SEEKING SPATIAL JUSTICE

Empowering the everyday through an architecture that integrates the spatial and social realms

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ومَا تَوَفِّيَتِي إِلَّاٰ بِاللَّهِ

My success is only by Allah
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With special thanks to:

My family (all of you) for your unconditional love and support. I can never repay you for putting up with me during these last 6 years.

Mu’aaz for helping me organise the chaos.

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Johan Swart for your guidance, patience and belief in my ability.
This dissertation explores Johannesburg’s inner-city precinct of Joubert Park. It intends to bridge the gap between the everyday community of the park and the extraordinary heritage and memory of the site. Through a grassroots investigation of the existing community, the project looks to empower the everyday person and create a platform for their development, specifically focusing on economy and education in the city. The project makes use of the theories of spatial justice as a tool to analyse and understand the community’s relationship with the space they occupy and the social environment in which they exist.

Architecturally, the project seeks to use this socio-spatial understanding as a guideline of how to create a spatially just and empowering environment in the inner city. Additionally, looking to establish a model for the development of the existing inner-city fabric that begins to foster a relationship between building, street edge, and pedestrian. Exploring not just the physical upliftment of the fabric, but the well-being and of the existing community and their needs, goals and aspirations.
Die verhandeling ondersoek die Johannesburg se middestad buurt van Joubertpark. Dit beoog om die gaping tussen die alledaagse gemeenskap van die Park en die buitenge-wone erfenis en geheue van die omgewing te oorbrug. Deur ’n voetsoolvlek ondersoek van die bestaande gemeenskap, is die projek se doel die bematiging van die alledaagse persoon en behels ’n platform vir die ontwikkeling daarvan, daar is ’n spesifike fokus op die ekonomie en onderwys in die stad. Die projek maak gebruik van die teorieë van ruimtelike geregtigheid as ’n instrument om te ontleed en te verstaan wat die gemeenskap se verhouding is met die ruimte wat hulle bewoon en die sosiale omgewing waarin hulle bestaan.

Argitektonies, beoog die projek om hierdie sosio-ruimtelike begrip te gebruik as ’n riglyn om ’n ruimtelik net en bematigende omgewing te skep in die middestad. Daar word ook beoog om ’n model te vestig vir die ontwikkeling van die bestaande middestad konsepte om ’n verhouding te bevorder tussen die geboue, straat rand, en voetgangers. Onder-soek van nie net die fisiese opheffing van die struktuur nie, maar die welsyn van die bestaande gemeenskap en hul behoeftes, doelwitte en aspirasies.
Project Title
Seeking Spatial Justice: Empowering the everyday through an architecture that integrates the spatial and social realms

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Human settlement and urbanism

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Theoretical Premise
Using the theory of Spatial Justice as an analytical tool to understand the relationship between the social and spatial realms. Thereafter reacting to these findings to create an architecture that is spatially just.

Keywords
Joubert Park. Spatial Justice, Economy, Education, Adaptive Reuse
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SEEKING SPATIAL JUSTICE

Empowering the everyday through an architecture that integrates the spatial and social realms
“It can be said that, speaking figuratively, Johannesburg resembles a prismatic, kaleidoscopic, ever-changing metropolis that contains many cities in one. It is at once a city of monumental architecture and abysmal slums; a city of luxurious playgrounds for the rich and empty wastelands for the poor; a city of utopian fantasy and dystopian anxiety; and a city of collective memory and intentional forgetting.”

MARTIN J. MURRAY
2008:VII
CHAPTER 1

INTRODUCTION

This chapter introduces the dynamic socio-spatial relationships of the community of Joubert Park. It explores its various issues and looks at possible design intentions for the precinct.

1.1 THE NARRATIVE
1.2 THE PROBLEM STATEMENT
1.3 THE ISSUE
1.4 THE GAP
1.5 THE INTENT
FIGURE 1.1 THE JOUBERT PARK PRECINCT
A historical image of Joubert Park and the Johannesburg Art Gallery pre-extension
1.1 THE NARRATIVE

Joubert Park, like the city of Johannesburg, is a space of many contradictions.

It is a space of everyday ritual...

...and a space of extraordinary heritage.

Located in the heart of Hillbrow’s high-rise residential towers we find the green lung of the inner city of Johannesburg. What was originally intended as a recreational park for the British gold miners (Malan et al. 1986:30), has over had to adapt to its new role as a place of refuge and new beginning for the rest of Africa. However, while the community expands, the buildings do not.

As bus loads of new hopefuls arrive monthly, and the buildings start to reach their maximum capacities. The community of Joubert Park continue with their daily rituals, waiting for the city to catch up to them.
To locals and foreigners alike, the Joubert Park precinct is still seen as a place of new beginnings and a land plentiful opportunities. Young hopefuls travel long hours with little cash and big dreams of a new life in the big city, only to find out that what was supposed to be their stepping stone has instead ended up being the rock that holds them down.

And while some of the put their hopes and aspirations to bed, others still dream silently of it during cold winter nights, and mumble about it to strangers in the market. It is because of these daydreams of hope that the park continues to live and it is in these small moments of ambition that the parks keep fighting back.
FIGURE 1.2 THE PEOPLE OF THE STREET
Collage indicating the character of the streets and surrounds of the park.
1.2 THE PROBLEM STATEMENT

In the period between 1970 and 1990, South Africa went through a major political shift. In this period we experienced the fall of Apartheid and the rise of democracy. The inner city precinct of Joubert Park went through its own shift in identity during this period of change. The previous white-only community that once inhabited the beautiful art-deco towers surrounding the park, started relocating to the northern suburbs. This in turn brought about an influx of new people of all races into the inner city. It is because of this major shift in the landscape of the park, that we experience the problems that are evident in the area today.

The high-rise residential towers, which once catered to a stable and constant all-white community, has now been forced to cater to unimaginable volumes of people. This new community is one that is incredibly dynamic and ever-changing. Many of the new residents have the intention of staying only for a few years before moving on to bigger and better things due to the over-crowded living environment and the lack of space available for development and growth.

Over and above the physical restraints of the urban fabric, we are also faced with an emotional disconnect between the history and heritage of these structures, and its current occupying community. While the new dwellers of Joubert Park do have an understanding of the historical value of the Victorian layout of the park, or the Lutyens designed art gallery; they are still emotionally disconnected from its history and memories, as it is not their memories and it is not a history that belongs to them. And so a void has formed between the park, the people, and the past memories of Joubert Park.
The dynamic community stuck in a static urban fabric, and the void between the past and present communities are both social and spatial in nature. Therefore, in order to use architecture as a tool to solve social issues within the Joubert Park community, the project needs to have an understanding of the relationship between space and social being.

Henry Lefebvre (1991) and Edward Soja (2010) look at the ideas of social space and spatial justice. These theories look at the direct relationship between social occurrences and physical space. According to Lefebvre (1991:41-52) if space is subjective, socially produced, contested and in constant flux, then conversely social conditions within the city can be positively or negatively impacted by the quality and condition of space.

Furthermore, according to Edward Soja (2010:2):

“Spatial justice in the broadest sense, refers to an intentional and focused emphasis on the spatial or geographical aspects of justice and injustice. As a starting point, this involves the fair and equitable distribution in space of socially valued resources and the opportunities to use them.”

Within this context the project looks to investigate the injustices that the community of Joubert Park face, trying to understand its social tensions, political motives, and personal hurdles that members of the community face. By making use of the ideas of spatial justice, the dissertation has the ability to analyse the social injustices occurring in the park and extract the spatial implications of these injustices to refer to when looking at the redevelopment of the precinct.
1.3 THE ISSUE

The general issue (figure 1.3) stems from the shifts the park has gone through over its lifespan, and how it has had to adapt at a rapid rate to accommodate an incredibly dynamic community. This has resulted in the void being formed between the existing community and the heritage and meaning of the place, which in turn has lead to the lack of ownership of the fabric of the park which has given rise to its slow degradation.

The urban issue (figure 1.4) continues with this theme of disconnect that we see being translated into the urban environment. Issues regarding differences in social, cultural, and historical values have had a negative influence on the structures in the park. The social issues within the urban fabric have lead to the spatial implication of the buildings turning their back onto the public realm.

The architectural issue (figure 1.5) uncovers the relationship between building and people and investigates the role of architecture in the current disconnect in the urban fabric. The current urban condition has resulted in spaces of oppression being formed in and around the built fabric which leads to social injustices in the community.

FIGURE 1.3 THE GENERAL ISSUE

FIGURE 1.4 THE URBAN ISSUE

FIGURE 1.5 THE ARCHITECTURAL ISSUE
GENERAL ISSUE
A void created between the everyday community and the extraordinary heritage

URBAN ISSUE
Social injustices influencing spatial disconnect

ARCHITECTURAL ISSUE
Spaces of oppression in the city fabric
1.4 THE GAP

Many studies have been conducted within the Joubert Park precinct, as well as studies revolving around the ideas of spatial justice from an architectural perspective. Sarah Mina Basset, as part of her dissertation in Regional and Urban Studies at the University of Illinois (2013), investigated the role of spatial justice in the regeneration of urban space. In her dissertation she considers the theory of spatial justice and utilizes it as a tool to analyze urban space. She was able to successfully adjust the theory into a methodology (figure 1.6) to give structure to an urban investigation. In her investigation she samples two test cities and explores them on a macro scale. However she does not then further investigate in detail the implications of these findings nor does she discuss possible interventions to help correct these conditions that she has categorized spatially unjust.

Brad Evan Krom in his architectural dissertation at the University of Witwatersrand (2010) investigates the idea of spatial justice as a means of bridging the political divide in our country. The idea of spatial justice is interpreted quite literally as he explores a court house typology. His investigation also looks at the idea of the everyday and the extraordinary. However in his case the people of South Africa are the everyday and the South African government and justice system is seen as the extraordinary. He attempts to make the extraordinary more accessible to the everyday (figure 1.7). Krom used the theory of Spatial Justice as an initial guiding principle, but did not use it as a method of analyzing and understanding site, space and community.

The dissertation project will make use of the methodology developed by Basset as a tool to analyse and understand the relationship between social circumstance and spatial restraints in the urban fabric. It will then use this research to develop a possible strategy through architecture to resolve the social and spatial issues in the park and test weather this methodology is indeed successful.
FIGURE 1.6 SPATIAL JUSTICE METHODOLOGY DIAGRAMS
These diagrams indicate the relationship between spatial justice and actual spatial qualities that can be used as a means of comparison and determination.

FIGURE 1.7 A SPATIAL JUSTICE APPROACH
This diagram that was included in Krom’s dissertation illustrates his position in terms of the lack of accessibility between the people of South Africa and the South African judicial system.
1.5 THE INTENT

The underlying general intent focuses on bridging the gap between the everyday community of Joubert park and the extraordinary heritage and memory of the site (figure 1.8). Looking specifically at a grass roots approach of empowering the everyday community to become extraordinary.

On an urban scale the project intends investigate the role that spatial justice would play in the re-integration and re-development of the urban fabric (figure 1.9). Through an understanding of the social networks in the precinct and the spatial factors that influence these networks, we look to create a holistic socio-spatial urban system.

Architecturally the project looks to use an understanding of space as well as analytical methodologies of spatial justice as a tool to understand and analyse the spatial implications of social injustices within the precinct, and conversely explore how it could then be used to counteract these injustices in order to create a spatially just environment.

Additionally exploring how to establish an effective model for the development of the existing fabric of the inner city that looks at exposing the spaces of oppression and integrating the disconnected structures, therefore looking to find an architecture that empowers rather than oppresses (figure 1.10). Fostering a relationship between building, edge, and street that looks at not just the physical upliftment of the fabric, but the well-being of the existing community as well that addresses the needs, goals and aspirations of the new city dweller.
EVERYDAY
[EMPOWERED]

EXTRAORDINARY
[ACCESSIBLE]

GENERAL INTENT
Bridging the gap between the everyday and the extraordinary

URBAN INTENT
Re-integrating urban forms

ARCHITECTURAL INTENT
Creating an architecture that empowers
CHAPTER 2

URBAN VISION

This chapter explores the urban context of Joubert Park on a macro and micro scale. It then looks at a possible urban approach within which the dissertation will be situated.

PT 1 URBAN ANALYSIS
   2.1 THE LOCATION
   2.2 THE ORIGIN
   2.3 THE MACRO ANALYSIS
   2.4 THE MICRO ANALYSIS
   2.5 THE SWOT ANALYSIS

PT 2 URBAN VISION
   2.6 THE GOALS AND VISION
   2.7 THE LARGER URBAN CONNECTION
   2.8 THE URBAN VISION
   2.9 THE CONCEPTUAL STRATEGY
   2.10 THE INDIVIDUAL INTERVENTIONS
2.1 The Location

**Figure 2.1 National**
Locating Gauteng in South Africa

**Figure 2.2 Provincial**
Locating Johannesburg in Gauteng

**Figure 2.3 Regional**
Locating Hillbrow and Joubert Park in Johannesburg

© University of Pretoria
FIGURE 2.4 JOHANNESBURG NOLLI MAP
Context map of Johannesburg indicating larger study area of study (Joubert Park Urban group 2016).
2.2 THE ORIGIN

Joubert Park is located in the center of what was once known as “Die Uitvalgrond” i.e. the leftover land. With Hillbrow to its north and the Johannesburg CBD to its south, Joubert Park sits centrally in the larger Johannesburg context. The Park itself was established in the late 1800s as a Victorian garden for the European ex-pats who moved to the Witwatersrand in search of gold.

Today, the park and its surrounding residential area is known for its large foreign migrant population. The increasing crime rate, growing poverty and decay, as well as the rising social tensions of the area, are all factors that are often heard about in the news (Bestall 2012). However, if we really immerse ourselves into the culture and energy of the site, we find Joubert Park to be a space rich in traditions, languages, religions and rituals. An incredibly vibrant living environment with its own unique social system.

Through an understanding of the origins of the park, and its relationship to the people of its community, we are able to trace back the shifts in the city fabric. We can observe how the area has evolved over the years and how these changes have culminated in the current social, economic and political landscape of the Park.

In this investigation we will explore the growth of Joubert Park, looking at the various shifts in its identity along side its historical development. The first period begins with the discovery of gold in the late 1800s, a period characterized by imported colonial ideals. The second shift in identity was a period of cultural enlightenment with the establishment of art and cultural institutions and structures within the area. The third historical period of the park revolved around the building boom post-WWII, the youth of the 60s and 70s began to turn Joubert Park into a social hub. This brought about the forth major change in the parks identity, the desegregation of an apartheid system. Finally we move into the transitionary phase of today.

This investigation helps us position the park in a historical continuum. By exploring the role of the park in its existing post-apartheid context, we can understand how it can be further developed in order to better contribute to its physical, social, cultural, and economic context.
FIGURE 2.6 DIE UITVALGROND
A historic map of the triangle from inception in 1887
On the 24th of July 1886 George Harrison announced the discovery of gold on the Witwatersrand (SAHO 2015). Diggers and prospectors from all over the globe descended onto the ridges of Johannesburg in search of new found riches. A miner’s camp was established on the left over land sitting between the Boer farms of Doornfontein, Turffontein, and Braamfontein, Die Uitvalgrond. In the beginning this temporary mining camp was mainly made up of tents, ox wagons, and steel shacks (Nielson 2012:9).

On the 4th of October of that same year, because of the incredible growth of the mining camp, the site was surveyed and a grid drawn out, making it an official village (SAHO 2015). Johannesburg was officially given its name. A grid allowed for easy expansion with minimal costs of maintenance (Nielson 2012:10).

With a newly implemented grid came the proposal for some land to be left over for a park space. The proposal was accepted in 1887 and 6 1/2 hectares of land was set aside for recreational use. However, it was not until 1891 that work began on the development of the park (Marais 2013:162). GS Andrew’s design reflected the design principles of 18th century Victorian gardens, with its archetypal symmetrical forms that symbolized an exotic paradise from a faraway British land.

With the beginning on the new century and the English victory in the Anglo-Boer War, Johannesburg experienced a cultural enlightenment. There was a need to establish Johannesburg’s permanence for the residents of the town. Temporary timber and steel structures were replaced with brick and mortar Victorian houses (Nielson 2012:15). The population increased dramatically from 10 000 people in 1888 to over 100 000 in 1900 (Nielson 2012:11).

Along with the influx of young British ex-pats, came the accompanying introduction of British art and culture. Their music, art, and architecture introduced itself into the daily lives of the Johannesburg community.

In 1910 construction began on Edward Lutyens’ design for the Johannesburg Art Gallery in the confines of Joubert Park (Nielson 2012:15). The construction of the gallery really set the foundation for the future character of the park. It now spoke to the upper class society that it catered to, with weekly exhibits with wine and cheese. The art gallery opened the door to a whole host of cultural phenomenon in the inner city. A bandstand was erected in the park from which weekly performances of music and dance took place to crowds of enticed fans. Night performances became a recurring occurrence.
SOCIAL BOOM
1940s-1970s: The Building Boom

The end of World War II brought about big changes in the new city of Johannesburg. New technologies were introduced to South Africa that allowed the construction of buildings up to and over 20 stories in height. To accommodate these technologies and the soaring population the city council removed height restrictions (Morris 1999:6). This set the scene for the Joubert Park high rise residential towers we see today. The modernist styles of post-war architects Le Corbusier and Oscar Niemeyer are seen in the language of these structures. The human scale of previous pioneer buildings was lost to modernist ideals of status and power.

This brought about the building boom of the 50s and 60s. These residential towers housed predominantly white middle to upper class residents (Morris 1999:6). They were young, upward mobile couples, living the incredible dream of life in the city. Night clubs, pubs and bars were established. Musical concerts from world famous musicians, jazz players and artists became the norm in the precinct. People roamed the streets at all hours of the night after a night of drinking and dancing. The streets were safe and belonged to them.

However, the lines of racial segregation became more and more defined and below the surface tension began to fester. Black employees were allowed to stay on rooftop flats, but between 1956-1962 up to 10 000 “non-whites” were removed from their residents in the Joubert Park and Hillbrow area (Morris 1999:6).

