

# Chapter

The chosen study area falls into the larger area known as the Tshwane Metropolitan Area. Before an informed spatial development framework can be proposed, a thorough understanding of the context as a complex system of interdependent parts should be obtained. This chapter deals with the study area as a whole and the analysis of the area pre-empts the proposed development framework. Hatfield is currently on the threshold of an immense development boom. According to the Tshwane development framework, all existing zoning regulations can be reinterpreted. However, this results in an anything goes approach. Although this development, occurring in an unregulated fashion, uplifts Hatfield, the mounting pressure on infrastructure, energy use and spatial continuity if it is not done according to a spatial development framework, will have a disastrous effect on the current urban grain.

The area has a complex spatial character that demands an even richer understanding. Understandably, the aim of this approach is to draw development into the area, but this should not be allowed to happen at the expense of a quality urban realm with rich social diversity. The importance of spatial continuity cannot be stressed sufficiently. The negative effect of this reinterpreted approach is clearly visible in the area, with single storey houses next to multi-storey developments. There is a serious lack of public interaction spaces and it is within this problem that the analysis and resulting framework originated.

# 2

# T ransportation

The chosen study area is centrally located in close proximity to an efficient transportation network linking Hatfield to the CBD as well as neighbouring suburbs. Private vehicular transport forms the bulk of transportation, resulting in an ever-increasing congestion on streets. The Metrorail service provides efficient public transport to people working in the Hatfield area from suburbs such as Hammanskraal, Atteridgeville and Shoshanguve. The area has a lot of pedestrian activity due to the large numbers of students moving from Campus to Hatfield and student residences. Vehicular transport dominates the hierarchical order of users, which can be seen in the wide streets and narrow sidewalks, which do not facilitate a rich network of public interaction space.

To the northern edge of the study area, Pretorius Street and Schoeman Street direct traffic from main feeder routes such as the N4 and N1 to and from the CBD via four-lane one-way streets in an east-west direction. Church Street provides a secondary connection, alleviating the congestion along these primary connectors. Within the Hatfield core, Burnett Street provides the link to primary connection streets such as Duncan Street. Burnett Street is also the primary commercial activity corridor, resulting in congestion between pedestrians, who use Burnett as a place, and motorists, using Burnett as a connector road to get to main feeder networks. The lack of speed bumps and a speeding-prevention infrastructure encourages high vehicular speeds, resulting in dangerous intersections for pedestrians and cyclists. Lynnwood Road provides an important link to the area and runs in an east-west direction, facilitating access from the eastern suburbs of Pretoria to Hatfield.

Duncan Street runs in a north-south direction, connecting traffic from areas such as Brooklyn with the primary feeder roads like Schoeman, Pretorius and Lynnwood Road. Duncan Street is the primary connector of north-south movement to the area with Festival Street and Hilda Street, providing a secondary north-south connection. The proposed Gautrain aims to provide an alternative to privatised vehicular transport. If successful, the Gautrain will facilitate connection to areas such as Johannesburg, with the added advantage that people can live in Hatfield and work in Johannesburg without the current situation of long travelling times on over-congested roads.







