring on the ground floor, bringing about marginal activation of the space. However, there is more ground floor activity occurring around the park, with the majority of the ground floor of buildings with retail activity. This has activated the space and attracts more pedestrians.	★★☆☆☆
Entrance to building- Retail- Inactive-			
Frontages: Active edges- Inactive edges-	12 active edges 27 inactive edges		
List of activity uses: Power of 10 concept	Eating, siting, walking through, talking, read, sleeping, smoking, protesting, waiting, site seeing, playing, working	Individuals in the space are doing various things, however, there is not enough activity, and land uses that encourage activity in the space.	★★★☆☆
Attractions	The Rissik Street Post Office, Legislature and Beyers Naude Square are historical sites that sit as significant attractions, along with other historical buildings around the space.	As the site is the place of the cities birth and development there are a lot of heritage buildings such as: The City Hall Building, Rissik Street Post Office, The Absa Building and Library Hotel. This makes the site monumental itself.	★★★★★
		TOTAL RATING	12/30=40%



ANNEXURE D-PUBLIC REALM EVALUATION SUMMARY

ASSESSMENT	STATE	COMMENTS	RATING
Seating	There is an ample amount of seating provided in the square and the park	Seating is well provided in the park and the square, encouraging people to linger and pause in these spaces. The Legislature foyer doesn't have a lot of seating, thus leaving the space empty with no pedestrians.	★★★☆☆
Trees	There are a lot of trees in and around the public open spaces	There is ample shade provided by the trees in the site, however their orientation could be improved for the convenience of individuals. The Legislature foyer, once again, only has two trees, which stand more as decorative pieces and provided no function for pedestrians.	★★½☆☆
Colonnades	The majority of the buildings have colonnades	All but 8 of the buildings around the public open space have colonnades. This creates a comfortable environment for pedestrians to walk through in any weather.	★★★★½
Lighting	Lighting at night is not good	Lighting is provided throughout the site. However, the square is not well lit at night, creating an environment that is not comfortable for all users when it gets dark.	★★☆☆☆
Bins	Bins allocated all around site	There are a number of bins in and around the public open spaces, however, there seems to be a lack of maintenance as bins are full, and some running over, with rubbish bags placed around the bin. This creates an unclean environment that is not inviting or pleasant to look at and carries a foul smell.	★☆☆☆☆
Wayfinding	Ample signage	There is ample signage around the site, which makes wayfinding easy. There are previous and new street names in places, with the previous street name scratched through with a line, but still visible for those who are not familiar with the	★★★★☆

		new street names. A few of the buildings are well ladled with the store or business name. Street numbers are also seen in parts of the site.	
Signage	Signage throughout the site	Road and restriction signs are located throughout the site. However, there is not much cognisance taken of pedestrians as there was only one pedestrian crossing sign spotted on site. This shows how pedestrians are not the priority.	
Public art	There is public art is various parts of the site	As this site is a landmark in itself, there should be more showcase pieces of the history of the site, and amazing heritage it has inherited. The current art in the space is slightly dull and does not liven up the space, as it has the potential to.	
Other public facilities	Public phones, toilets, buss stop shelter, trading shelter, bus station, basket ball court and bicycle racks	Some public facilities are provided at various places in the site. Public toilets are located in the park, with no toilet facilities in the square or anywhere else around the site, this puts pressure on this one public toilet facility. There is a large trading shelter that is provided, west of the park, and a basketball court in the park, this livens up the space as children fill it up on weekends. There are two bus stop shelter along the site, however, they are in bad condition.	
Maintenance	Badly maintained	The space is extremely dilapidated, and is in need of maintenance. Some of the buildings around the site are also in need of refurbishment and sit in a bad condition, this has an influence on the surrounding public spaces, and its image. The Rissik Street Post Office is one such building that needs to be renovated, as its derelict façade is extremely imposing and unsightly.	
		TOTAL RATING	**29.5/50= 59%**



TOTAL SITE EVALUATION SCORE

= 66/190

= 34%



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