DE-SEGREGATION
1970s – 1990s: Uprising

In the 1970s the building boom had gone too far, and the supply of housing began to exceed the demand. The underlying tensions of apartheid began to reach new heights and many of the more privileged upper-class white citizens fled to the suburbs (Morris 1999:9). This opened the gateway for mixed racial living in the city. Landlords who did not want to run at a loss resorted to renting out to non-white tenants. These tenants were able to by-pass the apartheid system at first by getting a white person to sign the agreement on their behalf, the state soon found out about this unlawful practice and began to evict.

However, because of the 1982 ruling that states that tenants cannot be evicted without the provision of a suitable alternative housing option (Morris 1999:6), the state was left in a predicament. They did not have the resources or space in the townships to provide alternate living arrangements, and so they were forced to allow mixed-race living arrangements in Hillbrow, Joubert Park and surrounding areas. This then set a precedent for the rest of the country and spurred on further uprising and change in the country’s political landscape, eventually contributing to the fall of apartheid.

This resulted in a dramatic shift in the demographics of Joubert park. What was once a high-class luxury living environment for the upper class whites, became a city of opportunity for Africans all across the country and continent.
FIGURE 2.11 THE OLD FOUNTAIN
The original fountain located in the centre of the park that is no longer there today.

FIGURE 2.12 THE PARK AT NIGHT
On special occasions the park would be open at night with special light displays.

FIGURE 2.13 ARTISTS UNDER THE SUN
A special event held where the art was displayed outside of the gallery.

FIGURE 2.14 HIGH - RISE
The building boom of the 50s saw towers being constructed in the sky, motor cars were also introduced at this point.

FIGURE 2.15 BROKEN BARRIERS
People of colour started walking in the streets of Joubert Park.
This dramatic shift of the Joubert Park community from one that was a upper class whites-only neighbourhood, to one that is now a pre-dominantly african neighbourhood, has lead to the current condition we experience there today.

There is an emotional detachment between the people of the park and the cultural artefacts on site. Which in turn has resulted in the slow decline of the urban fabric. Some members of the community have said that they see these structures as private and unaccessible (Marais 2013), when in they could in fact be used as helpful resources for the community.

Over-crowding, alarming numbers of violent crimes, a shortage of recreational spaces and a decline in productive trade that has resulted in survivalist trade has left this area in a state of threat (Bestall 2012). Its gradual progression into a transport hub leaves th park at risk of becoming merely a transient space, with the park itself being suggested as a taxi-rank.

However, the park still plays a vital role in the everyday lives of the people in the community. The park is still aplace of recreation, a place of refuge, and an important landmark in its context. In between all the chaos and decay, we find stories hope and unity.
2.3 THE MACRO ANALYSIS

URBAN BOUNDARIES

This section looks at the exploration of the larger urban fabric of the uitvalgrond triangle in the city of Johannesburg, in order to understand the threat that the inner-city is facing today. Over time, spatial, programmatic and infrastructural devices have been put in place to consciously disconnect the larger Hillbrow triangle from the rest of Johannesburg (Morris 1999). Initially these devices were put in place to stress the exclusivity of the upper class white residential area of Hillbrow and Joubert Park, now these elements are used by city planners to disassociate surrounding affluent neighborhoods from the degrading poor city slums.

The sunken railway south of Joubert Park is an incredible tear in the landscape. It separates the poorer residential areas in the north from the central business district, Obstructing ease of movement from the north to the south.

The edges of the triangle, specifically the north-west quadrant, where Hillbrow meets Parktown and Houghton, have been tampered with to further disconnect the rich from the poor. Roads are widened and concrete bollards are installed to stress the differentiation between the two areas. Additionally, the civic center which houses the constitutional court, municipal councils etc. has become an island that forms a buffer area between the north and the triangle.

To the east where the grid changes, the industrial building of Doornfontein create an unwelcoming edge to the residential sector of Joubert Park. This forms another urban boundary that separates this incredibly dense residential area from the social center of Ellis Park. Even around Joubert Park itself, the buildings have turned inwards, creating dead unpleasant edges that slowly eat away at the energy and vibrancy of the park.
FIGURE 2.23 MAPPING URBAN BOUNDARIES

An indication of the boundaries that have developed over the years that has left Joubert Park and the triangle of Hillbrow in a state of isolation.

KEY
- **MAIN STUDY AREA**
- **BARRIER ISLAND**
- **INFRASTRUCTURAL BOUNDARIES**
- **TRAIN TRACK AS BOUNDARY**
URBAN CONNECTIONS

Historically, the inner city triangle of Hillbrow and Joubert Park, was the social hub of Johannesburg and Gauteng. Many people drove to the park on weekends for outings with the family, and met friends at the pub down the road at night (Marais 2013). Today, even though the site is very well connected from a transport point of view, it is not well used. It has become a transient space for the commuters coming from the outskirts. To the upper-class Johannesburg community, it is just a skyline from the hi-way. In order to re-establish the importance of Joubert Park in the larger Johannesburg city fabric, we need to explore how this central public space in the middle of an incredibly dynamic environment can be re-stitched into its surrounding context.

The area is ideally located to begin to re-stitch to its surroundings. It is an area that connects the North to the Central Business District of Johannesburg. It similarly falls between a possible new connection between the east and west. With the newly developing Newtown cultural precinct to the west and both the Doornfontein industrial area as well as the social node of Ellis Park to its east, Joubert Park has the potential to re-integrate the fabric of the inner city. These connections to outside the triangle can begin to integrate the disadvantaged communities living in the Hillbrow and Joubert Park residential area to the greater Johannesburg city, therefore creating a myriad of more opportunities for the growth and development of these communities.

Large scale urban interventions such as the development of the indicated nodes with boulevards, green spaces and pedestrian walkways can start breaking down infrastructural fences and boundaries that make it difficult for the pedestrian to move from node to node.

Figure 2.24 indicates the new possibilities of connecting to surrounding precincts around the triangle, by making use of existing transport routes and strengthening the north-south and east-west axis.
FIGURE 2.24 URBAN CONNECTIONS

This diagram shows the possibilities of connections to other precincts outside the triangle in order to reconnect Joubert Park to the rest of Johannesburg.
URBAN PARKS

In order to understand the park in its existing context we need to understand its relation to other public spaces or parks in the Johannesburg fabric. This park fits into a continuum of public spaces within the city and its value can only be established once compared to other spaces within the city.

1. Joubert Park: The Backyard Park
This park is the largest formal green space in the inner city. It is a transient space. The elderly, unemployed and school children use it during the week and during weekends it is used for picnics and church services.

2. Berea Park: The Refuge Park
This park is used as a place of refuge for many of the new immigrants without a place to stay. The combination of dense and open vegetation allows a good combination of public and private space. Many organizations use this park as a base to assist the homeless.

3. Theatre Park: The Civic Park
This park is located in the civic centre of Johannesburg. With many government councils and services available, the park is well maintained, but under-utilized as it is fenced off. It is used mostly during lunch breaks for the surrounding offices.

4. Ellis Park: The Sports Park
Ellis Park is a sports stadium east of Joubert Park, it is a social hub when it is being used during the weekend, but deserted and unsafe during the week.

5. Mushroom Farm Park: The Elite Park
Mushroom Park is located in the centre of the Sandton CBD, an island between the upper-class residential estates, and the office tower blocks. This park is used during weekends for recreational purposes, however there is strict access control which creates an elitist environment.

6. Mary-Fitzgerald Square: The Event Park
Similarly to Ellis Park, Mary-Fitzgerald square is only used during weekend during cultural events. It is located in the Newtown precinct, surrounded by many cultural institutions.

Each park in the inner-city context fulfills a specific role in its context. Joubert Park which sits centrally in the larger urban fabric of Johannesburg, with its transport facilities and its cultural heritage structures, has the potential to be a lot more than just a backyard park.
FIGURE 2.25  A CITY PARK

This diagram maps the location of all parks within the larger context, showing possible connection to create a larger network of parks.
MACRO STUDY OBSERVATIONS

The mapping exercises looked at in this section firstly examine the isolation of the uitvalgrond triangle and the elements that contribute to its isolation. Elements such as transport infrastructure and blunt edges between differently zoned areas, look to separate inner-city from the rest of Johannesburg.

The maps in figure 2.24 and 2.25 then look at possible larger urban connections that could be established in order to reconnect this area in the inner-city with the rest of Johannesburg. We firstly looked at where the important precincts surrounding the park were located in relation to the park, and as a secondary layer mapped the urban public spaces accessible in and around these precincts.

There is an opportunity to integrate Joubert Park into this network of important nodes in the city, and to make use of transport routes and publicly accessible urban space as a means to start integrating the fabric.

From the diagram along side which overlays all three of the maps, we see possibilities of an east-west axis that connects Ellis Park to Newtown through Joubert Park, and a second possibility of an axis that runs North from the Hillbrow/ Parktown / Houghton areas, down through Joubert Park into the Johannesburg CBD.

Road infrastructure that was once used as barriers in the landscape, can now be re-appropriated and design to open up and define these movement routes that inter-connect the inner city of Johannesburg.
KEY

MAIN STUDY AREA
SURROUNDING PRECINCTS
PUBLIC URBAN SPACE
INFRASTRUCTURAL BOUNDARIES
TRAIN TRACK AS BOUNDARY
BRT ROUTE
NEW POSSIBLE CONNECTIONS

FIGURE 2.26 INTEGRATED INNER CITY FABRIC
This diagram map layers the important points connections and boundaries illustrated in figures 2.23 - 2.25 to envision a holistic system
2.4 THE MICRO ANALYSIS

THE SITE

The area of study for the purpose of this dissertation is the area directly surrounding Joubert Park. The site also spans across to include the parks connection with Park Station, and the row of residential towers that separate them.

This precinct can be considered to be the green lung of the inner city. This large back-garden in the heart of high-rise residential buildings its home to many important heritage structures that date back to the 1900s. The original band stand was converted into a crèche; the greenhouse stands abandoned on the north-west quadrant of the site. To the south stands the Johannesburg Art Gallery, home to an incredibly body of local and international artworks. Unfortunately, it has lost its presence and importance over the years with outsiders scared to visit the dangerous area, and locals of the area disinterested in the colonial structure.

To the west is Park Station. What was once the old wanderers ground, is now the most important transport interchange in tauten, bringing nearly 20 000 feet to the site everyday (City Press 2014). Bordering Park Station to the east is the Noord Street taxi rank, with its chaotic ebb and flow of taxis and pedestrians, it is because of these service that we find most of the energy on site moving along this east-west connection of the pedestrianized Noord street. The north-south relationship unfortunately has not been established as yet. Uncomfortable building edges and fast moving traffic make it difficult for the pedestrian to walk along these sidewalks.

Despite this, the area has a unique sense of place and an energy that is unmatched. Walking through the street one experiences moments of warmth and acceptance that is not common in volatile communities such as this one. With the right amount of support and opportunity this community can become a model of what a new South African city could look like.
URBAN FORM

The Skyline of Joubert Park hints at the diversity of space in the precinct. It is not just high-rise towers that make up the fabric but their relationship to the spaces around them. The park space that contains JAG sits centrally in the fabric, framed on the north, east and west by 12-20 storey residential buildings. To the west of the King George Street towers the scale falls again towards park station and the Noord Street Taxi Rank. This results in the row of residential buildings in acting like a wall between the two public open spaces in the area. Because of its unique position these residential blocks have an opportunity to act as a mediator between park station and the park, and on a larger scale, between the transport sector and the residential sector.
**Figure 2.28 Urban Form**

A section through the study area indicating densities and relationship between typologies.
TRANSPORT AND RETAIL

In the previous typology study, we saw how prominent trade and transport is in the urban fabric. In this map (figure 2.29) we explore the relationship between the two and how they influence pedestrian movement on the street.

From an immediate glance we notice the strong movement between the east and west. With a secondary movement filtering off this main line of activity. What is also immediately prevalent is the culmination of energy at the point where Park Station, Noord Street taxi rank, and the mall meet.

The entrances of the park also all have prominent trade activity, with the edge of King George street quite active in informal trade. From this map we also are able to see the isolation of JAG and the other heritage structures in the park.

KEY

- PARK STATION
- BRT STATION
- TAXI RANK/HOLDING AREAS
- CAR PARK
- TRANSPORT INFRASTRUCTURE
- PRIMARY FORMAL RETAIL
- WEAK RETAIL
- INFORMAL TRADING NODES
- PEDESTRIAN MOVEMENT
FIGURE 2.29 TRADE AND TRANSPORT
This is a consolidated map indicating trade nodes, transport nodes, and how they affect the energy of movement across the site.
2.5 THE SWOT ANALYSIS

STRENGTHS

WELL CONNECTED
Various forms of transport available on site

PUBLIC SPACE
Rare green space in the inner city

HISTORICAL SIGNIFICANCE
JAG, the band stand and the greenhouse structure recollect past memories

HIGH DENSITY LIVING
The site is already well populated

FORMAL AND INFORMAL RETAIL
Informal and formal retail available on site, these networks can be strengthened

CENTRALLY LOCATED
The park sits centrally in the fabric of Johannesburg
WEAKNESSES

NO OWNERSHIP
Heritage structures deteriorating as no one takes ownership of it

DEAD EDGES
Lack of connection between building and public realm

FENCE BOUNDARY
Fences used as a tool for safety, however they become tools of exclusion

INFRASTRUCTURE BARRIER
The train tracks prohibit pedestrian movement from the park to the CBD

TRANSIENT
Many people move through the site, but do not stay or linger
FIGURE 2.31 WEAKNESSES

A diagram illustrating the weaknesses of the site that need to be investigated and solved in our projects.
RE-CONNECT TO HILLBROW
Defining a North-South connection to re-connect the park to the north

MEDIATE BETWEEN TRANSPORT AND REC
Socio-economic opportunities to connect transport residential and recreational sectors

EAST-WEST CORRIDOR
Connecting JAG and the park to park station

STRENGTHEN HERITAGE
Give new value to existing heritage structures on site

RE-CONNECT JAG WITH CBD
Bridging over the railway tracks to allow N-S pedestrian movement

STRENGTHEN TRADE NETWORKS
Provide opportunities for existing trade to grow

SOCIAL CAPITAL
Make use of skills and talents of the community and provide platform for further growth

THE ARTS
The arts and creativity can be used as a tool for community development
A diagram illustrating the possible areas of opportunities based on the strengths and weaknesses of the site.

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THREATS

TRANSPORT INFRINGING ON PARK
The threat of the park being converted into a taxi rank

ILLEGAL ACTIVITY
Illegal activity may hinder any architectural intervention

DISINTEGRATION OF PARK FABRIC
Parts of the park have been cut off due to transport infrastructure and other parts have limited access to the public

LACK OF OWNERSHIP
A bottom up understanding of the community is necessary to ensure ownership of any intervention
OVERVIEW

Joubert Park is an unearthed gem nestled within the carefree chaos of the everyday. The shade of the tree during a lunch time nap and the sound of your favorite song blasting from a taxi on a Friday afternoon are all experiences that make up the genus loci of the place. With the whole of Africa looking to Joubert Park as a place of new opportunities, it really is the heart of the city of gold.

Joubert Park is heavy with untapped potential. It is a precinct that is connected to the whole of Africa, yet isolated from its own surroundings. It boasts retail and trade along your walk home, yet hawkers still struggle to put a meal on the table at the end of the day. A juxtaposition of hope and despair.

As the city continues to grow closer and closer around it; it is the guardians of the park that fight to keep its presence. While the stories of the old colonial paradise do not necessarily appeal to its current population, their own experiences of the park and their day to day interactions with the community that lives within it has established enough of an importance to preserve the area for the next generation of youth looking for a new beginning.

In this next section we will explore this untapped potential and envision a future of the park that is inclusive, full of opportunity, and a cultural hub in the Johannesburg fabric.
FIGURE 2.34 THE EXISTING SITE
A consolidated image of the site as it is now before development continues
2.7 THE LARGER URBAN CONNECTION

THE SEAM AND THE SPINE

In the inner city of Johannesburg we have recognized the lack of pubic green space to accommodate the rapidly increasing urban population (COJ 2007). This has resulted in the over-utilization and deterioration of existing green spaces in the city, such as Joubert Park.

“The Seam” was designed by urban landscaping group NLA as a proposal to the city of Johannesburg. The project looks at the stitching together of currently disconnected public nodes in central Johannesburg through a green belt urban landscaping intervention. The scheme aims to re-develop and connect public spaces along the urban landscape which begins to form a corridor for pedestrian movement. The seam creates a holistic system of parks that fit into a larger urban framework of urban public space.

On the opposite axis is “The Spine” which looks to connect public urban space along a north-south axis that would then integrate with the perpendicular seam.

IMPLEMENTATION

The scheme is implemented in a series of phases that require each node to be developed first individually and create its own sense of place and determine its own value; before it can be successfully integrated into the larger system of public space.

The Joubert Park Group (JPG) proposes that the micro urban framework of Joubert Park as developed by the group, fit into the larger urban framework of the seam. Joubert Park sits centrally in the larger scheme plans of inner-city connections, which implies that it is a vital part of the larger scheme success. The vision of the spine and the seam aligns with that of the Joubert Park precinct for the integration of the park into the larger urban environment.
FIGURE 2.35 THE SEAM AND THE SPINE
This simple diagram illustrates the possibility of connecting the urban parks of the inner city to integrate various communities of Johannesburg. (Joubert Park Group 2016).

FIGURE 2.36 THE FINAL VISION
A render of the larger urban green belt (NLA, GreenInc and MRA 2010).
2.8 THE URBAN VISION

PHASE 1
THE EXHIBITION PARK

The first step to the larger integrated vision of the park begins simply with the removal of physical barriers around the park (1) that limits access and disrupts pedestrian interaction with structures such as JAG and the greenhouse.

Once the barriers are down we begin with the Johannesburg Art Gallery which is symbolic in its landscape. Looking to reconnect it to the south by bridging over the railway (2) and then reconnecting it to the park itself with a new interface towards the park (3) that will fall into the design schemes of the individual dissertations.