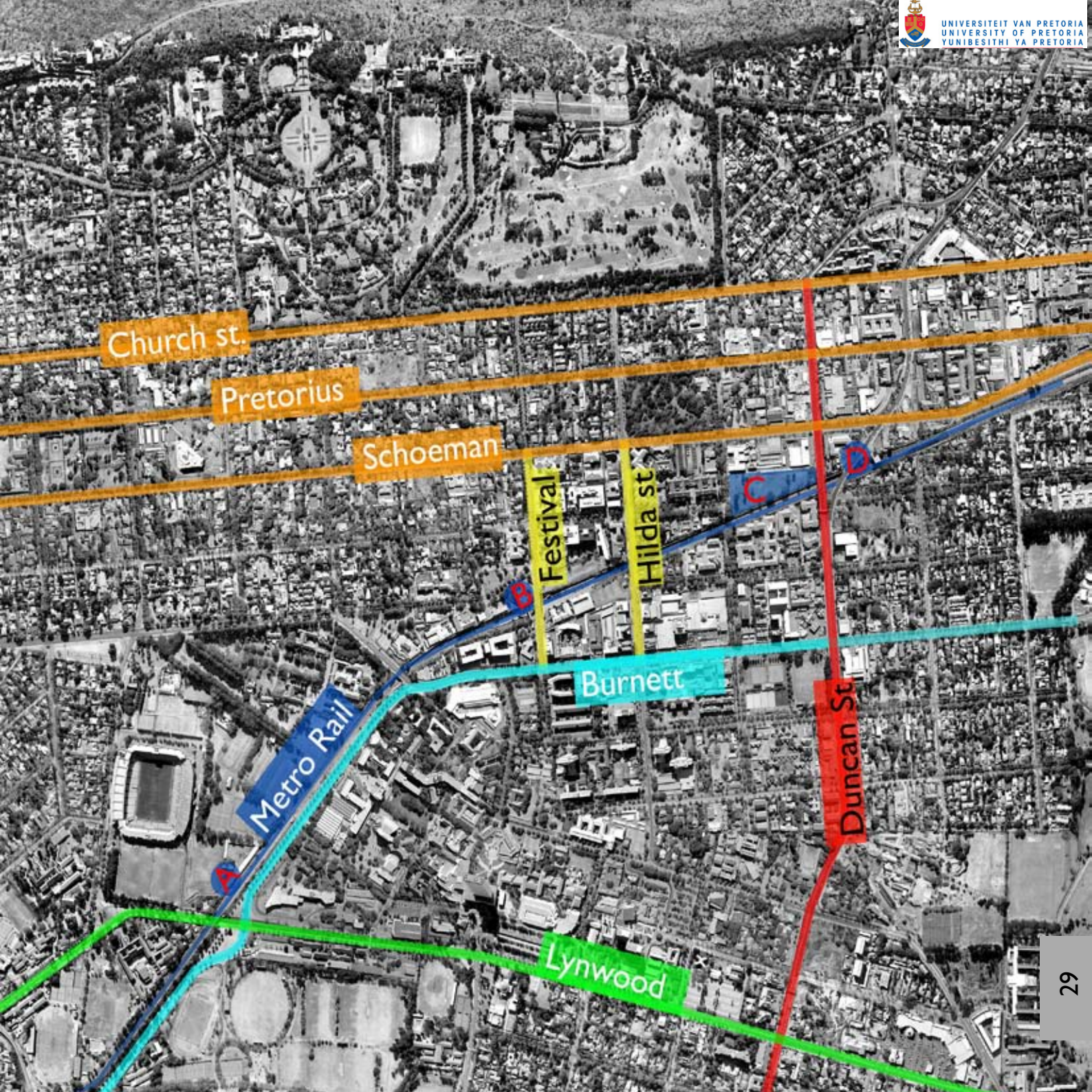
-  **EAST WEST CONNECTION ROUTE**
-  **SECONDARY NORTH SOUTH CONNECTION**
-  **ACTIVITY CONNECTOR**
-  **EAST WEST CONNECTION ROUTE**
-  **PRIMARY NORTH SOUTH CONNECTION ROUTE**
-  **METRO RAIL**

FIG 2.1\_Transportation map





Church st.

Pretorius

Schoeman

Festival

Hilda st.

Burnett

Metro Rail

Duncan St.

Lynwood

A

B

C

D



# Land use

Within the study area there is a good spread of land use, consisting of high, secondary and tertiary-order facilities. In the southern and western areas the land use can be zoned in two categories, namely educational and sport and recreation. The largest area belongs to the University of Pretoria, which consists of the main campus and the secondary campus on the southern edge. Boys High, Girls High and the Afrikaans Boys' High School, together with the university, form the educational hub.

