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The Relevance of Public Space in Johannesburg: Resilience and the Role of Urban Design in a Contemporary City

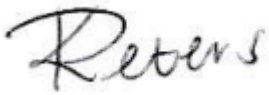
Kelly Peters

A research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree: Master of Urban Design.

January 2021

Declaration

I declare that this research report is my own unaided work. It is being submitted for the Degree of Master of Urban Design, to the Faculty of Engineering and the Built Environment at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.



Kelly Peters

29 day of January 2021

Abstract

What is the relevance of public space, especially in a developing modern city where change is constant? Are the key determining factors tangible or intangible? How can public areas become more relevant? The intention of the research is to attempt to understand public space, its relevance and the role that it fulfils within urban planning and urban design through a resilience perspective. To explore this question, the area first known as Market Square in Johannesburg's former Central Business District (CBD), is the Case Study.

Situated in the commercial core of the historic central business district in the Inner City of Johannesburg, this public square is the oldest in the City. Developed in the early years of the City's conception, the space is surrounded by civic buildings, such as the City Library and City Hall. Originally, the area functioned as a market and facilitated the exchange of goods and services. As the City has grown and developed, the space has undergone several changes and it is argued that its historical importance and present relevance are absent.

To understand the space's relevance as the City has grown and developed into a modern metropolis, the resilience of the Square and its surrounding area has been detailed. It has been captured through a series of drawings of the space over the last eighty years or so. The intention is to recognise and realise the resilient elements as well as the Square's relevance in the broader City context at a particular time. It is also to understand how these factors have influence the development of the Square as time has progressed.

Based on these drawings, the conclusion of this research proposes an urban design framework for the Square's precinct. Through developing an understanding of the space's resilience, the intention of design is to reflect the Square's historical significance through creating a relevant plan.

Acknowledgement and Thanks

Throughout the course of this degree, I have received an immeasurable amount of encouragement and support from my family and friends. I would like to extend my sincerest and most heartfelt thanks to all.

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“Oh, a day in the city-square, there is no such pleasure in life!”

Robert Browning from his poem: *Up at a Villa-Down in the City*

1. Introduction: Research Rationale, Context, Conceptual Framework and Method

1.1. Introduction

Public spaces once formed the heart of towns and cities. They were microcosms of community life, the focal points of formal and informal activities. They were design cornerstones that facilitated movement and access. But through lack of interest and investment, the role of public space in an increasingly privatised world, is changing, especially in the South African context. Privatised in the sense that streets are being closed off, public spaces are being privately managed and home and office developments contain private open space. This coupled with the effects of social, political, economic and environmental factors is having an impact on the creation, development and relevance of public space.

This chapter outlines the research rationale, context, conceptual framework and method of this research before these are explored in more detail in the following chapters.

1.2. Research Rationale

In a rapidly urbanising world with increasing population growth, sustainability is ever-more important and a fundamental principle in relation to the built environment. As resources are becoming scarcer; ideas, plans and policies are all gearing towards achieving sustainability as their outcome. Resilience is a contributing component to this concept. So too is the notion of relevance. Relevance manifests into resilience in that there is flexibility to adapt and evolve. This in turn means sustainability. Creating policies and plans that are relevant and have the ability and flexibility to adapt and evolve will ultimately lead to sustainable growth and development.

Urban design is concerned with development of public spaces, the often-forgotten areas between buildings and urban space, sometimes seen as leftover space. It is about attending to these parcels of land to form meaningful interactions between the built form and urban space. These streets, squares, plazas, to mention a few are areas and spaces that represent the pathways and organs of urban life, without which no place could exist. They facilitate movement; allow access, creating areas of enjoyment and interaction. Towns and cities grew organically before the introduction of the car. As the population expanded so did these settlements accommodating more streets, more homes, more amenities and more recreational areas. However, with the introduction of the

motor vehicle, the function and functionality of urban design and the role of public space changed.

Particularly in the South African context and post the introduction of the car, as the number of vehicles on the roads increased, so the importance of creating great public spaces decreased. Modernism saw cities chopped up to lay down hundreds and thousands of kilometres of highway, designed to expedite travel time and distance. At the end of these corridors, shopping centres and malls were developed, these occurrences significantly detracting focus from public areas. As the shopping complexes gained in popularity, so less and less people spent time in public spaces and equally, less and less funding was spent in those areas too. Unfortunately, in the South African context and more specifically in Johannesburg, this had a detrimental effect on central business districts and on the public spaces within them.

With democracy came the need to readdress the challenges that resulted from a lack of funding and investment. The basic needs of people were prioritised over the need for public space. Access to water, sanitation, electricity and housing became the main focus. Public space, over time, has become less and less important. Without the much needed attention and investment, public space has remained irrelevant. Through this research, the relevance of public space in a modern and developing city will be explored and a design solution proposed aimed at reinvigorating the role of public space in Johannesburg.

1.3. Theoretical Framework

In many parts of the world, in both developed and developing countries, certain public spaces have endured. Their ability to be resilient sustained their longevity. This resilience is related to their capacity and capability to either adapt or remain constant in the face of change. Through an understanding of the theoretical position of resilience as well as exploring and examining various public spaces around the world, in varying contexts, it is the intention of this research to determine the factors (tangible and intangible) that influence and impact on their resilience.

To better understand the ability and effects of stability or change, Market Square/ the Library Gardens/ Beyers Naudé Square (the many different names by which it is known) will be examined over time. Noting the changes that have occurred and similarly noting if the space has remained

constant will form the case study component to this research. The aim is to determine the factors that have led to urban spaces being resilient and to understand how these could be applied to facilitate resilient urban design, so that public spaces are designed with enough structure and flexibility to be able to respond to their environment and the circumstances that influence them. It is about suggesting the key factors or building blocks to accompany a minimal design intervention that has the ability to change and adapt or, if so desired, or to remain constant.

Through understanding the manifestation of resilience in the built environment, it will reinforce the efficient and effective use of resources to create a more sustainable, flexible urban form. This will play a notable role in producing relevant public spaces.

1.4. Problem Statement

Public space was once at the heart of urban planning and design. It was a critical component in city building. But in developing countries, specifically South Africa, as time has progressed and technological advances made, the need and function of public space has changed. In formal and planned areas it is no longer the keystone of community life, the market and meeting place of days gone by; a facilitator of formal and informal activities. As cities have become more formalised and reliance on the car has increased due to lack of adequate public transport, the priorities of city planning have shifted. Readdressing the challenges of apartheid has also played a significant role as investment has been geared towards service provision and installation and not on the development, management or maintenance of public space. There has also been a lack of prioritisation of the role and value of urban design. It can also be attributed to the inability of these areas to adequately respond to changing societal needs and remain relevant.

1.5. Research Question and Supporting Questions

Research Question:

What is the relevance of public space in a contemporary developing city, such as Johannesburg?

Sub Questions:

- What are the tangible and intangible factors that make public space relevant?

- What are the tangible and intangible factors that make public space resilient?
- How do these tangible and intangible factors manifest spatially?
- Are relevance and resilience useful concepts in urban design, particularly when considering public space?

1.6. Research Method

The initial study began with a desktop exploration of various public spaces around the world, with a strong reliance on satellite imagery. The aim was to understand the built environment around and surrounding the public space, its composition, the interface between the building edges and the public space, the layout of the space and so on. It was also about understanding the scale of the varying public spaces, especially when compared to one another and the impact that it has on the design and functionality of the space.

This then progressed to exploring the theory related to resilience and the meaning of that in terms of the urban environment as well as from an urban design point of view. A thorough inspection of national and international cases studies was done to gauge the influence of resilience theory and thinking in relation to the urban environment. Simultaneously as the theory was examined, historical research of the site was conducted as well as fieldwork in the form of site visits and photo analysis. This too required a more detailed and in depth understanding of the site and its context, including the analysis of historic aerial imagery. Further research relating to the Inner City context was also undertaken.

As the research progressed, a more detailed exploration and examination of theoretical papers and work was undertaken, analysis of precedents, a more comprehensive understanding of the site and its context was performed to answer the research topic and questions.

1.7. Structure of the Research Report

This chapter has outlined the major aims of the study through the research rationale, theoretical framework, problem statement, research and supporting questions as well as the method that has been used. The structure of this work is composed of two parts, namely: a theoretical perspective and a practical case study.

Chapter two focusses on the theoretical framework of this research. It examines the major themes of urban design, public space and resilience. It also includes a component that explores public spaces both locally and internationally and the changes that these areas have undergone.

Chapter three is an introduction to the case study area of Market Square/ Library Gardens/ Beyers Naudé Square in the Inner City of Johannesburg. It details the history and background that has resulted in the Square that exists today.

Chapter four builds on the historical analysis of the Square and present the contemporary view of the site and surrounding area. It begins with a high-level regional analysis, then steps down to understand the local context, and includes analysis related to movement networks; the built form and public open spaces. Furthermore, the chapter also inspects the current redevelopment initiatives and a current proposal for the site.

Chapter five is the design concept and development. This chapter includes the proposed precedent case studies, the design informants and the urban design strategy. The culmination of these proceeding works is the design proposal and the implementation strategy.

The final chapter is the conclusion. This represents a summary of the research work undertaken, the lessons learnt and further work to be explored.

2. Public Space, Resilience Theory and Urban Design

2.1. Introduction

City building is a great human feat; an indication of the society that it serves, a reflection of the political environment, a sign of the economic state (Bacon, 1967). Cities are more than just bricks and mortar; they are the visual manifestations of decisions made by individuals and communities. They are determined by factors that appear directly to impact on their development, such as the construction of a road, the development of a train station and the regeneration of a public park. Cities are also shaped by the decisions of their political leadership, the state of their economy and the social challenges that are ever-present. Managing these often-opposing forces, builds cities. It also builds diversity.

The early expressions of a city were simpler, as activities focussed on gathering and exchange. As they have evolved, the challenges have increased. Greater population numbers, rapid urbanisation, greater diversity in activities, changes in political leadership, environmental degradation and progressions in technology have all meant that cities have had to adapt to these changes. The impacts of these occurrences, whether great or small, have influenced city building.

Never have cities been under so much pressure to manage the multitude of changes occurring on so many varying scales in such a small amount of time (Salat and Bourdic, 2012). In addition to managing all of these moving parts, merely sustaining cities continued existence is not sufficient. City designers and planners must strive for sustainability and improved quality of life for all urban dwellers. The spaces and places inhabited and used must speak to the needs of the people that use them. Gone are the days of dictator style planning, enforcing top down approaches. Today's methods focus on cultivating an understanding of the requirements of the people, their likes, their dislikes, their wants and their needs. It is about creating modest, functional interventions that respond to people's needs.

In an attempt at understand the theoretical position of this research and its many components, this chapter explores the relationship between urban design, public space, the ability to adapt to change, the concept of resilience and the influence and effects of these notions on each other and on the built environment.

2.2. Urban Design

David Dewar and Roelof Sarel Uytenbogaardt [1] in their book "South African Cities: A Manifesto for Change" argue that urban planning is about people (Dewar and Uytenbogaardt, 1991) just as, cities are about people. Cities have developed as individuals have gathered to create communities and societies; where goods are exchanged and services can be accessed. Through their evolution, they have become centres of activity intended to improve efficiency and create quality of life. The process of city development is rarely linear but rather a cyclical progression of change, responding to change and change again.

Historically, cities had the capabilities as well as the capacity to adapt to change and evolve over time to overcome difficulties. Serge Salat and Loeiz Bourdic[2] (2012) in their article "*Systemic Resilience of Complex Urban Systems"* argue however that modern cities have exposed themselves to more risk, risks which are difficult to foresee and manage. This is largely based on the emergence of the modernist approach to planning, which placed little emphasis on nature and its importance (Salat and Bourdic, 2012). Modernism emphasised the importance of the car, separated pedestrian movement from the road and focused on the construction of large-scale residential areas as a housing solution, with little emphasis on the mixing of land uses. Its implementation aimed to enhance efficiency that manifested in many forms, such as: through the construction of highways, which facilitated rapid movement from one point to another; it intended to concentrate retail activities, which meant the construction of huge shopping complexes; it had a lack of concern for the environment, which saw pollution rise and the resulting effects of climate change. Cities were sprawling and no longer designed iteratively; organically placing the relationship between the built and natural environments under strain (Salat and Bourdic, 2012).

The approach is however reverting and considering nature as a determining factor and guiding force. Previous approaches are being reconsidered. City planning, design and building are becoming more considerate and careful in their approach. They are becoming more

[1] Former professors of Urban and Regional Planning at the University of Cape Town

[2] Both of whom work at the Urban Morphology Institute developing progressive urban design concepts based on urban morphology and the science of the complexity of cities

concerned with people. It is about reigniting the importance of the street and public space for people and not only for cars; it is about creating more efficiency through mixed use developments that can support urban life through a walkable neighbourhood; it is about respect for the environment and its preservation.

2.3. Public Space

Public urban space- the areas between buildings in towns, cities and other localities (Krier, 1979: 15).

Initially public areas of a city were centres of activity attracting people as they fulfilled the role of meeting space and market place (Gehl and Gemzoe, 2000). They remained focal points and locales of interaction until modernism gained popularity, which meant that concepts like the private transportation and dominance of the car increased as the need for roads became a priority. Yet the development of these roads had a considerably negative effect on the intimate relationship between person and street, person and public space (Gehl and Gemzoe, 2000). Roads and highways linked shopping centre with shopping centre; severely diminishing the role and the function of public space. The effect was that public spaces were largely forgotten, for a very long time, from 1930 until 1970 (Gehl, J. and Gemzoe, L., 2000). Besides these influences mentioned above, notably: the modernist's rejection of the idea of the city and public spaces and the rapid rise of the car and its dominance on the city; two additional reasons' that can be used to explain the absence of public space thought, conception or development were:

1. The reconstruction of cities after World War II, and
2. Rapid population growth and urbanisation

(Gehl, J. and Gemzoe, L., 2000).

During the 1970's planners and architects began to once again contemplate public space and its importance (Gehl, J. and Gemzoe, L., 2000). This has been most evident in the last 20 years or so, which has seen new energy invested into redevelopment of existing public space and the development of new places. Urbanists of all kinds are determining a renewed and refreshed perspective on urban spaces and urban design, taking into consideration the current needs of users and the spaces in which they located. Through new urbanism, which promotes walkable neighbourhoods that includes a wide range of mixed housing and employment opportunities, much policy now focussed on

addressing modernist influence and pushing back the car in favour of creating better urban conditions. This has become the agenda of European cities as well as the urban strategies in North and South America, Asia and Australia (Gehl and Gemzoe, 2000). These approaches remain the objective of visionary individuals and collectives that imagine and strive to impart recaptured public spaces (Gehl and Gemzoe, 2000).

Long before the *Charter on Public Space (2013)* was conceived, Dewar and Uytenbogaardt (1991) suggested that public spaces need to contain certain qualities. They advocated that while there are primary urban qualities to evaluate urban policies, plans and physical actions; these too are applicable to urban public spaces:

- **Balance**- Maintain essential relationships and to guide the dynamics of growth.
    - Balance between society and the cosmos- The recognition and celebration of the natural, cultural and historical uniqueness of different places at varying times.
    - Balance between society and nature- Maintaining the significant, proximate and permanent relationship between the urban and rural.
    - Balance between people- Structural configurations (places, spaces and movement networks) that generate greater opportunities for people.
- **Freedom**- Environments should promote the maximum freedom for individuals to act and as a result, the diversity and complexity generated will contribute to the richness.
- **Equity**- Through their structuring they promote urban activities that allow people easy access to opportunities.
- **Intensity, diversity and necessary complexity**- Intensity and a variety of overlapping conditions and activities that supports spontaneity and allows for conflict.
- **Integration**- Increased exposure to individual, groups and communities through intense activities and events.
- **Community**- A sense of identity and belonging created despite the urban environments being a composition of complementary and contrasting components.

(Dewar and Uytenbogaardt, 1991: 18-22).

Each of these components is relevant especially as the need for public space in a city is becoming fundamental. Public spaces help improve the quality of life of the communities they serve. Their value is highlighted by

their inclusion in the 2016-2030 Sustainable Development Goals[3] (UN Habitat, 2015). As part of the eleventh goal to "make cities and human settlements inclusive, safe, resilient and sustainable" point 11.7 aims, by 2030, to "provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities" (UN Habitat, 2015: 9).

To tackle the historic absence of awareness, consideration and focus on public space; the United Nations together with its partners put the subject in the spotlight. The process of highlighting and elevating the concept, principles and benefits of developing and maintaining good public space began to gain traction when, in 2008, the inspiration of holding a Bienniale (an event occurring every other year) on Public Space was born (UN Habitat, 2015). The Biennial was conceptualised, organised and sponsored by the Istituto Nazionale di Urbanistica (or National Planning Institute - INU)[4] in association with UN-Habitat and was held in Rome on the 18th of May 2013 (UN Habitat, 2015). Together, these two organisations were also the main drivers of drafting, reviewing and adopting the Charter on Public Space (Biennial on Public Space, 2013) as well as the Global Public Space Toolkit (UN Habitat, 2015). The *Charter on Public Space* is a concise document in which public space is defined and where universal principles for its enhancement and enjoyment are identified (UN Habitat, 2015). The *Global Public Space Toolkit* aims to guide public space policies and strategies at a city level (UN Habitat, 2015). The work accomplished and the documents produced, begin to capture the essence of public space, the role it fulfils and the steps needed to make it great.

Key to the *Charter of Public Space* is that it began to define what public space is. A collaboration of various public space practitioners, designers, government officials and civic organisations it summarises the following intention:

[3] Officially known as "Transforming Our World: 2030 Agenda for Sustainable Development" is a set of 17 global goals with 196 targets, These goals are an intergovernmental agreement that is a successor to the Millennium Development Goals

[4] This organisation is centred on the promotion of and research into cultures of urbanism and the practice of planning

- To formulate a clear and comprehensive definition of public space; and
- To create reasonable and shared principles with regards to the conception, design, realisation, management, transformability and the enjoyment of public space (Biennale on Public Space, 2013).

Importantly, it formed the basis for discussion and input into the third Conference of the United Nations on Human Settlements hosted in 2016.

In reference to the first point, the definition states that "public spaces are all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive" (UN Habitat, 2015: 24).[5] In order for public space to fulfil this task, the Charter states that it also needs to include and reflect the following principles:

- Accessibility- Publicly owned and publicly used with universal accessibility and enjoyable for all.
- Identity- Designated areas with their own spatial, historic, environmental, social and economic features.
- Diversity- Spaces created to reflect individual and collective identities.
- Equality- Produced for the public good

(Biennale on Public Space, 2013).

The definition is broad and refers to the many varieties of public space that exist. Public space is comprised of three different categories. First are streets as public space, namely: streets, avenues, boulevards, squares, plazas, pavements, passages, galleries and bicycle paths. Second is public open space, including parks, gardens, playgrounds, public benches, riverbanks and waterfronts. Third are public urban facilities, which consist of public libraries, civic/community centres, municipal markets and public sports facilities (UN Habitat, 2015). Irrespective of their categorisation, public spaces should be landmarks in the cityscape that contribute to and enhance the urban experience. They should be areas designated for encounter and expression that provide a number of opportunities and

[5] Interestingly, this definition extends traditional notions of public space as being open, but includes public buildings too

experiences as both thoroughfares and destinations (Biennale on Public Space, 2013). Public spaces are there for the enjoyment of the community that frequent them and a fundamental component of this enjoyment is their management. Predominantly tasked under the care of local authorities, the management of these spaces requires the active collaboration of the public and private sector (Biennale on Public Space, 2013). In summary and in the context of this research, public space is a vital contributing element to a city, free for all and designed to enhance a meaningful experience of the city.

2.4. Public Space and Change

Things change (Walker, B. and Salt, D. , 2012) and space is no exception. Space is influence and effected by changes in the social, economic, political and environmental circumstances, influences and occurrences. This is inevitable. Understanding change over time is important as it can provide clues as to the history of a place, the causes of the change and how the environment responded. It also creates the opportunity to understand those factors or structures that did not change and the evidence to explain it.

In order to understand change over time through public space, the following examples have been explored from various parts of South Africa, as well as around the world. A number of open spaces, listed below, are outlined as a background to the case study that is detailed later in the report.

2.4.1. Church Square, Pretoria, South Africa

The City of Pretoria was founded in 1855 and it later became the capital of the Republic of South Africa. The new capital at the time was set out as an orthogonal grid[6] with Church Square located at the crossing of the main axes (White, et al., 2015). The street widths of the grid pattern were determined by the length and turning circles of ox wagons and the building lines of all new builds were heavily regulated to enhance the grid pattern (White, et al., 2015).

The early layout has survived as a result of its robustness. The streets originally created were wide enough to accommodate the growth and change of the city over time. This is evident as transport progressed from ox-wagon to the car. Also, the number and position of the trees differs. Another noteworthy change has been in relation to the land uses that front onto the street. Initially, this was predominantly a retail offering, which now includes a large office component.



Image 1: Historical image of Church Square from 1905 (Wikipedia, 2016)

[6] Consisting of right-angles



Image 2: Church Square in 1927
(University of Pretoria, 2009)



Image 3: Church Square 1936
(University of Pretoria, 2009)

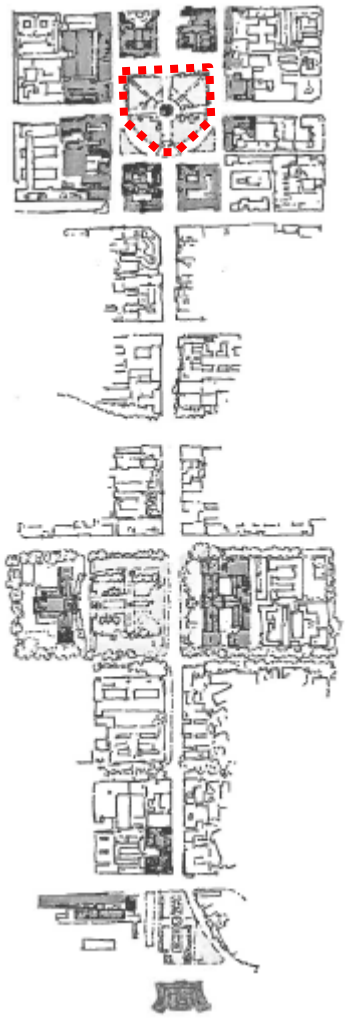


Image 4: Recent illustration of Church Square (White, et al., 2015: 150)



Image 5: Recent aerial image of Church Square (highlighted in red) (Google Earth Pro., 2016)

2.4.2. Green Market Square, Cape Town, South Africa

Originally designed as a slave market, Green Market Square is situated in the heart of Cape Town's Central Business District. Over its history, it has also functioned as a vegetable market, parking lot and presently operates as a flea market. This diverse history is reflected by the numerous historical influences- the grid system, which was imposed, by the Dutch and the subsequent Garden City imprints through British occupation and zoning controls (White, et al., 2015).

Similarly to Church Square in Pretoria, the original structure of the Square has remained. However, the buildings that form the perimeter have gone through a number of iterations. As is the case with most of the public spaces within South Africa, the influence of apartheid is evident- racial segregation to justify social order. The result was the removal and relocation of mixed-race communities that once surrounded the space (White, et al., 2015). The enforcement of apartheid planning tools drastically altering the spatial configuration of this space and many around the country. The separation of communities as well as the effect of highway and railway construction, where major structuring elements of the City and the space (White, et al., 2015). More recently, in an attempt to improve walkability, the Square was pedestrianised in early 2000's to ensure greater pedestrian accessibility and improve safety. The Square is now managed through a city improvement district.



Image 6: Historical image of Green Market Square in 1876 (Wikimedia, 2016)

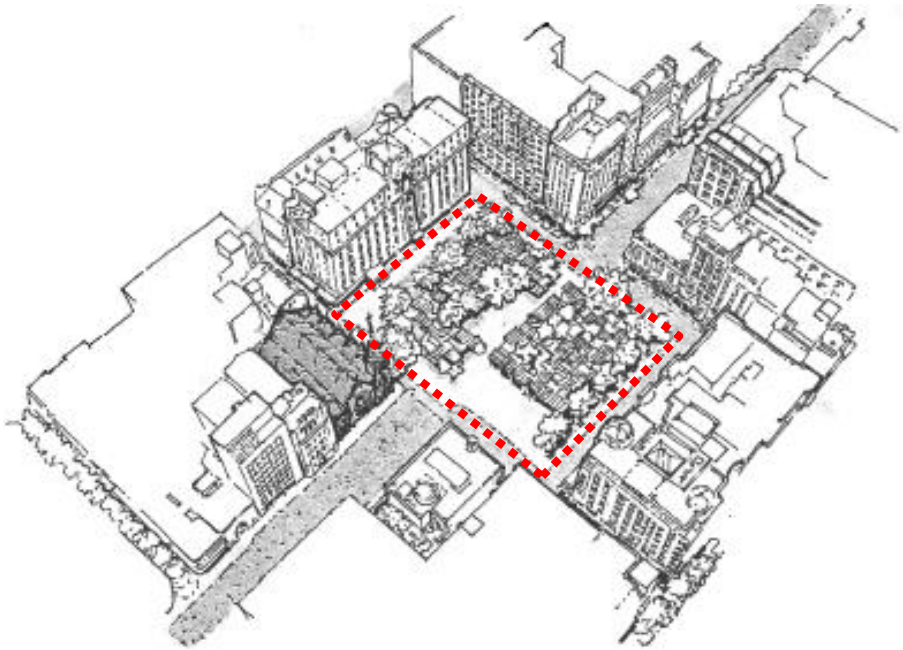


Image 7: Recent illustration of Green Market Square (White, et al., 2015: 140)

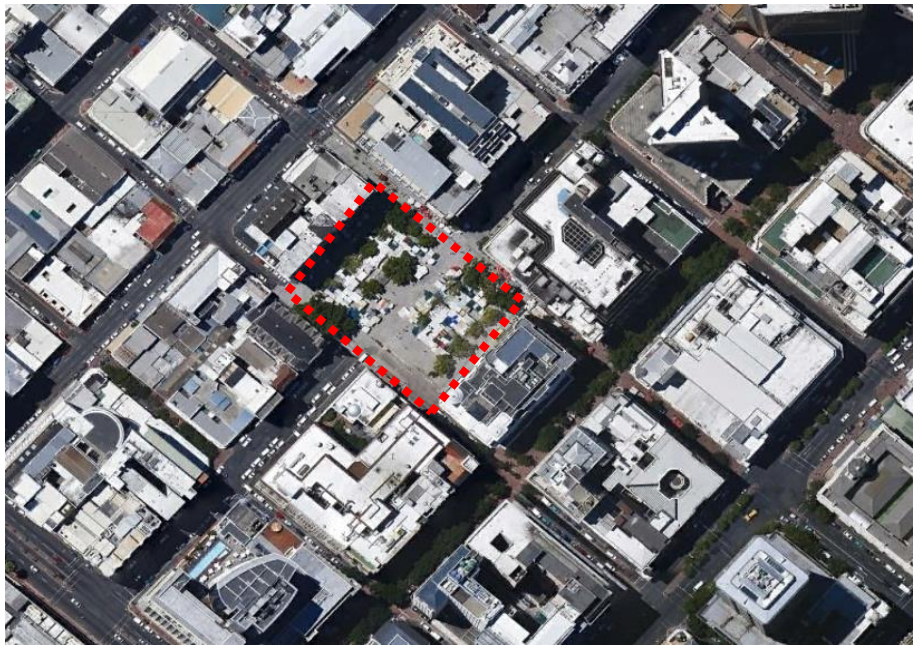


Image 8: Current aerial image of Green Market Square (highlighted in red) (Google Earth Pro., 2016)

2.4.3. Francis Farewell Square, Durban, South Africa

Similarly, to the position of Green Market Square in Cape Town, the Francis Farwell Square is strategically located in the heart of the City, in front of City Hall and Court House. This was typical of the location of historical public spaces, surrounded by important/ landmark buildings. Its location marks the point where the first settlement was established in 1924 and where the City's growth originated (White, et al., 2015). The Square is also filled with numerous statues depicting scenes and people from South Africa's colonial history, including: a war memorial to the soldiers of World War I, a scene of the Anglo-Boer War, Queen Victoria, Louis Botha and Field Marshal (White, et al., 2015).