Through a series of events and exhibitions the hidden away contents of the gallery begin spilling out into the park with the intention of making it more accessible to the public.
PHASE 2
THE CREATIVE PARK

The idea of the creative park is to make art and culture in this precinct available to everyone, as up until this point it has been perceived as unaccessible to the general community of the park. The inner-precincts of the green house and band stand on the northern edge of the park (1) will focus on these aspects of art and culture, looking to informalis the institution and create a platform where human creativity and learning can take place. While JAG deals with the formal aspects of art, these developed precincts will look at the more informal aspects of art and recreation, this creates a north-south connection between Jag and the greenhouse/bandstand area all covering various aspects of art and its accessibility to the general public. This theme is looked at further in the individual dissertations. By strengthening the corners of the park we look to re-establish the edge of the park and slowly gain back land that was cut away (3) from it over time.

Secondly we start looking at alternate secondary routes (2) through site that start to relate to human movement in the area, making the park an integral place of exchange in the precinct. Once this has been established the next next step looks at the re-routing of traffic around the park (4). Currently the park is isolated in the landscape by the high volumes of traffic which sits along its direct edges making it difficult for the pedestrian to move through the site. We propose that transport routes are relocated one street away from the park in every direction and the immediate roads around the park are semi pedestrianized (4) to cater for the large volumes of pedestrian movement.
PHASE 3
THE UNION PARK

The third phase of the redevelopment of the Joubert Park precinct looks at what the park was historically meant to be and its original footprint. South of the railway is where the old Union Grounds used to be, today it is another retail mall. As part of our vision we look to re-establish union grounds (1) and extend the edges of the park to cross over the railway (2).

The union grounds will be a semi paved semi green space public area that is then developed into a formal market space (3) to draw energy from the CBD, as well as from the north. Thereby strengthening the north-south movement between Hillbrow and the CBD.
PHASE 4
THE CITY PARK

The forth phase of the re-development of the park looks at transcending the existing park boundaries and integrating the park into the city fabric. At this point the north-south connection between the CBD and Hillbrow has been established through the park (1), this phase then looks to strengthen the larger east-west corridors.

The row of residential buildings west of the park (2) separate the park from park station. In our vision we look to re-develop the edges of these structures to create a more permeable edges between the two important nodes. The edges will make use of various retail methodologies to strengthen the edge and make use of the large volumes of commuters moving through the space. This will be explore further an individual dissertation.

The main connection established here is between JAG and park station(3) that moves through this residential block, through the Noord St taxi rank and creates a new eastern entrance at park station. Slowly but surely the park will start filtering into the city fabric.
PHASE 5
THE URBAN ARTSCAPE

Through a sensitive series of integration, innovation and pedestrianization we have established a timeline in which Joubert Park can be incrementally re-stitched into the larger Johannesburg fabric. Re-establishing the value of the park in its context by helping it fight back the barriers that were eating away at its character and memories.

By expanding on existing networks within its urban environment we are able to help strengthen the existing community and provide opportunities for the re-development of the precinct without excluding or gentrifying the existing neighborhood.

Jade Swanepoel looks at how to re-integrate the Johannesburg Art Gallery into its surroundings, thereby strengthening the north-south axis connecting the residential area of Joubert Park and Hillbrow with the park and the CBD. Lisa Verseput sits on the edge of the park with the intention of establishing and solidifying the parks boundaries to prevent the disintegration of the parks fabric. Her intervention further adds to this N-S connection. Both projects provide opportunities for the arts to play an important role in the development of the community.

My project is located on the south-western edge of the park in the city fabric itself. The project falls into the forth phase of the parks development which explores the integration of the park into the city fabric and the relationship between the two. The architectural intervention responds directly to the east-west corridor that moves through the park, looking to integrate the transport infrastructure with JAG through a series a layers and connections between the residential and retail structures on the site.
2.9 THE CONCEPTUAL STRATEGY

THE EVERYDAY AND THE EXTRAORDINARY

As discussed in the previous chapter we would like to explore Joubert Park from the perspective of the everyday and the extraordinary. Investigating a balanced approach in which, through architectural intervention, the extraordinary heritage structures of the park can be made accessible to the everyday public. And on the other hand, the rituals of the everyday can be celebrated and empowered to become extraordinary. Architecture can act as mediator between the elements of disconnect in the park, as well as between the past and present communities.

Jade Swanepoel will explore the site from the perspective of the extraordinary, investigating a means of making the extraordinary Johannesburg Art Gallery accessible to the everyday community. On the other hand I will look at the everyday ritual of the Joubert park community and investigate ways and infrastructure that could be put in place to assist the community in empowering itself. Lisa Verseput then looks at the interface between these two ideas, and through her creative council uses art and creativity as a means to empower the community, and thereby introducing the community to the art and cultural structure in the park.
FIGURE 2.42 THE EVERYDAY AND THE EXTRAORDINARY
A conceptual collage depicting the extraordinary structure of JAG verses the everyday routine of the community.
THE GALLERY. THE PARK. THE CITY.

Another strategy linking all three of the interventions on site is that of the relationship between the gallery, park and city (figure 43):

The gallery \(\rightarrow\) spills into the park

And the park \(\rightarrow\) spills into the city

It is within this relationship that all three of our projects fall, with jade investigating the galleries relationship with the park (1), Lisa looking at the interface between the park and the gallery (2), and finally my project exploring the interface between park and city (3).
FIGURE 2.43 THE CONCEPTUAL STRATEGY
This diagram illustrates the conceptual relationship between each individual project and how it creates a holistic system.
2.10 THE INDIVIDUAL INTERVENTIONS

LISA VERSEPUT  THE CREATIVE CONSERVATORY

The Creative Conservatory (CC) is a community media and arts centre driving universal media accessibility and providing an enabling environment for the flourishing of artistic and cultural expression and development. The CC prioritises creative career development, community media, workshop problem-solving, and artistic expression, facilitating social inclusion and developing creative communities. The building is an extension of the Park landscape, rising from the earth, and draws on the tangible and intangible heritage of the iconic Conservatory on the site.

JADE SWANEPOEL  THE MEMORY ARCHIVE

The intention is to re-establish lost connections between the park and the gallery as well as the park and the city through a series of urban archiving hubs which document the changes that occur in the space over time. This will provide an archive of images from which planners can learn from for future regeneration projects.

ILHAAM TAYOB  SMALL BUSINESS DEVELOPMENT CENTRE

This project looks to establish an effective model for the development of the existing fabric in the inner city, focusing specifically on trade in the precinct. The project looks at how to develop trade from its existing survivalist model, to one that leads to a more opportunistic form of trade. It is an economic and educational centre that provides the infrastructure necessary to assist the new city dweller in developing their business ideas and future aspirations. This model links to a historical residential fabric with the intention of creating an empowering space for the development of the existing residential user.
2.11 THE CONCLUSION

The Urban Artscape is a precinct that has developed through the celebration of art, culture and urban life. By strengthening the existing social and cultural networks within the precinct we are able to create a dynamic space that allows and encourages interaction between the everyday community of the park and the artefact's of historical memory. In this way the projects look to give new value to these cultural heritage sites in a way that showcases their importance in their surroundings, but additionally creates new platforms of opportunity for the people of the park. This new precinct celebrates human creativity in the city, and how to use this energy and this resource as a means of community development.

The dissertation explores various ways of adding value to the historical residential buildings surrounding the park, looking at how we could use these structures to create additional platforms of opportunity for the existing resident. Investigating the combination of human creativity and economy in the inner city. Making use of innovation and ingenuity to explore various means of developing trade from its survivalist roots in the city to a more strategic model that supports the growth of trader within the precinct.

The Urban Artscape provides a conceptual framework that each if our projects looks to aim towards. While we each fit into various phases of the development of this framework, the aim of each project aligns with the goals of this larger urban vision. In the end looking to create a holistic system of inter-connectedness between the people, the park and the city.
FIGURE 2.45 ECONOMIC CENTRE OF DEVELOPMENT

FIGURE 2.46 CREATIVE COUNCIL

FIGURE 2.47 THE MEMORY ARCHIVE
CHAPTER 3

SITE ANALYSIS

This chapter explores the site of the dissertation project. It investigates its physical fabric, as well as the site relationship to its occupying user.

3.1 THE SITE NARRATIVE
3.2 THE SITE LOCATION
3.3 THE PROJECT SITE
3.4 THE SITE FABRIC
3.5 THE SITE MAPPING
3.6 THE PEOPLE OF THE PARK
3.7 THE CASE STUDY ANALYSIS
3.1 THE SITE NARRATIVE

Uncomfortably located between two high energy public spaces, is a row of 1940s art-deco residential buildings (figure 3.1). With Joubert Park on its right, and the Noord Street taxi rank and Park Station on its left, these towers have begun to turn inwards, from the tyre screeches, loud music and taxi calls of the everyday commuter, creating islands of isolated residential masses. As you walk past the southern edge of the park, you see the silhouette of the roof-lines peeking out above the trees (figure 3.2). Back on street level however, the walk is an uncomfortable one. A vast empty space where the train tracks separate the Johannesburg Art Gallery and the Park from the street interface.

Walking through the Noord Street Market towards the bridge mall (figure 3.3), the location of the site, you have to move past the jokers, the hawkers, the running children, the fruit and veg ladies, the singers, and the suspicious loiterers, until you spill out all of sudden into this vast empty space (figure 3.4). A shop front with barely anything to sell, litter scattered across this vast pavement, and a few ladies carrying water to their homes that they share with two other people. However, if you look up, the most beautifully crafted art-deco façades facing onto King George Street (figure 3.5). Curved bricks and concrete slabs in between broken windows and boarded up balconies.

If you then slowly move your eyes to the left you are confronted by a sudden drop in scale and a very alien type of architecture. Red two-storey pointed roofs in contrast to the smooth curves and plastered facade of the high rise towers. A new addition that makes a louder statement of disconnect than a promise of a brighter future. As you then walk up King George towards Hillbrow on the narrow pavements against dead building edges and a row of taxis parked on the tree edge, you peer down the smaller side streets where private everyday interactions takes place. Minutes of repose between the chaos that is Joubert Park.

FIGURE 3.1 SITE MAP
A diagrammatic site map highlighting the row of residential buildings sitting between the park and Noord St taxi rank. Indicated on the map is the route of approach the narrative follows and the direction from which the pictures were taken.

FIGURE 3.2 SITE WALK THROUGH
The series of photographs highlight the site as you approach it that accompanies the route map.
3.2 THE SITE LOCATION

The general precinct of Joubert Park is largely a residential area. However, this inner-city living area boasts additional urban infrastructure in and around its periphery. The public green space of the park and its accompanying cultural heritage sites, such as the gallery and the greenhouse, are intended to support the residential function of the larger urban space. Some functions having integrated better than others. To the left of the precinct is the Park Station transport hub. Due to its close location, the residential area is well connected to its surrounding city precincts.

It is a complex social and cultural environment that consists of an internal collection of micro-communities. These smaller communities create their own networks and systems where resources are shared and communal environments are created in smaller spaces within the built fabric. There is a trend among these communities to keep to themselves and take ownership of only that which directly belongs to them. Everything else that is considered public, the park, the streets, the in between spaces, are not looked after by any allocated group.

The study area focuses on an area where various urban conditions in the inner city merges. This specific site looks at an edge condition created between two very different urban spaces. The park is considered a recreational and cultural space that is mainly pedestrian orientated, and the Park Station precinct is a high energy amalgamation of pedestrian activity, vehicle activity, and the trade that grows between them. Situated between these two dynamic urban spaces is a static mass of residential towers.
FIGURE 3.6 SITE LOCATION
The aerial map indicates the specific area considered in the study, with the red overlay indicating the exact location of the urban intervention.
3.3 THE PROJECT SITE

The project site is located on the south-western edge of the park (figure 3.7). It consists of 3 primary masses, the first one being a 10 storey heritage residential tower, which is situated alongside the more recent addition of the Bridge Mall, and its accompanying storage facilities. The site was specifically chosen because of its ideal location in the identified study area.

Firstly, its position responds to the energy and movement on the site. A lot of this energy is concentrated on the southern edge of the park, moving east-west to and from park station. The site sits on the edge of this main movement route and looks to draw in that energy and disperse it northwards towards the opposite edges of the park.

Secondly the site sits on the direct line of access between the art gallery and the entrance to the Noord St taxi rank. This creates possibilities with regards to an intermediate threshold space that links these two important urban structures.

In this chapter we will investigate the context surrounding this area to understand how the intervention can integrate holistically into the larger fabric of Joubert Park.
FIGURE 3.7 THE SITE CONTEXT

Three-dimensional perspective locating the project site in its context, with JAG in the foreground and Park Station behind it.
3.4 THE SITE FABRIC

The site plan below (figure 3.8) indicates the built structures on site and their main points of approach. The residential building (figure 3.9) sits on the northern edge of the block, with the mall and its storage space situated south of it. When approaching the residential building with its accompanying retail edge you have to move across King George St, which is a high traffic route past the park, onto this vast pavement space. This paved area is often used as an informal parking space (figure 3.10) which limits visibility of the passing pedestrian to the edge of the building. When you then enter the residential building you move through a small undefined entrance into the southern “courtyard” space which contains the main circulation services. This space has no access to direct sunlight and is cut off by the storage space of the mall. This makes this area incredibly uncomfortable and quite unsafe.
On the southern edge of the block we find the two opposite entrances of The Bridge Mall. These cater to the pedestrian traffic moving east-west along Noord St. Many people by-pass the mall or use it as a secondary route to their destination when Noord St is congested. The remaining mall and storage structure acts as a barrier to the pedestrians moving through the site, coming from the park looking to go towards the taxi rank/station or vice versa. It is a large impermeable mass that is adding to the disconnect between the two urban areas. The sunken railway line that disconnects the mall from King George St further adds to the isolation of the structure.

**FIGURE 3.9 3D SITE**
A three dimensional depiction of the site plan along side it (figure 7). Indicating the structures relationship to each other as well as the spaces in and around the site.
Figure 3.10 indicates the eastern facade of the 1940s residential tower located on the chosen dissertation site. The building is faced with problems of over-crowding, which has left the building in a state of slow decay.

The ground floor of the building has been allocated to retail (figure 3.10). These shops open up onto a wide pavement space that separates the building edge from the street edge. This informal parking pavement space acts as a barrier that isolates the residential building from the public realm.

The vehicle congestion combined with this vast pavement space has contributed to the building slowly turning its back towards its context. The heavy brickwork on the facade creates an additional layer that interrupts the relationship between the internal and external spaces.
The structure was originally constructed using a simple concrete column and slab system, with additional brick infill and cladding. These historic residential structures were built with an inherent characteristic of robustness and permanence. In an already dense environment where there is minimal space for new developments and interventions, the existing buildings on site provide the opportunity to develop within the existing fabric.

From the section in figure 3.11 we can see the static quality of the internal spaces and the monotonous repetition on each level, which contradicts the dynamic ever-changing communities that currently occupy these spaces. The new occupants struggle to adapt its enduring fabric in a manner that is efficient and low-cost. Intervention is needed in order to use the frame work of the building to create a flexible and adaptable living solution.

FIGURE 3.11 RESIDENTIAL SECTION
A section through the eastern facade of the residential tower indicating retail ground floor edge and the residential flats above it.
From figure 3.12 below we can see the vast difference in character between the relatively new structure of the bridge mall, and its historic context. The mall was completed in 1993, which makes a relatively new structure in its historic environment. The architecture is unresponsive in its sensitivity to site and the historic architectural language of the place. Surrounded by residential towers of 10 storeys and over, this new two-storey retail typology restricts its possibility to relate to and integrate with its surroundings.

The mall’s external façades are unresponsive to its edges, creating unsuccessful dead spaces along the edges of the mall. Internally, the shops face onto an internal courtyard (figure 3.13) that holds its main circulation space. The mall is mainly used for its ATMs and formal clothing stores such as Jet, but is noticeably quieter than the street trade happening outside it.

FIGURE 3.12 THE BRIDGE MALL
Image of the bridge mall taken from the opposite side of the railway opening.
Figure 3.13 THE GROUND FLOOR LAYOUT
Plan of the existing layout on ground floor of the city block, indicating the programmes of the spaces.
3.5 THE SITE MAPPING

Having being introduced to the location of the project site and the existing structures on the site; we will now investigate its position within its physical environment as well as its relationship and role in the social relationships of the precinct.

We will begin by investigating the site’s relationship with its surrounding structures, by determining the value of its function and typology in its context (figure 3.14-15) and its contribution to supporting the community living in the area. A more in depth study is undertaken with regards to the trade on the site (figure 3.16), in order to understand what makes it successful and where its pitfalls lay. The role of the trade on the site is an important aspect of my investigation which is concerned with the economic empowerment and upward mobility of the community.

An edge study (figure 3.17-21) is then conducted to understand the relationship between building and street edge, and to determine what factors are adding to the disconnect between the various functionalities and the public realm.