The Loftus stadium on the western edge is an important high-order facility, and together with the surrounding school sports facilities, creates an efficient network of recreational opportunities. Adjacent to the university a dense distribution of student accommodation is found, which results in large numbers of students living within walking distance of Hatfield and the main campus. Areas like Arcadia and Brooklyn form the residential edges, with single residential facilities dominating the demographic. Commercial activities within Hatfield can primarily be seen as ancillary functions for student needs. Lighter industries and office space are found in the area between Arcadia and Duncan Street. Although there is a good spread of land use within Hatfield, there is a serious lack of a network of non-commercialised public interaction space that connects different land uses within Hatfield, allowing for a specific urban identity to emerge.

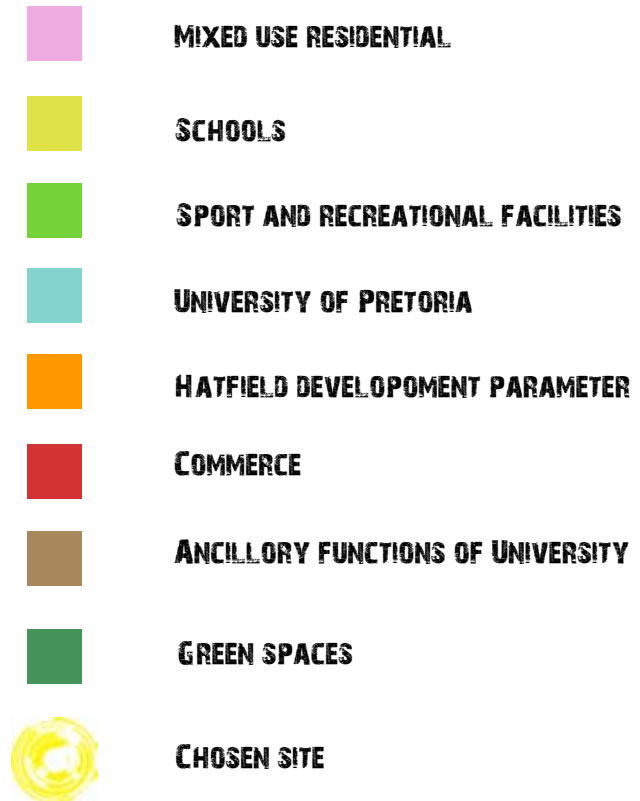
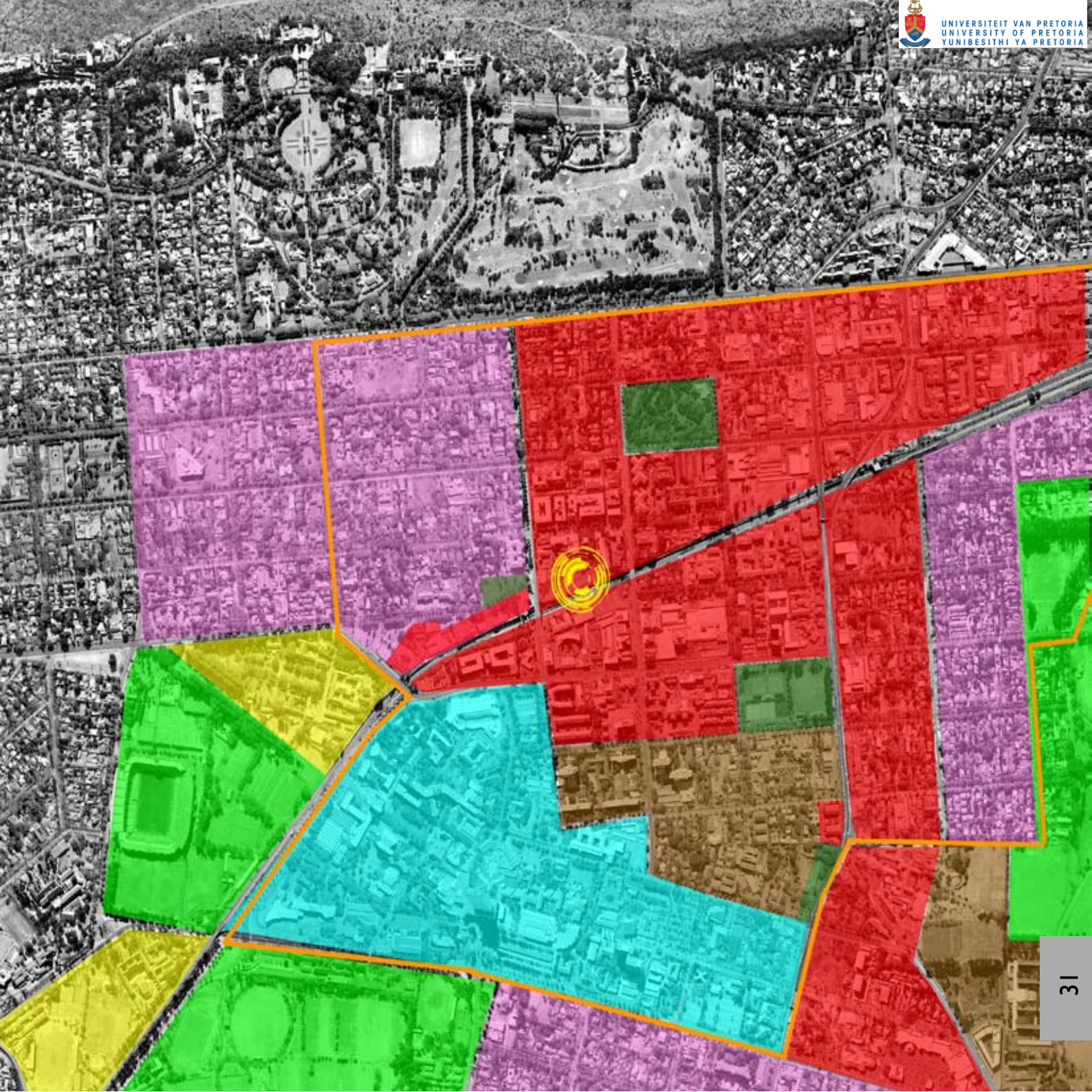