Just as in the two spaces mentioned previously, the structure of this Square has remained constant since its development. This is impacted by its location in front of Durban's City Hall, where the Municipality is resides. Apartheid planning had an equally negative effect on this City.

As decentralisation of the Inner City has occurred and businesses and people have moved northwards, relocating in Umhlanga, the City implemented a regeneration strategy through the Durban Point Waterfront Framework promoting the development of new residences and uShaka Marine World (White, et al., 2015).



Image 9: Historical image of Durban's City Hall and surrounding open space (The Heritage Portal, 2016)

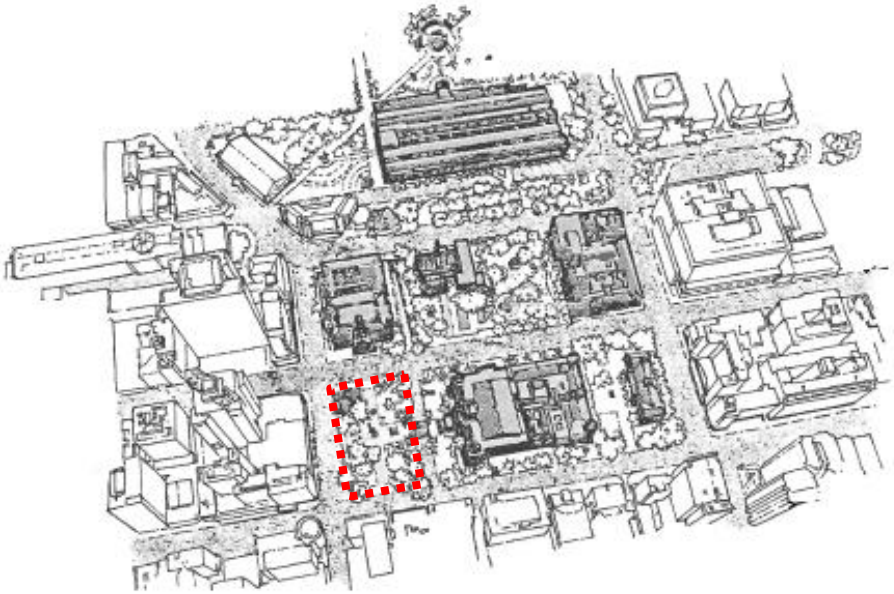


Image 10: Recent illustration of Francis Farewell Square (White, et al., 2015: 142)



Image 11: Current aerial image of Francis Farewell Square (highlighted in red) (Google Earth Pro., 2016)

2.4.4. Hoffman Square/ Old Market Square, Bloemfontein, South Africa

Bloemfontein is centrally located in South Africa. It originated as the judicial capital, administrative headquarters and Boer Republican Capital since the founding of the Union of South Africa in 1910 (White, et al., 2015). In line with the original development trends of early towns, the focus was on connections to natural landscape features (White, et al., 2015). This was then amended as the land surveyor of the time, Andrew Bain, imposed the grid system (White, et al., 2015). As the space grew and developed, as diamonds were discovered, roads built and additional major buildings constructed, notably: Grey College and the University of the Free State; President Brand Street became a major public space with its notable architectural landmarks (White, et al., 2015).



Image 12: Recent Illustration of Hoffman Square/ Old Market Square (White, et al., 2015: 144)

This space too has maintained its structure, amending slightly as cities have responded to more modern advances.



Image 13: Current aerial image of Hoffman Square (highlighted in red) (Google Earth Pro., 2016)

2.4.5. Market Square/ Vuyisile Mini Square, Port Elizabeth, South Africa

The design and development of Port Elizabeth can be attributed to colonisation and the ideas enforced by the British settlers in 1815. It is also a reflection of the physical and historical constraints presented, including its location along the coast (White, et al., 2015). The European colonial port was historically the core of the City with initial development expanding along the harbour and then towards the escarpment (White, et al., 2015).

The public space is a reflection of its historical past with buildings and the Square reflecting colonial ideas however redesign of the space modernised the area. Similar to previous spaces mentioned, the uses of the buildings surrounding the space have changed but its original layout remains. In the same way that other cities in South Africa had been manipulated by the ideas of the apartheid government and their beliefs of racial and economic difference; so too was racial segregation enforced in this city (White, et al., 2015).



Image 14: Historical image of City Hall and a partial view of the Market Square (The Heritage Portal, 2016)

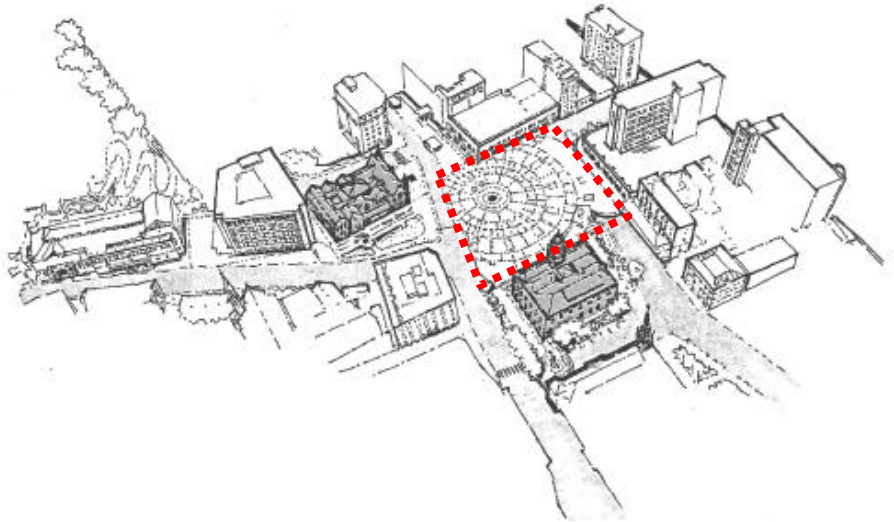


Image 15: Recent illustration of Market Square/ Vuyisile Mini Square (White, et al., 2015: 148)

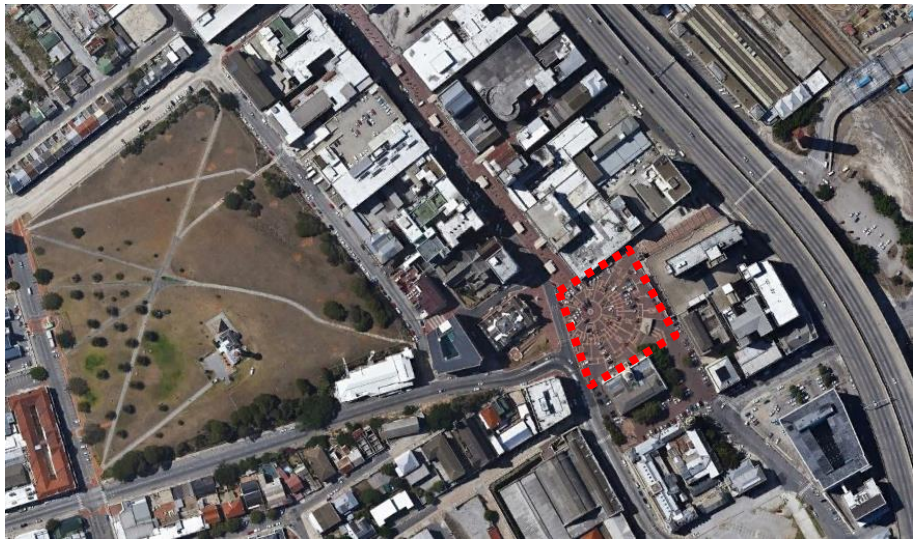


Image 16: Current aerial image of Market Square/ Vuyisile Mini Square (highlighted in red) (Google Earth Pro., 2016)

2.4.6. Staromestske Namesti (Old Town Square), Prague, Czech Republic

The Old Town Square of historic Prague dates back to medieval times of the twelfth century with its original function as a market place, when the City was developing. Despite its original intention and design, the Square has undergone a number of changes over the centuries. In the thirteenth century after repeated floods, its level was raised and the Gothic houses and stores were built on the Romanesque foundations (Webb, 1990). When the use of the Square changed and gentrification resulted, the Gothic houses required new facades and these were then added (Webb, 1990).

A wide variety of buildings border the plaza with most a historic reflection; the oldest being the fourteenth century Town Hall (Webb, 1990). Enlarged during the mid-nineteenth century after destruction by the Nazi occupation, today it is used for weddings and cultural events (Webb, 1990). The northern side of the Square has also been modified. It was widened as part of slum clearance in the Jewish ghetto (Webb, 1990). Further historical reflections are present through crosses in the pavement that marked the place where twenty-seven leaders of a Protestant rising were killed in 1621 (Webb, 1990). Despite these alterations and additions, the irregular shape of the original design remains. The Square is a large space in relation to the height of the buildings, which creates a dense outline (Wolfrum, 2015). This forms the backdrop to the cafes that have only recently been allowed to open.

Carved out of the organic city layout, the original structure of the Square has continued and its significance enforced. Banning of cars and changing the land uses of the buildings that adjoin the space, encourages people to celebrate the place by using it.

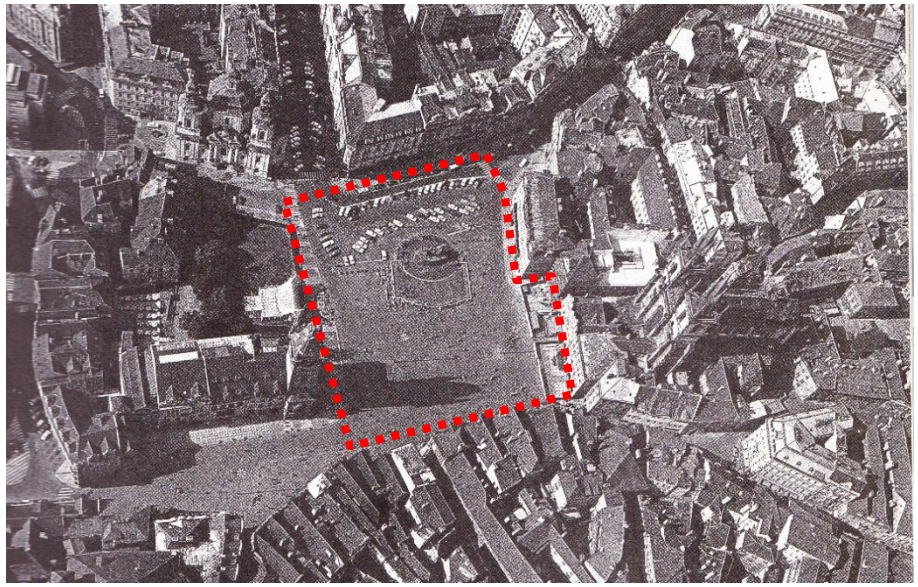


Image 17: The Old Town Square in the 1970's before cars were banned (Webb, 1990: 17)

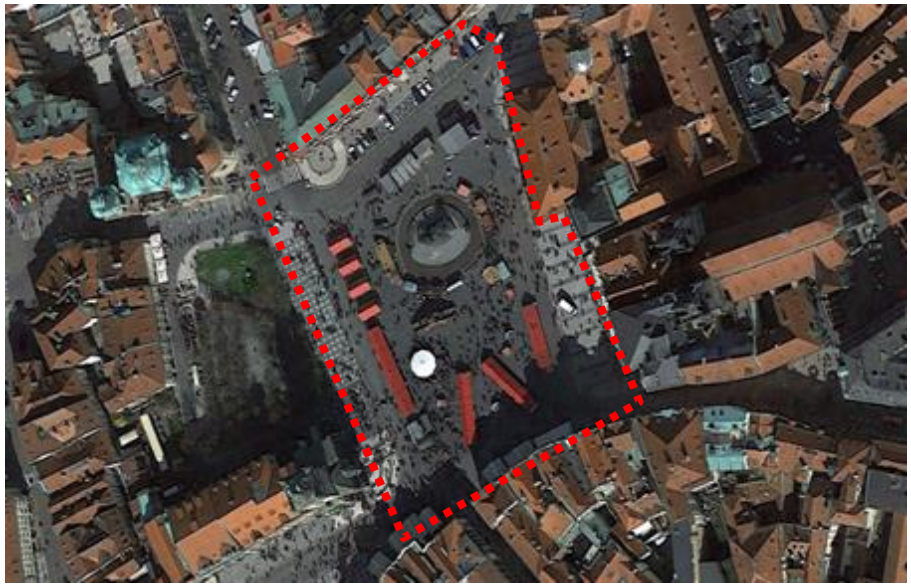


Image 18: Old Town Square presently (highlighted in red) (Google Earth Pro, 2016)

2.4.7. Plaça Reial (Plaza Real), Barcelona, Spain

Design and constructed between 1842 and 1848, the year in which it opened; the Square was in honour of King Ferdinand VII, thus its name "Royal Square" (Barcelona Home, 2016). The site was initially a Capuchin convent but in about 1835, many of Barcelona's religious buildings disappeared as a result of the confiscation of properties (Visit Barcelona, 2016). When the convent was demolished, a huge vacant plot was left behind (Visit Barcelona, 2016). The space was then converted into a theatre before becoming the space it is today (Barcelona Home, 2016).

In the square, there is a central iron fountain named "Tres Gràcies" (Three Graces), which was designed by Antoni Rovira I Trias and two lanterns that were designed by Antoni Gaudí (Barcelona Home, 2016). The top of the helmet lamps depicts a winding dragon with which the architect conveys the heroism of medieval Catalan conquerors (Barcelona Home, 2016). Around the Square, you can see a number of details like the busts of sailors and American explorers and badges too (Barcelona Home, 2016).

Designed by Francesc Daniel Molina Casamajó in the 19th century, the original intention of the Square was to be inhabited by affluent families but over time, the change in class corresponded inversely with its popularity (Barcelona Home, 2016). Following a complete renovation of the Square in 1982, it has become tremendously popular (Barcelona Home, 2016). Today, it is the only arcaded Square in the City and a major tourist attraction with a busy nightlife hub (Visit Barcelona, 2016). There is continuous coming and going as the Square offers much needed aeration in the density of the old city (Wolfrum, 2015). Surrounded by arcades, these conceal restaurants, bars and some of Barcelona's most popular nightspots (Visit Barcelona, 2016).

A hub of activity, the history and design of the Square have made it an attraction for both locals and tourists. Its initial design has shown resilience and its adapting, supporting land uses that have continued to make the space relevant.

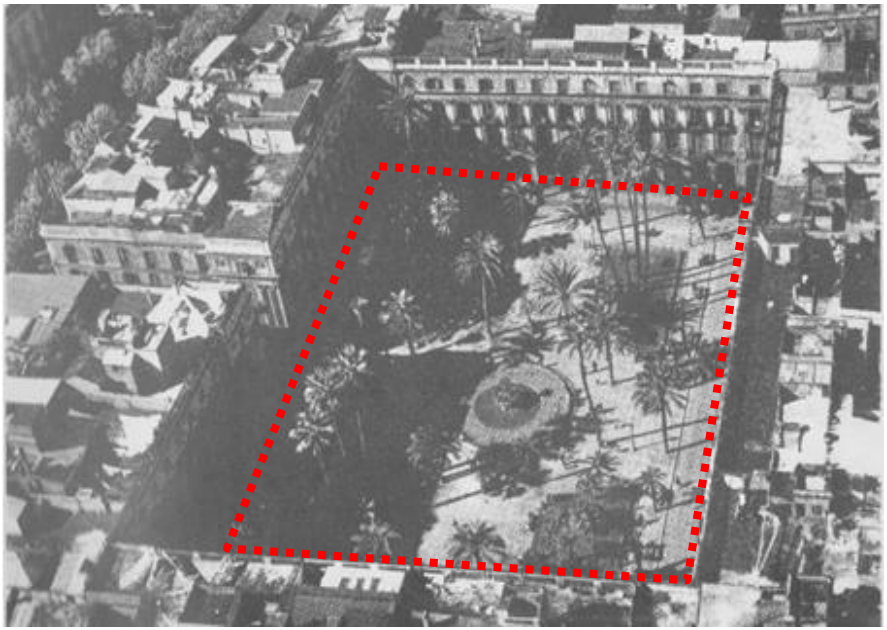


Image 19: Plaça Reial, 1848
(Krier, 1979: 35)



Image 20: Current image of the Plaça Reial Square and surrounding area
(Google Earth Pro., 2016)

Scale comparison of the size of the case study area; Market Square/ Library Gardens/ Beyers Naude Square to various South African public squares

Market Square/ Library Gardens/ Beyers Naude Square
Johannesburg, South Africa



Church Square
Pretoria, South Africa



Green Market Square
Cape Town, South Africa



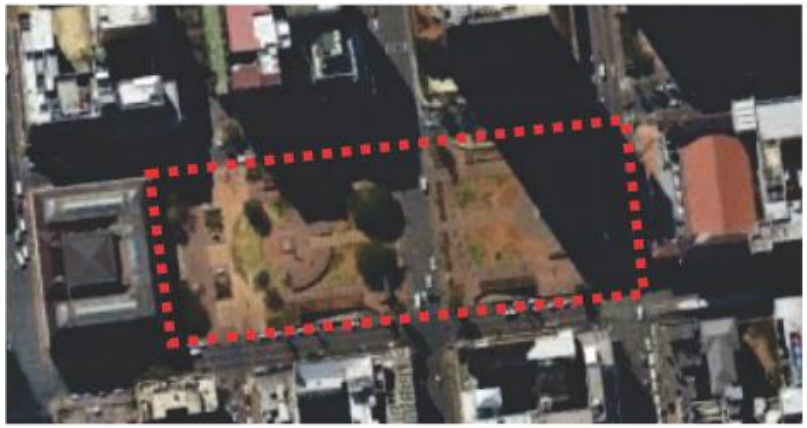
Francis Farewell Square
Durban, South Africa





Scale comparison of the size of the case study area; Market Square/ Library Gardens/ Beyers Naude Square to various international public squares

Market Square/ Library Gardens/ Beyers Naude Square
Johannesburg, South Africa



Staromestske Namesti (Old Town Square)
Prague, Czech Republic



Placa Reial (Plaza Real)
Barcelona, Spain





2.4.8. Case Study Conclusion

The few spaces mentioned above represent a small fraction of the spaces within South Africa and across the world. They by no means embody an exhaustive list of spaces to analyse and learnt from. However, what can be taken away as learning points in each of these instances, is the role that structuring or definite elements play and the role of tangible factors. So too, the design factors and programming that make the space relevant.

The brief analysis and learning points from these examples demonstrates that there has been very little change to the structured (the defined) space. By this it is meant, there has been very little, if any, change to the position of these spaces from their first construction until the present day. There has been insignificant change to their edges as well. Where change has actually occurred is in relation to the use of the square or the users of the space. In most of the instances, the buildings and environments surrounding the squares, defining their edges and their uses have changed. This has been as a result in the change of how people now use public spaces in South Africa as a result of the many shopping centres now within cities and the change of land uses that support or border the public space.

In relation to the relevance of public space and its role in the modern city, both positive and negative lessons can be learnt; both of which speak to resilience and the resilient nature of the places in addition to the relevance of the site and its activities. The resilient element manifested as the major defining structural points, predominately the design and layout of the space, the position of the buildings that demarcate the boundary as well as any landmarks that have been included in these spaces, for example: the statues. The relevance of these spaces has revealed themselves through the various spaces ability to adapt and change to their environment. The South African spaces are partly relevant due to their predominant location opposite city landmarks, in most instances, government buildings like City Hall. But they are not destination places that people have to go to. The international examples have demonstrated that the uses of the buildings that edge the spaces significantly impacts on the way that the space is used. The location of restaurants and establishments that have a night life have met that people treat these spaces as destinations, which they intentionally travel to. These spaces can give clues to fundamental structuring factors of public spaces and those that enhance and effect the enjoyment of the user's experience.

In order to assess and understand change in this research, the theoretical lens of resilience will be explored. This is detailed in Section 2.5.

2.5. Urban Resilience

The term resilience has been around for decades evolving from its original roots in ecological systems. This then progressed to focus on environmental risk and vulnerability, such as: natural disasters- earthquakes, floods and health epidemics; with further advances related to the social aspects of these environmental concerns (Harrison, et al., 2014). The idea then further developed to incorporate gradual and persistent disasters like climate change (Harrison, et al., 2014). This today is the theme that has popularised the global understanding of resilience. Although the concept of resilience initially emerged from the field of environmental science, the overarching notion now relates to numerous disciplines including psychology, engineering and economics, to mention a few. The basis of the concept in each of the diverse fields however, is always drawn back to the ability to respond to change, either through stability or through adaption

Similarly to the recent momentum achieved around the idea of public space, urban resilience, as a relatively new theme, is also gaining momentum in urban literature internationally. Although novel, the concept has quickly achieved a place in spatial and urban planning policy globally as seen through its inclusion as a theme of the 2016-2030 Sustainable Development Goals. Additionally, the impact has been more local to South Africa with a key theme of the National Development Plan, the City of Joburg's revised Growth and Development Strategy, Jo'burg 2040 and the City of Joburg's Spatial Development Framework (SDF) specifically regarding urban resilience (Harrison, et al., 2014). The work undertaken by Prof. Philip Harrison[7] et al. in their report *Urban Resilience Thinking for Municipalities* defines resilience as: "the capability of individuals, social groups or socio-ecological systems including towns and cities not only to live with changes, disturbances, adversities or disasters but also to adapt, innovate and transform into new more desirable configurations" (2014: 2). Simply put resilience is the ability to respond positively to change, through a combination of stability and adaption.

The point on the positivity of the change requires clarity. In the ecological sense, change is generally seen as positive due to the systems and

[7] South African Research Chair in Development Planning and Modelling, University of the Witwatersrand.

environment in which it operates, isolated exchanges in a vacuum free of economic structures and political influence (Harrison, et al., 2014). But with regards to socio-ecological processes, economics and politics play a major role on the outcome of the change. Through these influences, change can be seen as negative. Thus, interrogating the outcome in terms of achieving just and sustainable goals is imperative (Harrison, et al., 2014).

As time has passed, there have been several attempts to provide a rational and articulate theoretical context for urban resilience thinking. The most significant and meaningful contribution was made by Crawford Stanley Holling, a Canadian ecologist, who in the early 1970's began by merging ecology and systems theory in developing the concept of resilience within socio-economic systems (Harrison, et al., 2014). The basis of his work merged two points, the first related to ecology and the second to systems theory. Firstly, he argued that ecologists had shown that species survive through existing in a constant state of change; maintaining, adapting and modifying their habitats (Harrison, et al., 2014). This, coupled with the fact that species live in interconnected structured panarchies and that the small changes experienced therein, resonate with the larger interconnected structure (Harrison, et al., 2014).

Secondly was Systems Theory, which similarly is about self-regulation and adaption (Harrison, et al., 2014). Initially Holling related resilience to the ability of the ecological system to self-regulate or adapt, with his later work applying the same concept to socio-natural systems, such as cities (Harrison, et al., 2014). This forms the foundation of urban resilience thinking.

In an effort to make resilience thinking more practical, Harrison, et al. recommend a few guiding principles. They identify: redundancy, diversity, self-sufficiency and connectedness (Harrison, et al., 2014). Although their application is to urban systems broadly, the same set can be used understand public space. According to their view, they have attributed the following meanings:

- Redundancy- The ability of numerous components to perform the same function.
- Diversity- The ability of varying components to perform different functions, or to perform the same function differently.
- Self-sufficiency- The ability to be independent.
- Connectedness- The ability to have a well-connected network of relationships.

(Harrison, et al., 2014: 11-14).

Collectively, these sometimes contradicting (for example self-sufficiency and connectedness) yet complimentary principles are intended to help achieve a balance in understanding resilience thinking and the practical application thereof. Similarly, they can be applied to public space and its analysis in terms of resilience.

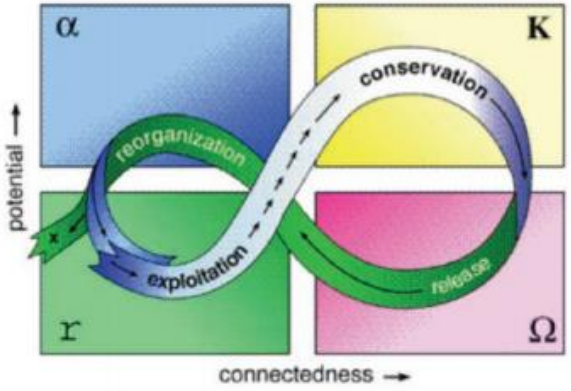
Sustainability is fundamental to the theoretical and practical application of resilience. There are misconceptions that resilience and sustainability are the same or that resilience is the more contemporary, improved version of sustainability. Both of these notions are argued to be incorrect, however. Sustainability is an essential goal of development and redevelopment, while resilience is a way of achieving this goal. Simply put, resilience is a tool to achieve sustainability. This point of clarity is necessary in that Harrison et al. note that as the term resilience becomes more commonly used, its essence could be lost, diluted and unclear (2014). Similarly, to the use of sustainability, as it became more popular, it eventually became an all-encompassing expression used as a blanket to cater to all problems. Thus, its contribution to the built environment should highlight a clear intention and consistently reinforce its role. (Harrison, et al., 2014).

From a spatial planning and urban design perspective, resilience is about understanding change and the response of individuals, communities, objects, buildings and the environment to this change. Due to the wide array of elements that comprise cities (physical, sensory, emotional, built) and their interrelationships it makes understanding resilience extremely complicated. Adding to this complication are the opposing conceptions of resilience, broadly broken down into two forms being equilibrist and evolutionary/transformative resilience (Harrison et al, 2014). Equilibrist resilience relates to more simple systems, while evolutionary/ transformative resilience usually relates to complex systems, such as cities. Equilibrists claim that systems are in a state of equilibrium and when they experience interruption and disorder, they should find a new equilibrium (Harrison, et al., 2014). This is what Holling refers to as “the adaptive cycle” with its four phases:

1. Exploitation,
2. Conservation,
3. Release/ creative destruction, and
4. Reorganisation (Harrison, et al., 2014).

Figure 1 below depicts the relationship between the four phases.

Figure 1: The Adaptive Cycle (Holling, C. S., 2001: 394 in Harrison, et al., 2014: 19).



The risk with this system is that the resilience potential can be ruined and the cycle becomes maladaptive. The results are serious degradation. (Harrison, et al., 2014).

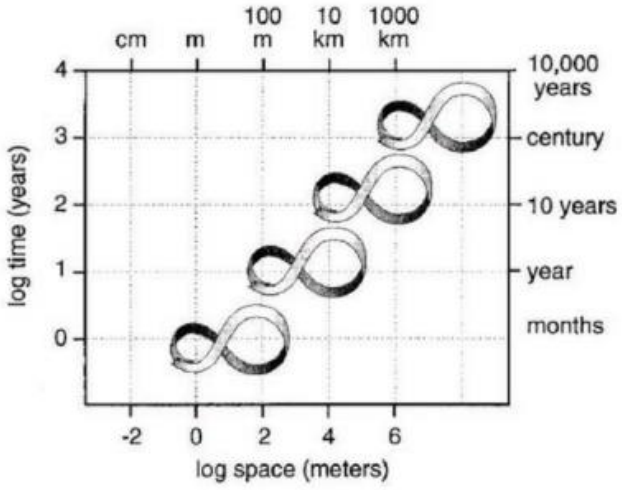
On the other hand, the argument put forth from the evolutionary/ transformative side is that a point of equilibrium cannot be achieved as the system is continually responding to never-ending change (Harrison, et al., 2014). Holling refers to the complex interactions and influences as "panarchy" (Harrison, et al., 2014). It is defined as the developing nature of complex adaptive systems, which is characterised by a delicate blend of change and continuity (Harrison, et al., 2014). It involves panarchical structure of systems between humans (including their physical and social creations) and nature (Harrison, et al., 2014).

This process too, includes four phases:

1. Growth,
2. Accumulation,
3. Restructuring, and
4. Renewal (Harrison, et al., 2014).

Holling explains this relationship as in Figure 2.

Figure 2: Panarchy (Holling, C. S., 2001: 397 in Harrison, et al., 2014: 19).



There are consequences of this system as well. As the processes are inextricably linked, any variance at one level will impact the entire system, even if this impact is only slight. A collapse at one level may have a knock-on effect and cause collapse at another (Harrison, et al., 2014). Large disasters will adversely affect the sustaining properties of a panarchy, which will ultimately have a destructive result on the succeeding levels (Harrison, et al., 2014).