Lastly we look at the social aspects of the site (figure 3.22-25) in order to have a basic understanding of who the users of the space are and the challenges they face. Mapping the social networks and hierarchies of the area in order to understand the immediate and long term needs of this community that could enable their growth and development.
ZONING

FIGURE 3.14  NODAL ZONING
This map illustrates the various functionalities found in the study area and the relationship between them.
FIGURE 3.15: TYPOLOGIES
This map locates the various typologies investigated for the purposes of the study.
1 TRANSPORT INFRASTRUCTURE

- Large mass in landscape
- Unresponsive edges
- Better human scale

**OPPORTUNITIES:**
- Integrate into urban fabric
- Create pedestrian friendly edges
- Connect to the park

2 CULTURAL INSTITUTION

- Disconnected from surroundings
- Elitist structure
- Closed off mass

**OPPORTUNITIES:**
- Open up to the public
- Redefine entrance to be more inclusive
- Integrate into park

3 HERITAGE RESIDENTIAL

- Introverted
- Unsuccessful trade
- Dangerous voids between structures
- No relationship to street

**OPPORTUNITIES:**
- Integrate street edge with public realm
- Differentiate between trade and res
- Open up closed facade
- Open up void

4 LARGE RETAIL

- Barrier in urban fabric
- Not responsive in context
- Unresponsive to architectural language of the place

**OPPORTUNITIES:**
- Open up facade to allow movement through
- Reconsider retail typography in the city
- Integrate retail into residential fabric
FIGURE 3.16 TRADE TYPOLOGIES
This map indicates the various types of trade in the study area and investigates the various typologies of trade and where they are located.
1. **LARGE RETAIL**
   - Barrier in urban fabric
   - Not responsive in context
   - Unresponsive to architectural language of the place
   - **OPPORTUNITIES:**
     - Open up facade to allow movement through
     - Reconsider retail typology in the city
     - Integrate retail into residential fabric

2. **SHOP FRONT RETAIL**
   - Unsuccessful trade
   - No threshold/ layers of approach
   - Cut off by physical barriers in landscape
   - **OPPORTUNITIES:**
     - Define facade and trade
     - Remove surrounding barriers

3. **FORMAL MARKET**
   - Successful and responsive edge to public realms
   - Human scale
   - Industrial language used for retail typology
   - **OPPORTUNITIES:**
     - Use as precedent for retail in the city
     - Create various iterations across the city
     - Break up linearity to slow down movement

4. **INFORMAL TRADE**
   - Various typologies based on permanence.
   - A table/sheet, make-shift stall, and gazebo structure, sit on a scale of temporary to permanent
   - **OPPORTUNITIES:**
     - Integrate formal services based on various levels of permanence that could encourage growth from the one to the other.
ZONING AND TYPOLOGY

Figure 3.14 looks at the zoning on site, giving an overview of the various types of structures surrounding the site of the project. The aim of this mapping exercise was to identify the various functionalities of the buildings surrounding the area of intervention. The study brings to light that even though Joubert Park can be considered a residential area, there are other supportive infrastructures in place to help support its residential function. However, functions such as the transport networks are more successful than others functions, such as trade and cultural sectors. This is why it becomes necessary to understand these existing typologies and determine possible opportunities with regards to both the existing infrastructures and possible additional supportive infrastructures, to nurture the growth of the precinct into a holistic system.

The project site consists of a residential and retail functions, with the cultural heritage site of JAG to the east and the transport infrastructures of the taxi rank and Park Station to the west. In my project I consider each of these functionalities and look at how to strengthen their value in context and additionally, how to mediate and integrate the existing functions on site.

The retail typologies (figure 3.16) vary from very formal structures, such as the mall, to very informal structures along the street edges. However in this area most of the trade, which consists of various layers of ever-changing networks, struggle to exist within the boundaries of the older more static structures on site. This then limits the growth of the trade in the area to survivalist trade, without many opportunities for the upward mobility of small businesses in the area.

Having these typologies already in the environment can create many opportunities of growth and integration. However, it also allows us to see what typologies are missing from the fabric, such as educational institutions and more formal economic structures like offices, companies, and banks.
The relationship between building and street is an important one in the context of a pedestrian orientated precinct such as Joubert Park. However, over time the buildings in this precinct have turned inwards and faced their backs to the public realm. The art-deco high-rises from the 1940s, which saturate the skyline of this precinct, were not historically designed to be responsive to the public edge. These were upper class private buildings that were known for their exclusivity and status.

There is a variation in the way the building meets the street along the row of residential buildings on the project site. The buildings directly west of the park have incredibly narrow pavement spaces, which are made to feel even smaller with the rows of taxis parked against it (figure 3.17). Figure 3.18 illustrates the relationship between building edge and street edge on the project site. The vast pavement space forms a significant void between the two spaces that adds to the disconnect between public and private space. Threshold, hierarchy and layers of approach should be considered in this new urban context before alterations to these important heritage structures are undertaken.

**FIGURE 3.17 STREET EDGE**
This image illustrates the confined space of the walk-ways along the residential blocks. High volumes of traffic further add to the isolation of these edges.

**FIGURE 3.18 PAVEMENT**
This perspective illustrates the vast pavement separating the residential building and the street edge. We see how it is primarily being used for parking.
STREET CULTURE AND BUILDING EDGES
Figure 3.19 and 3.20 illustrate the levels of separation between the residential/retail structures on the site and the park. The wide pavement and railway void (figure 3.20) act as significant barriers in the landscape between the mall and the entrance to JAG. In figure 3.19 we see how the congested traffic and variance in pavement sizes on either side of the road show an uneven hierarchy between the park and the residences. The park with its wide pavement and rows of informal stalls are given more importance than the residential towers and their retail edges, which are given very little breathing space.

**FIGURE 3.19 DISCONNECT**
A section through a residential building with no threshold to street edge, and its relationship with the street and the park. A clear disconnect between the two elements is seen.

**FIGURE 3.20 URBAN SCAR**
A section through the bridge mall that cuts through the railway line and the entrance of JAG. This indicates the disconnect between the built fabric and the public realm

**FIGURE 3.21 ELEVATION**
An elevation of the residential towers of King George St showing the densities and heights, but also indicating the disconnect between the new structure of the mall and the older art-deco buildings.
3.6 THE PEOPLE OF THE PARK

Joubert Park is a melting pot of people from places all over Africa, with their own cultures, traditions, languages and dreams. They are the retired war veteran playing chess in the park, or the Gogo selling sweets on the sidewalk. They are the children playing on the swings in the park waiting for their parents to return after a long day of work in the CBD, and the taxi drivers who wake up before sunrise to start preparations for their day.

However, they are also the street kids caught up in illegal networks with no way out, and the prostitute who needs to be able to support her family back home (Kihato 2013). This is the blessing and tragedy of the park. Where the people you know can either be your support system or your means of failure. These are the people who start to make up the character and energy of the park, it is through their day to day rituals that the park continues.

Through and analysis of anthropological readings by Kihato (2013) and Marais (2013), it was found that many of the dwellers of the Joubert Park precinct have found themselves stuck in a state of liminality. The city was supposed to be a stepping stone to a better life. They came to Johannesburg with the intention of finding safety and refuge, as well as better economic opportunities and upward mobility. Once they arrived, however, they had fallen into the constant struggle of day-to-day survival. They long for their homelands and dream of bringing them honour and respect, but due to victimization, pride, fear and poverty they find themselves stuck in this threshold. At some point they become comfortable with living in this in-between state and give up hope of their prior dreams and goals (Kihato 2013:14).

In the next section we will look at specific case studies of people living in the area of Joubert Park in order to have a better understanding of their daily circumstances through uncovering their spatial narrative. Through this exercise we can determine what social injustices the people of the park face, and how we can intervene from a spatial point of view to create a more just environment.
FIGURE 3.21 INHABITANTS
A collage illustrating the various user groups of the area

© University of Pretoria
D A I L Y  R I T U A L S

We will be following the narratives of three different individuals living in the study area. Their stories have been generalised based on the anthropological writings of Kihato (2013) and Marais (2013). The Al-Jazeera documentary entitled *Hillbrow: Between Heaven and Hell* (Bestall 2012) was also used as a precedent to understand the daily routine of the individuals living around the park. The diagram below indicates the location of each of the case studies and maps their daily route through the precinct. The routes illustrated below work in conjunction with the case study cartoons that follow.
Case study 1 investigates the daily routine of an elderly white woman who moved to the park in the early 1950s. This looks at how the “old” community of the park has had to adapt to the changing social and cultural environment of the precinct and the relationships that have formed between the old and new.

Case study 2 follows the journey of a single mother who is a foreign migrant in the area. We look at her everyday rituals and document the struggles she has to face on a daily basis in order to protect herself and her child in this volatile living environment.

Case study 3 follows the story of a young man who has left his country in order to find better opportunities in Joubert Park. We look at the relationships he has developed, and the hardship holding him back from reaching his potential in the big city.
CASE STUDY 1
Mrs Goldman

Mrs Goldman is one of the few remaining white citizens of the Park. With no family, and no old friends left in Hillbrow, she only has her pet dog as a companion.

"Busi knows how to do my hair just the way I like it" (2)

When the lights are out it takes me 2

© University of Pretoria
THE TRADERS ARE ON THE PAVE
FTER HER (1)

TO CLIMB UP TO MY APARTMENT®
CASE STUDY 2
Ous Mimmie

SHE IS A MOTHER,
A DAUGHTER, A DREAMER,
AN ENTREPRENEUR, A PROVIDER,
A PILLAR OF STRENGTH.

MIMMIE SWEEPS HER ROOM, ACCOMPANIES
HER DAUGHTER PAST THE RISKY AREAS
IN THE BUILDING AS SHE HEADS TO
SCHOOL, AND THEN HEADS
TO WORK.

ONLY SOME STOCK IS DISPLAYED
REST IS HIDDEN INCASE OF POLICE.
IN THE DARKNESS OF THE NIGHT SHE MUST BEGIN WITH HER PREPARATIONS FOR THE DAY AHEAD

"BY THE TIME I GET HOME MY BABIES ARE SLEEPING AND THE SUN IS GONE ONCE MORE"
CASE STUDY 3
Bra Joe

"WE ARE A BROTHERHOOD. WE LOOK OUT FOR EACH OTHER. WE MAKE SURE WE ARE FOCUSED ON OUR GOALS"
"WE DO WHAT WE CAN WITH WHAT WE MAKE. I MUST SEND BACK MONEY TO MY MOTHER FOR MY YOUNGER SISTERS"
3.7 THE CASE STUDY ANALYSIS

FIGURE 3.25 SOCIAL NETWORKS
This diagram looks at the various relationships formed in the case studies and the dynamics between them.

- SOCIAL NETWORKS OF CASE STUDY 1
- SOCIAL NETWORKS OF CASE STUDY 2
- SOCIAL NETWORKS OF CASE STUDY 3
The narratives of the three case studies show various similarities and differences. In the first case study we see how Mrs Goldman had to form relationships with street traders and vendors in the area (figure 3.25) in order to safely walk through the area as an “outsider” (Bestall 2012). She provided them with her loyalty and they provide her with the safety and services she needs. However in her residential building she is alone with her dog, and due to her old age her home slow falls into decay.

In the case of Ous Mimmie we find that she finds her support with the other ladies who own informal stalls in her trade area (figure 3.25). They have formed a support network that looks to help new foreign migrant women in the area with a means of supporting themselves and their families (Kihato 2013:16). However back in her building she is isolated and alone with her daughter, and it is within this space that she faces many of her daily challenges.

In the case study of Bra Joe we find that the relationships he has developed are crucial to his survival in the city. Men who have come here with the same goals as him, have come together to form micro-communities (figure 3.25) that help new comers with their integration into the park precinct. They form communal living environments where expenses are shared, and they have created their own trade networks where the goods they sell are bought together in bulk and distributed in various form of trade across the city (Kihato 2013:42).

The social relationships formed at this point are crucial, but are currently limited. Your nationality (figure 3.25) determines the social hierarchy that you belong to (Kihato 2013:13). There is an opportunity here to strengthen these relationships by providing them the platforms necessary for their growth and development, which could then lead to the integration of social networks into a more holistic social system.

In the next chapter we explore the social fabric of the project site further, looking at an in-depth analysis of the spatial implications of these social hierarchies.
CHAPTER 4

SPATIAL JUSTICE: THEORY AND APPLICATION

This chapter begins by exploring the concept of spatial justice. It then uses it as a tool to analyse space.

4.1 THE THEORETICAL DISCOURSE
4.2 FROM THEORY TO METHODOLOGY
4.3 THE THEORETICAL ANALYSIS:
   4.3.1 THE SOCIAL FABRIC ANALYSIS
   4.3.2 THE SPATIAL FABRIC ANALYSIS
4.4 THE OUTCOMES
4.1 THE THEORETICAL DISCOURSE

“Space is a place of intersecting struggles/oppression/opportunities. How we move or not move through it, adapt to it, monitor it, buy or borrow it, claim or cut it off shapes everything we do and big parts of who we are.”

Makani Themba (2011)

Across the South African political landscape, the relationship between space and social injustice is being re-discovered and used as a tool to express disapproval and outrage at the injustices in our country. We have witnessed space being occupied in order to express social unity, as well as the destruction of space to express its values of oppression, and lastly the re-claiming of space to express a new social identity. Therefore, it will be through an understanding of the relationship between social injustice and space that we might find spatial justice.

Edward Soja first theorized his ideas in his book *Seeking Spatial Justice* (2010). His writings are a continuation of the ideas of Lefebvre (1991) who speaks about the relationship between space and social being, which he refers to as social space. Soja was also inspired by geographers such as John Rawls (2003) and David Harvey (1973) who both wrote about social injustice in their respective literatures. Spatial justice explores these concepts and combines them to create a holistic understanding of the complexities between them. In doing that he was able to provide a more tangible theoretical lens through which one can understand space. In order to understand spatial justice, we need to first understand the individual pieces from which it grew.

SOCIAL SPACE

As introduced in the first chapter, social space refers to the relationship between the physical spatial realm and the social public realm. According to Lefebvre (1991) social space is not a space that exists solely to enclose social happenings, like a container. Instead it is a social composition that is put
together due to its interactions with the social public realm, which in turn defines that space accordingly. It is the dynamics between the physical materiality of space and the social relations that occur within that space.

Soja (2009:2) talks about three principles that the concept of spatial justice depends upon that is deeply rooted in Lefebvre’s ideas of social space:

Firstly, to accept that we are all social beings which then translates spatially in our nature.

Secondly, the acknowledgment that space is socially produced, which in turn implies that it can therefore be socially challenged and changed.

And lastly that the spatial qualities of everyday life have the ability to shape social circumstances, and inversely how social circumstance has the ability to change our spatial environment.

SOCIAL INJUSTICE

From Lefebvre's writings on the inter-connected relationship between spatiality and social being, we now explore the second piece of the foundation of spatial justice, which is the idea of social justice.

Edward Soja refers to the idea of social justice as written about by John Rawls. In his book Justice is Fairness (2003), Rawls summarizes social justice as a direct response to one of the fundamental cores of a democratic society: freedom and equality. He believes that as people of the earth, we all belong to the same collective of humanity, and therefore one person can not claim more rights than another.
He defines a situation to be unjust if it can be considered to be oppressive or obstructive to another persons access to their human rights and freedoms, and their opportunity to live a acceptable healthy life. This system looks to ensure that those who are less advantaged or marginalized receive their fair share of benefits and assistance.

**Spatial Justice**

The concepts of spatiality, social being, and justice, are the three pieces that make up Edward Soja’s theory of spatial justice. The combination of these three aspects allow us to understand the complex relationships between each element. According to him, spatial justice explores the dynamic relationship between social justice and its spatial dimension, and the manner in which these two components interact with each other. The spaces that emerge from this interaction can either be considered just or unjust. Simply put, it is a means of exploring justice from a perspective that is critically spatial.

By recognizing that the spatial components and qualities of the environment we set ourselves in has the ability to affect all aspects of our social lives both positively and negatively, we begin to understand the impact of space, knowledge and power on our everyday routine and how it can be either oppressive or enabling. By thinking spatially about social justice we are able to uncover clues in our environment that could be contributing to unjust circumstances. As architects we then have the ability to use our practical knowledge to get involved more effectively, and to create spaces within the community that are just, fair and speak of democracy and equality.

A spatial justice lens provides architects and spatial planners the opportunity to fully emerge into an exploration of site and its social complexities (Themba 2011). Through this theoretical lens we are able to situate our entire being - physically, mentally emotionally - into understanding and experiencing what factors are influencing the production and definition of space in a specific context.
The basis this dissertation project lies in its extensive understanding of site and context. It is necessary to understand both physical strengths and shortfalls; as well as its social, economic, and cultural implications. The architectural objective of empowering the everyday to become extraordinary requires a comprehensive understanding of the ritual of the everyday person, an understanding of what is holding them back, and where their potential lies.

At this point in the dissertation the ideas of spatial justice are still theoretical. We understand that the physical manifestation of space within the precinct in Joubert park is directly influenced by the social beings living in that space and their interactions within that space. In order to understand how this can be applied to the project site we will look at how academics in the urban planning and architectural field have developed this theory of spatial justice into a methodology that can be used to analyze and interpret the site and space.
4.2 THE METHODOLOGY

The writings of Edward Soja (2009 and 2010) helped define the relationship between social injustices in the public sphere and the spatial implications of these injustices in the urban fabric. Sarah Mina Basset (2013) in her thesis The Role of Spatial Justice in the Regeneration of Urban Spaces, uses the theory of spatial justice as written about by Soja (2010) and methodologies written about in UCLA’s Critical Planning (2007), and was able to take it one step further by translating the concept of spatial justice into a methodology for understanding and analyzing urban space.

She begins by breaking up spatial justice into 3 categories (see figure 4.1). Spatial claim, spatial power and spatial linkage. She defines spatial claim as the communities ability to “live, work and experience space” within their community (Basset 2013:5). Spatial power is similarly defined as the communities ability to “succeed in or contribute to space” in their community (Basset 2013: 5). And the last sub-section of spatial justice is that of spatial linkage. Basset (2013:5) continues to define this as the communities ability to “access and connect to and with other spaces” in and around the community.

For each of these sub-sections of spatial justice she has developed a series of investigative questions, spatial qualities that speak to intentions of each sub-category, and measurements against which a person could measure the just or unjust nature of a space (see figure 4.2-4.4).

If emphasis is put on the spatial quality of an environment during its re-generation, and the correct questions are asked regarding socio spatial relationships, it could reduce the unforeseen social impacts of the physical interventions.
FIGURE 4.1 SPATIAL JUSTICE
A diagram illustrating the sub-sections of spatial justice.
SPATIAL CLAIM

This category of spatial justice refers to a persons right to living and being in their community. Spatial claim looks at the persons right to not only live in a community but also their right to work within that same community wherein he sleeps, and additionally his right to enjoy and experience various social platforms that the community has to offer (Basset 2013:5). A scenario that can be considered spatially unjust from the perspective of spatial claim is cases where a persons right to a space is questioned, where commuter rights or the rights of others are put ahead of the right of the resident.

The following investigative questions were derived from the research of Basset, and can be used to explore this condition of spatial claim in a community:

- Who has taken ownership of the place? Who is restricted from using the space?
- What is the relationship between past history and current community?
- How is the space currently being lived in?
- What work is a person able to do in the space?
- What does a person do for recreation in the space?