FIG 2.2\_Land use distribution



# Activity nodes

For any publicly used urban activity to function efficiently, energy flow is required to sustain and provide longevity to such activities. The efficiency of such energy flow is achieved in the degree to which humans use such activities. Within the study area, high-order facilities such as the university, Loftus and surrounding schools provide immense energy to the area.

However, the problem is that these activities fluctuate dramatically in for instance holidays and weekends, when these facilities do not contribute to the energy flow like in times of high usage. This problem of energy fluctuation has also been identified by the Tshwane framework for Hatfield. Within this problem lies the opportunity to, over time, develop the Hatfield precinct into a vibrant working, living and activity hub that will provide a sustained energy supply to the area.

An important aspect of a constant influx of users is found where nodal interchanges occur. If these users can be channelled along an activity spine, a vibrant social network sustained by enough energy can be established. It is important that the emphasis be placed on public social spaces as opposed to commercialised space.



**SPORT FACILITIES, LOFTUS, LC DE VILLIERS**



**TERSIARY EDUCATION : UP AND DAMLIN**



**SCHOOLS: BOYS AND GIRLS HIGH**



**RETAIL, RESTAURANTS, BARS AND NIGHT CLUBS**



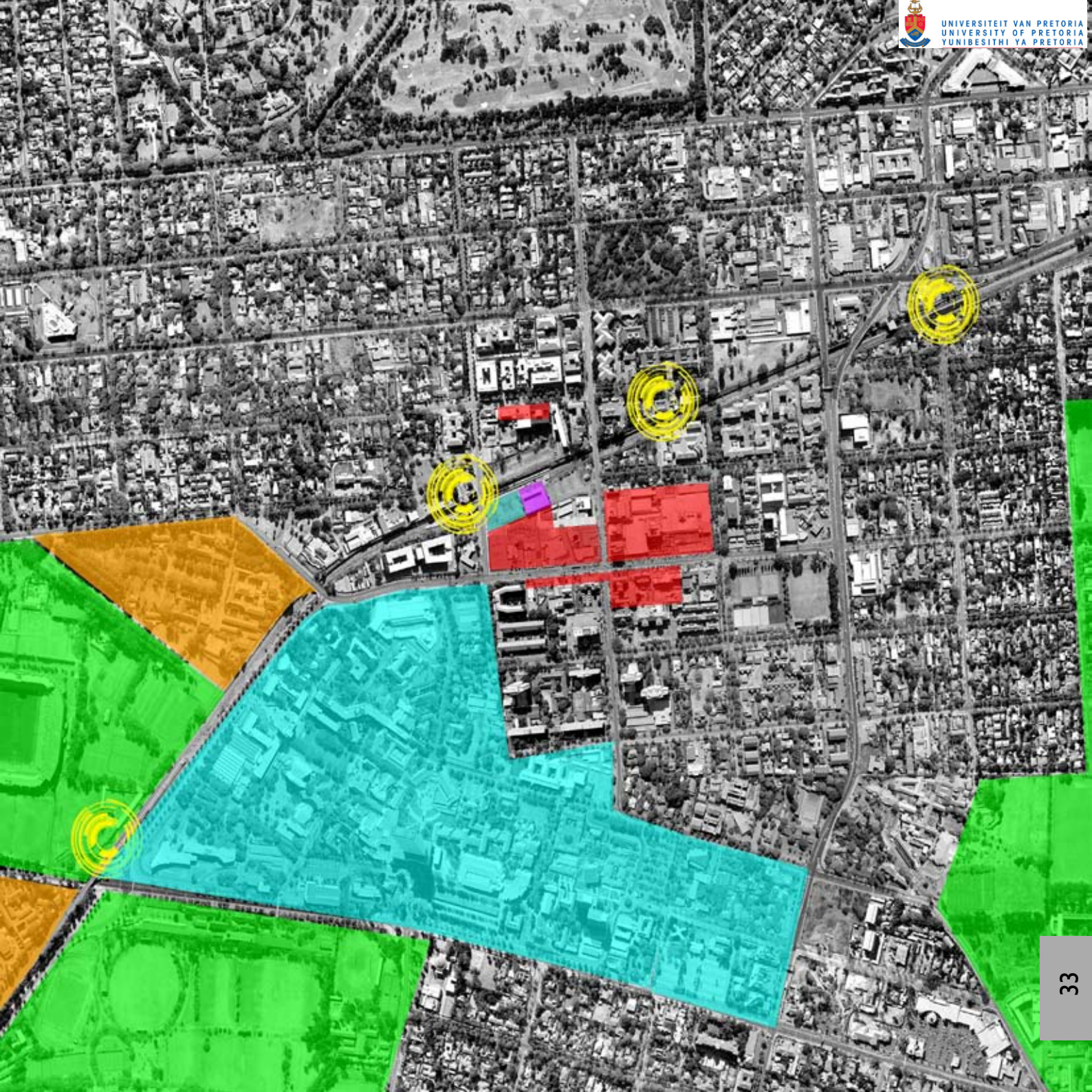
**LEASURE: VERGIN ACTIVE GYM**



**TRANSPORTATION NODES**

FIG 2.3\_Urban activity nodes







# Scale and Urban Density

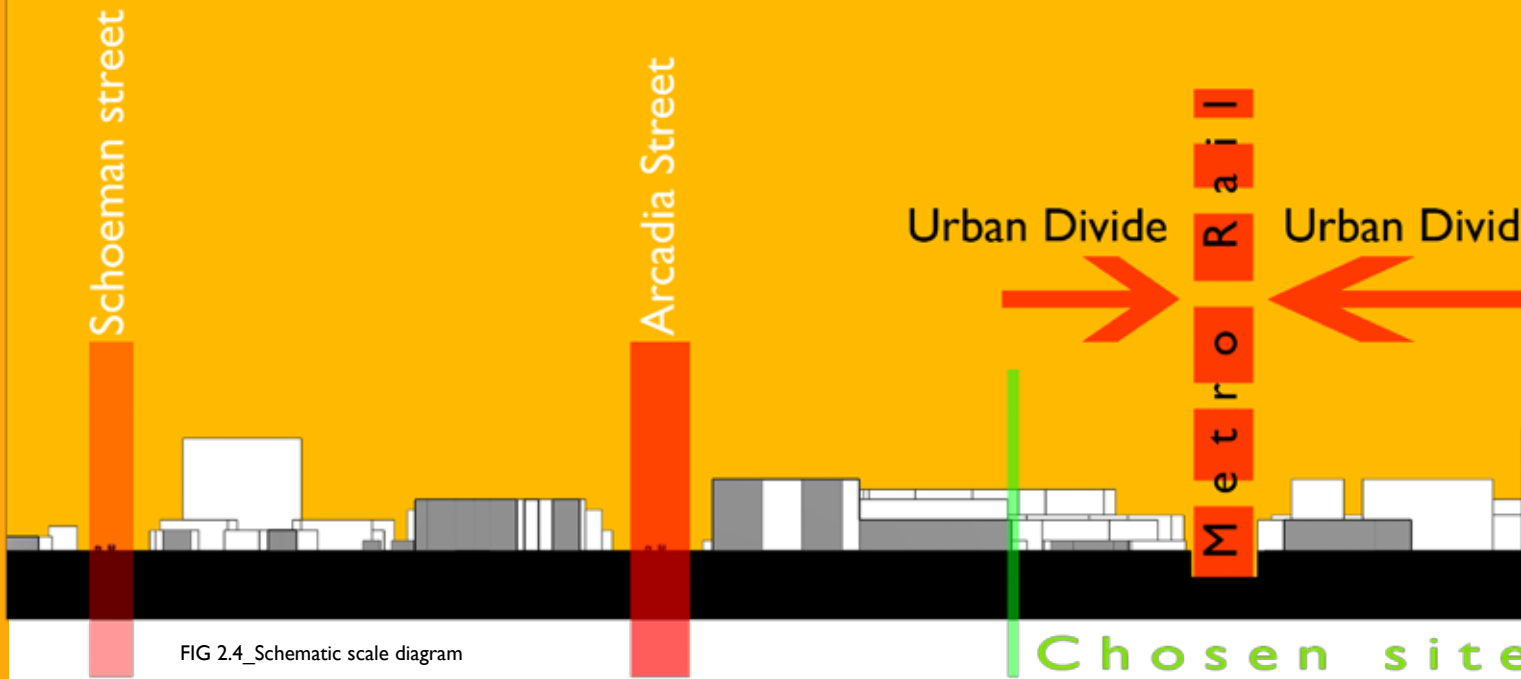
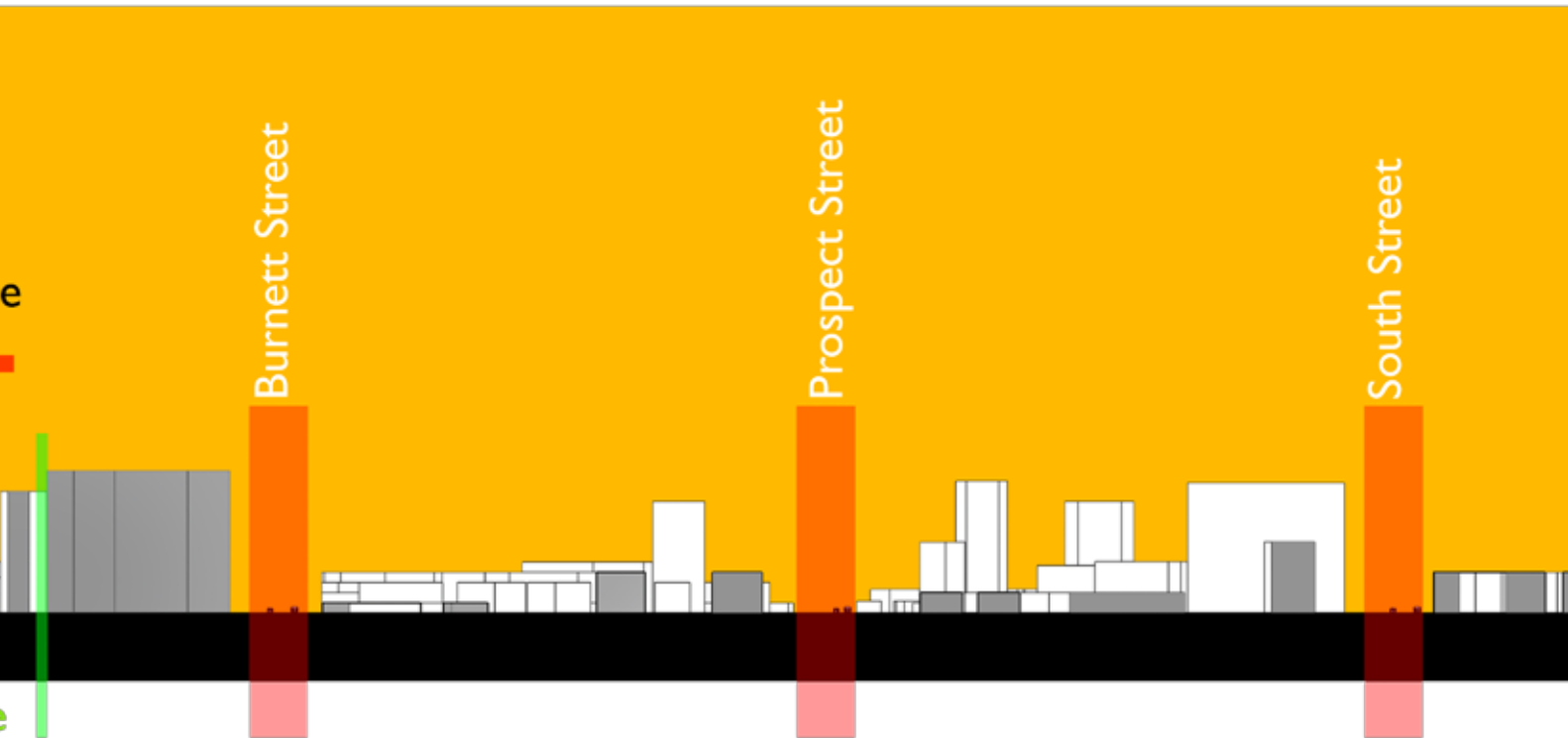