A concern of resilience is its historical positioning and evolution. Its ecological underpinning means that it existed in an environment devoid of the economic consequence and political power. To ensure that resilience thinking can contribute beneficially in the exploration and examination of cities, the forces at play within cities and which are not present in ecological studies, need to be properly understood and continually highlighted.

In both instances, the definition of public space and that of urban resilience represents particular perspectives captured at a point in time based on the information at hand. Their definitions are created and might change over time, reflecting an evolving understanding (Harrison et al., 2014). However, for their application in this work, they have been defined.

Cities are a living testimony to the intimate and considerable changes that are continuously occurring. Planning and designing without this as a starting point is argued to be unwise and possibly even harmful (Harrison, et al., 2014). Exploring the influence of resilience theory through an urban design lens, in particular public space will focus on the adaptability and/or stability of both physical and functional aspects of public space. Physical aspects refer to the built and natural environment, such as: road networks, built form or public spaces, while functional aspects relate to land use change, a shift in the demographics of an area or the introduction of new policy (Harrison et al., 2014). While the built environment remains fairly constant, changes in the functionality can have a big impact on how spaces perform (Harrison et al., 2014). An example of this may be that form endures and functions alter (Salat and Bourdic, 2012). However, the process is reciprocal as the structure of a city determines how it is used and where people live, work and play; which in turn impacts on the spatial organisation and use of the city (Harrison et al., 2014). The aim is to create cities that are diverse, integrated, efficient, free, productive, meaningful and liveable. As they

are a sum of their parts, this would mean that all of the smaller parts would need to exhibit the same properties, including public space. Green infrastructure, natural and man-made ecological systems, has a significant role to play in developing more robust and resilient cities. This green infrastructure adds a particular and different value to that of grey infrastructure. An example to demonstrate this point is that a park can be both a recreational place as well as offer storm water management solutions (Harrison et al., 2014).

Public space encompasses more than just recreational space as it also reflects the social, economic, political and environmental state of affairs (UN Habitat, 2015). As cities continue to grow and densify, access to great public spaces is becoming an increasingly important asset (UN Habitat, 2015). Fundamentally linked to this is the need for the spaces to be relevant as well.

Therefore, the role of designing for and developing relevant green infrastructure is also becoming progressively more essential. The aim is to produce public space that combines a range of factors (physical and non-physical) to develop socially inclusive, integrated, connected, accessible, safe, sustainable and relevant public spaces (UN Habitat, 2015). Although the focus of this work is from an urban design perspective, it is imperative to reiterate that for great public space to be created, implemented and maintained an inter-disciplinary approach of working partnerships of various stakeholders and organisations is essential (UN Habitat, 2015).

2.6. Conclusion

The theoretical underpinnings of a research report rest in understanding the individual concepts and their collective impact on one another. The intention of this literature review was to better understand the individual concepts- urban design, public space and urban resilience and their relationship with one another to ensure public space is relevant.

From a review of these ideas, it is apparent that public space is essential for life in cities. They represent the green lungs, facilitating the integration of the built environment with nature (Salat and Bourdic, 2012). They are more than just a "grand accident" devoid of human

influence as Edmund N. Bacon[8] suggests in "The Design of Cities" (Bacon, 1967). They are the result of complex and contrasting occurrences and influences. Complexity arises as a result of the interactions between the different factors that make up a city. It is because of this complexity that cities can never be fully understood, controlled, planned or predicted (Harrison, et al., 2014: 21). But urban planning needs to develop an urban manifesto underpinned by humanist and urban-based logic that is capable of surpassing political influences and change to guide the urban path of societal development (Dewar and Uytenbogaardt, 1991: 11). Furthermore, city building and urban design need to consider and balance rigidity and flexibility to create environments conducive to sustained growth and development.

Sustainability relies on tools like resilience and its contrasting ideas of adaptability and stability. Through understanding these principles, resilience can be interrogated and its impacts understood. Particularly, how it responds and continues to respond to the incessant challenges of complexity, uncertainty and change in the environments in which we live and work (Harrison, et al., 2014: 10). Designing for public space now means understanding the users and responding to their needs. It is about marrying the factors that can be controlled with those elements that are intuitive and imagined (Dewar and Uytenbogaardt, 1991). It is about producing enabling environments, which are timeless. Ultimately, the intention of urban design is to produce great cities that serve all who live in them. A large part of this, is the development of great public space systems (UN Habitat, 2015).

[8] An American urban planner, architect, educator and author.

3. Regional and Local Analysis

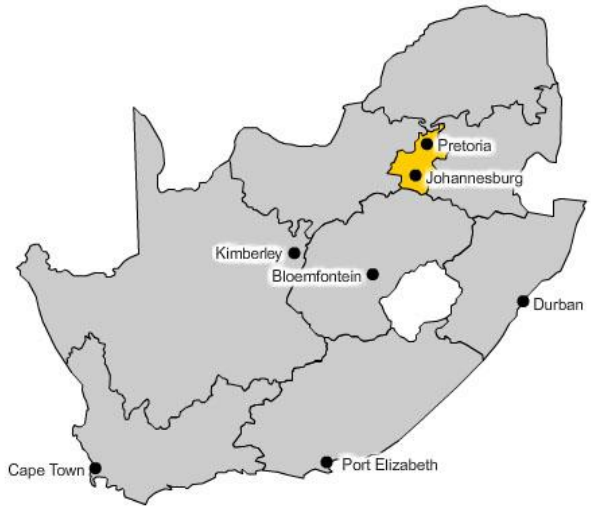
3.1. Introduction

Johannesburg, situated in the Province of Gauteng, is a young city by global standards, having only be in existence for approximately the last hundred and thirty years. Its early beginnings are remarkably different from the city of today. In response to local and global circumstances, the mining town of times gone by has been transformed into a modern metropolis. Besides a few mine dumps, some currently being re-mined, scattered along the City's mining belt there is little evidence that the City was founded on the prospect of gold. Its affectionate nickname Egoli (the city of gold) is sometimes the only reference. Much of this history is lost, with only a few records re-telling the stories, further perpetuated by the lack of preservation of historic landmarks. But closer inspection of old and often forgotten space and places reveal secrets of a forgotten time.

With a particular concern for the Inner City, this section delves into the history of the area and focusses on the development and redevelopment of the public square at the heart of the commercial district, presently referred to as Beyers Naudé Square, to commemorate the life of this anti-apartheid activist. On face value, it looks tired and forgotten. But as the layers are peeled back, the Square tells a story of the history of itself and the City as well.

3.2. Regional Analysis: Gauteng Province

Gauteng, one of the nine Provinces of the Republic of South Africa, contains numerous metropolitan municipalities. Two of the most important metros located within its jurisdiction are the City of Tshwane and the City of Johannesburg. For the purposes of this research, the City of Johannesburg and a space within it are relevant.



Map 1: The Province of Gauteng showing the City of Tshwane (Pretoria) and the City of Johannesburg
(Essential Travel Info, undated)



Map 2: A closer look at Gauteng showing the areas that it contains, specifically highlighted in yellow is the City of Johannesburg and some of the locales within it (Essential Travel Info, undated)

Unlike most cities around the world, Johannesburg did not develop around or along a water source. Instead, the city came to exist as a result of the discovery of gold and the mining that followed. The ridge and watershed transverses the City west to east and creates the north-south divide. The former central business district is situated south of the Ridge.

This history is explored in depth through the analysis of Market Square/ Library Gardens/ Beyers Naudé Square in Chapter 4.

Furthermore, Johannesburg is the largest city in the country and it is the economic hub with a population of almost ten million people. The land area of the municipality covers 1,645 km^2, which is large in comparison with those of other major cities.

3.2.1. Connectedness

Johannesburg is well connected in terms of its movement systems as well as the modes of transportation. There a numerous roads and highways that connect areas within the City in addition to connecting it with the surrounding municipalities and Provinces, namely: N1, N12, N14, N17, M1, M2, M3, R21, R24 and the R59.

The state of congestion is problematic with many commuters spending several hours travelling and in traffic each day. Public transport still remains a concern and minibus taxis still dominate this mode. In an attempt to develop public transport, reduce congestion and address the dominance of the mini bus taxi, various spheres of government have

implemented new approaches. National government implemented the Gautrain service that connects Johannesburg with Pretoria as well as O R Tambo International Airport with Sandton and Park Station. At a city-wide level, there has been the construction of Rea Vaya Bus Rapid Transit system. The development of this bus network was to connect areas previously disadvantaged with the business nodes. The line runs from Soweto to the Inner City as well as extensively throughout the Inner City. Future phases currently under construction will mean that the network will extend to the Sandton CBD and areas of the south of Johannesburg, such as Turffontein.

Under the theme of "connectedness" it is also important to mention the sprawling nature of the City. Population growth and immigration have resulted in the City's expansion, which has perpetuated urban sprawl. This aided through the development of traditionally low-density residential developments, typically located between the city centre and stretching to the outskirts of the City. This type of accommodation was favoured instead of constructing high density residential. Transportation routes and services have then needed to meet the sprawling needs, further extending the City's limited resources.

3.2.2. Demographics

According to the Community Survey completed by Statistics South Africa in 2016, the population of the City is about ten million people, which is divided into nearly a 50-50% split between males and females (Statistics South Africa, undated). Further information captured relates to the living type and basic services.

There are 1 853 371 households with an average of 2.7 people per home (Statistics South Africa, undated). The 2011 Census results indicated a lesser number of households at 1 434 856 but there were more people living within in each home at an average of 3, 1 persons (Statistics South Africa, undated). Besides that minor decrease, the numbers on a whole showed an increase. Of the current population 81% live in formal houses and nearly 18% live informally with the rest being attributed to traditional housing and other (Statistics South Africa, undated). The majority, 99%, have access to piped water; 91% have access to flush/chemical toilets and 90% are connected to electricity (Statistics South Africa, undated).

3.2.3. Natural Systems

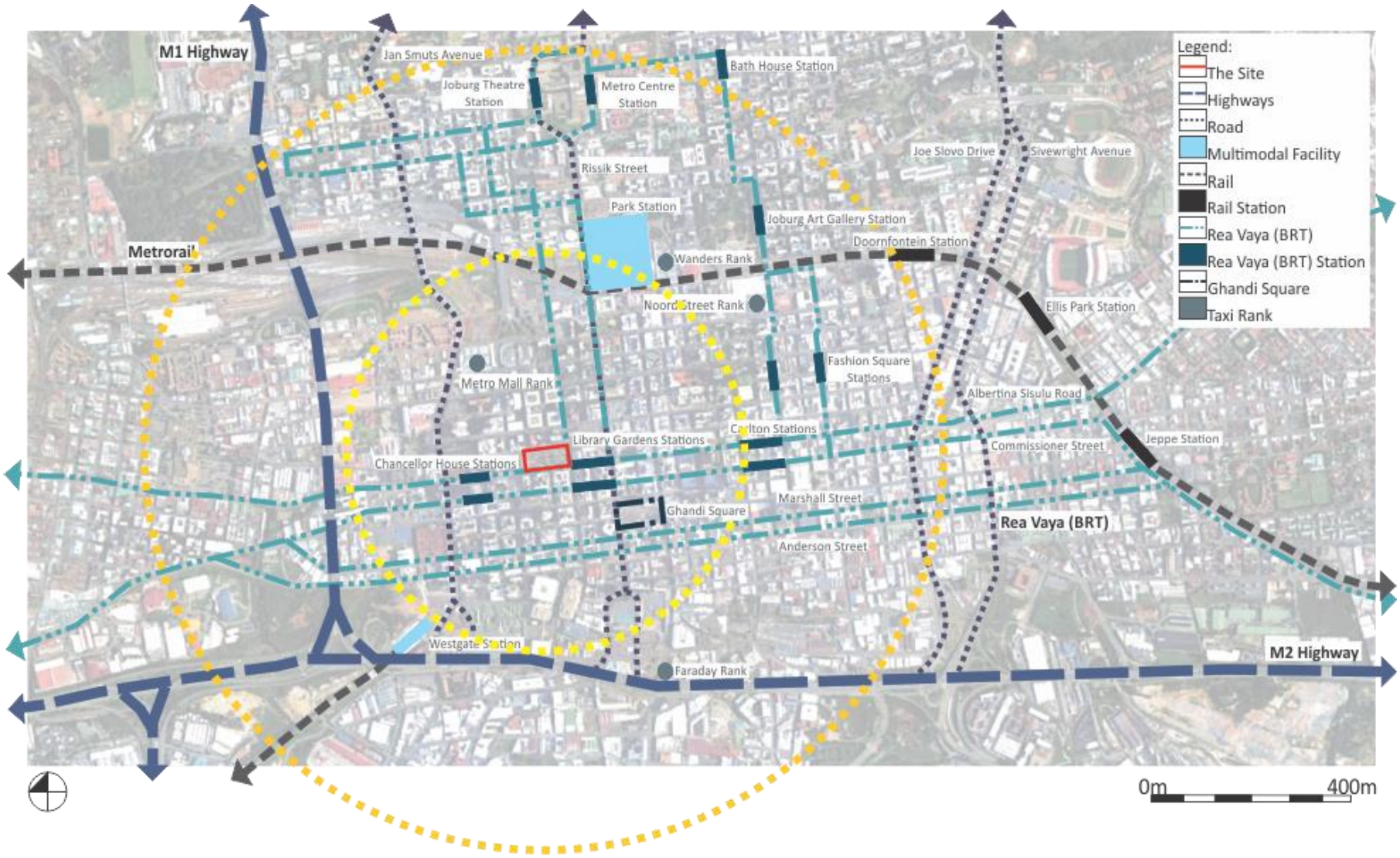
The City is characterised by various environmental elements, noting: open spaces, rivers, streams and ridges. The most famous of these natural features, as mentioned previously, would have to be the Witwatersrand Ridge, which divides the City into north and south.

Over the past number of years, the City has put measures in place such as polices that enforce its compact city approach designed to curb sprawl and similarly to protect and conserve the natural areas. This has been through the establishment of botanical gardens in addition to developing policies that restrict or prohibit development in areas deemed ecologically significant. Due to the large number of informal dwellers in the City, the rivers are under threat as people locate alongside these water bodies and use them for drinking as well as cleaning purposes. Many of these watercourses have become severely polluted.

3.3. Local Site Analysis: Inner City, Johannesburg

3.3.1. Movement Networks

The movement network within and surrounding an area determines its connectivity and accessibility. The Inner City is a well connected and an accessible locale with countless north-south and east-west linkages and a full range of public, private and non-motorised transport (NMT) routes and facilities. Developed according to the grid system, the area is characterised by many city blocks. This grid facilitates easy movement of all modes of transport at both a localised as well as metropolitan scale. Map 3 demonstrates the various modes of transport and their routes, including rail, bus, taxi, vehicle, NMT and pedestrian movement.



Map 3: Movement Network and Modes of Transport
(Author, 2016)

a. Highway and Road Movement

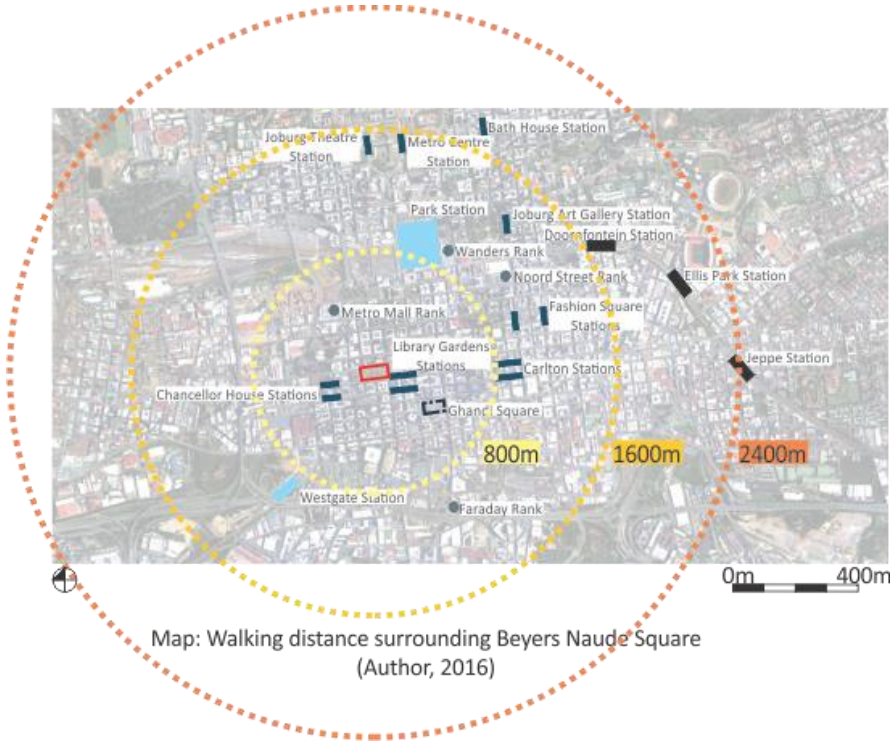
The predominant movement networks of this area are the highways and roads. The M1 Highway is situated to the west of the Inner City and facilitates movement in a north-south direction. While the M2 Highway, which runs along the southern boundary provides a major east-west linkage. Supporting these two major arterials is a network of roads that form a lattice over the area. It supports a number of major through routes that connect this area with its surrounds, namely: Ntemi Piliso Street (which becomes Jan Smuts Avenue), Rissik Street, Joe Slovo Drive. This extensive network demonstrates connectivity and promotes accessibility.

The grid is approximately 60 metres by 60 metres, which creates the grain. This grid has created a fine grain that supports the original design of the Inner City for the predominant use of pedestrians by allowing a very walkable urban form. A by-product has meant that traffic and congestion are a regular occurrence. This problem is intensified by the fact that some of the streets do not link up, especially towards the eastern side of Bree Street (City of Jo'burg, 2009). In an effort to alleviate this issue, a number of the roads have been reconfigured into one-ways.



Map 4: Highway and Road Network
(Author, 2016)

b. Pedestrian Travel and Non-Motorised Transport (NMT)



Map: Walking distance surrounding Beyers Naude Square (Author, 2016)

Map 5: 800 Metre Radii Intervals demonstrating Walkable Distance (Author, 2016)

Originally designed with the pedestrian in mind, the Inner City has undergone a drastic shift from its early development of a walkable area to then focusing on and designing for the car. However, recent efforts by the City of Jo'burg have been to re-address the space for pedestrian orientation and use. Council has thus been directing its policies and plans towards revitalising the streets and this is evident through the implementation of public space and transport initiatives, such as: Linear Markets, Rea Vaya (BRT) and the "Complete Streets" programme. These projects enhancing the existing and extensive public movement network.

The universal standard for a walkable distance is that 800 metres should take 10 minutes to walk. Based on this measurement, radii of 800, 1600 and 2400 metres have been detailed in Map 5. This clearly demonstrates the well connected and accessible character of the site and it surrounds. Although these areas are well-connected, they are in need of maintenance and upgrade to ensure that they are and remain safe.

To further enhance pedestrian movement, the Council has also been exploring and now, implementing, non-motorised transport (NMT). There are many NMT options, including walking, cycling, rickshaws, wheelchairs,

animal-drawn carts and recreational activities, such as: equestrian, roller blades, skates and scooters. Through the City's Complete Streets, in which a road lane is reconfigured to offer space for cyclists and trolley-pushers, the sidewalk it also redesigned to enhance the pedestrians' experience.

c. Rail Routes and Stations

Another mode of transport located in this precinct is rail. Metrorail services include the hub of Park Station in addition to the complimentary Doornfontein, Ellis Park and Jeppe Stations. Tipped as the gateway to Africa, Park Station is the largest such facility in Sub-Saharan Africa. Centrally located in the Inner City, it forms part of the main railway line, which runs east to west traversing across the City and its neighbouring Municipalities from Krugersdorp to Germiston. Park Station, an intermodal transport interchange, is not only the focal point for rail transport but it also houses the southern terminus of the Gautrain rapid rail, local and cross-border busses in addition to mini-bus taxis.

The Westgate Station, located in the south-western corner of the Inner City is similarly a multimodal transport facility, although smaller in scale. It too includes the combination of rail, buses and mini-bus taxis.



Image 21: Metrorail Trains at Park Station (Muchave, 2014)



Image 22: Gautrain (Muchave, 2014)



Map 6: Rail Routes and Stations
(Author, 2016)

d. Rea Vaya Bus Rapid Transit (BRT)

The Inner City has always been well serviced with busses. They, similarly to taxis, utilised the roads and highways of the City. However, in 2006/ 2007, the City of Jo'burg approved a public transport project aimed at addressing the time spent and costs involved of commuters. This project would focus on the public transport systems implemented in various parts of the world, including: Curitiba in Brazil. The intention was for the busses to utilise the middle of the street and as such, stations would be positioned in the median. As a consequence of a lane being lost, more congestion would be created and this would therefore encourage motorists to utilise public transport.

The first phase was implemented and the route serviced the Inner City as well as the link between the Inner City and Soweto. This has proven to be successful as further phases will be rolled out.

200 metres from the Library steps is the Library Gardens Eastbound Rea Vaya (BRT) Station located along Albertina Sisulu Road. Parallel and south of this Station, located in Commissioner Street is the Westbound Station. Within the 800 metre radius there are four stations with the majority being located within the 1600 metre radius.

The Inner City is also serviced by local bus operators of Metrobus and Putco well as those of neighbouring Municipalities. A number of long-distance and cross-border busses are also located within the area, operating predominantly from Ghandi Square, Park Station and its immediate vicinity. They facilitate transport both formally and informally to the various Provinces as well as our neighbouring countries.



Map 7: Rea Vaya (BRT) Inner City Routes
(Author, 2016)



Image 23: Rea Vaya (BRT) Station located on the Library Gardens Eastbound Route (Author, 2016)



Image 24: Rea Vaya (BRT) Buses at Ghandi Square (City of Joburg, 2008)



Image 25: Metrobuses at Ghandi Square (City of Joburg, 2008)

e. Taxi Transport

The majority of South Africans rely on the private mini-bus taxi service as their primary mode of transport. Private in the sense that this option is not subsidised by the Government. The Inner City has a concentration of taxi facilities and is home to number of ranks. Similarly, to the busses, they offer both locale as well as long-distance travel. Their routes overlap with both that of vehicular and busses.

There are a few formal taxi ranks located in the Inner City that include Park Station, Westgate, Metro Mall, Wanders Rank, Noord Street Rank and the Faraday Rank. Likewise, there are a number of secondary ranks noting: the Bridge Taxi Rank (Corner and King George Streets), Carlton Centre Taxi Rank, Corner Von Brandis and Commissioner Streets, Corner Anderson and Von Brandis as well as the Corner of Noord and Claim Streets.



Map 8: Location of the Taxi Facilities and predominant Routes
(Author, 2016)



Image 26: Taxis parked outside Metro Mall
(Mqadi, 2015)



Image 27: Inside Bree Taxi Rank
(Mqadi, 2015)



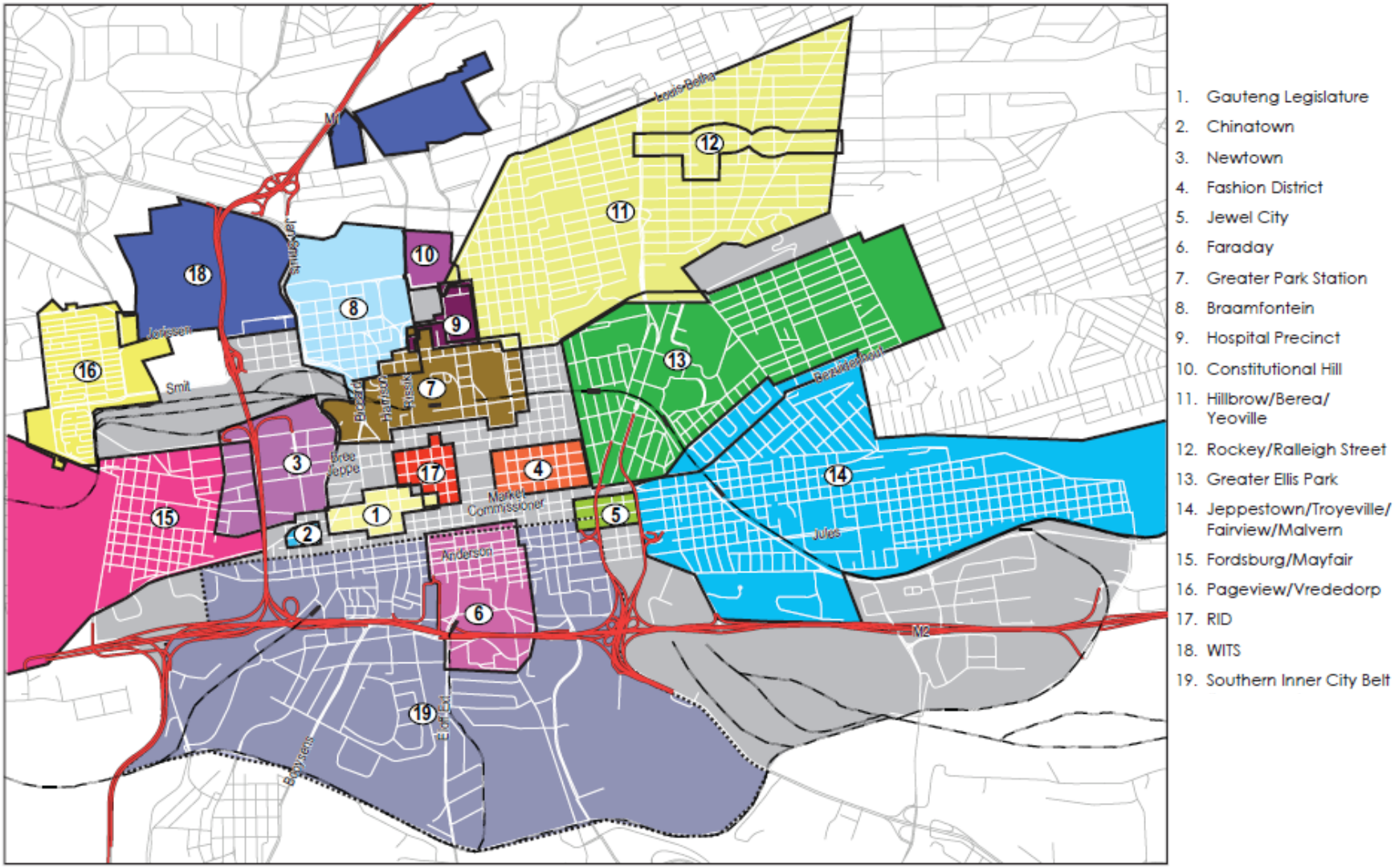
Image 28: Wanders Taxi Rank
(City of Joburg, 2011) (Mqadi, 2015)

3.3.2. Built Form

Johannesburg is a young city by global standards, having only existed for the last hundred and thirty years or so. The Inner City marks the heart of its beginning, with most of its buildings and spaces a composition of told and untold layers that make up its history. The built form, Maps 9-13, capture a point in time of its rich history- reflecting on what was, acknowledging what is and highlighting the potential of what could come. Characterised by its diversity, the Inner City is an array of different districts, a variety of land uses and varying building heights.