Spatial qualities to consider when designing for spatial claim are:

**FIGURE 4.2 SPATIAL CLAIM**
A diagram illustrating the spatial quality considerations necessary to create a space that can contribute to spatial claim.
SPATIAL POWER

This category of spatial justice refers to a persons right to have success within a community, and then conversely his responsibility to contribute back to his community using the skills and talents he has acquired to reach his success (Basset 2013:5). A scenario that can be considered spatially unjust from the perspective of spatial power is when by-laws are put in place by outsiders that place trade restrictions on specific areas such as public parks or urban public spaces.

The following investigative questions were derived from the research of Basset, and can be used to explore this condition of spatial power in a community:

- What emotive qualities could be used to describe the this space?
- Is the community able to practice freely? To contribute to space? and create here?
- What special skills or talents do the people of this space have?
- Is there any preventative barriers in place stunting the current community from participating fully in public life?

Spatial qualities to consider when designing for spatial power are:

![Diagram illustrating spatial qualities](image-url)

**FIGURE 4.3 SPATIAL POWER**

A diagram illustrating the spatial quality considerations necessary to create a space that can contribute to spatial power.
SPATIAL LINKAGE

This category of spatial justice refers to a persons right to connect and have access to other spaces around their community, and the accessibility of their own community to people outside of the community (Basset 2013:5). A scenario that can be considered spatially unjust from the perspective of spatial linkage is when an area is not well connected to main transport routes as to cut off its physical connection to surrounding spaces.

According to Basset (2013:6) the following investigative questions can be asked to explore this condition of spatial linkage in a community:

- Are there any physical barriers in the environment?
- What are the invisible barriers that are either historical, social, political or cultural that divides the area?
- Whose history, heritage, and memory belongs in this space?
- Is this space physically and socially connected to other spaces?

Spatial qualities to consider when designing for spatial linkage are:

**Figure 4.4 Spatial Linkage**

A diagram illustrating the spatial quality considerations necessary to create a space that can contribute to spatial linkage.
This section looks to use the methodology as developed by Basset (2013) as a tool to investigate and understand the socio-spatial relationships on my project site as defined in chapter 3. The project specifically explores the existing living residential model in the city, trying to understand what opportunities have been created in this living environment over time and what is holding its residents back in terms of personal and family growth in the city. Furthermore it investigates the trading opportunities in the precinct in order to discover the spatial consequences or barriers of survivalist trade. And lastly it looks to understand the positive and negative social networks on the site and how these translate spatially in the environment. The analysis will take part in two parts, firstly an analysis of the social relationships and inequalities on site with a supporting photographic study of these scenarios. The second part will then look to explore each of the issues spatially through a series of diagrams that could lead to a complete spatial understanding of the social realities on site. The following study was undertaken with the help of additional sources to assist my own understanding of the intangible nature of the site. Anthropological studies by Kihatoto (2013) and Marais (2013), whose work is specific to the precinct, and a documentary by Bestall (2012) on the living conditions in Hillbow, were all used as supportive sources to my own observations. The following is a diagram and site plan of my site over which I will be mapping the social networks and spatial implications of this investigation:

**FIGURE 4.5 SITE MAP**
A diagrammatic site map and 3D diagram of my site, which is a residential tower and retail mall development.
4.3.1 The Social Fabric Analysis

Spatial Claim

<table>
<thead>
<tr>
<th>EXISTING SPATIAL QUALITY RATING</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public/private</td>
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</tr>
<tr>
<td>Multi-functionality</td>
<td><img src="image" alt="Rating" /></td>
</tr>
<tr>
<td>Experience-ability</td>
<td><img src="image" alt="Rating" /></td>
</tr>
<tr>
<td>Safety</td>
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</tr>
<tr>
<td>Ownership</td>
<td><img src="image" alt="Rating" /></td>
</tr>
<tr>
<td>Amenities</td>
<td><img src="image" alt="Rating" /></td>
</tr>
</tbody>
</table>

Who has taken ownership of the place? Who is restricted from using it?

The space is in a state of decay due to the lack of ownership by the larger population of the park. A few groups of people attempt to repair this by creating initiatives for community participation to integrate the larger community. These people are mostly retired and unemployed members of the community (figure 6) who monitor the park daily and act as guardians of the park.

What is the relationship between past history and current community?

The parks heritage and memories do not belong to the existing residents of the park. The existing population is largely a foreign migrant population, who have little relation with the heritage of the park. This leads to the lack of ownership of the larger heritage structures mentioned earlier. However examples of where these structures have been re-appropriated for new use shows the communities interest and it’s value in the community example: the bandstand being converted into a creche, and the re-appropriation of residential buildings.

Residents take ownership of their smaller flat and their physical contents and possessions rather than the larger communal space (figure 7) as they believe that it is someone else’s space and they do not want to intervene.

How is the space currently being lived in?

As mentioned many of the people and families that have settled in the area take ownership of their space and re-appropriate it according to their specific needs (figure 8). Initially when new city dwellers move to the area they occupy a part -time flat (figure 9) with the intention of moving out as soon as possible and therefore do not take ownership of that space.

What work is a person able to do in the space?

As Joubert park is pre-dominantly a residential area, many of its occupants find work elsewhere, either in the northern suburbs or in the CBD. However, it has also developed into a transport-interchange overtime, so new arrivals in the area, mainly the men, begin by becoming taxi-drivers (figure 10). The taxi industry is an already saturated industry in the inner city, many working long hours and find themselves stunted in personal growth and experience. The women often revert to survivalist informal trade (figure 11) as a means to get by while waiting for their paperwork to be processed so that they can find a more stable form of work. However paperwork can take years to process due to lack of resources and corruption, therefore they find themselves stuck in this survivalist strategy.

What does a person do for recreation in the space?

People who work during the week use the parkas a space of recreation during the weekend in the form of picnics and church services. Within the built fabric of the residential buildings we see that spaces have been re-appropriated for social use. For example the roof space is used for laundry (figure 12) and social discussions between the women, the old “service dwelling” on the roof has most of the time been converted into a gym for the men (figure 13). and the stairways and circulation spaces (figure 14) are used as play spaces for children in the building.
### Existing Spatial Quality Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
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<td>Social Cohesion</td>
<td>Exclusion and marginalisation on site</td>
<td>3</td>
</tr>
<tr>
<td>Ability to Grow/Expand</td>
<td>Limited opportunities for growth</td>
<td>3</td>
</tr>
<tr>
<td>Cultural Expression</td>
<td>Initiatives taken to provide platforms for cultural expression</td>
<td>3</td>
</tr>
<tr>
<td>Economic Opportunities</td>
<td>Limited economic opportunities available</td>
<td>3</td>
</tr>
<tr>
<td>Access to Resources</td>
<td>Limited access to valuable resources education, skills training etc.</td>
<td>3</td>
</tr>
</tbody>
</table>

What emotive qualities can be used to describe the place?

The precinct of Joubert Park can be described as an incredibly vibrant space with high energy (figure 15). However, when you look closer you notice elements of lack of maintenance (figure 16), illegal activities and general degradation of space leave the area feeling dingy. As an outsider moving through the space, you are very promptly made aware that you do not belong there and that it is dangerous for “our type”. You are left feeling excluded and unsafe.

Is the community able to freely practice, contribute and create in the space?

There are moments of restriction and moments of freedom in this area. Trade is incredibly restricted, with informal trade banned from inside the park area. Informal trade along the street edges also requires a permit, which is hard for foreign migrants who are still trying to sort out their legalities. Additionally, regarding the foreign migrant population, they are often seen being picked up by the police (figure 17) with their stock confiscated. This power is being abused by the police as daily this cycle continues with no assistance from the police or home affairs with this matter.

What skills or talents do the people of the space have?

On weekends in and around the park is filled with street musicians (figure 18), comedic performers and dance groups, these are mostly the younger population of the park. With regards to the trade we see very little ingenuity around what is being sold, vendors selling only what is accessible to them (figure 19). This gives us the opportunity to make these traders aware of the skills that they have and then assist them in the development of it.

Is there preventative barriers in place stunting the current community from participating in public life?

There are invisible social barriers between the various micro-communities within the area. These micro-communities often revolve around nationality. Each micro-group lays claim to a certain trade or space or area, and if one group tries to cross another group it causes tension in the area. A larger problem of economic exclusion is also prevalent, with many outsiders from the northern suburbs of Parktown and Sandton made to feel unwelcome and unwanted in these areas. Physically, there is also fences in place to seclude the general public from spaces that are supposed to be accessible (figure 20), such as JAG and the green house.
SPATIAL LINKAGE

EXISTING SPATIAL QUALITY RATING

<table>
<thead>
<tr>
<th>Connectivity</th>
<th>Well connected with various forms of transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>Social barriers restrict communication between groups</td>
</tr>
<tr>
<td>Invest-ability</td>
<td>Area in threat of gentrification</td>
</tr>
<tr>
<td>Mobility</td>
<td>Pedestrian mobility is restricted by physical barriers on site</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Social barriers limit access to outsiders</td>
</tr>
</tbody>
</table>

Are there any physical barriers in the environment?
There are many physical barriers in the landscape. The sunken train-tracks forms a significant barrier between the park and the CBD (figure 21). Additionally there are barriers on the roads splitting areas in half, disrupting pedestrian movement (figure 22). There is also fences that are used to privatise the heritage structures for safety purposes (figure 23) that begin to exclude the general public. The high volumes of traffic form another barrier along the streetscape (figure 24), making it difficult for the flowing pedestrian movement. The façades of the buildings themselves create barriers between public and private space (figure 25). Additionally the mass of the bridge mall acts a barrier in the urban fabric by blocking the pedestrian movement moving from the park to the modes of transport.

What are the invisible barriers that are either social, political, cultural?
There is a larger social barrier separating the entire Hillbrow triangle from the more exclusive northern suburb neighbourhoods on its edges (figure 26). Similarly within the triangle the communities are broken down into smaller-micro communities based on their nationality. There is a cultural barrier between the memories and heritage of the park and the new community of the park.

Whose history and memory does the space belong to?
The history and memory of the park belongs to the British settlers who came to South Africa in search of gold. They had developed the park in the same language as their home country, making it difficult for new users of the park to appreciate its value. A way to reconnect the user of the park and its history is to re-appropriate this historic structure to speak to the needs of its new user.

Is the space physical and socially connected to other spaces?
The Joubert Park Precinct is incredibly well connected in the larger context of Johannesburg because of its various means of transport infrastructure. With Park Station and Noord St taxi rank to its west, the MTN local taxi rank to its southern edge, and a BRT route along its eastern border, this site is completely inter-connected to its surroundings. However, there is a large social barrier separating the park from the rest of Johannesburg. Class, money and race divide the bordering communities around the park, with many “outsiders’ feeling unsafe and unwelcome in the inner city, and therefore have built their walls higher and turned their back to any connecting with the precinct.
FIGURE 4.21 RAILWAY BARRIER

FIGURE 4.22 INFRASTRUCTURE AS BARRIER

FIGURE 4.23 FENCE AS BARRIER

FIGURE 4.24 TRAFFIC AS BARRIER

FIGURE 4.25 DEAD EDGE BARRIER

FIGURE 4.26 BARRIER BETWEEN HILLBROW AND PARKTOWN

FIGURE 4.15 SITE MAP
A diagrammatic site map used as key for locating study
In this section we will explore the issues or injustices discovered in the previous section and investigate how they have manifested spatially in the urban landscape in and around the project site. It begins with a spatial investigation from larger urban point of view, exploring the issues of spatial linkage and accessibility in and around the city block on which the site is located. It then works its way through the intricacies of the fabric on the site, looking at the spatial power of the resident, and the means they use to try and find success in their living environment, and lastly it will unpack the manner in which people live in the city and how it affects their experience of simply being in the space.

At the end we would have a synthesised spatial map that depicts which spaces are just/unjust on the project site and how to then use this as a resource in the future spatial development of the site.

**FIGURE 4.27. SPATIAL JUSTICE MAP**
This diagrammatic map illustrates the methodology which the spatial study will follow in order to get an in-depth understanding of site
SPATIAL LINKAGE: Connectivity and accessibility of the project site

1. BUILDINGS AS BARRIER

The diagram below illustrates characteristics of spatial injustice with regards to the hindered pedestrian mobility on the site. The three masses form a barrier to the pedestrians moving through the park to the Noord St taxi rank and Park Station. Restricted side streets saturated with parked vehicles also limit mobility on site.
2. TRANSPORT DISCONNECTED FROM PEDESTRIAN

The points of entrance of the transport infrastructures in the precinct are important nodes in the social context of the site. However, we can see from figures 4.31 and 4.32 below how the taxi rank entrance is spatially disconnected from the main movement routes and how the park station entrance, which is a service entrance in reality, has not been invested in. This illustrates the cities opinion of the value of the people living in Joubert Park. Which in turn affects their perception of their own value, stunting community growth.

**Figure 4.31 NOORD ST TAXI RANK (1)**
Diagram illustrating the disconnected entrance of the taxi rank from the main movement routes.

**Figure 4.32 PARK STATION ENTRANCE (2)**
Diagram illustrating the undefined/blunt existing entrance to Park Station from Joubert Park.

**Figure 4.33 SITE MAP**
A 3d site diagram used as a key to locate points of importance
3. INACCESSIBLE RESIDENTIAL STRUCTURES

The residential tower located on the project site is disconnected from the public realm. For the residential dweller the entrance is a steel door located on the corner edge of the building which is slightly offset from its retail facade. It does all it can to be hidden. The dweller then walks through into the internal void space and makes his way through to the main circulation core. This space is dark and unsafe as it was enclosed even further by the storage structure built right up against it. The lack of connectivity between the residential dwelling and the public sphere is isolating these structures and contributing to the creation of smaller social groups. There is a lack of communication between these microgroups which leads to a disconnected condition between social groups.

**FIGURE 4.35 HIDDEN RESIDENTIAL ENTRANCE(3)**
Photograph of current main entrance into the building which is completely shut-off and inaccessible to the outsider

**FIGURE 4.36 BLOCK SECTION (4)**
Section through the city block illustrating the dark internal courtyard space enclosed by the retail structure

**FIGURE 4.34 CIRCULATION**
Diagram illustrating the manner in which the dweller would approach the building and navigate its internal spaces.
S P A T I A L  P O W E R
Opportunities of success on the project site

1. THE SPATIAL MANIFESTATION OF SURVIVALIST TRADE

The main form of income on the site is from survivalist trade. In the study area we find four various types of this trade, which we have compared in order to determine where the opportunists for growth lie. In order for a community to exert there power in a space, they need to have the ability to grow and succeed as an individual in that space. Today, growth is often determined by income, which makes the availability of economic opportunities and resources on site vital.

The traders ability to exert their power in the space is being restricted by the physical limitations and barriers on the site. Dead edges and infrastructural barriers influence and limit the way people move through site, making it difficult for static traders, such as the mall and residential edge shops, to interact with possible customers and limiting successful trade to specific movement routes. Street traders who have the ability to adapt to the movement of the site are more successful in this precinct due to their flexibility.

There is also a lack of interaction between the various levels of trade that you see elsewhere in the country, where informal traders support formal shops and act as their “legs” on the street. By fostering a relationship between them, we can create opportunities for the trade networks to strengthen and grow.
FIGURE 4.38  THE MALL*(1) VS THE MARKET (2)
Section perspective comparing the success between the market and the mall on site.

FIGURE 4.39  RESIDENTIAL RETAIL EDGE (3)
Section perspective illustrating the disconnect between building and street edge, due to the vast pavement space.

FIGURE 4.40  INFORMAL TRADE AT THE PARK (4)
Section perspective illustrating the disconnect between building and street edge, due to the vast pavement space.

FIGURE 4.41  INFORMAL TRADE AT RANK (4)
Section perspective illustrating the disconnect between building and street edge, due to the vast pavement space.
2. POSITIVE CULTURAL EXPRESSION

When a group is able to express themselves, their identity, their culture, their traditions, or their heritage in a space, they are able to exert their power in that space and take ownership of it. It is within this type of environment that communities are inspired to contribute and share knowledge and help each other succeed.

Within the public realm surrounding the site it rare to see a group expressing their identity. However, once in a while you do experience this cultural re-birth in the inner city. Mainly through avenues of the youths do we see young people wanting to get in touch with their culture and heritage, and express it through poetry dance, music and art in the public realm.

The large pavement that is a hindrance on a normal everyday scenario. However, it becomes an incredibly vibrant event space a few times a year. This “empty” space provides the platforms for their voices to be heard. Here we see how through space the everyday can be empowered to become extraordinary. In this scenario it is a space of justice.

FIGURE 4.42 SITE MAP
A 3d site diagram used as a key to locate points of importance
FIGURE 4.43 PAVEMENT AS BARRIER (1)
Drawing illustrating the everyday condition of the space in front of the residential building, which is relatively quiet.

FIGURE 4.44 PAVEMENT AS EVENT SPACE (1)
Drawing illustrating the extraordinary condition of the space in front of the residential building, when it is converted into a platform of empowerment.
SPATIAL CLAIM
Livability of the project site

1. RE-APPROPRIATED LIVING

The residential building, known as Constantia, on the project site is made up of various different social groups, each of these groups have claimed their space in this building and formed their own micro-communities within it. Some of these groups have positively re-appropriated their living space to suit their immediate needs. Others, who do not see this as a permanent living solution, have not taken ownership, and have simply left it in its deteriorating condition.

These living scenarios illustrate how community members have claimed their own private environments, and formed their social networks within it. The injustice, however, lies in how limited this scope of spatial claim is. This investigation illustrates possibilities of how we can encourage the community to take ownership of spaces outside their four walls, by creating environments with similar spatial qualities that encourage interaction and social cohesion.

FIGURE 4.45 SITE MAP
A 3d site diagram used as a key to locate points of importance
FIGURE 4.46 COMMUNAL LIVING (1)
Diagrammatic plan and section illustrate how these two flats have created a communal living space, with one room used mainly for sleeping and the other for eating and socialising, the balcony between the two have been combined as a larger outdoor social space.

FIGURE 4.47 LIVE COOK CLEAN (2)
Plan and section illustrate how this one bedroom is used as a bedroom for 3, with cooking and laundry happening within the small flat space.