FIG 2.4\_Schematic scale diagram

As can be seen in the section from Schoeman Street to South Street, there is a distinct scale difference along the section. This lack in consistent urban scale results in a low-density urban use, with single-storey buildings next to multi-storey apartments.

Thus various dilapidated and open pockets of land are found within the area. A distinct spatial divide can be seen between the edges situated next to the railroad.



This divide in the urban grain results in underutilised open pockets next to the track, causing dangerous and health-hazardous slum areas that further extend the divide.

No distinct urban continuity is experienced by the user in terms of the interface between the building envelope and the street, resulting in an urban environment lacking identity and deprived of efficient urban interaction space between buildings.



# C

# h

# a

# r

# a

# c

# t

# e

# r

photographic analysis



Schoeman Street

FIG 2.5\_ Portion one: site character







FIG 2.6\_ Portion two: site character







FIG 2.7\_ Portion three: chosen site character as seen from Festival street

Chosen Site

## CHOSEN SITE



Chosen Site





FIG 2.8\_ Portion four: site character as seen from Rissik station



Burnett Street

# S.T.A.R.T Framework

## (START – social transition through activation of regenerative techniques)

- Social - life, welfare, and relations of human beings in a community
- Transition - passage, or change from one position, state, stage, subject, concept, to another; modulation
- Activation - to make active; cause to function or act
- Regenerative - to re-create, reconstitute, or make over; to revive or produce anew; bring into existence again, to reform;
- Technique - method of performance; technical skill; ability to apply procedures or methods so as to effect a desired result.