Map 9: The Built Form
(Author, 2016)



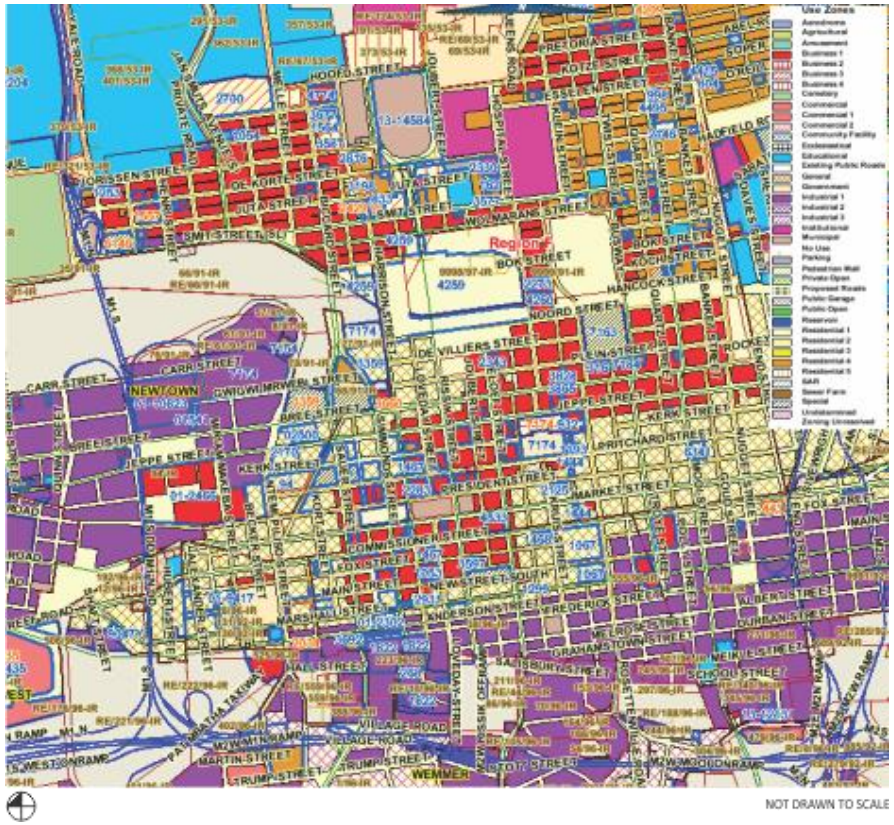
Map 10: Areas within the Inner City and the Nineteen Precinct Plans that affect the Area
(City of Joburg, 2009: 78)

a. Land Use and Building Height

Due to its history, that it was once the central business district of the City, the Inner City is an amalgamation of numerous differing land use classifications. The predominant zoning of the area is “Business 1", “Educational”, “General”, “Government” and “Institutional”. Apart from those catered to the schooling and education uses, the rest of the land uses allow a basket of rights, which includes: residential, retail, commercial and those designed to support industrial uses like manufacturing, assembly and so on.

The properties in the immediate vicinity of the Square are primarily zoned “Business 1" which is detailed as “business purposes, shops, residential buildings, place of instruction, social halls, restaurant, car sales lot, motor showrooms, offices, public or private parking area, institutions, religious purposes, dwelling units” indicative that almost any use is permitted on these properties.

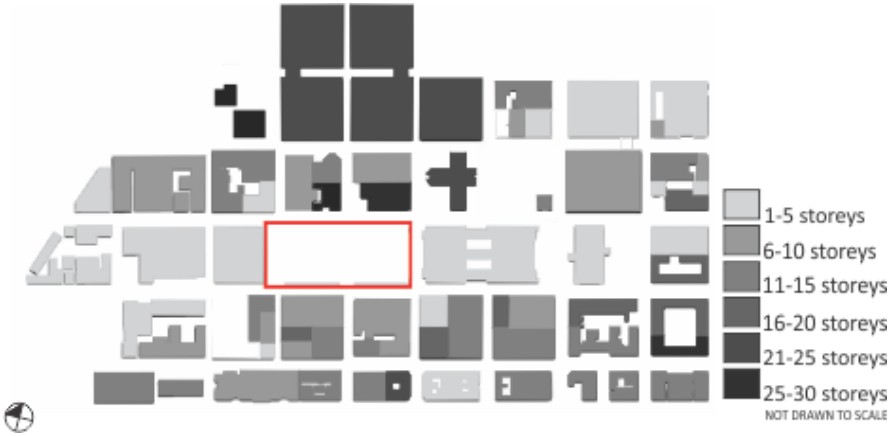
Similarly, there are a variety of building heights across the areas and specifically within the surrounding area. It ranges for a storey or two, up to high-rise of 25-30 storeys.



Map 11: Indicative Land Use Zonings of Properties in the Inner City (City of Jo’burg, 2016)



Map 12: Land Use zoning of the Properties surrounding the Square (City of Jo'burg, 2016)



Map 13: Building Heights surrounding the Square ((Keeling, 2008); Author, 2016)

3.3.3. Public Open Space

Maps 14 and 15 indicate there is a lack of adequate public open space within and surrounding the Inner City. This deficiency has worsened as a number of the buildings historically used for offices have been converted into residential dwelling units. Therefore, as more people are residing in this precinct, the status quo of open space per person is decreasing as no new or additional public open space is being developed. As the buildings are existing, it leaves very little, if any opportunity at all, to provide additional public space. Thus, negatively impacting on the lives of the people that live in the area as well as those who work and play in it.



Map 14: Open Spaces, Parks, Squares and Sports Facilities
(Author, 2016)



Map 15: Public Open Spaces and Squares with Photos depicting their character (Author, 2016)

3.4. Conclusion

The regional and local status of Beyers Naudé Square further reiterates its strategic location within the broader City context. Surrounded by an extensive public and private transport network, all of the modes of transport are present within the area. It is furthermore located in the Inner City, a diverse and extensive position with a variety of land uses, building heights and designs. The area also has a number of parks and public spaces. The combination of these factors provides an incredible opportunity for a meaningful public space.

Theoretically, the area should be a hive of activity, especially as the land, uses within the greater precinct are going through redevelopment and many of the historical office buildings are being converted into residential units for families as well as students. Public space is a necessity in areas of high density and the Square provides an ideal opportunity for fulfilling this function. However, it is devoid of this responsibility. It is surprising to realise that the Square lacks the critical components of a great public space- people. The current design and lack of activities means that this historically important area exists but does not support or enhance community life.

It does however indicate that the area needs an intervention to rejuvenate it. There are many building blocks on which to develop a strategic and relevant intervention. It is about developing deeper understanding of the Square, its history and its potential. It is also about delving into these questions in relation to the wider area. Until these critical components are thoroughly understood, a grand master plan will remain irrelevant. The resolution needs to start on a much smaller scale and build an urban design that appropriately responds appropriately.

4. History and Background of the Case Study: Market Square/ Library Gardens/ Beyers Naudé Square

4.1. Introduction

The case study for this research report is the Old Market Square/ Library Gardens/ Beyers Naudé Square, located in the commercial core of the Inner City of Johannesburg. The theoretical lens of resilience and by mapping change over time as well as understanding the space's relevance as the social, economic and political environment of the City and the Country, has transformed, this public space will form the case study for this research and thus, will be explored in more detail in Chapter 5.

This chapter is a historic reflection of the City and the changes the Square has undergone.

4.2. History of the Square

4.2.1. The Emergence of Johannesburg and Market Square (1886-1935)

The discovery of gold in 1886 saw people flock to an area of *uitvalgrond* [9] in search of their fortune that would become known as the Witwatersrand. In Clive Chipkin's book, *Johannesburg Style: Architecture and Society 1880s-1960s*, he quotes the work of E. P. Mathers in the *Golden South Africa* as he describes the development of Johannesburg in its early days. Johannesburg developed rapidly, becoming a town in barely nine months (Chipkin, 1993, p. 10). Initially beginning haphazardly, the town was then laid out with typical streets and a grid system with blocks of erven being 50 by 100 feet (15.24 by 30.48 metres) and street corner stands of only 50 by 50 feet (15.24 by 15.24 metres) (Chipkin, 1993). Although the land surveyor at the time Villiers only had permission to make provision for one public space, he included three as well as a cemetery (Grundlingh, 2015). The spaces were Market Square, Von Brandis Square and Government Square (Grundlingh, 2015). Market Square was described as the largest square in South Africa at the time, measuring six blocks by one block. It was situated in the heart of the developing town, along an existing road that connected Pretoria with Kimberley (Chipkin, 1993). Known as a meeting place, the Square attracted farmers, prospectors, dealers and the like. Horse-trading took

[9] The left-over government land between the farms on which diggings were proclaimed

place on the western side, while the centre dealt with farmers and their produce (Keeling, 2008). It also provided accommodation as a camp yard to visitors to the area. The space was minimal in appearance- unpaved with exposed earth that during the dry season was a dusty mess from the wagon traffic, while the rainy season brought with it ankle-deep red mud (Chipkin, 1993).



Image 29: Market Square during the early years
(Museum Africa Archives referenced in Keeling, 2008)

The stands fronting on the Square achieved the highest selling rates at the time and formed the first formal business sites, while those located eastwards were reserved for government buildings (Keeling, 2008). The buildings were constructed out of temporary materials initially, signifying the uncertainty about the stability and permanence of the Town (Keeling, 2008). But as advances in technology and building materials were made,

this impacted on the design and construction of buildings (Keeling, 2008). The transitory nature of the town during its early days was also reflected in the lack of significant state-funded public structures, such as a city hall, a public library, theatres and the like (Grundlingh, 2015).

Commissioner Street at the time represented a major urban street and the principle east-west carrier of road traffic on the central Witwatersrand (Chipkin, 1993). Market Square was originally founded north of this corridor. South of this area, along Commissioner and Market Streets, a financial enclave developed; this included the mining and financial houses, banks, property trusts and the Stock Exchange (Chipkin, 1993). This area became the financial centre of the Town and remained the commercial core of the City until blight saw many of the major role players, for example: the Johannesburg Stock Exchange, relocate to Sandton in the nineteen seventies.

In 1888, the Square became the largest covered area in Johannesburg (Keeling, 2008). The first structure was a small tin shed that housed the Market Master, which would later become the Market Building and the second structure was the Fire Station, that too would be reconstructed into a two story brick shed (Keeling, 2008). Consequently, the government buildings followed on the eastern side, represented today by the Rissik Street Post Office (Keeling, 2008). At the same time, the surrounding retail offering continued to develop and transform into permanent structures (Keeling, 2008). This is an indication of the stabilisation of Johannesburg as a town. However, when complaints were received in relation to the hygiene of the Square, the District Surgeon and Medical Officer of Health banned camping on the Square (Keeling, 2008). The visitors were relocated to Von Brandis Square (currently the site of the Supreme Court and the Jeppe Post Office). This move had a significant impact on the function and importance of Rissik Street. As it was the direct route between these two Squares, it consequently became a main road and major thoroughfare (Keeling, 2008). In relation to development in and around the Square it continued but after 1890, no new squares we built (Keeling, 2008). Market Square was then dedicated to general auctions and sales as the trade in cattle had moved to Marshall Square (Keeling, 2008). Development was centred on providing accommodation as mining and the population grew (Chipkin, 1993).



Image 30: Market Square, 1907
(Museum Africa Archives referenced in Keeling, 2008)



Image 31: Market Square, 1910, before the construction of City Hall
(Museum Africa Archives referenced in Keeling, 2008)

To accommodate the addition of City Hall to the Square, the space was divided in 1910 and a quarter allocated to its erection. Positioned in front of the Rissik Street Post Office, City Hall was located on the eastern portion (Keeling, 2008). It took five years to complete and signified Johannesburg's transformation from town to city. It also became the venue for political gatherings and weekly protests. On the first of May 1917, it hosted the first talks of the South African Native National

Congress (re-named the African National Congress in 1924) (Keeling, 2008). While inside the Hall, lunchtime recitals and concerts were held (Keeling, 2008). Unfortunately, City Hall did cut the Post Office off from the Square (Keeling, 2008). Despite this, little changed over the next decade. Only in 1926 was there a major modification as the market was relocated to Newtown to a purpose built building (today known as Museum Africa). Its previous structure on Market Square was reconfigured to accommodate the tram terminus and a few more additions were made (Keeling, 2008). Following this change, the space remained constant. The next alteration would only take place with the addition of the library (Keeling, 2008).



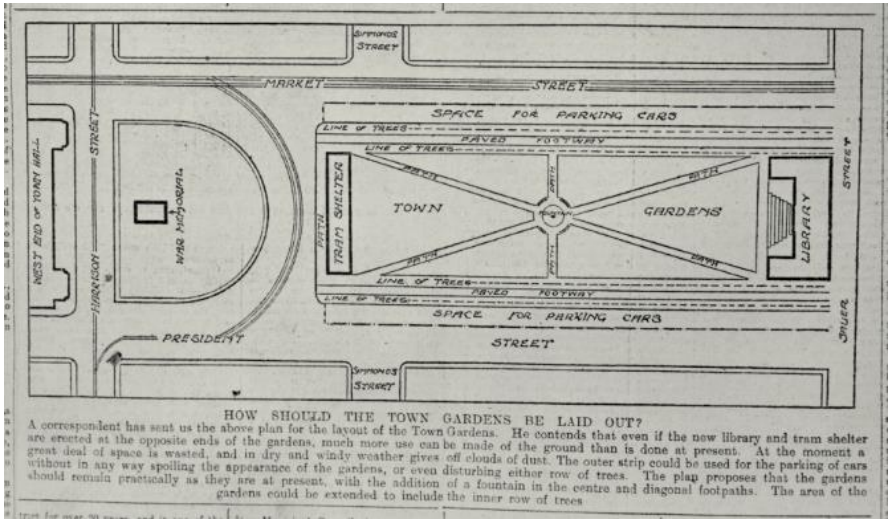
Image 32: Johannesburg City Hall, 1918
(Museum Africa Archives, 1918)



Image 33: Johannesburg City Hall, 1926
(Museum Africa Archives, 1926)

4.2.2. Building a Library and Library Gardens (1936-1991)

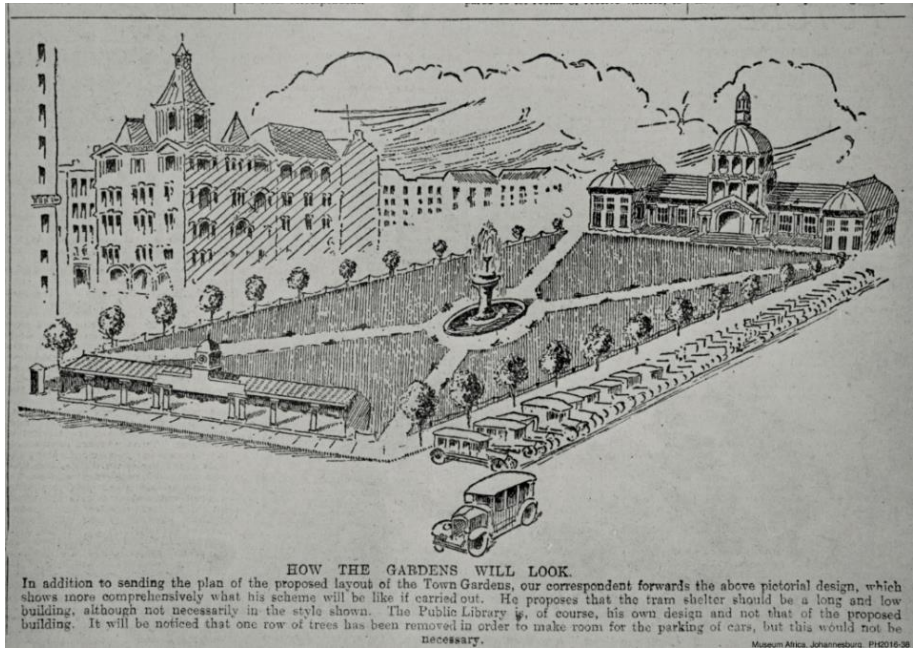
In 1919, the City Council decided that the Post Office was poorly positioned and should be relocated. The desired site for the relocation was opposite the City Hall building on the western side of the Square (Keeling, 2008). The repositioning plans were not supported and a year later, in 1920, it was agreed that the library would be better suited in its present location (Keeling, 2008). Construction of the new community facility only began twelve years later in 1932 and lasted three years (Keeling, 2008).



HOW SHOULD THE TOWN GARDENS BE LAID OUT?

A correspondent has sent us the above plan for the layout of the Town Gardens. He contends that even if the new library and tram shelter are erected at the opposite ends of the gardens, much more use can be made of the ground than is done at present. At the moment a great deal of space is wasted, and in dry and windy weather gives off clouds of dust. The outer strip could be used for the parking of cars without in any way spoiling the appearance of the gardens, or even disturbing either row of trees. The plan proposes that the gardens should remain practically as they are at present, with the addition of a fountain in the centre and diagonal footpaths. The area of the gardens could be extended to include the inner row of trees.

Image 34: Initial proposal for the Town Gardens, as it was known as the time, 1926 (Museum Africa, 1926)



HOW THE GARDENS WILL LOOK.

In addition to sending the plan of the proposed layout of the Town Gardens, our correspondent forwards the above pictorial design, which shows more comprehensively what his scheme will be like if carried out. He proposes that the tram shelter should be a long and low building, although not necessarily in the style shown. The Public Library is, of course, his own design and not that of the proposed building. It will be noticed that one row of trees has been removed in order to make room for the parking of cars, but this would not be necessary.

Museum Africa, Johannesburg, PH2016-38

Image 35: A newspaper clipping of a proposed scheme for the Library and the Square (Museum Africa Archives, undated)



Image 36: Perspective of the Johannesburg Library, 1932
(Museum Africa Archives, 1932)



Image 37: Sketch illustrating the formal demarcation of the Square
(Museum Africa Archives, undated)

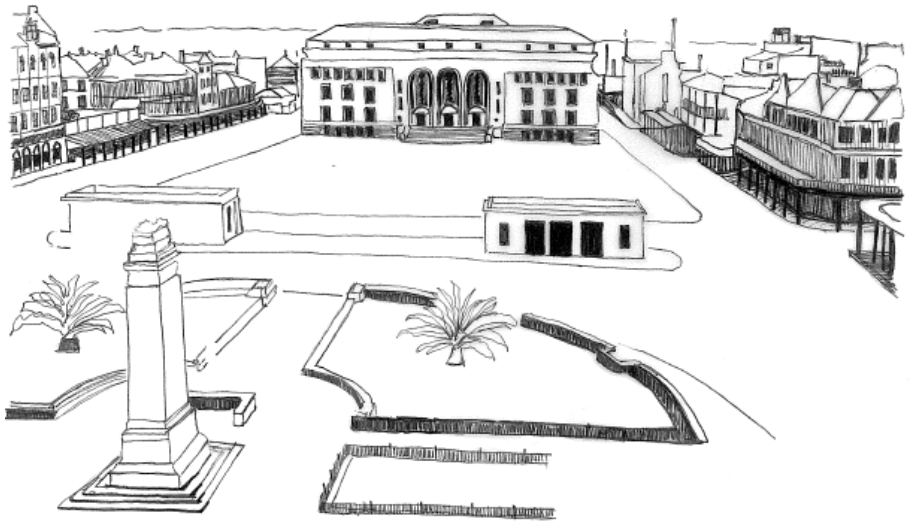


Image 38: The Johannesburg Library, 1935
(After original image Museum Africa Archives, 1935)

The original layout of the Square extended from the edge of the Library building and ended with Simmonds Street as the boundary. In contained two structured grass areas, north and south of the paved path that dissected the space in half. On either side of the grass areas, between that and the street, were a double row of trees. To the east of the Library gardens is the other section of the space, in front of City Hall. The layout of this space was centred around the war memorial statue. On either side of this landmark, north and south, were again two grass areas. Directly ahead of these grass patches were further grassed areas with a couple of shrubs.



Image 39: Illustration depicting the Square's Layout and Design in 1930 (After Author, 2016)



Image 40: East entrance of City Hall facing the Square, 1935
(Museum Africa Archives, 1935)



Image 41: The Library and Square, 1936
(Museum Africa Archives, 1936)

Towards the mid to late 1930's the tram system was introduced to the City. This had a significant impact on the initial design of the Square. In the road area of Simmonds Street, between the Library Gardens and the space in front of City Hall, an island was constructed that included two tram stations. Besides this major alteration, little other change occurred aside from the planting of more foliage within the structured grass areas of the Library Gardens.

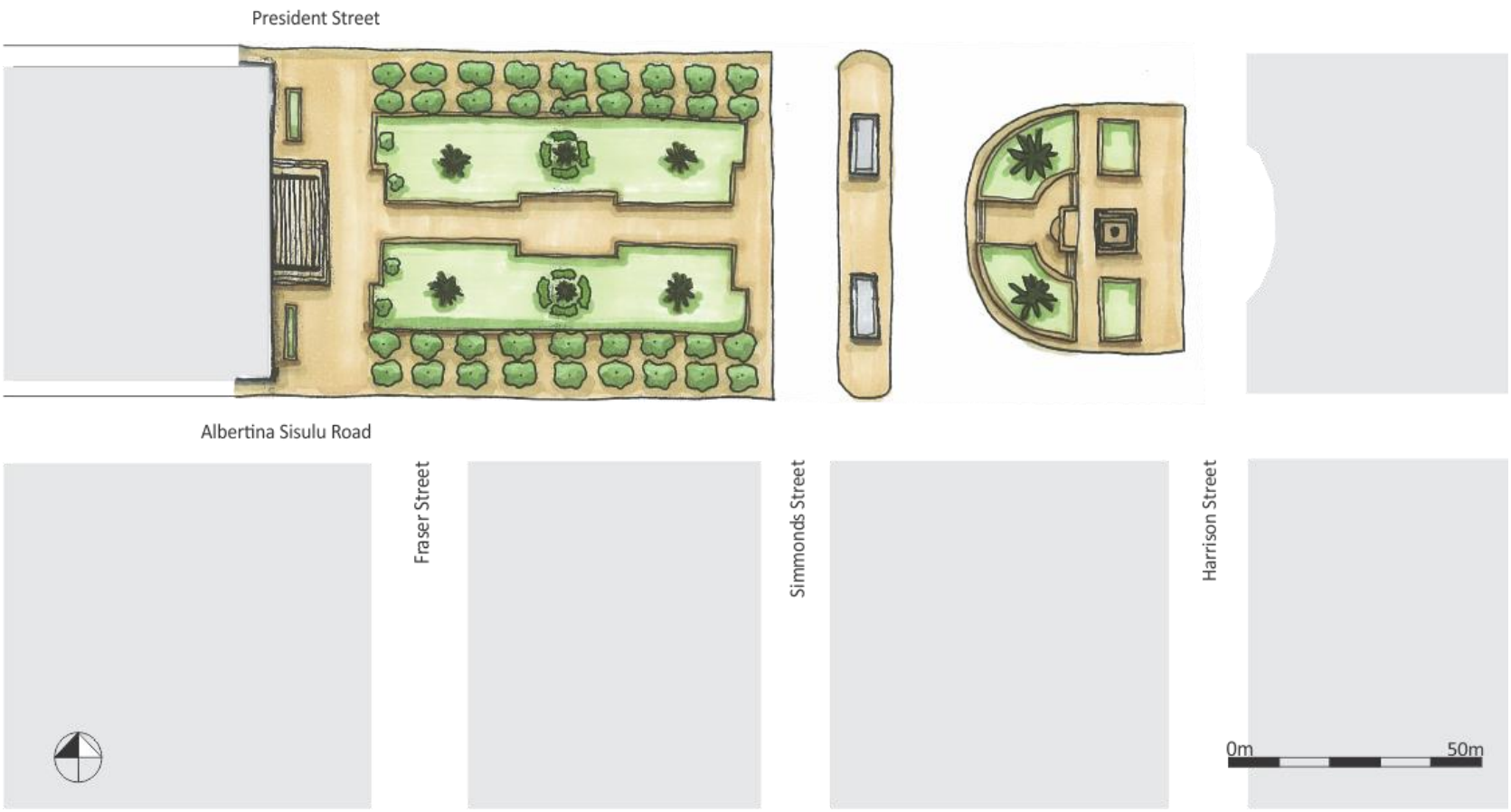


Image 42: Illustration depicting the Square's Layout and Design in the mid to late 1930's (After Author, 2016)



Image 43: A view of the Library and Square from the roof of City Hall, 1939 (Museum Africa Archives, 1939)



Image 44: Aerial image of the eastern entrance of City Hall and part of the Square (Museum Africa Archives, undated)

The 1940's marked the introduction of a new zoning scheme, which permitted greater bulk. This saw many of the buildings redeveloped to maximise these rights. Inevitably, the sense of definition and enclosure of the Square decreased as taller, privately built buildings were erected and those that were once prominent, now resided in the shadows (Keeling, 2008). Despite this, City Hall and its steps still remained relevant

as they were used for demonstrations and political gatherings. These were however banned in 1962 by the City Council (Keeling, 2008).



Image 45: Johannesburg City Hall, 1954
(Museum Africa Archives, 1954)

Since formalisation, the grid system has been a part of the Inner City of Jo'burg. The image below highlights the mining activities to the west and south of the Square (highlighted in red). The railway line running west to east, which still exists today, is also present. So too are other landmarks, such as Ellis Park.



Image 46: Aerial Image of the Inner City of Johannesburg, 1952
(Department of Rural Development and Land Reform, 2016)

The 1960's saw a concentration of investment in public spaces, recreational facilities and existing parks as they were furnished with benches, play equipment and so on. Landscaping also becomes a feature. During the mid-sixties the gardens in front of the library were then formally landscaped to compliment the new structure and renamed as Harry Hofmeyer Square in honour of the 1911-1912 City Mayor (Keeling, 2008). But the Library seemed to be more prominent in the space, especially as the gardens made accessibility easier. So, as Council was expanding and to reinforce the significance and dominance of City Hall over the Square, two additional floors were added in 1938 (Keeling, 2008).



Image 47: The flowering Library Gardens, 1962
(Museum Africa Archives, 1962)



Image 48: The Library and its garden, 1962
(Museum Africa Archives, 1962)



Image 49: Constructing the basement to be positioned underneath the Square, 1965
(Museum Africa Archives, 1965)

With a focus on public spaces in the 1960's, further foliage and public furniture were added to areas like the Library Gardens. However, in 1961 the tram lines were decommissioned in the City and streets were made wider for busses and private vehicles. This meant that the island developed to accommodate the tram stations was removed. This island was incorporated into the public space in front of City Hall, which was redeveloped and made much larger. Later that decade, around 1965, the Gardens were uprooted as basements were constructed under the Square. The building of the basements impacted on the design of the Square, which was completely redone. The result was the original structured grass areas on either side of the paved path but no trees were included in this scheme. The space in front City Hall mimicked that of the Library Gardens as it too contained two structured grass areas dissected by a paved pathway. Three water features were added as well, between the Library stairs and the grassed areas.

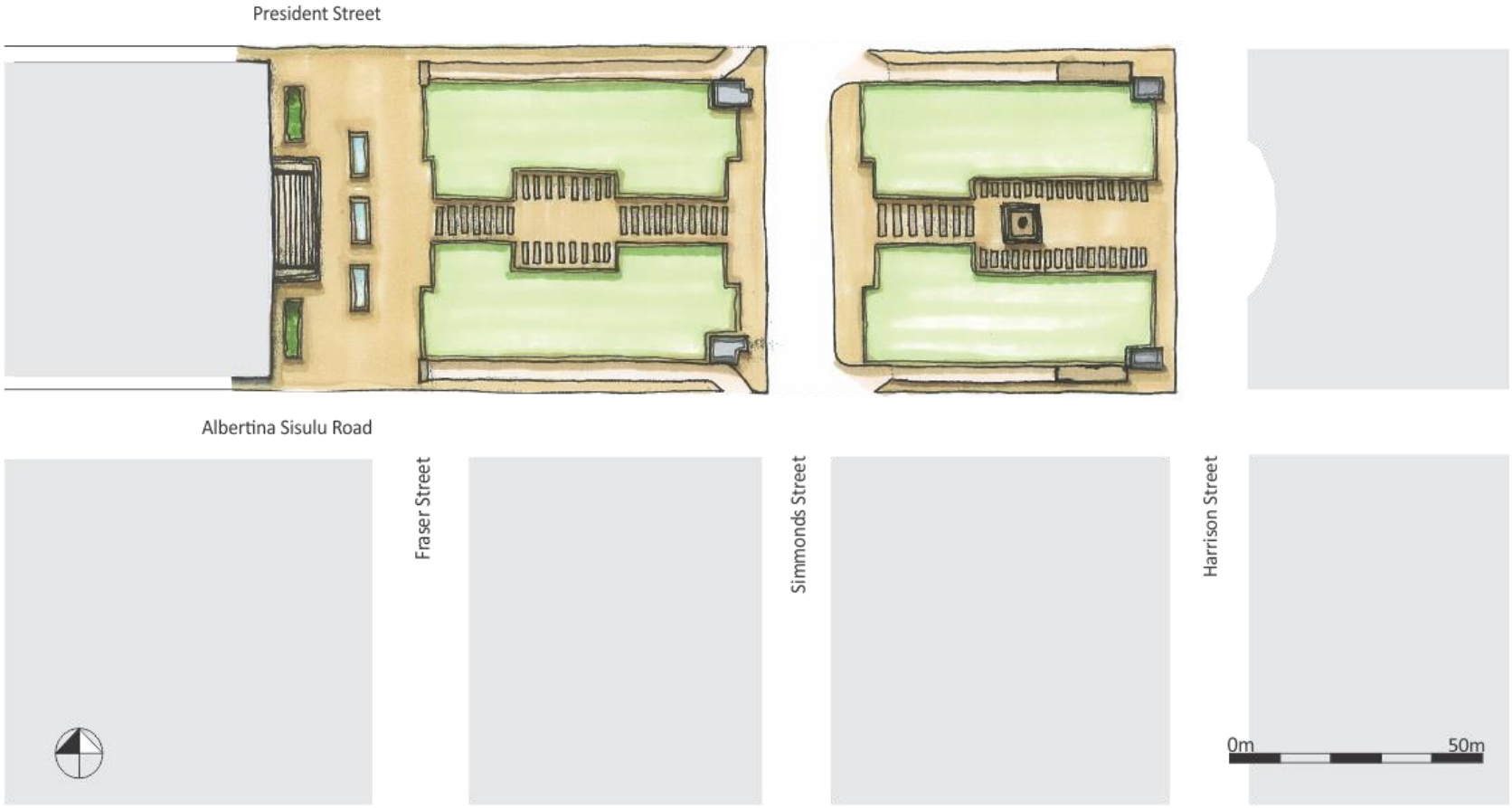


Image 50: Illustration depicting the Square's Layout and Design in the 1960-1970's (After Author, 2016)

During the early 1960's, the modernist principles, including the construction of the highways had not impacted on the City yet. The railway line was still a predominant feature, running west to east and bisecting the area into north and south. The mining activities south of the Square (highlighted in red) still continued to be active.