FIGURE 4.48 DRUG DEN (3)
Plan and section through a drug den which is located in the darkest part of the building. The balcony has been boarded up to allow no visibility in or out of the room. Living conditions are bad with high levels of overcrowding.
2. RE-APPROPRIATED PLAYING

Within the residential fabric, the smaller social groups have re-appropriated spaces to respond to their social needs. Figure 4.48 is a section through the servants quarter on the roof which has now been converted into a social laundry gathering space for the women, and a gym for the men.

The circulation spaces have been claimed by the children of the building as their official play space. While the rooms are small and congested, the passageways and fire escapes offer enough space for the children to play while their parents watch on from their flats. However as with figure 4.51 we see some passage areas are incredibly dark and underlit, these spaces tend to be the more dangerous spaces in the building, and children are often warned to play in those areas.

**Figure 4.49 Site Map**
A 3d site diagram used as a key to locate points of importance
FIGURE 4.50 SOCIAL ROOF (1)
Diagrammatic plan and section illustrate how these two flats have created a communal living space, with one room used mainly for sleeping and the other for eating and socialising, the balcony between the two have been combined as a larger outdoor social space.

FIGURE 4.51 UNLIT PASSAGEWAYS (3)
Diagrammatic plan and section illustrate how these two flats have created a communal living space, with one room used mainly for sleeping and the other for eating and socialising, the balcony between the two have

FIGURE 4.52 SOCIAL CIRCULATION (2)
Diagrammatic plan and section illustrate how these two flats have created a communal living space, with one room used mainly for sleeping and the other for eating and socialising, the balcony between the two have been combined as a larger outdoor social space.
4.4 **THE OUTCOMES**

From this investigation we can draw a few conclusions about the status of the site in terms of spatial justice:

When we consider the site the perspective of **spatial claim** we find two larger categories against which we can measure the just-ness of the site. On the one hand we have the problem of ownership. No one necessarily claims the whole precinct and takes ownership of it outside their own four walls. However, on a micro-level we see individuals taking ownership of their own flat/area around their stall etc. Spatially we need to look at how to re-appropriate existing urban fabric to give it value to the community, which in turn would lead to the ownership of that fabric. The second measurement looks at use of space. This is an incredibly high density area that is well used. The buildings are over-populated and the recreational facilities are deteriorating because of use with no maintenance. However during the day during work hours, the precinct is a lot less busy with many of its occupants leaving to find work outside of the area. The site cannot be considered just from a spatial claim point of view, but through a series of interventions relating to economy in the area and the relationship between past and present it is possible to create a spatially just area that accommodates for all aspects of its users life, who then takes ownership of the space and maintains it accordingly.

From the perspective of **spatial power** the precinct itself is well equipped with what is necessary to live and succeed in the city. It boasts high-density residential living, recreational green spaces, largely connected transport systems and a basic retail sector. However, the flaw lies in the ability of these systems to expand. Most of these were put in place in the early 1900s with no intention of further expansion. Today, with over-populated dwelling spaces, there is a desperate need for expansion and adaptability. Residents see that there is no means of expansion and so do not envision a future in this precinct, this limits there ownership in the space, which often leads to the degradation of the fabric. Similarly there is no infrastructure in place to help support and develop the skills and talents of the new city user in order to produce an trade model that is unique in what it can offer the rest of the city.
Lastly from a spatial linkage point of view we find that the space is well connected and linked to its surrounding context, in terms of transport infrastructure. From the point of the pedestrian there are physical and social barriers in place that limit their accessibility to areas within the precinct and isolate other spaces from the larger system creating dead spaces within the urban fabric.

While the idea of spatial justice is a hypothetical ideal and not necessarily something that can be accomplished in the real world, through spatial intervention we can attempt to minimize the role that space has in creating unjust and oppressive environments, by focusing on creating empowering spaces of justice instead.
CHAPTER 5

DESIGN DEVELOPMENT

This chapter explores the spatial development of the site through the understanding of the overriding theoretical and conceptual intentions, the programmatic intentions and other design drivers.

5.1 THE CONCEPTUAL APPROACH
5.2 THE ARCHITECTURAL PRECEDENTS
5.3 THE PROGRAMMATIC INTENTIONS
5.4 THE SPATIAL EXPLORATION
5.5 THE DESIGN DEVELOPMENT
5.6 THE SKETCH PLAN EXPLORATION
5.1 THE CONCEPTUAL APPROACH

“Architecture is intimate with power. It requires authority, money, and ownership. To build is to exert power...”

“The question is how that power is realised - by whom, for whom, to whom.”

Rowan Moore (2012:169,197)

In the book *Why We Build* by Rowan Moore (2012) he speaks about spaces of power and spaces of freedom, and what elements constitute its volume. According to Moore, architecture is made up of the relationship between object and space. The object is the element of power. Its role is to provide shelter, protection and comfort and to cater to the happenings in and around the site.

On the other hand, Moore (2012:189) believes space encourages freedom. That space has the ability to be influenced by what occurs within it. It can be warm and intimate, or cold and uncaring. It can be free and accessible or closed-off and restricted. It is then job the of the architect to find the balance between these various elements of space and their characteristics.

Through our investigation of spatial justice we have immersed ourselves into the various types of space that make up the project site. The in-depth analysis allowed us to understand the value of the space, its strengths, its shortfalls and its justness. We find a direct correlation between Moores ideas of freedom and power, and Soja’s spaces of justice/injustice.

A space that has been classified unjust is a space that does not control its own power and freedom. The power lies in the hands of a prevailing authority, who can then misuse this power in order to dictate how that space can be used and who can use it. This then becomes a space of oppression.
In a space that can be considered just, the power manifested in that space lies in the hands of the occupying user. Therefore we find that the existing community then have the freedom to use and adapt the space according to their needs and future aspirations. This is a **space of empowerment**.

The architectural dissertation looks to use this understanding of space as a overriding principle in its approach to the design and development of space and architecture. In order for us to empower the community to become extraordinary, we need to empower the environment that they are situated in. Through this we can provide a platform that would encourage the growth and development of the community from this space of oppression and injustice, to one that is empowering and just.
SPATIAL DEVELOPMENT METHODOLOGY

In order to re-develop the site from one that is unjust and oppressive, to one that is empowering and spatially just we developed a spatial methodology as a guide to approaching the spaces of the site. The methodology looks to incrementally alleviate social injustices on the site through a series of spatial interventions that could lead to an architecture of empowerment.

After analysing the space and understanding its social and spatial intricacies that lead to it being spatially unjust, the process begins by opening up and exposing the oppressive space. Weather it is highlighting the oppressive spatial element in order to bring attention to it, or opening up a space that is enclosed, dark and dangerous.

The next phase looks at defining the spatial needs of the community. This investigates movement routes, daily rituals and important nodes on site that need to be made more accessible to the everyday pedestrian.

Once we have an understanding of what the community needs and what is important to them, we then can begin integrating these elements into the larger urban fabric of the site. Connections are made between private and public structures and a consideration for threshold and approach in the between building, street and pedestrian.

Lastly we develop programmes and functions for these spaces that relate to the communities needs as well as their future aspirations and growth. The spaces and adjoing programmes should be developed in such as way that allows the community to make use of and adapt these spaces over time as the community grows and their needs change. Through this process we can develop an architecture that empowers the everyday to become extraordinary.
SPACE OF OPPRESSION

EXPOSE
Expose the space of oppression and the injustices occurring within that space

DEFINE
Define the real needs and desires of the occupying user

INTEGRATE
Re-integrate the user into the public realm

OCCUPY
Give program and function to these spaces and allow the community to use and appropriate it as they see fit.

SPACE OF EMPOWERMENT

FIGURE 5.1 SPATIAL DEVELOPMENT CONCEPT
Diagram illustrating the various phases of spatial development that the site needs to move through in order to become spatially just and empowered

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5.2 THE ARCHITECTURAL PRECEDENTS

Case study 1: MASP_LINA BO BAARDI

![Figure 5.2 MASP](image)

Photograph of MASP from the street looking towards the public plaza space

![Figure 5.3 MASP](image)

Photograph of MASP that shows the 3 spatial elements that constitute MASP

The Museum of Art in Sao Paulo (MASP) was designed by the Brazilian architect on a site that was once an important public belvedere (Moore 2012:160). The building consists of three main parts that together make up the whole. The basement section is a mass built into the slope of the site that contains a library, theatre, restaurant and civic hall space (figure 5.6). Above it, on street level is the public plaza, which is defined by the concrete and glass box that is suspended in the air above it (figure 5.4). The glass box is in actual fact the main gallery space. The public space below it is completely open and can be used at any time for functions or events. Currently the space is being used to hold markets and concerts, as well as a gathering space for public protest. However, when it is not being used for events it is dark, unsafe and often used as a shelter for the homeless.

The masses of the structure is used to serve and define the void, thereby giving power to that void (figure 5.5). The mass above it charges the space below it and gives it significance. It is not an architecture that looks to be iconic and powerful, but rather one that seeks to use its presence in the urban landscape to enrich the existing, and provide a space that allows many possibilities and encourages the communities freedom to take ownership of that space.
FIGURE 5.4 VOID AND STREET
Photograph illustrating the relationship between structure and street

FIGURE 5.5 SPATIAL CONFIGURATION
Diagram illustrating the relationship between mass and void and how the masses empower the void

FIGURE 5.6 SECTION THROUGH MASP
3D section perspective of MASP illustrating the functions of each element
Case study 2:
KANCHANJUNGA APARTMENTS _ CHARLES CORREA

The Indian architect, Charles Correa, was commissioned in 1970 to build a residential tower in the over-populated city of Bombay. The challenge that Charles was faced with was how to develop a residential living solution that is comfortable and liveable in a dense environment (Khan, Hassan-Uddin 1987:56). The other issue he faced was the environmental conditions in Bombay. In order to pick up on the prevailing winds and take advantage of sea-views, the building had to be orientated east-west. This unfortunately exposed the building to the harsh eastern and western sunlight (figure 5.9).

As a way of mediating this problem, he came up with an innovative living solution. The residential apartments are organised in an interlocking modular system that is wrapped around a central core (figure 5.10-11). On the outer skin he then placed a series of balconies and loggias that open up the residential building to its environment, but also act as a device to protect the internal living spaces from the harsh climate. The loggias also provide breathing spaces within the dense residential fabric that is often used for social gatherings and relaxation.
FIGURE 5.9 ENVIRONMENTAL CONSIDERATIONS
Diagram illustrating how the building responds to its environmental conditions.

FIGURE 5.10 SPATIAL CONCEPT
Diagrams illustrating the interlocking unit concept and the loggias role in protecting from the elements, while allowing for views and collecting the breeze.

FIGURE 5.11 INTERLOCKING UNITS
Section illustrating how the residential units are interlocking and modular, with the large veranda spaces protecting the internal living space from the elements. We can also see how these veranda spaces open up and create transparency in the structure.
Case study 3:  
WITS ART MUSEUM _ COHEN & GARSON

The Wits Art Museum (WAM), completed in 2011, holds the large art collection that is owned by the university. When inviting architects to compete for the commission, WITS stipulated that the new design should look at existing structures around the university and develop a strategy for adaptive re-use (Paul Kotze 2014). The final site was chosen on the corner of Jorrissen St, and was made up of three very different structure, one that was a petrol station and car garage. The university also stipulated that this new facility would be the “face” of wits outside of the university walls, with the intention of connecting with the surrounding community and making it accessible to the everyday pedestrian. For that reason the building needed to have a presence in the public realm and contribute effectively to street life.

The intervention successfully manages to unify and integrate the 3 various structures on street level with an additional screen layered in-front of the facade that defines the entrance and welcomes the pedestrian. A restaurant and open gallery space on the street edge encourages interaction between the street and the gallery which begins to activate the street edge.
FIGURE 5.14 EXISTING STREET EDGE CONDITION
Photograph depicting the existing building and its closed off street edge and delapidated condition.

FIGURE 5.15 NEW DEFINED STREET EDGE
Photograph depicting the new layer attached to the faced used to define the street edge.

FIGURE 5.16 THRESHOLD
Photograph depicting the various layers of approach moving from public to the semi-public internal space.
5.3 THE PROGRAMMATIC INTENTIONS

PROGRAMME DRIVERS

The main programmatic drivers for the dissertation project is the overriding theoretical and conceptual approach which looks at spatial justice and architectures of empowerment.

In the spatial justice analysis we identified social and spatial programmatic gaps on the project site that has lead to the condition of liminality that the existing community experience today. Being stuck in this condition stunts their growth and their ability to succeed financially in the precinct.

While many of the issues of spatial claim and spatial linkage can be solved through a series of subtle spatial interventions, spatial power which looks at the ability of a person to succeed in his community and contribute back to it, requires a lot more thought and attention.

From our investigation we found that the project site lacked the resources and opportunities necessary to assist the community in the development of their respective businesses. We noted the various forms of trade present on site, and that they were mostly survivalist in nature. Through the re-arrangement and re-development of space, these facilities could be greatly improved. However, without the necessary knowledge and skills, these businesses would still struggle to transcend their survivalist nature and allow for opportunity and growth. This requires additional support structures to be put in place that could provide the resources knowledge and training necessary for the development of small businesses.

The primary programmatic function of the architectural intervention is a small business development centre that integrates holistically with the existing city fabric.
The centre responds to all three sectors of spatial justice. With regards to spatial claim and the ability to “live” in the city, the centre provides mixed-use facilities that consist of dynamic living, working and playing spaces. The primary function of this centre is to assist traders in the area with the development of their businesses in order to help them succeed in the precinct, and contribute back to its community, this is a characteristic of spatial power. Lastly, the centre responds to the ideas of spatial linkage by creating a space where various entrepreneurs, academic and educators in and around Johannesburg can connect and develop relationships that could be beneficial to the community of Joubert park. These type of relationships help break down the social barriers restricting the precinct.

**FIGURE 5.17  SURVIVALIST TRADE**
Photographs from the precinct showing the character and nature of the economic opportunities available on site.
PROGRAMMATIC INTENTIONS

It is the project's intention to integrate the small business development centre into the existing fabric on the project site. In order to accomplish this, we need to re-examine the existing programs on site, and re-structure them accordingly to allow for this new intervention.

There are three phases to this programmatic development:

1. The first phase involves the re-development and re-structuring of trade in the precinct, which begins to strengthen the existing trade networks on site, in order to prepare them for the additional economic infrastructure that is to be inserted. This phase of the development will be undertaken by the owners of the mall in order in conjunction with the city of Johannesburg, in order to optimise their profits in their location.

2. The second phase looks at the re-development and refurbishment of the residential tower on site, and its relationship to the new retail node. In order for the small business development centre to be integrated and assist the existing community, there is a need to first act upon the issues that they experience daily in their living environment. In this way, once the centre is introduced into this context, it would be more easily welcomed and appreciated, as their basic spatial needs would have been met. The residential development would be undertaken by the owners of the building in conjunction with housing developers in the inner city such as EKhaya neighbourhood development. This would be prompted by the development of the retail sector on site, in order to create a more successful cohesive environment, and profit from the renewed success on the site.

3. The third phase lastly looks at the implementation of the small business development centre on to the site. This centre would connect physically to the exiting structures in order to feed off its energy as well as to make a direct contribution to both retail and residential sectors. This phase would be developed by the city of Johannesburg who look to empower small business in the area, and would be run and managed by an NGO on behalf of the city.
FIGURE 5.20 EXISTING SITE
3D diagram of existing project site

FIGURE 5.21 PHASE 1
The re-structuring of the retail sector to be more accessible to the pedestrian and to integrate into urban fabric

FIGURE 5.22 PHASE 2
Removal of residential structure in order to expose and integrate it into the urban environment

FIGURE 5.23 PHASE 3
The integration of the retail and residential fabric through the implementation of the small business development centre
5.4 THE SPATIAL EXPLORATION

5.4.1 THE DEVELOPMENT OF THE BLOCK

The first point of approach looks at the void between the retail and residential structures. From our analysis we’ve seen that this space is dark and enclosed, and therefore dangerous in the city context.

Using the conceptual methodology discussed we look to re-develop the space from one that is unjust/oppressive to one that is considered spatially just and empowering.

The spatial development begins at a larger scale that looks at the entire block of the project site, creating a mini framework within which the new intervention will fit. Once the larger site has been envisioned, we will focus on more specific elements on site such as the trade and the living spaces. Once the existing site has been re-developed to function and perform optimally, we will then begin investigating the spatial opportunities for design intervention.
FIGURE 5.25 DEFINE
Defining the new movement route through the site
FIGURE 5.26 INTEGRATE
Connecting important nodes on site

FIGURE 5.27 Q C
Relocate the linear model

EXISTING

PARKSTATION ENTRANCE

TAXI RANK ENTRANCE

NEW RETAIL NODE

PROPOSED
the space to give it function
FIGURE 5.28 EMPower
Empower the community through a series of urban and spatial interventions
PHASES OF SITE DEVELOPMENT

Expose
The enclosed void is opened up and exposed, liberating the space and allowing light into the courtyard area. This also looks to expose and bring light to the illegal activities and threats that occupy the space currently.

Define
Through and understanding of the movement on site a new route is defined that would better cater to the needs of the community. This new route opens up access to the taxi rank.

Integrate
The route is then extended to begin to integrate important nodes along it. It begins at the new proposed entrance to Park Station and connects through the site to JAG. This reinforces and builds upon the existing east-west axis on site which now further includes accessibility to the park, the gallery and the transport infrastructures through this courtyard space.

Occupy
The courtyard is then given life and energy by relocating the linear market from the southern edge of the mall to the defined void space. The market which served the original movement to and from park station would continue its function, while being better integrated into the built fabric and responding better to the needs of the community.