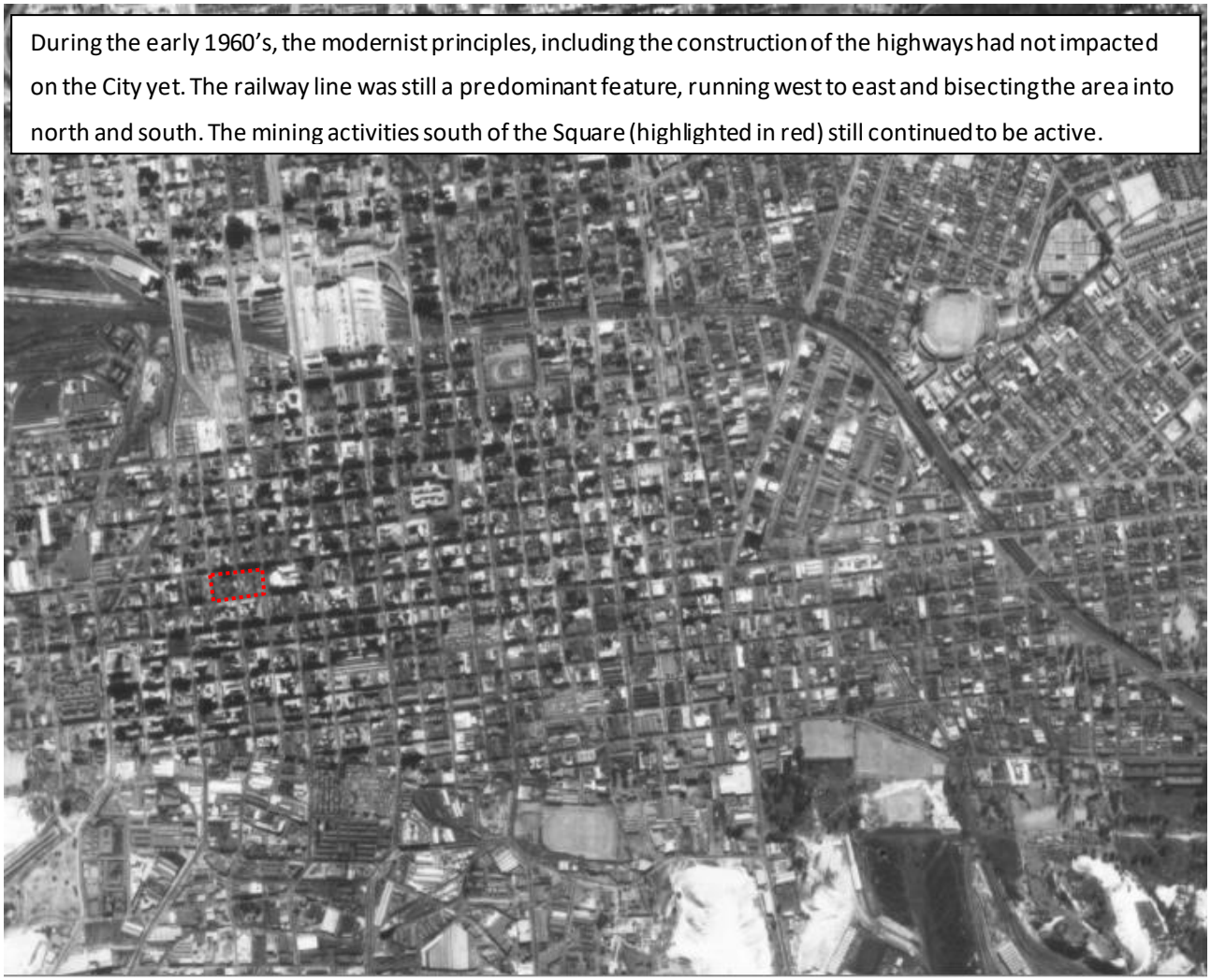


Image 51: Aerial Image of the Inner City of Johannesburg, 1961
(Department of Rural Development and Land Reform, 2016)



Image 52: Illustration depicting the Square's Layout and Design in the 1970's (After Author, 2016)



Image 53: Aerial Image of the Inner City of Johannesburg, 1968
(Department of Rural Development and Land Reform, 2016)



Image 54: The Library Gardens, 1970
(Museum Africa Archives, 1970)



Image 55: Aerial image depicting the formal landscaping of Library Gardens, 1970
(Museum Africa Archives, 1970)



Image 56: The Library, 1974
(Museum Africa Archives, 1974)

In March 1961 the tram lines were decommissioned, resulting in the demolition of the tram station and widening of the streets for busses and private transport (Keeling, 2008).

Another important milestone in the history of the Square was the relocation of the City Council premises to Braamfontein. The construction of the new Civic Centre signified the takeover by the National Party in Johannesburg. In 1972 the Civic Centre (still home to the Jo'burg Metropolitan Municipality today) was completed with only the Rates Department remaining at City Hall (Keeling, 2008). Similarly, during this time, suburban shopping malls were gaining popularity. This trend, imported from the United States, focussed on decentralisation through the development of highways and suburbs. Johannesburg was no different. The construction of the new highways and suburbs like Sandton meant that there was little need to visit the Inner City. Coupled with the congestion that was now created as a by-product of increased private vehicle ownership and inefficient traffic flow (the city blocks were too small). This situation was worsened with the re-positioning of City Council north of the city centre, which marked the decline of interest and investment in the Central Business District (Keeling, 2008).

The most significant and striking change of this image compared with the previous images, is the inclusion of the highway system, west and south of the Square (highlighted in red). The physical manifestation of modernist planning principles, the construction of the highway, had a significant impact on the City. It formed a physical barrier and divide between those areas that were historically connected.



Image 57: Aerial Image of the Inner City of Johannesburg, 1976
(Department of Rural Development and Land Reform, 2016)



Image 58: The newly built Civic Centre
(Museum Africa Archives referenced in Keeling, 2008)



Image 59: A view from within the Square as people enter the Library, 1980
(Museum Africa, 1980)

The 1980's saw much of the same, as business continued to move northwards. The centenary celebrations in 1986 were held in front of City Hall with an address by the then president P. W. Botha, under a heavy security presence, it was poorly attended, a sign of the times. The political turbulence continued and two years later the entrance to City Hall was bombed damaging this as well as the surrounding buildings.

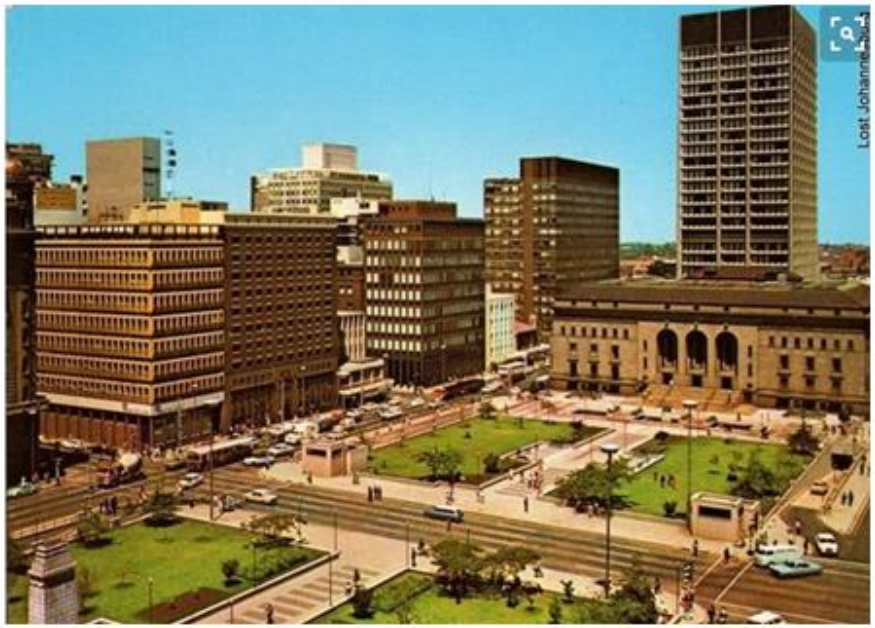


Image 60: Library Gardens, 1988
(Pinterest, 2016)



Image 61: View of the Library Gardens from the Library steps
(Wikimedia Commons, undated)

Although the Group Areas Act was officially abolished in 1991, there was still not much interest in the Inner City. Good value for money could be achieved but the areas were perceived to be unsafe. The blight continued as suburban office parks were favoured over the commercial core of the once Central Business District.

4.2.3. Civic Spine and the Square (1991-1994)

As apartheid was coming to an end, the Square and its surrounding spaces were left in limbo. Once the heart and hub of Johannesburg now lacked an identity and a sense of purpose. Through its progression, a number of decisions had been made about the spaces and its edges, each having an impact on the uses it supported and facilitated. The most drastic and detrimental decisions had a severely negative and long term effect. These included the imposition of modernist planning through the introduction of the highway, the development of decentralised shopping centres and the relocation of the Civic Centre. This was a contributing facctor in the move of big business out of the Central Business District, northwards into new nodes and office blocks. This caused many of the buildings to either be abandoned or demolished.

In an attempt by the National Government to revive the space, they created a "Civic Spine". The details around this idea, included:

1. The erection of two double storey blocks on both the north and south sides of the Square.
2. Additions to the gardens in the form of terraced grassy and paved areas.
3. Three new traffic lanes on Rissik Street in front of City Hall.
4. The construction of a crescent shaped fountain in the middle of Rissik Street between City Hall and the Post Office (Keeling, 2008).



Image 62: Terraced grassy and paved areas of the "Civic Spine" Concept (Keeling, 2008)

From the aerial image below, it is apparent that over time, the highway became engraved into the City's landscape; this feature drastically altering local and regional connections. The railway line continued to be a landmark and defining element to the City as well. A further noteworthy change was to the previous mining land south and west of the City. These areas were redeveloped into industrial and commercial land uses.



Image 63: Aerial Image of the Inner City of Johannesburg, 1991
(Edwardes, 2015; Department of Rural Development and Land Reform, 2016)

These strategies were meant to demonstrate the City's commitment to re-investment in the area (Keeling, 2008). The intention of the kiosks was to replicate the smaller markets concept and was designed to sell food and flowers to activate the space (Keeling, 2008). This was supported by the implementation of seating at varying levels. The result however, was that the kiosks enclosed space and caused division between it and its surroundings, impeding pedestrian movement and creating inactive edges and dead space (Keeling, 2008). This problem worsened by the alteration of the park so that the Library could have its own, separate, entrance (Keeling, 2008).



Image 64: View overlooking the Square showing the kiosks in the foreground (Jhb Live, undated)

The reconfiguration of Rissik Street also had undesirable consequences. While the efficiency of traffic was improved, the civic space in front of City Hall was diminished and the Post Office even further separated (Keeling, 2008). The isolation lead to fewer and fewer people frequenting the Post Office and eventually it closed in 1995.

4.2.4. Changing Ownership and Renaming the Square (1994-to date)

Besides a change of ownership of the Square from the City Council to the Gauteng Provincial Government, since 1994, there have been a few significant changes to the space. The most notable would have to be the demolition of the kiosks and removing of the terracing. It has also undergone a redesign and it has been re-named: Beyers Naudé Sqaure.

In 2006 the City of Jo'burg hosted a number of workshops aimed at engaging meaningfully with stakeholders in the Inner City to identify the key issues. The result of this work was the Inner City Regeneration Summit and Charter (2007), which identified the major challenges and proposed a clear statement of the desired outcome. This formed the cornerstone on which strategic policy planning and implementation would be achieved, going forward.

Although the Gauteng Legislature had occupied City Hall since the early 1990's, they purchased it as well as various other buildings from the City of Jo'burg. City Hall, in particular its steps, played a pivotal role as host to countless anti- apartheid demonstrations and protests, thus it was deemed an appropriate location to house the Legislature (Keeling, 2008). Once under their ownership, they undertook the refurbishment of the interior with a reopening celebrated in 2008. Despite this work, the space available was insufficient and in the same year, they began considering alternative buildings to increase their office space. The proposal put forth explored the revamping of the Post Office in addition to the construction of a new building on two thirds of Oppenheimer Park (located behind the Post Office) (Keeling, 2008). The Park was still under the ownership of the City of Jo'burg when the Post Office caught fire in 2009. Since this time, the restoration efforts have been exceedingly slow.



Image 65: Restoration efforts on the Rissik Street Post Office (Author, 2016)

The Legislature also purchased the Square and as such obtained the rights to maintain and amend the space (Keeling, 2008). In 2008, Fanuel Motsepe[10] put forth a controversial design proposal that saw the enlargement of the Square as a result of the demolition of many of the surrounding vacant buildings (Keeling, 2008). Due to public pressure a follow-up proposal was considered by Melinda Silverman[11] and Nina Cohen[12], which focussed on preserving the integrity of the Square and only removing the kiosk buildings and one other (Keeling, 2008). The implementation of this proposal took place in 2011 and the kiosks and terraces were removed. They were replaced with two towers with concrete bases and tall, glass tops carrying an image of Beyers Naudé[13] (Edwardes, 2015). The towers are positioned at the corners of Market and President Street in addition to President and Simmonds Streets. The images are lit from within, with one facing outwards to the street and the other inwards towards the Square (Edwardes, 2015). There have been no further changes, besides these noted.

[10] A South African architect who is the principal of Motsepe Architects since 2005
[11] A South African architect and urban designer as well as a senior lecturer at the University of Cape Town in the School of Architecture, Planning and Geomatics
[12] A South African architect
[13] A South African cleric, theologian and the leading Afrikaner anti-apartheid activist



Image 66: View over the Square looking towards the Library (SessionMag, 2014)



Image 67: View from the Library steps (SessionMag, 2014) (Pinterest, undated)



Image 68: Beyers Naudé Square looking towards City Hall
(Author, 2016)



Image 69: The Square as seen from the Library steps
(Author, 2016)



Image 70: Recent illustration of Old Market Square (highlighted in red)
(White, et al., 2015: 146)



Image 71: Current aerial image of the Beyers Naudé Square and surrounding area (Google Earth Pro., 2016)

A further redesign of the space occurred as apartheid came to an end. Businesses were moving northwards and relocating in new nodes and office blocks. The effects of this northwards blight were significant and detrimental to the Inner City. The area, once the beating heart of Johannesburg, was then struggling to retain its identity and functionality as the central business district. In an attempt by the National Government to revive the Square, they imposed the concept of creating a "Civic Spine". This included the erection of two double storey blocks on both the north and south sides of the Square as well as additions to the gardens in the form of terraced grassy and paved areas. The kiosks developed were supposed to mimic a smaller market concept and they were designed to sell food and flowers to activate the space. But the result was the kiosks enclosed the space and caused division between it and its surroundings, impeding pedestrian movement and creating inactive edges and dead space.

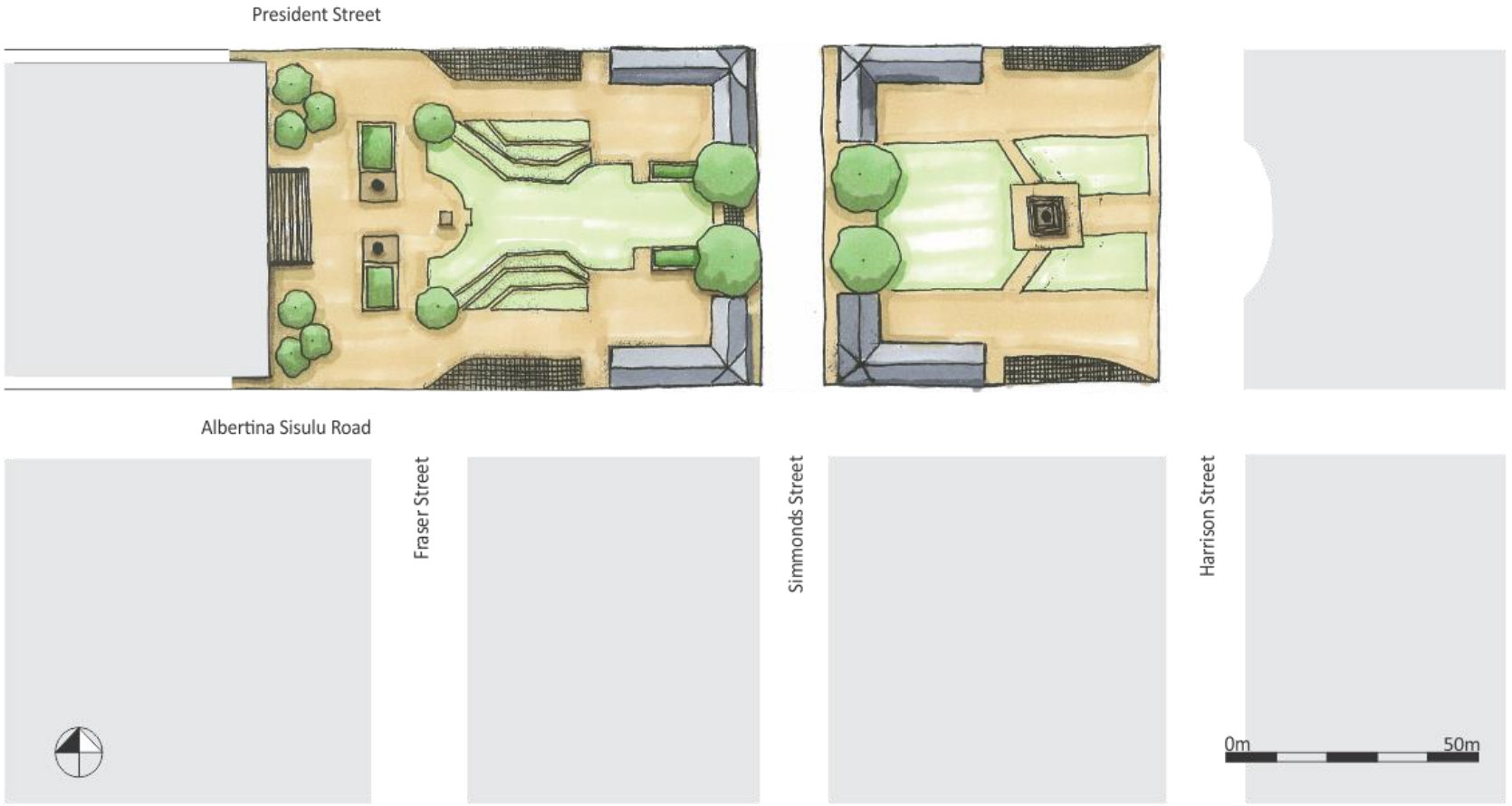


Image 72: Illustration depicting the Square's Layout and Design between 2000-2006 (After Author, 2016)

A change of name for the Square as well as a change in ownership, from the City of Joburg to the Provincial Legislature, brought with it more changes to the space. The most significant changes included the demolition of the kiosks and the removing of the terracing, taking place in 2011. The effects of these changes meant that the space opened up. However, the unusually shaped grass areas imposed with the development of the "Civic Spine" concept remained. A few more randomly placed trees were also planted.

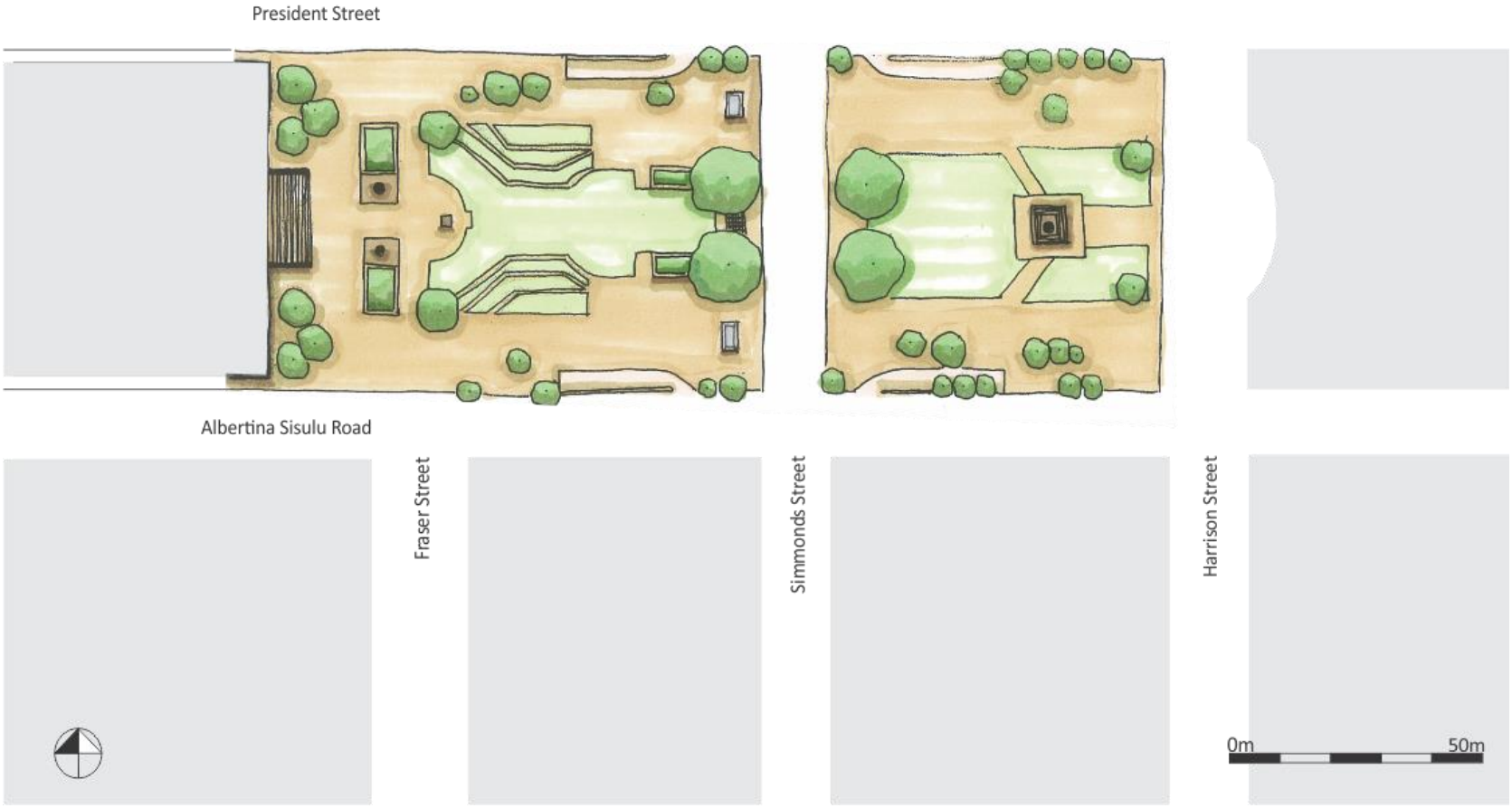


Image 73: Illustration depicting the Square's Layout and Design in 2012 (After Author, 2016)

A further iteration of the Square was completed. In 2008, Fanuel Motsepe put forth a controversial design proposal that saw the enlargement of the Square as a result of the demolition of many of the surrounding vacant buildings. But due to public pressure a follow-up proposal was considered by Melinda Silverman and Nina Cohen. The focus was on preserving the integrity of the Square and only removing the kiosk buildings and terraced areas, which was undertaken in 2011. They were replaced with two towers with concrete bases and tall, glass tops carrying an image of Beyers Naudé, after whom the Square is now named. The towers are positioned at the corners of Market and President Street in addition to President and Simmonds Streets. The images are lit from within, with one facing outwards to the street and the other inwards towards the Square. There have been no further changes, besides these noted.

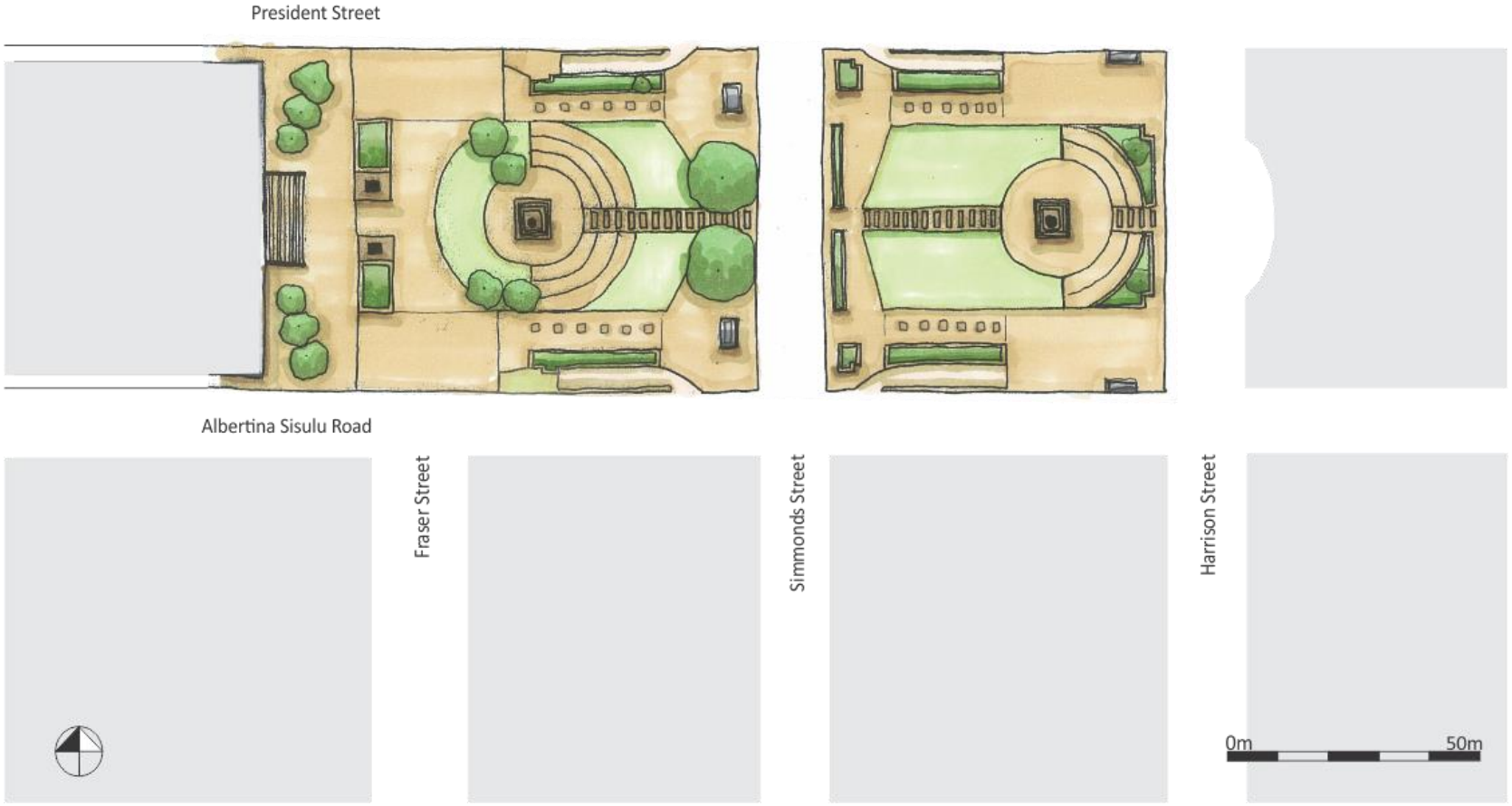


Image 74: Illustration depicting the Square's Layout and Design in 2015 (After Author, 2016)

4.3. A Similar Trend-Joubert Park

Louis Grundlingh's[14] article *Imported intact from Britain and reflecting elements of Empire: Joubert Park, Johannesburg as a leisure space, circa 1890s-1930s* discusses the role of public spaces in the early growth of Johannesburg. He argues that the provision of public areas was determined by the private sector, strategically locating these spaces in areas that would socially and more important, economically benefit themselves.

During this time, the turn of the 20th century, public space was seen as a necessity, an integral part of town development and community life, a place of betterment for lower levels of society and symbols of civic pride stimulating interaction and activity (Grundlingh, 2015). But they did not come easily and it was as a result of Diggers' Committee petition that Joubert Park was created.

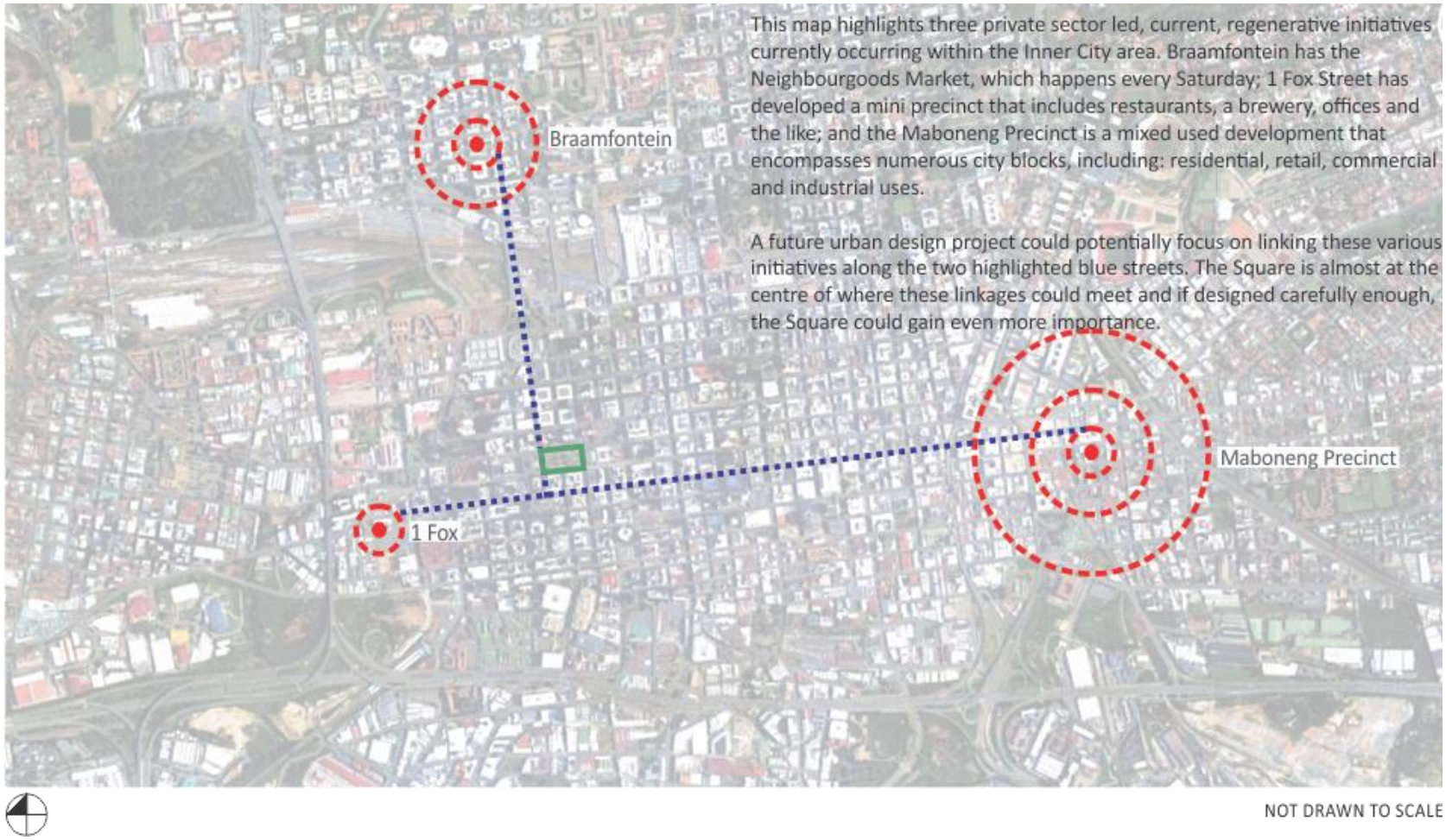
A response to the social and political needs of the day, the Park included elements that supported both its aesthetic and practical functionality.

Influenced by the British, it was designed as an escape and included a well-lit area that featured a promenade, conservatory, art gallery, entertainment, kiosk, seating and flowerbeds (Grundlingh, 2015). In its first thirty years, the Park provided white citizens with generous opportunity for outdoor recreation (Grundlingh, 2015).

Although there are features that have changed over time, the layout and general function has remained with a few of the original buildings still standing today. While the community within this area has seen much change, there has been little response to their need when examining the Park. This reiterates the lack of investment in public areas between 1930 and 1970. Similarly to the Library Gardens/ Beyers Naudé Square, this tells a tale of a lack of investment, a lack of the space responding to the community that it serves.

[14] Professor of historical studies at the University of Johannesburg

4.4. Current Redevelopment Initiatives



Map 16: Indication of the Rejuvenation Initiatives in the Inner City (Beyers Naudé Square highlighted in green) (After Author, 2016)

4.5. Current Proposal- Kopanong Government Precinct

Beyers Naudè Square and the surrounding area is set to receive a facelift. The proposal for the Kopanong Gauteng Government Precinct was initiated in 2003 but was put on hold in 2010 due to a number of objections from various heritage organisations (Cox, 2015). The original intention saw the demolition of 10 buildings within the vicinity of Beyers Naudè Square and the reconfiguration of the space to include an amphitheatre, a multi-functional Tswana homestead, a symbolic obelisk and an "Orientation Wall" (City of Joburg, 2004). This proposal was put forward by NOA Architects[15] with their goal to "ensure democratisation of the urban environment while securing the historical significance of the CBD" (City of Joburg, 2004). The aim was also to amalgamate the various government buildings scattered throughout the City around a central square (Skyscrapercity, 2005).

At the re-launch in 2015, the Gauteng Infrastructure Development MEC, Nandi Mayathula-Khoza, stated that the aim of this flagship project was to rejuvenate the inner city and to encourage private sector investment (JDA, 2015). It also saw a few amendments to the original design, one of which was that the number of buildings to be demolished in the project rose from 10 to 21 (Cox, 2015). The heritage approval of these demolitions originally caused the project's suspension. However, the main features are still present and include a street underpass, skywalks joining buildings and underground parking around a focal point entitled "Heritage Square" (Skyscrapercity, 2005; Cox, 2015). This new Square will be located to the south and adjoining Beyers Naudè Square (Skyscrapercity, 2005). The detail of the design is concerned with the elements of democratic urban design, namely: heritage, open public space, indigenous architecture that includes:

- **New Heritage Square**- This will contain "indigenous heritage" in the form of a Stone Age Tswana homestead, a new "heritage bridge" that will link to Nedbank Place, street trading, an amphitheatre (13-storey structure such as an "obelisk or column or feature within a fountain) alongside an "orientation wall", planted with trees and retail components on the street (Skyscrapercity, 2005). There will also be sufficient programming

[15] Ngonyama Okpanum and Associates (NOA) is a South African architectural firm with offices in all of the major cities in South Africa. Fanuel Motsepe was previously a partner of at the Firm where he set up and headed the Johannesburg branch of NOA from 2000 to 2005

of the space to ensure that it is adequately used for social, cultural and celebratory events (Skyscrapercity, 2005).

- **Underpass, gateways and skywalks-** Further elements of the design will consist of parking under the new Square, two gateways onto the Square (proposed as Fraser Street and Market Street Close Gateways) and four skywalks (Skyscrapercity, 2005).

- **Democratic urban design-** The overall celebration of heritage contains a collection of colonial and modernist buildings and the addition of the heritage complex (Skyscrapercity, 2005).



Image 75: A scale model of the proposed Kopanong Precinct that was on display at the re-launch of the initiative by the Gauteng Infrastructure Investment Conference (Cox, 2015).

However, the project has not escaped without scrutiny. Firstly, there have been cost overruns. The initial budget was estimated at around R1 billion, which then escalated to R2.5 billion and is about R5 billion (Fuchs, undated). Secondly, there are issues in obtaining heritage approval. Various heritage bodies objected to the approval granted by the South African Heritage Resources Agency (SAHRA) (Fuchs, undated). Originally,

the scheme included the demolition of 10 buildings but this has significantly increased to 21. Heritage bodies argued that SAHRA's decision to demolish these buildings was a mistake as they have significant heritage value (Skyscrapercity, 2005). Thirdly is the issue of timing. This project has been launched and re-launched but the delays in achieving heritage approval have meant that the project has been significantly delayed.

Finally some thoughts on the elements of the proposed design by NOA. After careful examination of the historical development of Beyers Naudé Square, the factors fundamental of the proposed design do not speak to the historical significance and meaning of the space. There is no reference to the historical uses and changes that the space has undergone as a result of the turbulent historical past of the country and city. The proposal fails to reflect on what has been and similarly fails to design for the future Inner City. It does not take into consideration the current regeneration initiatives and their impact on the greater area; the change in use from traditionally offering predominantly office and retail uses, to the redevelopment of these buildings into residential units. Following through with the proposed scheme will erase the history and varying roles that this space has played as the City has grown.

4.6. Conclusion

The Square has undergone a number of changes since it was developed in the mid-nineteen thirties. Initially, the grounds of a market, the Beyers Naudé Square provided the foundation and space for trade and exchange. But as the City grew and developed, the Square needed to accommodate these changes too. And so it adapted when the Library was built and City Hall was operational. It continued to respond to the influences and impacts of the political, social, economic and environmental circumstances. When City Hall relocated to Braamfontein, the rigidity of the policies and programmes meant that that section of the Square became redundant. It failed to address the change of use. As the function and activities of the Inner City have evolved, the space has lacked the ability to adequately and appropriately respond. Over time, the area has been uprooted and relayed, parking was built underneath it and water features and plants have been added and removed regularly. The result, a Square that exists but that lacks the relevance deserving of its historical significance and a space that fails to reflect the current status quo of the area.

Through each of the various iterations, the Square has been renamed too. It has been identified by its use and not a historically significant moment

in its existence. This too is a reflection of the lack of importance for the first noted public Square in Johannesburg.

The Square has demonstrated resilience but as time has progressed, it has become less and less relevant. The resilient factors that have allowed the space to remain have been its initial layout and defined edges. The rectangular layout bisected by road has been a consistent feature of the space. Although the uses along the edges of the Square itself have gone through a number of modifications, the edge has remained. Other long lasting features have been the location of the Library and the position of City Hall. However, the internal form and function has been amended numerous times.

The question of relevance remains. The Square has lacked the capability to suitably respond to the environment and changes in the environment of where it is positioned. Initially the space was extremely relevant but it has increasingly become less so. This is evident from the lack of activity and people that currently use the space.

Analysing the history of the Square has allowed the changes to be mapped and tracked. It has allowed the space to be viewed through a different lens and thus, facilitated a better understanding of the space's current layout and design. It has also aided in providing the platform for an urban design intervention. To revive the Square and surrounding area, a proposal has been put forth by NOA Architects to redesign the space through reconfiguration and demolition of heritage buildings. It also relies on sky links between a numbers of the buildings. The intention and execution of this proposal requires greater critical analysis and understanding before its implementation.

5. Design Concept and Development: Beyers Naudé Square

5.1. Introduction

Throughout this research, the role of the public square in a modern developing city has been the question. Based on theory and practice the intention has been to develop a design solution that responds to the issues identified through this work. It will take into consideration the principles of the theory identified, the findings revealed because of the historical analysis of public space within South Africa as well as the world and it will further incorporate the outcomes identified from the case study.

The focus of this chapter is on developing a design concept for the Square, as proposed, by the author. It will consider the historic role of the space, the present needs that the Square should fulfil and the future role that it will perform.

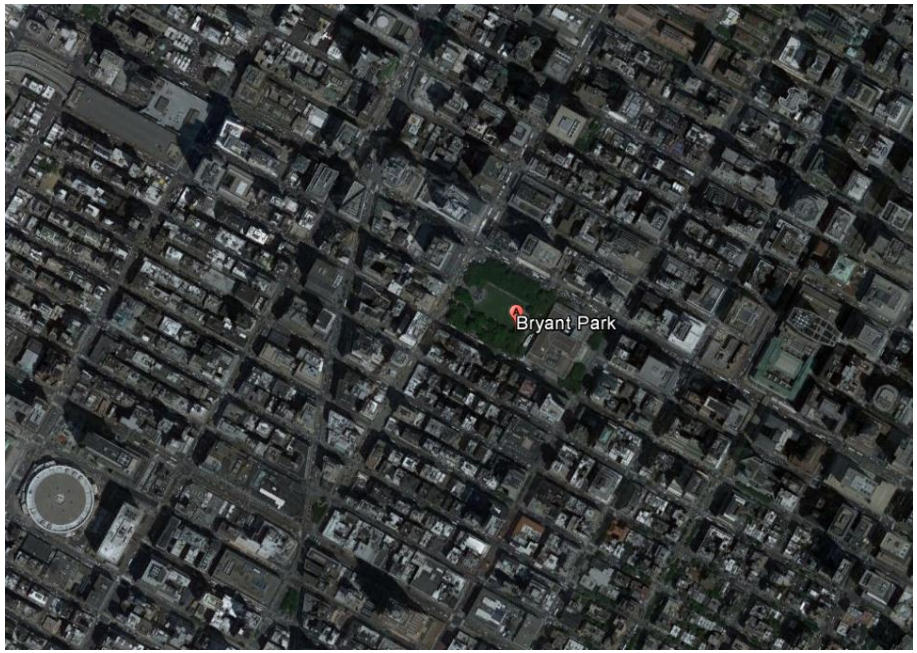


Image 76: The Location of Bryant Park within Midtown Manhattan (Google Earth Pro., 2017)

5.2. Precedent

5.2.1. Bryant Park, New York, America

Bryant Park is located in midtown Manhattan, in front of the New York Public Library.



Image 77: A Bird's Eye View of Bryant Park (highlighted in red) (Google Earth Pro., 2017)

This Park has been in existence, in varying forms, since 1686 but it really became a focal point of the City when the New York Public Library was constructed as its eastern boundary, in 1932.

During the 1970's this particular part of the City became an area of concern as it was overrun with crime and drug-dealers (Bryant Park, 2017). To tackle these issues as well as the state of the Park, the Bryant Park Restoration Corporation was founded in 1980 by Dan Biederman[16] and Andrew Heiskell[17]. The intention of the organisation was to regenerate the Park and bring people back to the area. Change began almost immediately and a major focus was on the arrangement of a private security force to deal with unlawful and illegal behaviour; they also cleaned the park and removed graffiti (Bryant Park, 2017). As a result of the initial success, the Park was closed in 1988 for four years, to undertake further work to the space (Bryant Park, 2017). This included redesigning the formal French gardens as well as improving movement through the space and lighting. William H. Whyte was a contributor to the

[16] A prominent New York City downtown manager and pioneer of privately funded urban and public space management

[17] Chairman of the Time Inc. and the New York Public Library

redesign process and proposed two significant ideas that both had a considerable impact on the success of the Park, namely:

1. Movable chairs were placed in the Park, empowering people to decide where and how they would like to sit, and
2. To lower the actual Park to street level and remove the restrictive hedges (Bryant Park, 2017).

The Park reopened in 1992 and with great success. This continues today as numerous activities and events are planned daily, weekly, monthly and yearly. It is claimed that Bryant Park is the most densely occupied park in the world with daily attendance at around 800 people per acre (Bryant Park, 2017).



Image 78: The Layout of the Park (Bryant Park, 2017)



Image 79: A view across the Park
(Bryant Park, 2017)



Image 80: A Path that forms the Edge of the Grass Area of the Park
(Bryant Park, 2017)

Elements of this Park that could form precedent for the redesign proposal of Beyers Naudé Square include:

- Similarly, to Beyers Naudè Square, Bryant Park is located in front of the public space. Through redesign and opening up of the space, it has become a destination point within the City.
- There are significantly tall buildings that border on the Park but they do not create a sense of enclosure, rather the space feels open and light.
- The inclusion of retail components in the Square have enhanced the user experience, as there are foods, drinks and snacks to purchase.
- The private-public partnership (PPP) of managing the Park has contributed to the success of the area.
- Through the management company, the space has been programmed to offer a wide range of activities that ensures people are present and participating in the space all year round.

5.2.2. Rathausplatz St. Pölten, Sankt. Pölten, Austria

With a population of about sixty five thousand people St. Pölten is located sixty kilometres west of Vienna, in Austria, near the Danube River. The town exhibits characteristics of the Middle Ages with its narrow, winding street pattern and a large rectangular public square at its heart (Gehl and Gemzoe, 2000).



Image 81: The location of Rathausplatz St. Pölten in Austria (Google Earth Pro., 2016)



Image 82: A bird's eye view of Rathausplatz St. Pölten (highlighted in red) (Google Earth Pro., 2016)

In 1986 the city was selected as the regional capital and as a result, extensive redevelopment of the area took place, which included the building of new administrative buildings and cultural institutions (Gehl and Gemzoe, 2000). A component of this redevelopment included the

redesign of the Town Hall Square, the city's main square (Gehl and Gemzoe, 2000).

Boris Podrecca and Bartenbach Lichtlabor won an architectural competition that resulted in the final scheme (Gehl and Gemzoe, 2000). A requirement of the competition was to reassess the use of the space with a strong focus on the Square's lighting (Gehl and Gemzoe, 2000). Further guidelines included a simple space with very few furnishing components and the construction of 148 bay basement parking, located underneath the Square (Gehl and Gemzoe, 2000). Prior to the redevelopment, the space was predominantly used as a car park. This is different to its current use as it hosts market days, festivals, ceremonies and many daily events (Gehl and Gemzoe, 2000).

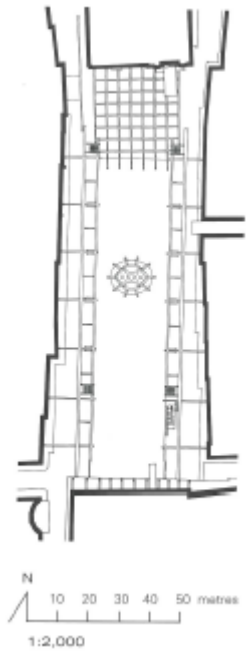


Image 83: Layout plan showing the design of Rathausplatz St. Pölten (Gehl and Gemzoe, 2000: 134)

The surface treatment of the floor included dividing it into different zones for various functions. For the lighting, varying forms of it were included in the floors as well as that provided on the many poles within the Square. A special feature of the lighting is that it can be programmed for diverse events.



Image 84: The Square during the day as it demonstrates the effectiveness of the unifying flooring
(Gehl and Gemzoe, 2000: 136)



Image 85: Picture of the Square at dusk showing the effect of the lighting
(Gehl and Gemzoe, 2000: 135)



Image 86: The well-lit Square at night
(Gehl and Gemzoe, 2000: 139)

Factors of this redevelopment that can provide precedent for the Square include:

- The mixed use buildings that front on the Square and the activity generated by the ground floor retail/ commercial uses.
- The three to four storey height of the buildings surrounding the Square and the influence of these edges on the space within it. They define the edge of the space but do not overwhelm it.
- The simplicity of the design of the Square, is its orderly arrangement of street furniture with only a single landmark in the middle of the Square.
- The use of lighting to add another dimension to the Square, particularly at night. Also, the use of the lighting for varying events.

5.2.3. Place Kléber, Strasbourg, France

Place Kléber is the main city Square in Strasbourg, France, originally designed by Francois Bondel in 1770. It too has historical significance similar to that of Rathausplatz St. Pölten, mentioned above.

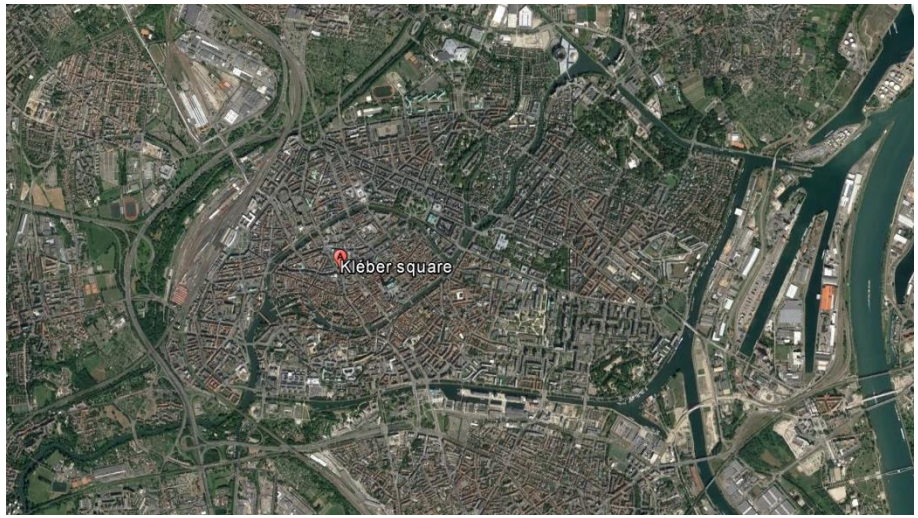


Image 87: The location of Place Kléber within Strasbourgh (Google Earth Pro., 2016)

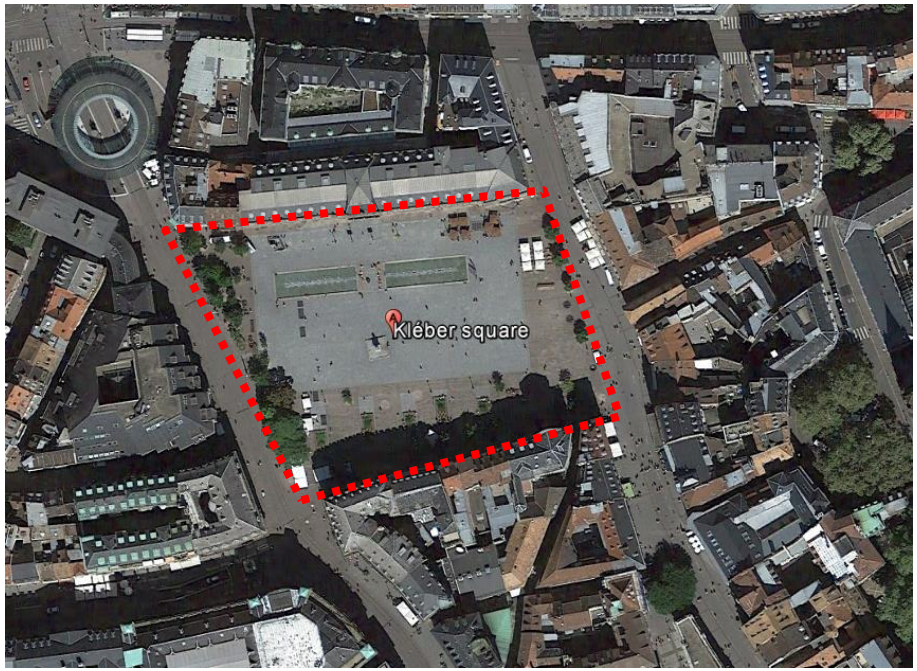


Image 88: A bird's eye view of Place Kléber (highlighted in red) (Google Earth Pro., 2016)

For centuries the Square has existed and hosted a variety of different uses from the site of military drills to a market place and the main city square. However, in 1990 an architectural competition was held for the renovation of the Square, which was a part of the larger regeneration of the area and introduction of new tramlines (Gehl and Gemzoe, 2000).

Guy Clapot was the winning architect, whose design intention was to strengthen the market place theme through surface treatment as well as provide shade (Gehl and Gemzoe, 2000). The market place consists of the entire centre of the Square, which accommodates the weekly market as well as makes provision for many changing events hosted within the space (Gehl and Gemzoe, 2000). The trees are located towards the south of the Square. Underneath the indigenous trees is where the activity and furniture is located, comprising kiosks, stairs, lifts to the underground parking, benches and lighting masts (Gehl and Gemzoe, 2000).

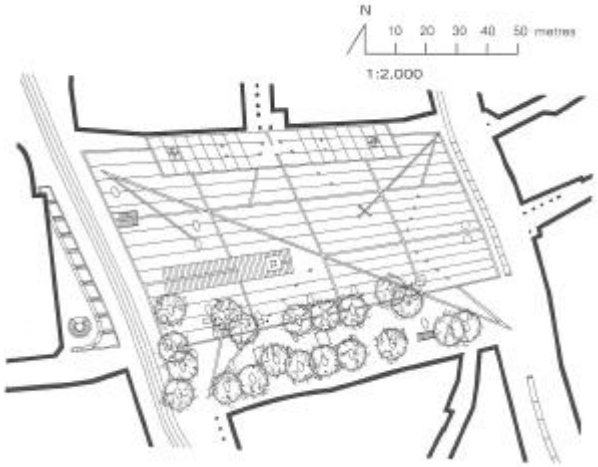


Image 89: Layout Plan showing the design of Place Kléber (Gehl and Gemzoe, 2000: 148)



Image 90: A view from the surrounding buildings of the Square (Gehl and Gemzoe, 2000: 149)



Image 91: The Square being used by the community (Gehl and Gemzoe, 2000: 150)

Similarly to the precedent of the Rathausplatz St. Pölten Square, the following can be noted:

- The space too, has a variety of retail and commercial uses on the ground floor that encourage and promote ground floor activity and energy.
- The height of the buildings for the edge of the Square ranges between four and six storeys. This creates a defined but not overpowering edge to the space.
- The inclusion of trees in the design, a sense of bringing nature back into the City. The trees also soften the interface between built form and open space.
- The allocation of kiosks, seating, and so on within the space, which allows visitors to the space to rest and spend a bit more time in the Square.

5.2.4. Cloud Gardens, Ontario, Canada

Located in downtown Toronto, this park is a large recreational space that is a component of a large three-block urban development project consisting of office buildings, shops, underground shopping centres and car parks (Gehl and Gemzoe, 2000). As with the previous two precedents, this fourth example is also the result of an architectural competition won by Milus, Bollenberghe, Topps and Watchorn.