Empower
The larger site now integrates the transport/ retail/residential and recreational fabric in and around the project site, spatial linkage issues identified in chapter 4. This will act as a foundation from which the project’s urban vision develops and will directly influence the next phase of the development of the trade and residential sectors on site.
5.4.2 THE DEVELOPMENT OF SPECIFIC SITE COMPONENTS

A - DEVELOPMENT OF TRADE

FORMAL RETAIL _ THE BRIDGE MALL

EXISTING

PROPOSAL

EMPOWER
[formal retail on site]

FIGURE 5.29 (1-8) THE BRIDGE MALL
The re-structuring of the mall and development of its edges to be more accessible to the pedestrian

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EXISTING
Mass acts as barrier in the landscape, trade is disconnected from public realm and inaccessible

EXPOSE
Make retail accessible by removing the roof and exposing internal structure and function

DEFINE
Diagonal movement through site coming from the CBD moving towards the park begins to puncture the mass

INTEGRATE AND OCCUPY
Trade is introduced to both sides of its structure to open it up to the pedestrian movement on site.
A - DEVELOPMENT OF TRADE
FORMAL RETAIL _ RESIDENTIAL RETAIL EDGE

EXISTING

PROPOSAL

EMPOWER
(the retail edge)
EXISTING
Trade on the residential edge is undefined and disconnected from public realm

EXPOSE AND DEFINE
Expose retail edge to the pedestrian by defining its edges, and by creating a series of thresholds that pick up the pedestrian from the main movement route

INTEGRATE AND OCCUPY
Integrate edge into the public realm by populating and giving function to the vast pavement space separating it from the street edge.
A - DEVELOPMENT OF TRADE
INFORMAL TRADE _ LINEAR MARKET
**EXISTING**
Trade site directly on the edge of main movement route there is no threshold or layers of approach between the two, making for an uncomfortable shopping/browsing environment.

**EXPOSE AND DEFINE**
Create breathing space between fast paced pedestrian movement and market by recessesing it into the square to allow for a secondary line of movement that is slower and allows the customer to dwell.

**INTEGRATE AND OCCUPY**
Integrate the edges of the market into the public spaces alongside them with a platform for events that open up onto the park square and a bus stop on the opposite end to react to the entrance of the taxi rank.
B - DEVELOPMENT OF RESIDENTIAL TOWER
INTERNAL LIVING SPACES

EXISTING MULTI USE LIVING SPACES

The redevelopment and renovations to the existing residential building on site takes into consideration how space is currently being utilised and adapted to suit the needs of its existing occupants.

We find examples of how a single bedroom is converted into a mini-flat with spaces to work/clean/wash/ and cook all squeezed into the small bedroom space.

In our vision for the building we look to create 2 storey live-work units, which can be compartmentalised in order to rent to a sub-letter opened up to create a larger living space.
We also find example of creative living solutions for different types of occupants. Communal living arrangements have been organised in order to cater to the dense living environment which allows occupants to share resources.

One flat would be used for eating and socialising and storage, while the other flat caters to sleeping and cleaning. The two flats together create a dynamic living environment.

We look to build upon this train of thought by creating communal living spaces, with cooking and socialising spaces on the first floor and sleeping and private spaces on the second. In this way we’re building upon this communal culture that has been established, but creating better living conditions and environments that aren’t overly populated, but rather that allow for growth.
B - DEVELOPMENT OF RESIDENTIAL TOWER
INTERNAL SOCIAL SPACES

The circulation space in the existing residential building is a space that belongs to all the occupants and connects all the dwellings, this has made it an ideal space for social interaction. Throughout the day we find children running through its corridors and down its fire escapes.

The project looks to incorporate these ideas into the renovation and development of the residential fabric. By giving more space to the circulation, opening it up to allow in light and creating an environment for social interaction.
CONSOLIDATED SPATIAL VISION
THE URBAN FRAME

EMPOWER
[the city block]
The new model of the city block speaks of accessibility, permeability, and spatial definition. It refers back to Lina Bo Baardi’s concept of the solids that serve the void. On the project site the public square created between the residential and retail structures holds more importance in the context of the larger community than the buildings themselves. We’ve created an urban frame in which life exists and is empowered.

This space acts as an introductory threshold space into the park. It looks to slow down movement coming from the high energy transport sector, to the recreational park. We envisioned the park to be a space that can be experienced and wherein one can dwell. This square in the urban fabric intends to be the element that introduces people into the park space and adjusts their pace and intentions in order to better appreciate this developed park precinct and all it has to offer.

The small business development centre looks to situate itself into the fabric of this envisioned city block. It looks to integrate with the existing fabric and continue the theme of framing urban life. The project looks to further define the threshold between Park Station and the park, and create a series of layers of approach that slowly move the pedestrian from a high energy, de-personalized spatial experience, to one that is calmer and encourages interaction and thought.

In the next section we look at the design intentions of the architectural intervention, its iterations and programmatic layout of the spaces in relation to the site context.
C - DEVELOPMENT OF THE NEW BUILDING
FORM STUDIES

The new model of the city block speaks of accessibility, permeability, and spatial definition. It refers back to Lina Bo Baardi’s concept of the solids that serve the void. On the project site the public square created between the residential and retail structures holds more importance in the context of the larger community than the buildings themselves. We’ve created an urban frame in which life exists and is empowered.

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![Diagram](image)

**FIGURE 5.36 MASSING STUDY 1**
Attaching to the southern facade of the residential tower over-looking the courtyard space. Intervention has no direct access to northern light.
From the beginning of the design process, the architectural intervention looked to attach to the existing fabric physically, in order to react to their programs and spatial qualities. The initial intention was to connect to the residential building and provide an extension over the courtyard (figure 5.36). Through sketch plan and section investigations we found that any attachment to the southern facade of the structure would not receive any daylight and fall within the shadow of the 10 storey residential tower. This would be a rather unpleasant social and interaction space.

The second approach at massing considered the integration of both the residential and retail sectors, where the intervention would act as a mediator between the two, however there was a spatial disconnect in the scale of the two structures. The mall is maximum two storeys in height, while the residential towers surrounding it are all between 10 and 20 stories. This lead to the up-scaling of the retail facility that would help it relate better to the scale of the inner city. The ground floor would still remain predominantly retail, with the newly developed eastern edge would house the formal economic spaces necessary for the small business development centre. The intervention then sits between these two masses, forming a bridge-like architecture that creates a threshold in the urban landscaping moving between the transport precinct to the park precinct.

**FIGURE 5.38 MASSING STUDY 2 (PHASE 2)**
The architectural intervention attaches to both the residential structure and the retail/economic facility
C - DEVELOPMENT OF THE NEW BUILDING
FORM STUDIES

FIGURE 5.39 EXISTING SITE MODEL

FIGURE 5.40 CONCEPTUAL DEVELOPMENT SKETCH
FIGURE 5.41 CONCEPTUAL DEVELOPMENT SKETCH

FIGURE 5.42 MARQUETTE OF BRIDGE INTERVENTION

FIGURE 5.43 MARQUETTE OF LARGER SITE
C - DEVELOPMENT OF THE NEW BUILDING
SPATIAL DEVELOPMENT

The concept of the “bridge building” was then further explored to determine its spatial possibilities. The initial massing in figure 5.38 was static and performed more as a bridge then as a building. This inspired further exploration that sought a more dynamic spatial system.

We began to play with the concepts of mass and void that has been a continuous thread throughout the investigation, and looking how we continue to use the masses as a means to define and empower the void. Figure 5.44 illustrates the spatial intention of the intervention, where the programmatic functions were exploded into separate masses which served the encompassing void, defined by the larger deck structure.

![Spatial Intentions of the Intervention](image)

FIGURE 5.44 SPATIAL INTENTIONS OF THE INTERVENTION

The language of the architectural insert responds to the existing with regards to its spatial order and grid layout, as well as to the linear balcony elements of the existing residential building. It distinguishes itself from the art deco tower by contrasting in its materiality. The heavier elements of the brick and concrete is contrasted by the light weight steel structure and cladding that attaches to it. Clearly distinguishing between what is existing and what is new.
This concept continued to evolve through the application of programmatic necessities and more practical considerations, such as movement and services in the building. Essentially the small business development centre was divided into three sectors (figure 5.45), the joining element would act as the educational centre with the necessary resources needed for learning and interaction. The residential building provides communal and temporary living spaces for students/academics of this centre and the retail edge serves as the economic and development centre.

**FIGURE 5.45 SPATIAL INTENTIONS OF THE INTERVENTION**

These three sections are inter-connected through a series of connecting walkways that wrap around the major structure connecting to the two main circulation cores in the primary structures (figure 5.46).

**FIGURE 5.46 INTER-CONNECTING WALKWAYS**

The project looks to integrate with the existing programs on site in order to create a model of what a hybrid typology city block can look like in Johannesburg. It intends to illustrate how existing functions can become part of a holistic system that seek to include and empower the existing community, instead of isolate and displace them.
C - DEVELOPMENT OF THE NEW BUILDING

PROGRAMMATIC DEVELOPMENT

In chapter 3 we identified and analysed the various forms of trade on site and in chapter 4 we explored their social and spatial composition in order to understand their underlying complexities and potential opportunities.

Both the formal and informal trade on site is survivalist in nature and and requires additional support and resources to be able to develop into businesses that has the ability to expand. The small business development centre looks to explore the economic opportunists of the trade on the site and provide additional platforms for their growth.

The process begins by professional volunteers examining each business and looking at ways in which it can expand in the format of a basic workshop and discussion (phase 1). This discussion will revolve around the concept of the business, its business plan and its future aspirations.

Once it has reached a satisfactory level of conceptual development, the product goes through a design and development process (phase 2) with the assistance of design students and professionals in the required design field (product, graphic, architectural design etc.).

In the next phase prototypes are created and tested (phase 3), in workshop spaces provided with the necessary equipment and resources. This prototype is then tested in the market through temporary pop-up retail spaces on site.

If the product is found to be successful it continues into the economic and marketing phase that assists entrepreneurs with financing options and marketing strategies for their business (phase 4), and looks at possibilities of integrating these businesses into the retail sector of the Joubert Park precinct.

Each phase of development consists of an educational counterpart that provides the necessary information, skills and training that the community needs in order for them to find their footing, and to empower themselves and the people around them through the knowledge and support that they acquire.
**PHASE 1 - BRAINSTORMING**
Concept development stage

- Discussion rooms
- Debate spaces
- Presentation spaces
- Research spaces
- Social discussion spaces

**PHASE 2 - DESIGN**
Design development stage

- Studio spaces
- Group discussion spaces
- Pin up spaces

**PHASE 3 - BUILD**
Prototype development stage

- Workshop spaces
- Retail testing spaces
- Promotional spaces

**PHASE 4 - IMPLEMENT**
Financing and marketing stage

- Office spaces
- Consultation spaces
- Retail spaces

**FIGURE 5.18 MODEL FOR THE DEVELOPMENT OF TRADE**
Programme map of the small business development centre in each of its required sectors and the spatial requirements of each sector
C - DEVELOPMENT OF THE NEW BUILDING
PROGRAMMATIC DEVELOPMENT

RESOURCE LIGHTBOX
Resource centre and presentation room

FORMAL LEARNING SPACES
Classroom spaces

SOCIAL LEARNING DECK
Adaptable partitions to define social learning spaces

ENTERTAINMENT DECK
Coffee bar and social spill out space for both residential and educational sectors

EDUCATIONAL CENTRE
Learning and social spaces

RESIDENTIAL TOWER
Communal living units, live-work units and larger family units

RETAIL CENTRE
Re-developed mall space

ECONOMIC CENTRE
Workshop, studio and consultatant spaces

URBAN COURTYARD SPACE
Market and social space
5.5 THE SKETCH PLAN DEVELOPMENT
FIGURE 5.50  THIRDS FLOOR PLAN
The base level of the bridge structure, indicating the large deck.

FIGURE 5.51  CIRCULATION
3D diagram indicating walkways and circulation cores

FIGURE 5.52  SERVICES
3D diagram indicating the location of the services cores in the building
FIGURE 5.56  LONG SECTION EXPLOARTAION
CHAPTER 6

TECHNICAL DEVELOPMENT

This chapter continues to explore the relationship between mass and void and the concept of an architecture that empowers through its technical resolution. It explores its construction, its systems and its materiality.

6.1 THE TECHNICAL CONCEPT
6.2 THE OLD AND NEW
6.3 THE MATERIALITY
6.4 THE ADAPTABLE SYSTEM
6.5 THE WATER SYSTEM
6.6 THE SUSTAINABILITY PRINCIPLES
6.7 THE TECHNICAL DETAILS
The technical resolution of the architectural intervention continues with its theme of empowerment. This idea is translated spatially through the interplay between mass and void. Figure 6.1 is a parti diagram that illustrates the architectural intent of a tectonic insert in a sterotomic context.

The insert reacts to the existing architectural language and materiality by contrasting its characteristics. It distinguishes itself from the 1940s art deco style facade, which is seemingly heavy and impenetrable, by being light and visually accessible. The brick and concrete sterotomic structure of the retail and residential is integrated with the light tectonic connecting made of steel and glass.

Figure 6.2 illustrates the various elements that make up the site in relation to the technological concept.
TOOLS OF EMPOWERMENT

The architectural insert itself is made up of four main elements, namely the frame, the plane the mass, the link, and the skin. Together they look to create an architecture that empowers. Each element acts as a tool that either defines, integrates or occupies space.

1. THE FRAME
   The steel structure is the first element that is used to define space. The beams integrate the two masses and the columns ground the structure, creating an urban frame that begins to empower the void.

2. THE PLANE
   Horizontal planes span across the void as extensions of the existing structures floors and roofs. This element creates the illusion of the existing planes extending into the void and becoming part of it. The space that is to be occupied is determined and its edges defined.

3. THE MASS
   Programmed masses occupy the spaces in between the planes, interconnecting the separate planar elements to create walls floors and roofs. The objects give volume to the space and define the inbetween spaces.

4. THE LINK
   Circulation walkways act as the overriding integrating element. These walkways wrap in and around the retail structure and connect to the residential through the bridge insert.

5. THE SKIN
   The shading elements on the eastern and western facades act as a secondary integrating element that contains the space and gives it an edge.
1. THE FRAME

2. THE PLANE

3. THE MASS

4. THE LINK

5. THE SKIN

FIGURE 6.3 TOOLS OF EMPOWERMENT
Exploded axonometric of the structure in its isolated architectural elements
6.2 THE OLD AND NEW

EXISTING CONDITION

PRIMARY STRUCTURE
The primary structure consists of the external walls, roof and ground slab. The roof is demolished, the external walls get opening to outside and slab is retained.

SECONDARY STRUCTURE
The secondary structure consists of the internal division walls; these are retained.

FIGURE 6.4 APPROACH TO EXISTING STRUCTURE
Diagram illustrating what is to be kept, demolished or renovated
NEW CONDITION

PRIMARY STRUCTURE
The primary structure is made up of a column and slab system. The structure column grid is used as is. Double volumes are created in certain spaces which require holes to be cut out of the existing slab. This is done within the grid as to not affect the structural integrity.

SECONDARY STRUCTURE
The secondary structure consists of the external brick infill and the internal division walls. Brick infill is replaced with glazing in certain instances and division walls are demolished according to new layout.
6.3 THE MATERIALITY

STRUCTURAL STEEL

STEEL FINISHES

MESH SCREEN ELEMENTS
TRANSLUCENT GLAZING

STEEL CLADDED JAGGED FACADE

COMPOSITE LAMINATE LOUVRES AND DECK
6.4 THE ADAPTABLE SYSTEM

Adaptability is an important aspect of this project. In an environment that is dynamic and ever-changing, it is vital that the structure is able to adapt to accommodate the growing communities needs.

The architectural intervention is constructed out of a steel frame system that stands on its own. This system was chosen because of the materials ability to be constructed quickly in a city environment, and its ability to be disassembled or expanded upon.

Between the planes that span between the two structures their are 3 enclosed masses. These masses have their own characteristics and materiality determined by their program. However, they each make use of an adaptable frame system that allows the space to transition according to the scenario at hand.

FIGURE 6.6 THE ADAPTABLE MASSES
Diagram indicating the location of the 3 masses in the structure
MASS 1
THE LIGHT BOX

The light box acts as a tool to orientate yourself in the building, it is a guiding element that draw attention to the space it occupies, it is a lightsource and landmark in its surroundings. This mass acts as a unifying element, connecting all four planes, integrating the larger structure.

The light box also has function and purpose outside of its aesthetic characteristics. It is an event and presentation space that opens up onto the deck level, and a resource centre on the higher levels. Panels on floor level have the ability to rotate and stack to open up area to the social deck space (figure 6.7).

The materiality and construction of the mass went through various iterations in order to respond to the various requirements of its function. Each iteration was analysed according to these requirements, until an optimal system was developed.

The frame is constructed using 200 x 200 hollow square sections.

The panels are fixed to rails on the underside of the square sections.

Panels on floor level are adaptable, other panels are fixed, and window panels are installed for ventilation.

**FIGURE 6.7 THE LIGHT BOX**
3D illustrating the structural frame of the box and the adaptable panel system in place.
**ITERATION 1**

![Figure 6.8 Panel Option 1](image.png)

Translucent glazing panel on the external skin

**MATERIALITY**
Steel frame structure with translucent glazing movable panels

**EASE OF ADAPTABILITY**
System is able to rotate and be stacked in order to open/close space up accordingly

**LIGHTBOX AESTHETIC**
Translucent glazing allows the mass to glow in the night time

**SOLAR HEAT GAIN AND HEAT LOSS**
In the summer structure is sufficiently shaded with screens and overhangs to keep the interior cool. In the winter however there would be significant heat loss.

**ACOUSTIC COMFORT**
Glazing is not a good acoustic material. Sound would be lost in the presentation space and the put-side noise would filter into the space.

**ITERATION 2**

![Figure 6.9 Panel Option 2](image.png)

Double skin system with translucent glazing on the external skin and SIPS panel on the internal skin.

**MATERIALITY**
Translucent glazing on the external panel and a SIPS panel in the internal skin.

**EASE OF ADAPTABILITY**
System becomes tedious to manage with too many levels of control, the second layer takes away from the functional area available for use.

**LIGHTBOX AESTHETIC**
Lighting between the two skins allows for the box to glow even when the internal panel is closed

**SOLAR HEAT GAIN AND HEAT LOSS**
SIPS (structural insulated panel system) is able to control thermal heat loss during the winter. In the summer there is a risk of heat being trapped between the two skins, creating an uncomfortable threshold space.

**ACOUSTIC COMFORT**
Internal skin can be closed to allow for a better acoustic environment.
ITERATION 3

MATERIALITY
Steel frame structure with SIPS panel and cut out glazing and adaptable timber louvre internal skin

EASE OF ADAPTABILITY
The single shopfront system accompanied with the timber louvre system allows many possibilities. The rollershutter system of the timber louvres allows second skin to completely dissipate into ceiling and does not take away space from the internal area.