Image 92: The location of Cloud Gardens within Ontario (Google Earth Pro., 2016)

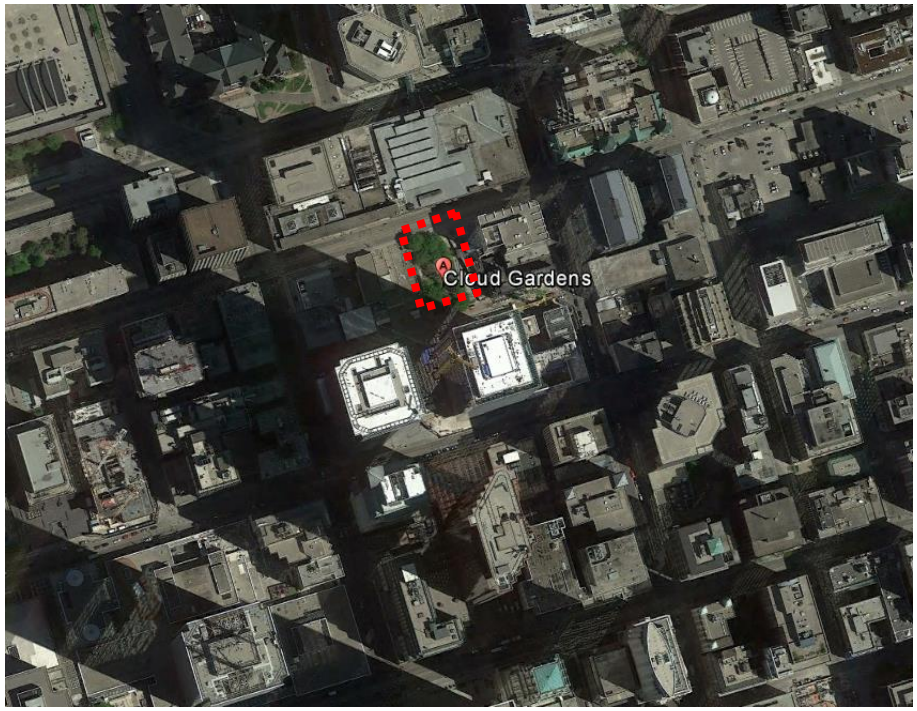


Image 93: A bird's eye view of Cloud Gardens (highlighted in red) (Google Earth Pro., 2016)

The park is composed of two complementing components. East of the park encompasses a mixed-use landscape, ramps, stairs and stone surfaces, while the west of the space contains a garden with benches, grass and trees (Gehl and Gemzoe, 2000). There is also a monument in

the Park to the construction industry workers , designed by Margaret Priest, made out of a network of steel (Gehl and Gemzoe, 2000).

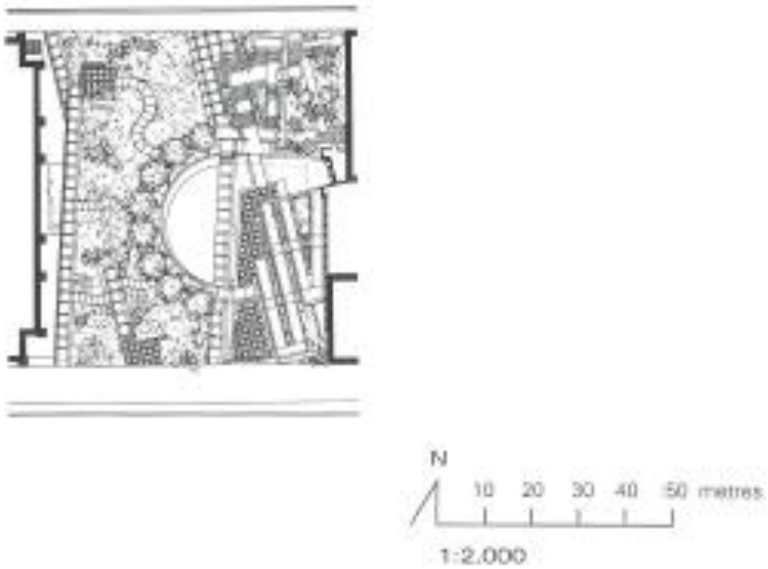


Image 94: Layout Plan showing the design of Cloud Gardens (Gehl and Gemzoe, 2000: 220)



Image 95: Aerial Image depicting the two different sections to the Park (Gehl and Gemzoe, 2000: 221)

The Park won the Canadian Architecture Award of Excellence and the Governor General's Award for Architecture.

Elements of this Park that could form precedent for the redesign proposal of Beyers Naudé Square include:

- Although the space seems rather busy with the numerous elements included, the dense urban planting creates a green oasis in the downtown area of the City, the juxtaposition of built versus natural.
- The inclusion of the various factors in a skilful manner to develop a space that works coherently as a singular piece yet it forms part of a bigger proposal.
- The inclusion of public art and memorials, which adds another visual and emotional layer to the space.

These four urban spaces provide valuable precedents when exploring the redesign of Beyers Naudè Square. They offer suggestions towards an approach that could transform the current space into a place with more relevance.

5.3. Urban Design Informant- Urban Acupuncture

A fairly new concept, urban acupuncture is about creating pinprick interventions that have a ripple effect within cities to bring about meaningful change in the pursuit of creating healthy, liveable, vibrant and sustainable cities. Developing these "pinprick" interventions requires developing a better understanding of places within cities as well as the collective city; it is about understanding what is missing before designing (Lerner, 2014). The factors requiring consideration need not only manifest in the physical form but these can include intangible elements as well.

As Jamie Lerner[18] so aptly suggests, a major contributor to the public and good urban acupuncture is programming (Lerner, 2014). He states that "there is plenty of good design but an exorbitant lack of good programming with a deeper understanding of problems, people and places" (Lerner, 2014: xvi). However, the case study presented in this research highlights a combination of a lack of appropriate design and adequate programming.

Successful urban planning is about initiating healthy responses within cities (Lerner, 2014). As planning is a process it does not automatically result in change. Instead, change is the result of hard work and perseverance, which occurs when a relevant spark ignites (Lerner, 2014). A spark that responds to the critical issue or issues identified. The aim of creating change and changes, it is hoped, rejuvenates an area. Intervention is all about revitalisation, an indispensable way of making an organism function and change (Lerner, 2014).

The essence of urban acupuncture is that it needs to be precise, constituted by means of building smaller and recognising the importance of nature (Lerner, 2014). It is about re-examining the true building blocks of vibrant communities and using the understanding of these elements to develop practical yet innovative solutions to the complicated urban

[18] A Brazilian politician, a renowned architect and urban planner who has been the mayor of Curitiba three times

challenges facing cities and spaces presently (Lerner, 2014). Through these means it will create a ripple that reverberates through communities to uplift city life (Lerner, 2014). Through his exploration and interrogation of places across the world as well as his own experience and interventions in Curitiba, Lerner provides suggestions to create healthier and more sustainable cities (Lerner, 2014). However, it is also about achieving a balance. Good urban planning can awaken a city to new possibilities, creating new life. But care and consideration must be placed on sustained, long-term preventive care; urban acupuncture takes time to create cures.

Cities are living and composed of an integration of functions, which includes interactions between people (Lerner, 2014). The deeper the understanding of these connections and their intricate workings, the more likely that relevant meeting places can be designed that will in turn encourage interactions and the result should be healthier, happier and livelier cities (Lerner, 2014).

Seen through the mapping of numerous rejuvenation initiatives across the Inner City, each of these pockets of redevelopment grew from small scale and localised interventions. In each of these instances, private sector led re-design as well as private sector funding have started to turn forgotten areas of the Inner City into trendy spaces and places. Each of these are great examples of urban acupuncture. Beyers Naudè Square represents a wonderful opportunity to similarly implement the principles of urban acupuncture.

Grand master plans are difficult to implement due to the scale of the interventions. They are often created to solve numerous urban challenges simultaneously on a variety of different scales and levels, involving stakeholders of every kind. The grand moment is frequently lost as smaller groups are created to address more localised issues and the original intention becomes an ad-hoc, patch work of solutions. The argument is that by creating and managing smaller scale and more specific interventions, with a strong focus on incremental implementation, the solution will be more sustainable and long lasting. It is impossible to divorce politics from the process but through a clear and concise vision and the right management team, small scale urban acupuncture solutions might be easier to achieve.

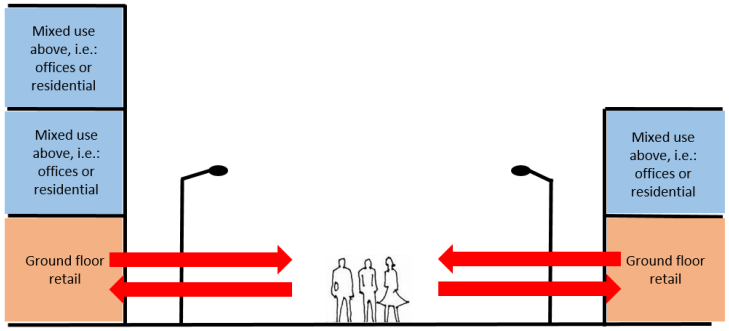
5.4. Urban Design Strategy

The intention of this strategy builds of the concept of urban acupuncture. It is about a small scale intervention that has the potential to change the way the space is currently use, to enhance its relevance within the City.

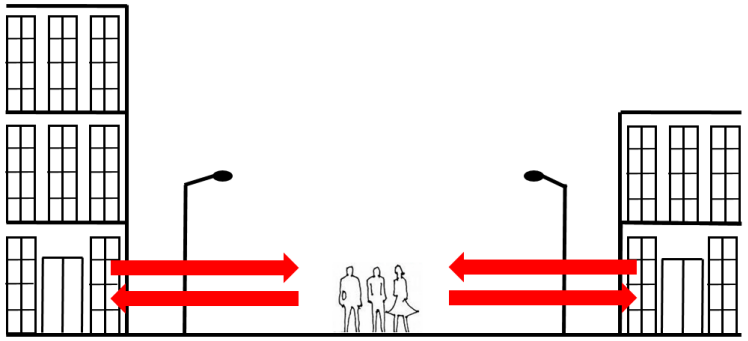
The strategy focuses on design within a framework that is capable of growing. The intention, as with a few other private sector initiatives within the Inner City, is to drop a pebble in the pond and to create ripples. These ripples with ensure the momentum of the design echoes outwards and effects the broader locale.

The key design decisions of this approach include:

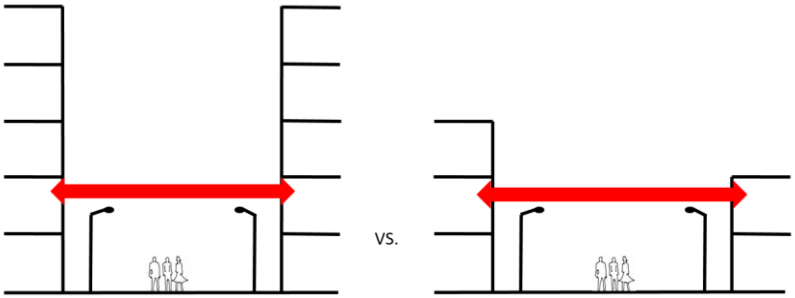
1. Change of use of buildings that front onto the Square.



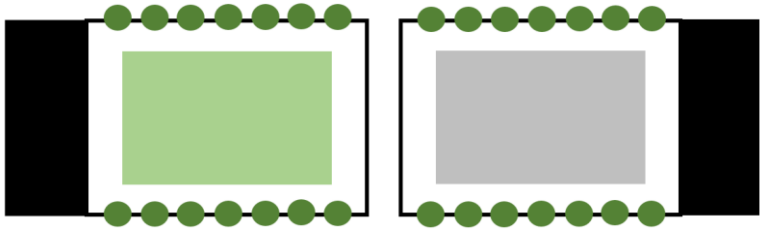
2. Facade treatment of buildings that border the Square.



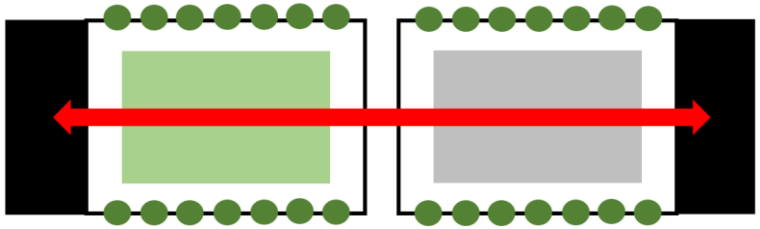
3. Height considerations of buildings that enclose the Square.



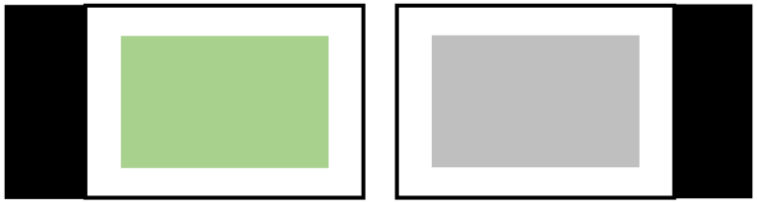
4. Redevelop the layout of the space.



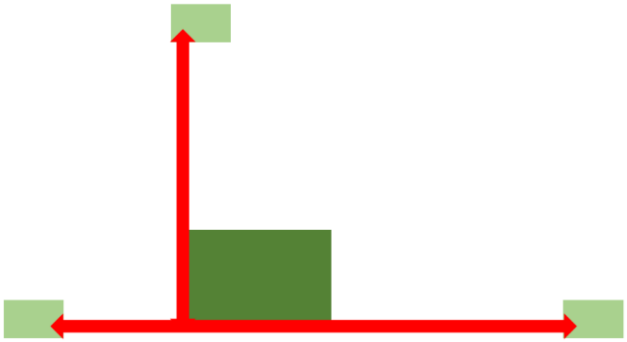
5. Establish a relationship between the Library and City Hall.



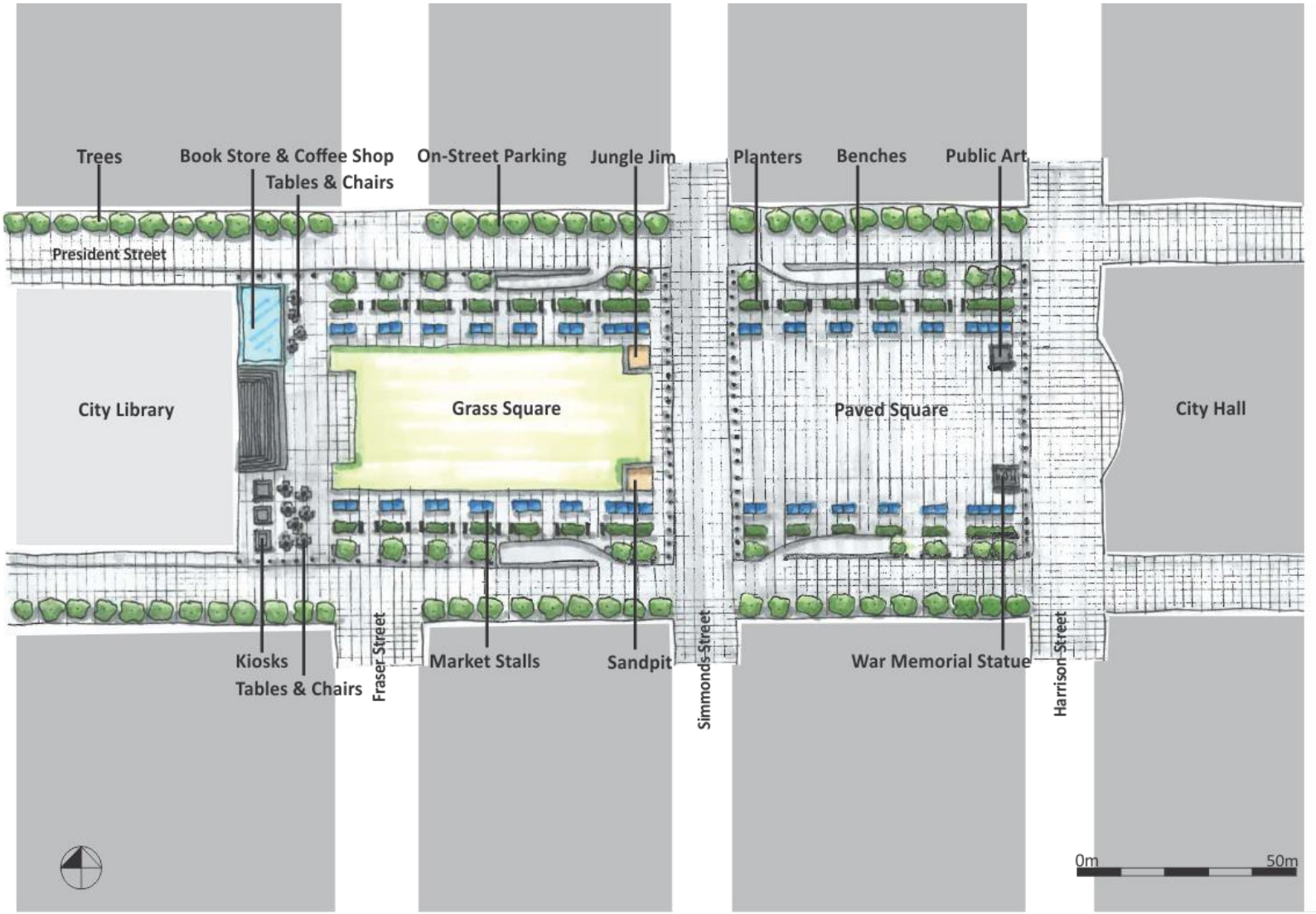
6. Ensure flexibility in the design for future growth.



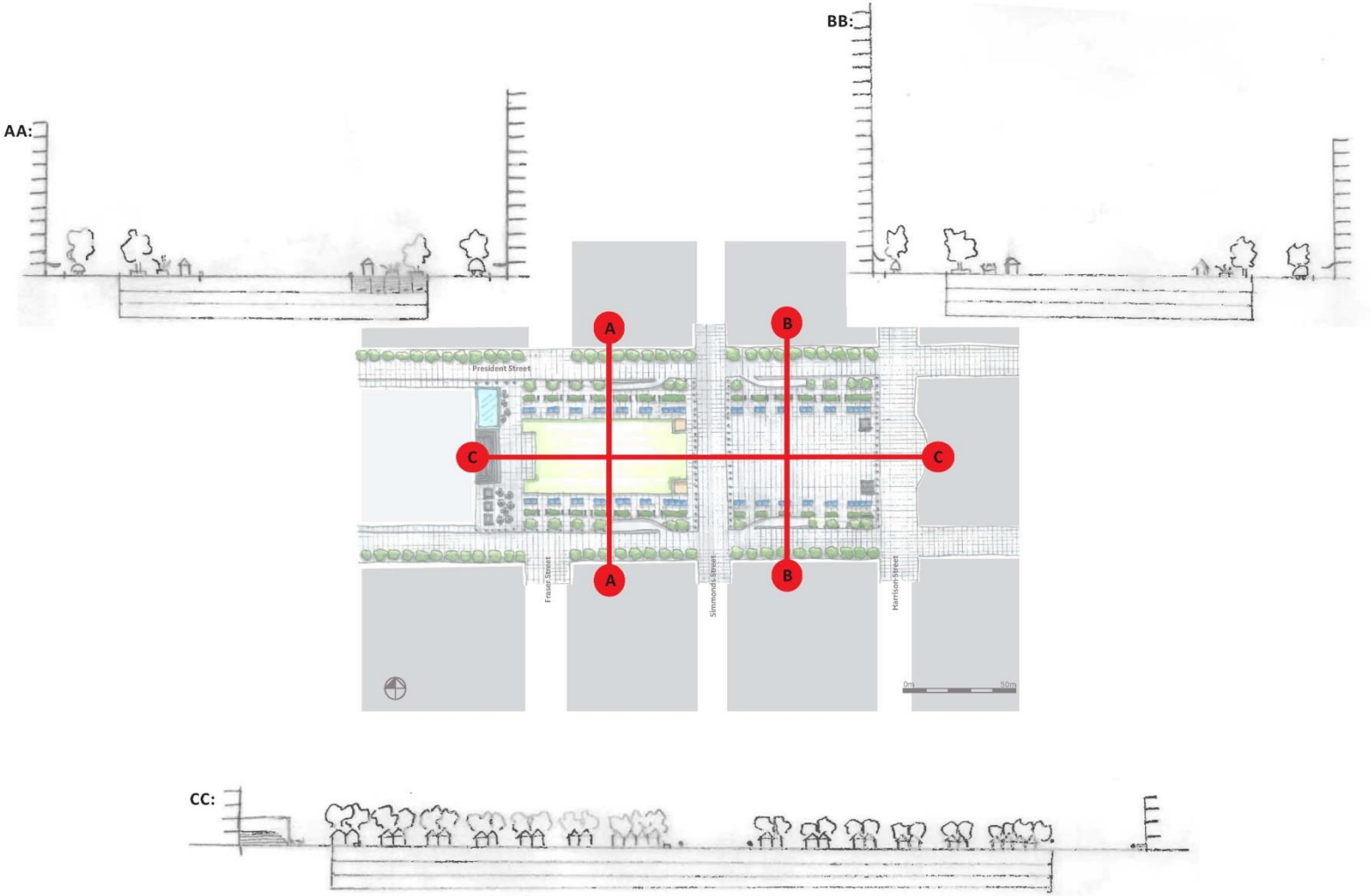
7. Potential to develop a public square/ public space connected network.



5.5. Urban Design Plan



5.6. Sections


AA:
BB:
A
B
C
C
A
B
President Street
Fraser Street
Simmonds Street
Harrison Street
0m
50m
CC:

5.7. 3D Renders



Image 96: View across the grass area looking towards the City Library (Blake, 2017)



Image 97: View from the kiosks looking northwards through the market stalls (Blake, 2017)

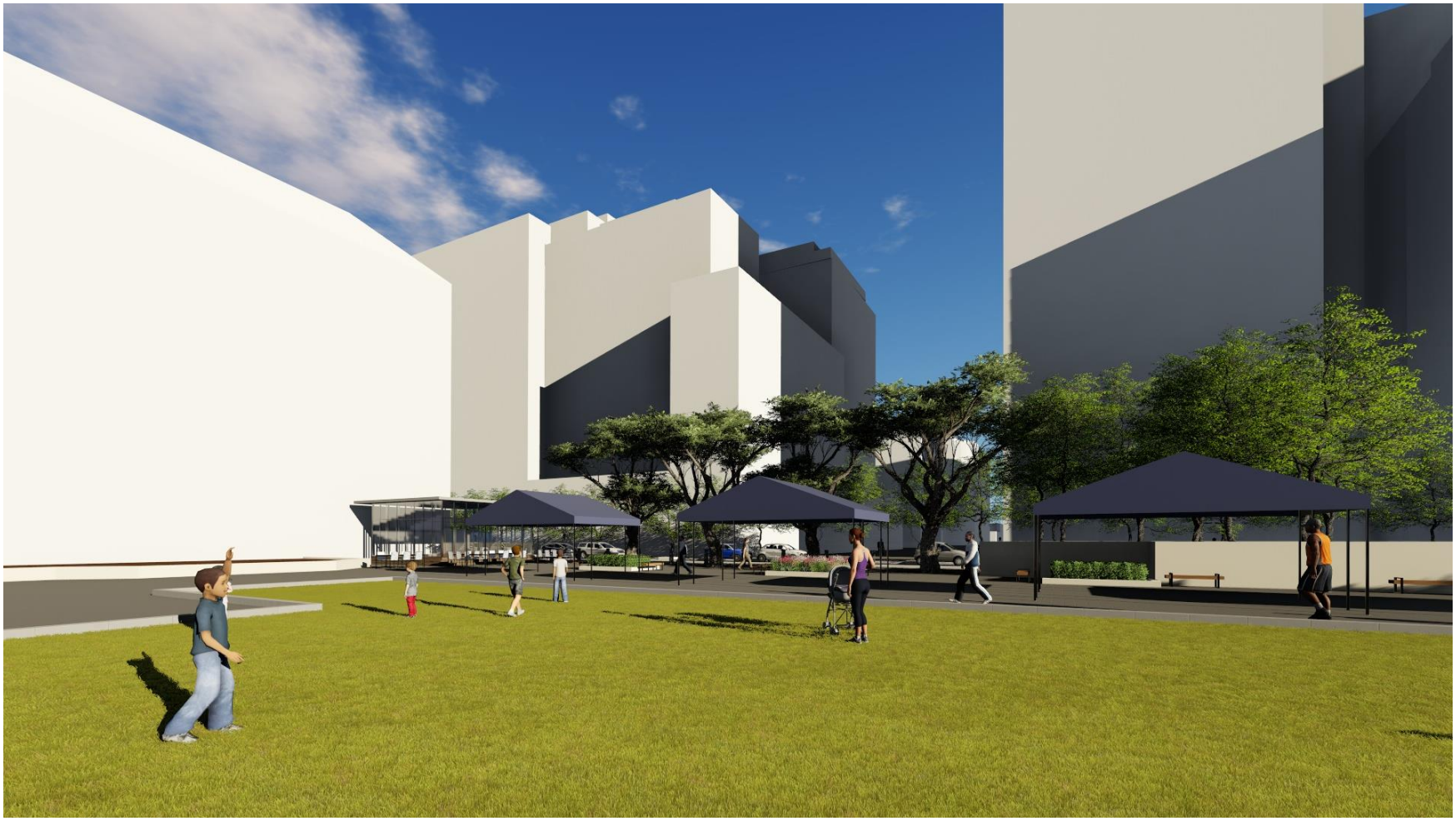


Image 98: A view from the grass area looking towards the Book and Coffee Shop (Blake, 2017)

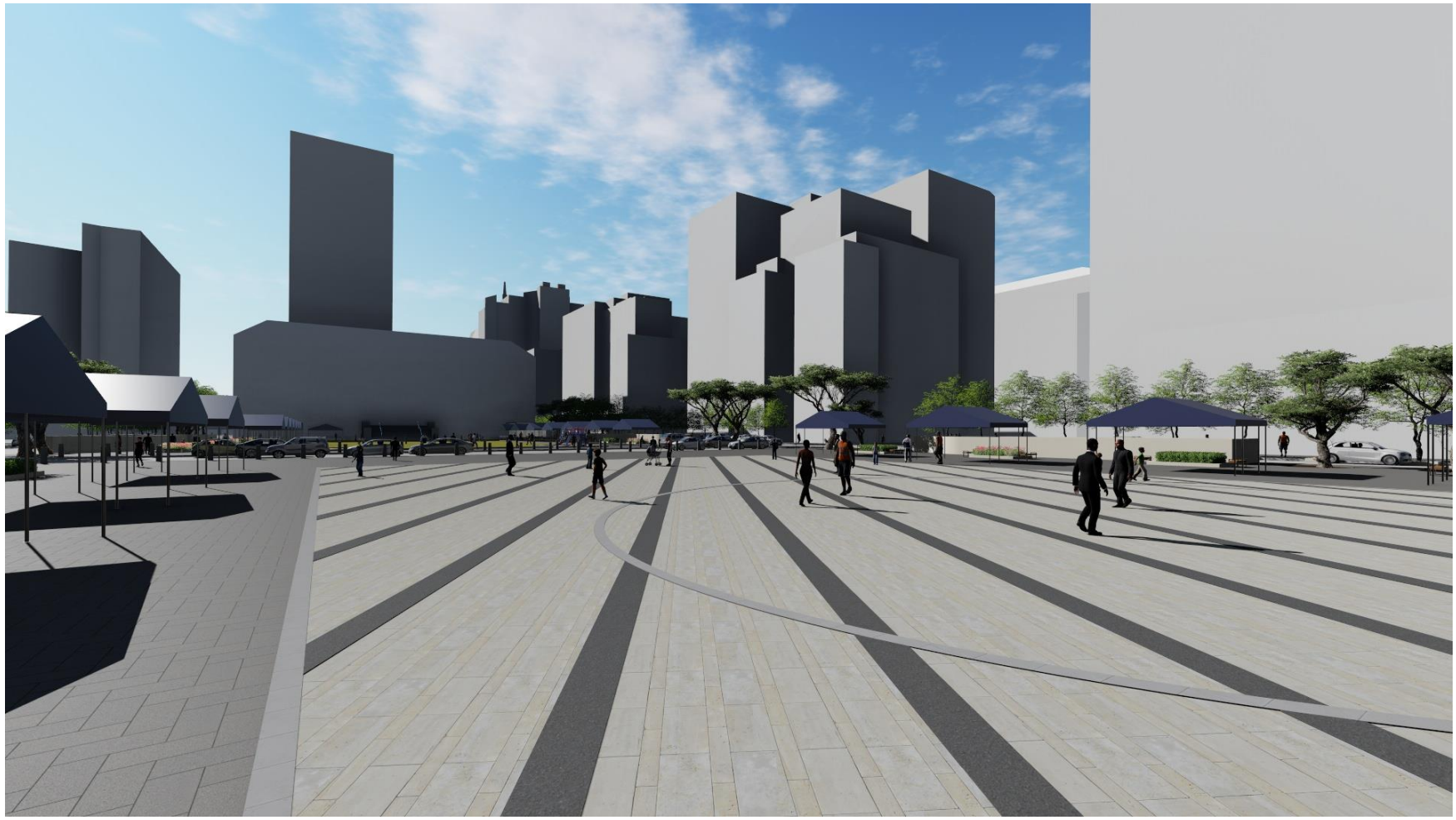


Image 99: A view of the paved Square
(Blake, 2017)