LIGHTBOX AESTHETIC
Even with less glazing the glowing lightbox effect can still be created. Patterned facade creates an additional recognizable feature on the box.

SOLAR HEAT GAIN AND HEAT LOSS
Structure is sufficiently shaded with screens and overhangs to keep the interior cool. SIPS panel allows additional thermal comfort with only 10% of the facade allowed for glazing. The rollershutter timber louvre system provides an additional layer of shading and can block out sun completely according to the need of the space.

ACOUSTIC COMFORT
SIPS panel as well as the timber louvre system both allow for an acoustically comfortable environment additionally to the acoustic ceiling and and flooring panels.

FIGURE 6.10  PANEL OPTION 3
SIPS panel with glazing cut out.
MASS 2
THE CLASSROOMS

The same system is then applied to the formal classroom spaces. The three classroom spaces are divided by movable gypsum board panels that allow the space to become a larger teaching hall, or 3 smaller intimate classrooms. The flexibility of the system allows for flexibility in the teaching program, empowering the educators and learners to adapt the space as they need it.

**FIGURE 6.11 SCENARIO 1**
Separating panels are closed creating 3 smaller classroom spaces

**FIGURE 6.12 SCENARIO 2**
Separating panels are opened and pushed to the side to create one larger classroom space and a smaller classroom
A level up from the deck is the social learning area, this space is subdivided into smaller more intimate spaces that encourage discussion, debate and peer learning. A combination of solid panels, glazed panels and mesh screen panels make up the system. Solid panels define the more quiet spaces needed for individual work, while the screen and glazed panels define the more social spaces where learners and educators can socialise and discuss in an informal setting.

FIGURE 6.13 MATERIAL PALLETE OF ADAPTABLE PANELS

FIGURE 6.14 THE SOCIAL LEARNING MODULES
3D diagram indicating the social learning structural system that can allow for various levels of public-privacy based on the materiality of the screen.
6.5 **THE WATER SYSTEM**

The economic centre consists of a service core which needs to be supplied with water as well as a series of kitchenettes for staff and students. This building is not a 24hr building which minimises its water usage.

Figure 6.15 illustrates the various water sources considered on site which is then to be reused accordingly. Rainwater, grey water and manucipal water are the 3 primary sources of water that is used. The rainwater is collected on site and reused for irrigation and to feed the handwash basins. The grey water is reused in the WCs and urinals and the manucipal water is used for drinking and food preparations.

**FIGURE 6.15 WATER SOURCES**
Diagram illustrating the various water sources and how they are utilised
RAINWATER HARVESTING

The parapet roofs of Joubert Park act as an ideal tool for collecting rainwater, this is translated into the language of the architectural intervention. The roofs and decks are designed to be able to collect the maximum amount of rainwater.

Rainwater will be collected and funneled through the structures drainage system into a below surface tank. There is will be filtered and treated with a ultraviolet purification system, and stored until it is needed. A solar pump will then pump the water up to the surface where it will be used.

Appendix A contains the water budget which indicates the water yield vs demand. The rainwater budget remained positive with the yield being able to supply the demand through out the year. Access water could be used in the residential units.

![Diagram illustrating the collection, cleaning and storing of rainwater.](image)

**Figure 6.16 Rainwater Harvesting Diagram**

Diagram illustrating the collection, cleaning and storing of rainwater.
FIGURE 6.16 DRAINAGE DETAILS
Diagram illustrating the roof and deck drainage systems
6.6 THE SUSTAINABILITY PRINCIPLES

Under the lens of spatial justice, sustainability can be considered as an important factor in creating just and equitable spaces in the inner-city. Sustainability does not only refer to the passive design strategies that help the building function optimally, but it is also the effect that the broader principles of sustainability have on social and economic issues in the lives of those living in Joubert Park. It is about creating sustainable living and working conditions in the city that can assist and empower the existing community to thrive in their environment.

This section explores the physical passive design strategies in place and investigates their tangible and intangible outcomes.

ORIENTATION

The most basic passive design principle is the correct orientation of the structure. The optimum orientation of a building in the southern hemisphere is north. However, as the project is located within an existing city block, within an existing city fabric, the optimum orientation in this scenario cannot be achieved. The building runs along a north-south axis which leaves it exposed to eastern and western light. While the orientation may not be ideal, there are design strategies that can be used to protect the structure from the harsh morning and evening light.

![Diagram illustrating the east west orientation of the intervention](image-url)
SOLAR STUDY

In the summer (figure 6.19) we find that the internal courtyard is over exposed to sunlight, however the internal spaces are protected through the use of over-hangs and screening devices.

In winter (figure 6.21) the courtyard space is partly shaded due to the highrise structures around the space and the low angle of the sun. The buildings on site make use of materials that are well insulated and can protect the structures from the winter cold.

The site performs optimally during the march and september solstice where the spaces are balanced with sunlight and shade.

FIGURE 6.19 SUMMER SOLSTICE
Solar study of the site during the 21 December summer solstice

FIGURE 6.20 SPRING SOLSTICE
Solar study of the site during the 21 September spring solstice

FIGURE 6.21 WINTER SOLSTICE
Solar study of the site during the 21 June winter solstice
Solar shading strategies were put in place to protect the facades from excess solar heat gain in the summer months and from the harsh eastern and western sunlight.

**NORTHERN FACADE**

Existing overhangs that form balcony areas create sufficient coverage for the internal space. In the summersunlight is prevented from entering the space, additional louvres are used to protect the bottom levels. In the winter sun is allowed into the space.

**FIGURE 6.22 NORTH FACADE SOLAR STUDY**
Solar study of the north facing facade that makes use of overhang and balcony spaces to protect the internal space from summer sun.
EASTERN FACADE

A larger mesh screen shades the open deck that is exposed to the morning eastern light. This screen acts as a shading device with good solar properties, without being a physical visual barrier.

The facade of the classrooms are stepped to block direct eastern morning light but allow in indirect light from the side glazing panels. This facade is clad with insulated SIPS panels that block out direct sunlight and insulate the internal space.

WESTERN FACADE

Large mesh fins span across the entire western facade of the building shading the structure from unwanted afternoon sun, preventing heat gain in the summer. In the winter fins can be rotated to allow the sun in.
THERMAL MASS

Given the challenges regarding the orientation of the building, thermal comfort becomes an important strategy in order to obtain a comfortable living environment. Thermal heat gain in the summer and thermal heat loss in the winter are two of the biggest challenges the structure faces. In order to counteract these issues, thermal strategies have been put in place that ensures a cool interior during the hotter months and a warm interior in the colder months.

Thermally insulated cladding will be used on the steel structure to enclose the interior spaces. This panel consists of 3 layers which is then fixed to the sub-structure of the building. In figure 6.26 we see that it consists of an external skin, a central insulation material, and an internal skin.

**Figure 6.26: Insulated Sandwich Panel System**
Diagram illustrating the layers of the insulated cladding panel
VENTILATION

Johannesburg CBD has a North Westerly wind at an average of 31 knots. The wind will run along the length of the building and not push up against it. The depth of the building is less than 15m to allow for natural ventilation. Cross ventilation becomes possible with openings on the windward and leeward sides.

As illustrated earlier in the chapter the structure consists of three masses. The top floor, the classroom spaces, contains fenestration on both the windward and leeward edges, the depth of the space is 6m which allows for natural cross ventilation. The middle floor structure is an adaptable screen system, where screens can be opened or closed to control the airflow through the space. The third mass, the glass box, consists of both openable screens and windows that an be opened to allow airflow when the screens need to be closed.

FIGURE 6.27 NATURAL CROSS VENTILATION
Cross-section through the building the openings that allow cross ventilation
SUSTAINABLE BUILDING ASSESSMENT ANALYSIS

In order to evaluate the social and economic sustainability of the project we made use of the SBAT system as a means of assessing the building and its impact on the social, economic and environmental climate of the area.

The assessment summarised in figure 6.28 shows how the project performs strongly socially in terms of the projects influence on social cohesion and inclusion, accessibility, empowerment through education and supporting and developing local businesses. The project is well located in the inner city and looks to link the social and economic amenities on site. This has resulted in a 4.7/5 for social sustainability. Economically the project lost points with regards to the management plan in place, the tool suggests a detailed management plan for the expenses of the structure that was not yet considered in the project.

In terms of the buildings environmental sustainability, the project performed adequately taking into account water resources, renewable energy sources and local modular and adaptable materials. The project also works within a brownfield site and aims to improve the conditions of the existing structures on site. However, the building failed to consider waste management systems and integrating appropriate biodiversity.

![SBAT Assessment Graph]

**FIGURE 6.28 SBAT ASSESSMENT GRAPH**
Graph illustrating the building's social, environmental, and economic sustainability.

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<th>Score</th>
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</table>
6.7 THE TECHNICAL DETAILS

FIGURE 6.29 DECK DETAIL
Axonometric illustrating the various components of the deck
— 75 X 16 BALAU TIMBER DECKING MEMBERS FIXED TO STEEL SUBSTRUCTURE WITH 25 SPACING

— 600 X 600 STEEL ACCESS FLOORING GRID SYSTEM FIXED TO TOP OF CONCRETE

— SCREED WITH 1:70 FALL TOWARDS RAINWATER OUTLET

— 25 MPA CONCRETE CAST 85 THICK OVER CREST OF DECKING RIBS

— RIBBED METAL DECKING WITH 150 X 51 PROFILE RIVETED TO TOP FLANGE OF BEAM

— RIVET

— M20 STEEL BOLT FIXING BEAM TO COLUMN

— ANGLE CLEAT SECTION CONNECTING STEEL BEAM TO COLUMN

— 254 X 146 X 35 STEEL CROSS BEAM SECTION @ 2500 CENTRES FIXED TO COLUMN

— 305 X 102 X 25 STEEL I-BEAM SECTION @ 5000 CENTRES FIXED TO COLUMN WITH M20 STEEL BOLT AND A ANGLE CLEAT SECTION

— 152 X 152 X 23 H-SECTION COLUMN ON A 5 X 8 GRID
FIGURE 6.30 ADAPTABLE INSULATED PANEL DETAIL
Axonometric illustrating the adaptable panel system
200 X 200 HOLLOW SQUARE STEEL SECTION BEAM

82 - 125 X 88 ALUMINIUM STEEL TRACK WELDED TO UNDERSIDE OF BEAM

MOVABLE CARRIÈRE MECHANISM THAT ALLOWS THE GLASS SCREEN TO ROTATE AND SLIDE

TOP CARRIER PLATE CONNECTING THE MECHANISM TO THE FRAME OF GLASS

12 SIPS PANEL IN ALUMINIUM STEEL FRAME FIXED TO ROTATING MECHANISM

BOTTOM CARRIER PLATE CONNECTING THE MECHANISM TO THE FRAME OF GLASS

82-125 X 88 CONCEALED ALUMINIUM STEEL TRACK RECESSED IN CONCRETE SLAB
SCREED BUILT UP TO UNDERSIDE OF FLASHING

50 INSULATED SANDWICH PANEL WITH GYPSUM BOARD INTERIOR AND EXTERIOR PLASTERED AND PAINTED AND CUSTOMISED GLAZING CUTOFF

1000 HIGH GALVANISED STEEL SHEET BALUSTRADE RIVETED TO T-SECTIONS AT 1200 CENTRES

40 MINERAL WOOL INSULATION FOR ACOUSTIC PURPOSES

600 X 600 SUSPENDED CEILING GRID TIED TO BEAM MEMBER WITH 6.4 GYPSUM BOARD CEILING TILES FIXED TO UNDERSIDE

1500 Wide GALVANISED STEEL GRATING WALKWAY WELDED TO TO STEEL SUBSTRUCTURE

200 X 200 SQUARE HOLLOW SECTION COLUMN AND BEAM STRUCTURE FIXED TO COMPOSITE CONCRETE SLAB

6 SAFETY GLASS PANELS IN GALVANISED STEEL FRAME FIXED TO TOP AND BOTTOM Rail

ALU-600 MESH SCREEN IN 1600 X 1800 FRAMES FIXED TO 50 x 50 ANGLE SECTION

22 x 110 COMPOSITE LAMINATE SECTION DECKING MEMBERS IN A 600 X 600 TIE WITH 10mm SPACING

600 X 600 ADJUSTABLE ACCESS FLOOR PENDANT FIXED TO TOP OF SCREED

SCREWED TO FALL 1:20

COMPOSITE CONCRETE SLAB ON STEEL DECKING 85 OVER CREST OF DECKING RIBS

RIBBED METAL DECKING WITH 150 X 51 PROFILE RIVETED TO TOP PLANGE OF BEAM

305 X 102 X 25 STEEL I-BEAM SECTION @ 500 CENTRES FIXED TO COLUMN WITH M30 STEEL BOLT AND A ANGLE CLEAT SECTION

254 X 146 X 35, STEEL CROSS BEAM SECTION FIXED TO COLUMN WITH M30 STEEL BOLT AND A ANGLE CLEAT SECTION

RANINATER OUTLET WITH 100 DOWNPIPE FIXED TO PLANGE OF COLUMN

152 X 152 X 33 H SECTION COLUMN OR A 5 X 8 GRID WELDED TO BASE PLATE

250 X 250 GALVANISED STEEL BASE PLATE FIXED TO CONCRETE FOOTING WITH ANCHOR BOLTS

300 X 200 REINFORCED CONCRETE FOOTING ON 230 X 700 CONCRETE PAD

**Figure 6.31** DETAIL CROSS SECTION

Section perspective through light box segment of the structure
CHAPTER 7

FINAL PRESENTATION

This chapter contains the final presentation drawings of the architectural dissertation.

7.1 SITE SKETCHES
7.2 ARCHITECTURAL PLANS
7.3 ARCHITECTURAL SECTIONS
7.4 ELEVATION
7.5 SECTION PERSPECTIVE
7.6 FINAL MODEL
7.1 THE SITE SKETCHES
7.2 THE ARCHITECTURAL PLANS
7.3 THE ARCHITECTURAL SECTIONS
7.4 THE ELEVATION
7.5 THE PERSPECTIVES
7.6 THE FINAL MODEL
CONCLUSION
The design fulfils its intention of creating an architecture that empowers, which manifested from a detailed understanding of the existing community. The project aimed to create a space of justice; a space that the community can claim as their own, a space where they have the necessary resources and tools needed for their success, and a space that begins to break down social barriers and encourage interaction and new social relationships.

The project showcases a new model for the development of inner-city blocks in Johannesburg. It successfully illustrates the value of working within an existing fabric in order to support and strengthen existing networks, and create an interactive dynamic between building, street edge and pedestrian.
APPENDIX A: THE WATER BUDGET

RAINWATER YIELD

\[ \text{Yield (m}^3) = P \times A \times C \]
\[ = \text{precipitation} \times \text{area} \times \text{run-off coefficient} \]

RAINWATER HARVESTING YIELD

<table>
<thead>
<tr>
<th>Catchment surface</th>
<th>Area (m²)</th>
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### RAINWATER DEMAND

**DOMESTIC DEMAND SUPPLIED BY RAIN WATER YIELD**

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<th>Days/month</th>
<th>Working days/month</th>
<th>Water capita/day</th>
<th>Water capita/month</th>
<th>Domestic demand/month (m³)</th>
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Total: 131,8 m³

### IRRIGATION DEMAND

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<td>1819</td>
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<tr>
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Total: 2764.88 m³

### RAINWATER BUDGET

**WATER BUDGET - RAINWATER HARVEST**

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<tr>
<th>Months</th>
<th>Rainwater Yield</th>
<th>Irrigation Demand</th>
<th>Domestic Demand</th>
<th>Monthly Balance</th>
<th>Water in Tank (m³)</th>
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| Greatest Volume in Tank at any time is the Min Capacity of Tank | 3855,106144 m³ |
| Final Tank Size with 1.5 Safety Factor | 5782,659216 m³ |
| Tank Size | 34 x 34 x 5 |
GREY WATER YIELD

Yield (m³) = P x A x C
            = precipitation x area x run-off coefficient

GREY WATER YIELD

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<thead>
<tr>
<th>total people</th>
<th>Appliances</th>
<th>Litres/day/person served</th>
<th>total yield per day</th>
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<td>Handwashing: spray taps</td>
<td>4</td>
<td>320</td>
</tr>
<tr>
<td>40</td>
<td>Urinal flushing 8h day</td>
<td>4</td>
<td>160</td>
</tr>
<tr>
<td>80</td>
<td>Drinking, food preparation</td>
<td>15</td>
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<tr>
<td>80</td>
<td>Washing dishes</td>
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<td>800</td>
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GREY WATER RETURN

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<th>Working days/month</th>
<th>Water capita/day</th>
<th>Water capita/month</th>
<th>Domestic demand/month (m³)</th>
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</thead>
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<td>20</td>
<td>2480</td>
<td>49600</td>
<td>49.6</td>
</tr>
<tr>
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<td>31</td>
<td>20</td>
<td>2480</td>
<td>49600</td>
<td>49.6</td>
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<tr>
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© University of Pretoria
GREY WATER DEMAND

DOMESTIC WATER CAPITA/DAY (L)

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<th>Appliances</th>
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<th>total demand/day</th>
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<td>WC flushing-urinals provided</td>
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DOMESTIC DEMAND SUPPLIED BY GREY WATER YIELD

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<td>320</td>
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<tr>
<td>February</td>
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<td>20</td>
<td>320</td>
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<tr>
<td>March</td>
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<td>6400</td>
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<td>30</td>
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GREY WATER BUDGET

WATER BUDGET - GREY WATER HARVEST

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<tr>
<th>Months</th>
<th>Grey Water Yield</th>
<th>Domestic Demand</th>
<th>Monthly Balance</th>
<th>Water in Tank (m³)</th>
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GREATEST VOLUME IN TANK AT ANY TIME IS THE MIN CAPACITY OF TANK

FINAL TANK /SIZE WITH 1.5 SAFETY FACTOR

TANK SIZE

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All images by author unless otherwise referenced

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I further state that no part of my thesis has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this thesis is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

Ilhaam Tayob
November 2016