Image 100: A view looking northwards over the planters and through the market stalls (Blake, 2017)



Image 101: A view of the children's play area
(Blake, 2017)



Image 102: A view of the edge of the paved Square with the City Library in the background (Blake, 2017)

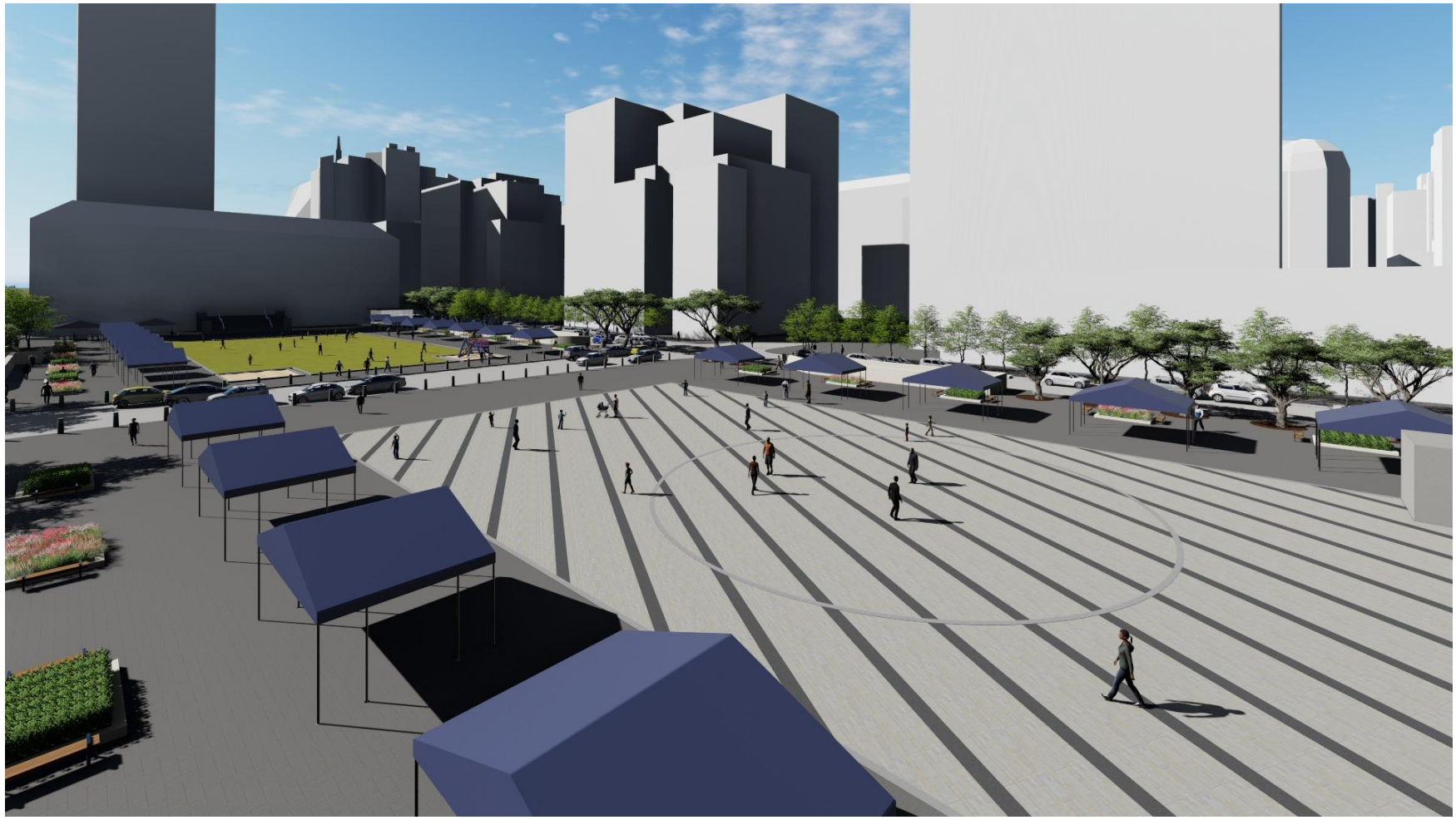


Image 103: A view of the paved and grass Squares
(Blake, 2017)

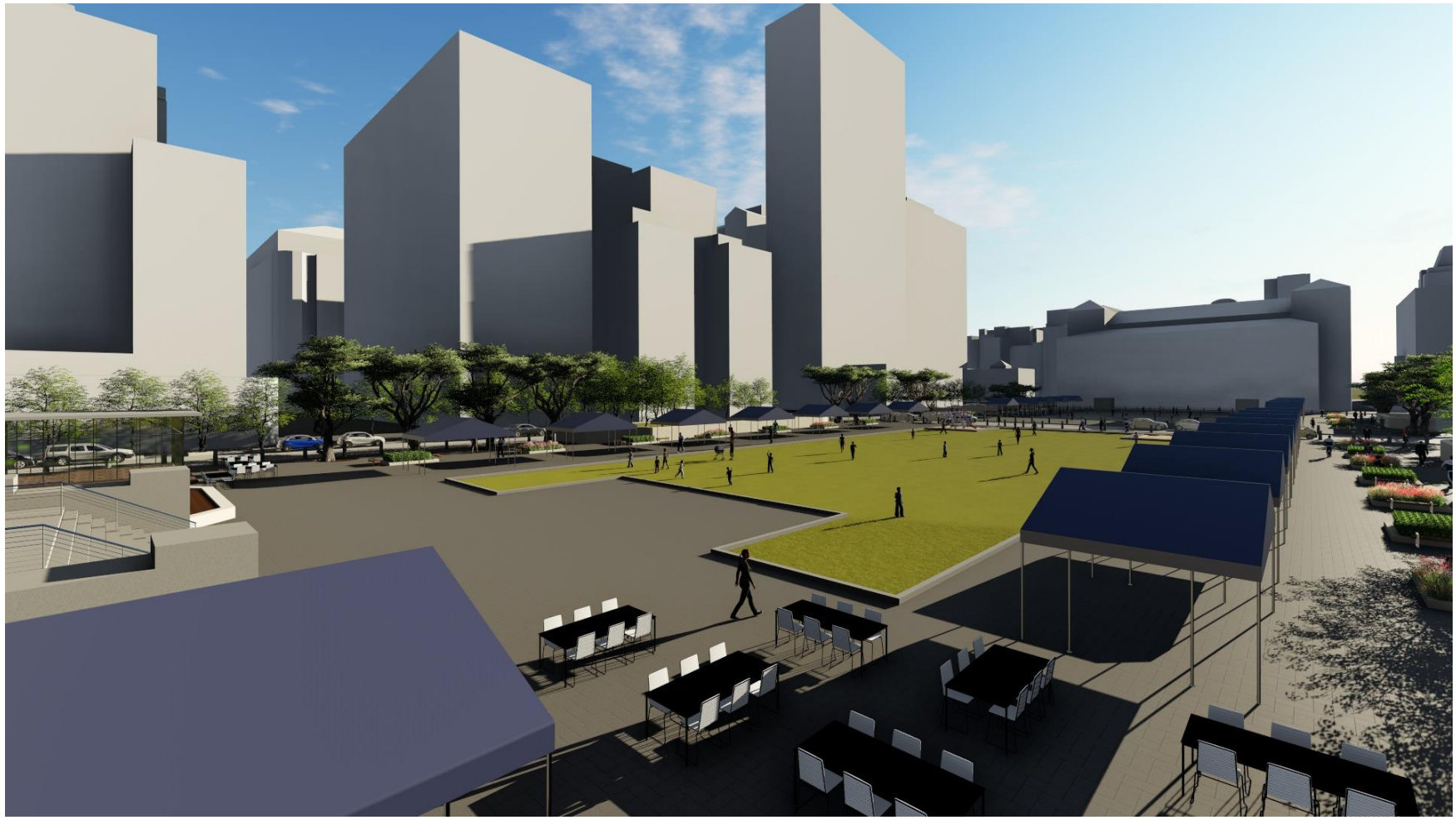


Image 104: A view over the grass Square from the kiosk area
(Blake, 2017)

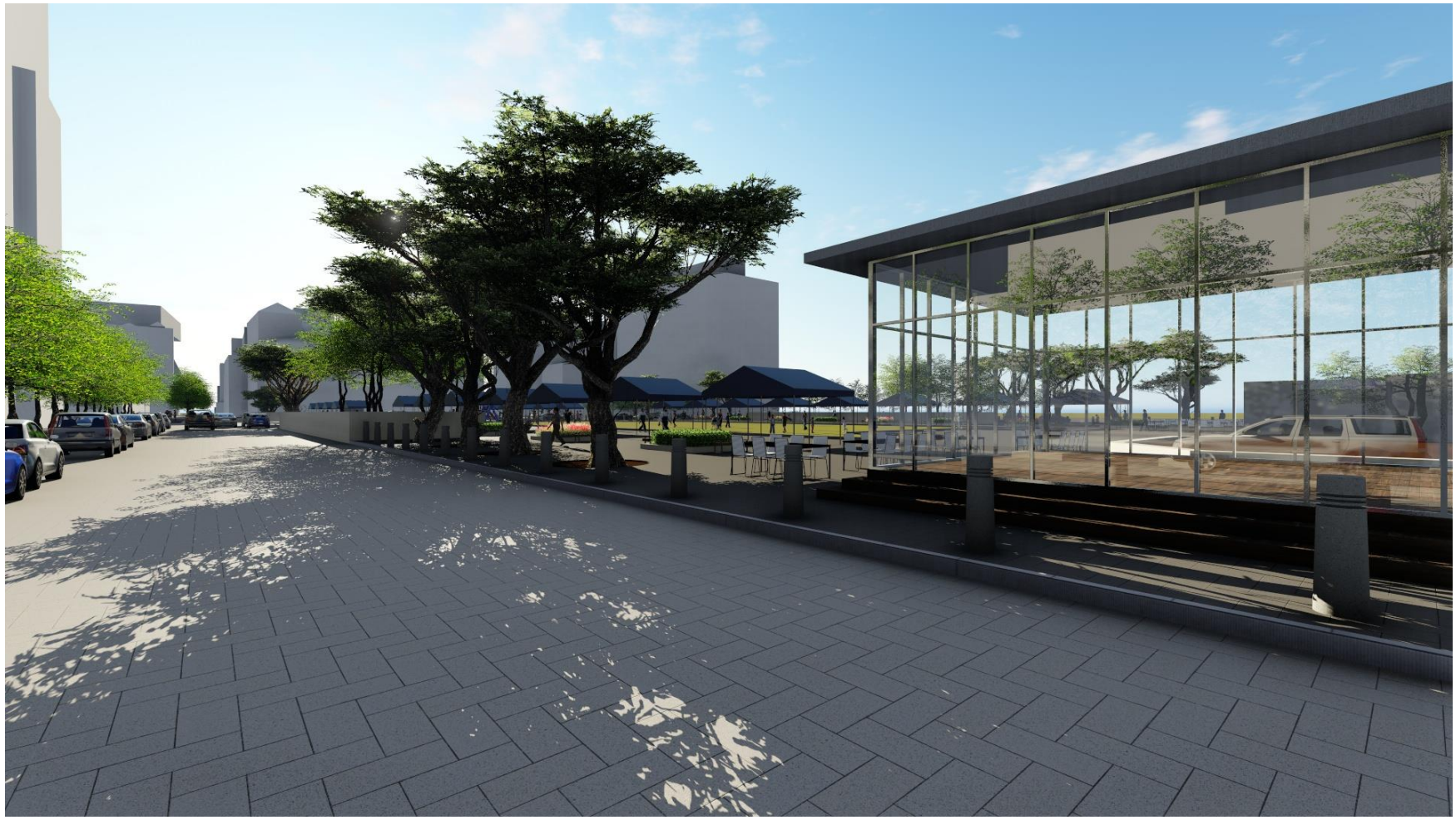


Image 105: A view of the Book and Coffee Shop
(Blake, 2017)

5.8. Urban Design Framework Guidelines

The following points are a breakdown of the various design guidelines used to transform the Square as per the design concept. In each of the components, the main design guidelines are highlighted.

5.8.1. The Square

- No permanent structures are to be built or placed on the grass or paved Squares.
- Movable seating is permitted in the grass and paved Squares.
- Code of Conduct to be developed pertaining to behaviour and activities that will be allowed within the space. This will be clearly displayed and enforced.

5.8.2. Treatment of the Edges of the Square

- The streets surrounding the Square, as per the design intervention, are to be raised to the level of the Square and paved in the same material.
- Bollards are to be installed and maintained at all times.
- These edges are to remain open and accessible at all times.

5.8.3. Development of the Surrounding Buildings

- Buildings that front or face the Square need to be mixed use in nature. This includes ground floor retail, with either offices and/ or residential above.
- A mix of housing typology, tenure, and income groups must be developed.
- Buildings must be built to the build-to-line with street frontage.

5.8.4. Public Facilities

- On street parking to be provided, with a minimal fee involved.
- Access to public ablution facilities.

5.8.5. Market

- Trade will be permitted within designated areas for a nominal monthly fee.
- Permits will be required to trade in the Square.
- Temporary stalls will be erected on the Square daily and removed daily.
- Water and gas will be provided to the vendors.
- Storage of temporary stalls as well as informal traders' goods will be stored in lock-up storage in the basement, underneath the Square.

5.8.6. Lighting

- Path, pedestrian and overall lighting is necessary.
- The Square needs to have sufficient lighting, especially at night to ensure that there are no dark corners or areas.
- Special lighting needs to be included in identified areas that has varying colours, to change and enhance the mood and for different functions.

5.8.7. Street Furniture

- Durable, long-lasting street furniture, including: benches, dustbins, signage, etc.
- It must be locally produced and easy to replace if damaged.

5.8.8. Flora

- Only indigenous vegetation must be planted.
- Trees, plants and shrubs must be water conscience.
- The management company will maintain the area.

5.8.9. Energy-saving Initiatives

- Alternative energy, water recycling solutions/ measures are encouraged and implemented where possible.

5.8.10. Management of the Space

- A non-profit, private management company is to be established to manage and maintain the space. This is to be set-up in conjunction with the Gauteng Provincial Legislature. Funds raised through events will go towards maintaining and enhancing the Square, it needs to be financially self-supporting.
- A detailed programme of activities and events needs to be developed to ensure that there is a year round itinerary.
- A website for the space needs to be developed that is updated frequently.

5.9. Implementation Plan

The implementation plan typically represents the series of projects that will be completed over a period to achieve the overall intended design. Due to the small-scale nature of this redevelopment, the work needs to be undertaken concurrently in order to achieve the success that the proposal intends. Based on this, there will be no phasing to the project. Prior to any work beginning, a development management committee should be appointed to ensure accurate implementation of the design concept.

5.10. Conclusion

Positively made and celebrated public spaces are the essential social infrastructure of successful urban environments (Dewar and Uytenbogaardt, 1991: 56). They are the most significant constituent of infrastructure, areas where social experiences play out (Dewar and Uytenbogaardt, 1991). Their composite influences the individuals and communities that will use the space in addition to the activities that will take place. This all leads to and supports the relevance of the space.

The design precedents selected are intended to open the Square , aided through the reconfiguration of the street-level or ground floor retail. This is facilitated by ensuring a unified surface treatment extending from the Square, across the street and to end at the edges of the buildings. The design enhances low-rise buildings. Although this is not the case presently, through economic benefit incentives, the aim is to redesign the surrounding buildings to a maximum of four storeys. Small retail kiosks will also be provided in front of the Library's entrance that will sell coffee, sandwiches, and so on. Greening of the concrete environment is provided through the grassy lawns in front of the Library and the tree-lined streets.

The Square needs people. While the design is a critical component in attracting people to the space, so too is programming. It is essential that there is an extensive programme of activities that cater for a range of people, throughout the week and all through the year. This could include jazz concerts on the eastern portion of the Square opposite City Hall, the Library hosting a day of reading in the park, guest speakers and the like.

Through an urban acupuncture initiative, it is the intention of this design proposal to reignite the enthusiasm and passion once bestowed upon this

space in its early days. It is about making it resilient, able to respond to changes in the environment and ultimately, making it relevant.

6. Conclusion: Resilience and Relevance in an Urban Design Context

6.1. Introduction

The intention of this concluding chapter is to summarise and reflect on the work of this research. It will explore the original intention of this work, the theoretical and practical findings and finally conclude by suggesting the lessons learnt and the way forward.

6.2. Key Findings

The key findings can be categorised into the two main spheres of this research, namely:

1. The theoretical underpinnings, and
2. The practical application of the theory.

The *theoretical principles* of resilience are the ability to respond to change, either through stability or through adaption. While the work of resilience originally focussed on ecological systems, current application of the values sees them applied to a wide and varying range of disciplines. In this instance, the notion has been used in the field of city building and urban design. So it also takes into consideration the theoretical definitions and principles of urban design and public space.

Despite the different lenses through which this subject can be explored, the basis of resilience remains constant. It is about spaces and places and how to recognise and respond to change, ensuring that there is a satisfactory balance between flexibility and solidity. The theoretical approach does not label change as either good or bad but rather assesses whether in a particular instance, if the effects of the change have been positive or negative. This assessment relates to the specific circumstances of the case. This research also argues that for a space to be resilient it needs to be relevant.

"Public spaces are all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive" (UN Habitat, 2015: 24). These areas encompass a broad range of standards, notably: accessibility, identity, diversity and equality, to mention a few and they form the backdrop for the application of resilience.

The *practical application* of resilience was applied to a case study, noting: Market Square/ Library Gardens/ Beyers Naudé Square, located in the commercial core of the Inner City of Johannesburg. As the oldest public space in the City, it presents a unique opportunity as a case study. The

resilience lens was used to map the space over time. Through the mapping exercise, the elements within the space that had remained constant and those that had been amended became clear. The effects of political, economic, social and environmental influences as well as tangible design features could be distinguished and assessed. Through this analysis, the impact of flexible and solid factors and their effects on the design and use of public space are better understood.

The changes in the space have varied throughout its history from tangible to intangible factors. At first, the Space responded by remaining fairly constant but as time has passed; the influencing factors have taken their course, what the space has undergone a number of iterations. Some of the forces at play were the influences of modernist city planning and design, which saw the introduction of the car and as a result the development of highways and shopping centres and thus, detracting from public space. Other stimuli are less significant but still impactful, such as the construction of amphitheatre seating. Regardless, the effects on the space are noticeable.

6.3. Resilience and Relevance

Resilience is a key component of achieving sustainability. It is the intention of city designers and planners to achieve sustainable outcomes through their approaches. It is fundamental to improved quality of life for all urban dwellers. The spaces and places inhabited and used must speak to the needs of the people that use them. Top-down planning is no longer relevant. Imposing and enforcing ideas does little to create long-term sustainability. Today's method focuses on cultivating an understanding of the requirements of the people, their likes, their dislikes, their wants and their needs. It is about creating modest, functional interventions that respond to people's needs. For space to respond to people, it needs to be relevant.

Sustainability is an essential goal of development and redevelopment, while resilience is a way of achieving this goal. Simply put, resilience is a tool to achieve sustainability.

6.4. Reflecting on the Research Approach

The approach for this research was predominantly on desktop analysis. It consisted of gathering historical records (images) of the space and the wider area as it has change and then completing a mapping exercise to understand the changes that had occurred.

Although the predominant approach was completed through desktop analysis, it does have its limitations. A further phase of the research would comprise interviews to confirm the results of the initial analysis. This would have strengthened the argument proposed. The findings could be applied to further applications of resilience theory and its application to public space. This approach can be replicated to better understand and design for other spaces and places.

6.5. Conclusion

"At their best, squares are microcosms of urban life, offering excitement and repose, markets and public ceremonies, a place for friends to meet and watch the world go by" (Webb, 1990: 9). This is the overarching intention, the aim, for public space design. But never before have cities been under so much pressure to manage the multitude of changes occurring on so many varying scales in such a small amount of time (Salat and Bourdic, 2012). They are required to analyse, respond and implement rapidly. However, this is having detrimental consequences on public space, their importance and functionality. Today's methods need to focus on cultivating an understanding of the requirements of the people, their likes, their dislikes, their wants and their needs. It is about creating modest, functional interventions that respond to people's needs. It is about creating relevant public spaces.

This is a different approach to that historically applied. Public spaces have previously been forgotten or marginalised as urban planning focussed on the implementation of modernist elements, such as highways to speed up car movement. Positively made and celebrated public spaces are the essential social infrastructure of successful urban environments. Master planning sometimes suffers in that initially there is a lot of momentum and funding but as time progresses it loses these driving forces and results in an inappropriate solution. The static nature of the framework often means that the flexibility of dynamic solutions is lost.

Achieving sustainability, resilience and relevance are especially difficult in a country where a large part of our history has been ignored. Cooke suggests that it needs to be dug up, made visible, honoured and conserved- for all our collective identity (Cooke, 2012). Conserving cultural capital does not mean being conservative about it (Cooke, 2012). Culture changes and if it is prevented from doing so it destroys one of the most fundamental parts of human beings, to search for new, better and more appropriate (Cooke, 2012). Two key points are necessary- neutrality and authenticity (Cooke, 2012). Neutrality relates to balancing conservation and change (Cooke, 2012). Authenticity refers to respectfully understanding historical ideas and re-interpreting them appropriately in ways that reflect our time and technology (Cooke, 2012). Both are crucial for great public spaces.

Rob Krier[19] in his book *Urban Space* argues that "No contemporary public spaces have been laid out which could be compared with the urban squares like the Grande Place in Brussels, the Place Stanislas in Nancy, the Piazza del Campo in Sienna, the Place Vendome and the Place des Vosges in Paris, Plaza Mayor in Madrid, the Plaza Real in Barcelona etc. This spatially awaits rediscovery. This can only occur firstly when it can be endowed with meaningful functions, and secondly is planned in the right place with the appropriate approaches within the overall town layout" (Krier, 1979: 19). He continues that the appropriate functions should include commercial activities, for example: a market; the establishment of public administrative offices, community halls, youth centres, libraries, a theatre and concert halls, cafes and bars and include residential uses (Krier, 1979). Central squares should generate activities twenty-four hours a day (Krier, 1979).

For a space to be resilient, it needs to be relevant. It needs to have people at the heart of the intervention. However, urban planning needs to develop an urban manifesto underpinned by humanist and urban-based logic that is capable of surpassing political influences and change to guide the urban path of societal development. It should have a family of diverse public spaces catering for a range of activities and servicing the community (Dewar and Uytenbogaardt, 1991). It should have movement,

[19] A Luxembourgian sculptor, architect, urban designer and theorist. He is former professor of architecture at Vienna University of Technology, Austria.

space and activity that enhance legibility and enjoyment, to create the experience and user perception (Dewar and Uytenbogaardt, 1991).

Cities are intricate and detailed and provide endless lessons to learn from. If they are explore more deeply and intuitively, the solutions to these difficult questions, such as creating great public space can be found. The city isn't the problem- it is the solution (Lerner, 2014: 63).

Public space is an essential part of life, whether in an urban or rural context. At its heart, is the idea of allowing people to participate in community life and to socialise. While the concept is broadly universal, its manifestation in varying contexts differs. Determined by social, economic, political, environmental and other contributing factors; the composition of these complementary and contradictory forces creates spaces across the globe that range in their age, design, functionality and accessibility. The scale, shape and function have infinite variables too (Webb, 1990).

Public space takes many forms, such as streets, squares, parks and plazas (to name a few) with each of these classifications fulfilling diverse societal roles. Streets and squares are perhaps the most common. They form a linked network of publicly connected areas that facilitate interaction and free movement in and around towns and cities. Public spaces may exist with or without walls, with or without trees and plants, with or without a roof, with or without a focal point, with or without paving, with or without grass, the list is endless. They are as diverse as they are numerous. They provide the platform for activities and interaction whether informal or formal in nature. They are integral components in urban life and thus vital to consider in city planning and city design.

Historically, squares have been key components of the public realm; and are possibly the first evidence of public space. Early squares were created where houses were grouped around an open area in a perimeter type development (Krier, 1979). This strategic configuration allowed the inner most space to be communally guarded and shared thus creating a certain value (Krier, 1979). Its value continued to be asserted as this model developed and adopted in different parts of society. For example, it then frequently used to reflect communal spaces such as markets and holy

places, such as: the Agora, the Forum, the Cloister and courtyard (Krier, 1979).

As towns and cities have grown, transformed and developed; the role and value of public space has grown. This has been most pronounced when coupled with the effects of globalisation and continued population growth, especially considering global trends towards sustainable and resilient urban development. Through these trends and a focus on the efficient and effective use of resources, strategies such as the compact city approach have been employed. As a result of city growth and the approaches used, public spaces are becoming more valuable in both financial and social terms. Financially, land and the portions available are becoming scarcer as demand for land increases and costs rise. Additionally, densification is influencing the way in which the land is divided and this influences the allocation of private open space. This in turn, impacts on the value of public open space and the areas created for people to socialise. As the development of private gardens decreases and communal space increases, the role of public space is becoming ever more critical. Having said this, in many parts of the world these limiting factors have existed for centuries and so, public space provision has played a vital role.

While public space is vital, it is important to acknowledge that its value is only achieved if the place is relevant. Relevance has to do with the frequency of use and activity generated in the place and how the space adapts for different circumstances and different users. The square, for example, has undergone change. Many market places, parade grounds, ceremonial squares, squares in front of churches and town halls etc., often designed in a different time and set of circumstances, have been robbed of their original functions and their symbolic content. In many places, they are only kept up through the activities of conservationists (Krier, 1979: 19). Reflection is thus needed on the changing relevance of public space in order to project new possibilities. For example, a used park or plaza or an abandoned city square contributes very little to enhancing city life. In fact, they detract from it. On the other hand, a bustling public high street with a wide range of uses or a civic square hosting regular public space gatherings evokes a very different feeling towards the space. To assess relevance of public and how this may change and evolve over time, resilience theory has been employed.

Resilience is about understanding change: whether it has occurred, how and why it may have occurred and the effects of that change. Although a

relatively new concept in urban planning and design, the notion relates to the ability to respond to change, either through stability or through adaption. Through this research, the findings of resilience theory have provided the lens through which to capture and understand change in the built environment. By mapping a specific space over time, clues about the stability and adapting components have been revealed. These findings provide a better understanding about the relevance of this public space, which lessons have provided the foundation for developing an urban design intervention and design solution.

Market Square/ Library Gardens/ Beyers Naudè Square provides the case study. Located in the commercial core of the historic central business district in the Inner City of Johannesburg, this public square is the oldest in the City. Developed in the early years of the City's birth, the space is surrounded by civic buildings, such as the City Library and City Hall. Originally, the area functioned as a market and facilitated the exchange of goods and services. As the City has grown and developed, the space has undergone several changes and it is argued that its historical importance and present relevance are absent. To address this, the redesign of the space and the proposed programming are aimed at rejuvenating the Square.

The minimalist approach of urban acupuncture forms the basis on which the urban design intervention has been proposed. The test is more subjective than scientific (Webb, 1990). It is about suggesting a small but impactful initiative that will tackle the current challenges of the space. Its focus is on the Square and healing this space, before proposing alternative design resolutions for the greater area. This approach is already evident in the Inner City with projects such as Main Street, the Maboneng Precinct and 1 Fox Street. This allows for many smaller scale projects to be conceived and implemented. As these small interventions begin to reverberate, the ripples can extend to surrounding areas and in time, regenerate the entire Inner City.

Through mapping the changes over time, the resilient factors have become apparent as well those elements that have made the space relevant. It has been a changing relevance as the community and needs of the area have changed, the political environment has changed and the role that the space has fulfilled. The intention of the urban design intervention is to reflect on the history and plan accordingly for the future; to create a resilient solution. To propose a space that once again is relevant.

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