## Transportation goes red.....???

- City-wide scale**

The proposed transportation system functions on a metropolitan scale. The major highways (blue routes) feed into the city of Tshwane from all four directions. At these junctions where blue and red lines meet, there will be multi-level parking garages that will accommodate users who want to change their mode of transport in order to get to a destination in a quick, transport-efficient way. These routes link all major areas, including the CBD, and the two major Gautrain stations. The main drive behind this initiative is to alleviate congestion and

long travelling times. It also reduces the cost of travelling, while integrating all modes of public transportation.

- Hatfield precinct**

The vision for Hatfield is to see it grow into a bustling, vibrant, destination node in Tshwane. With the new Gautrain station at its heart, Hatfield becomes an area of high accessibility, making it a sought-after place to live. The proposal therefore initiates certain strategies to enhance transportation routes, densify residential backup and commercial activities, and provide high-quality public space as the canvas for social interactions and expression.

- BRT (Bus rapid transit) – RED ROUTE**

The RED transportation system comprises buses that run in dedicated lanes in all major axes of the city, thus creating a grid of continuous, direct transportation channels across the metro area, which integrates different modes of transportation (Manifesto for change, 1991:80). In the Hatfield precinct, the drop-off points coincide with public open green spaces, thus reinforcing the spatial logic of the transportation channels (Manifesto for change, 1991:80). At these stops, provision should be made for informal traders to facilitate the needs of commuters on the go.



## □ Burnett and Grosvenor activity routes

### □ Grosvenor Street

This connector route connects the red-line axis travelling in a north-south and east-west direction. Grosvenor Street intersects with the Hatfield Gautrain station, therefore forming an activity spine that connects the two major modes of transportation (Manifesto for change, 1991:50). The street edge should be activated and wide enough to facilitate this intensive flow of people and activity intensity (Manifesto for change, 1991:49). Greening of this activity route is essential, thus connecting the two major green open spaces and extending the natural habitat via a green corridor. The proximity of these major transportation systems increases accessibility and minimises the need to travel long distances to find intersecting systems.

### □ Burnett Street

Burnett Street forms the main commercial activity spine in the Hatfield precinct. This spine is the primary flow of goods, people and capital, acting as the glue that integrates the various precincts within Hatfield. The street should give preference to pedestrians, be well defined and increase ease of movement. The street should also be well articulated with urban greenery, lighting and street furniture to define spatial hierarchy and enhance legibility and a sense of place.

The street should be cobbled where cars can travel to increase the awareness of the street's activity. The development of this area should encourage the natural integration between larger and smaller activities, thus creating opportunities for small enterprises in these areas of highest accessibility (Manifesto for change, 1991:53).

# Metro Scale



FIG 2.9\_Group framework indicated on Pretoria metro scale





# Implementation metro scale

## Bring the people....

For any successful urban strategy, energy is needed. This energy comes from people and the variety of activities they perform on a day-to-day basis: work, sleep, eat, play, socialise, relax, and engage. We therefore suggest the densification of three distinct areas in the Hatfield precinct, thus providing the energy needed to produce a rich, vibrant and multi-functional urban environment.

### Red sector

The area east of Duncan and north of Church Street forms one of the gateways to Pretoria. This sector should be developed into a high-density mixed-use sector, consisting of commercial activities and office space.

### Orange sector

Areas of highest accessibility should be backed up with residential fabric. This sector currently consists of single-storey residential units and small businesses. The sector should be densified and restricted to a building height of three to five storeys to retain the low-rise character of Hatfield. This sector has easy access to all transport facilities and public amenities, which makes it a sought-after place to stay.

### Yellow sector

The sector east of Duncan Street forms a large part of the University of Pretoria's residential backup. This area currently consists of single-storey communes, with a few two- to three-storey residential developments emerging in the urban fabric. This area should be developed to respond positively to the existing character, guided by a height restriction of two to three storeys. The edges on Burnett and South Streets should be activated by some commercial activities, as these form the main connection to LC de Villiers sports grounds and the students' residential housing.

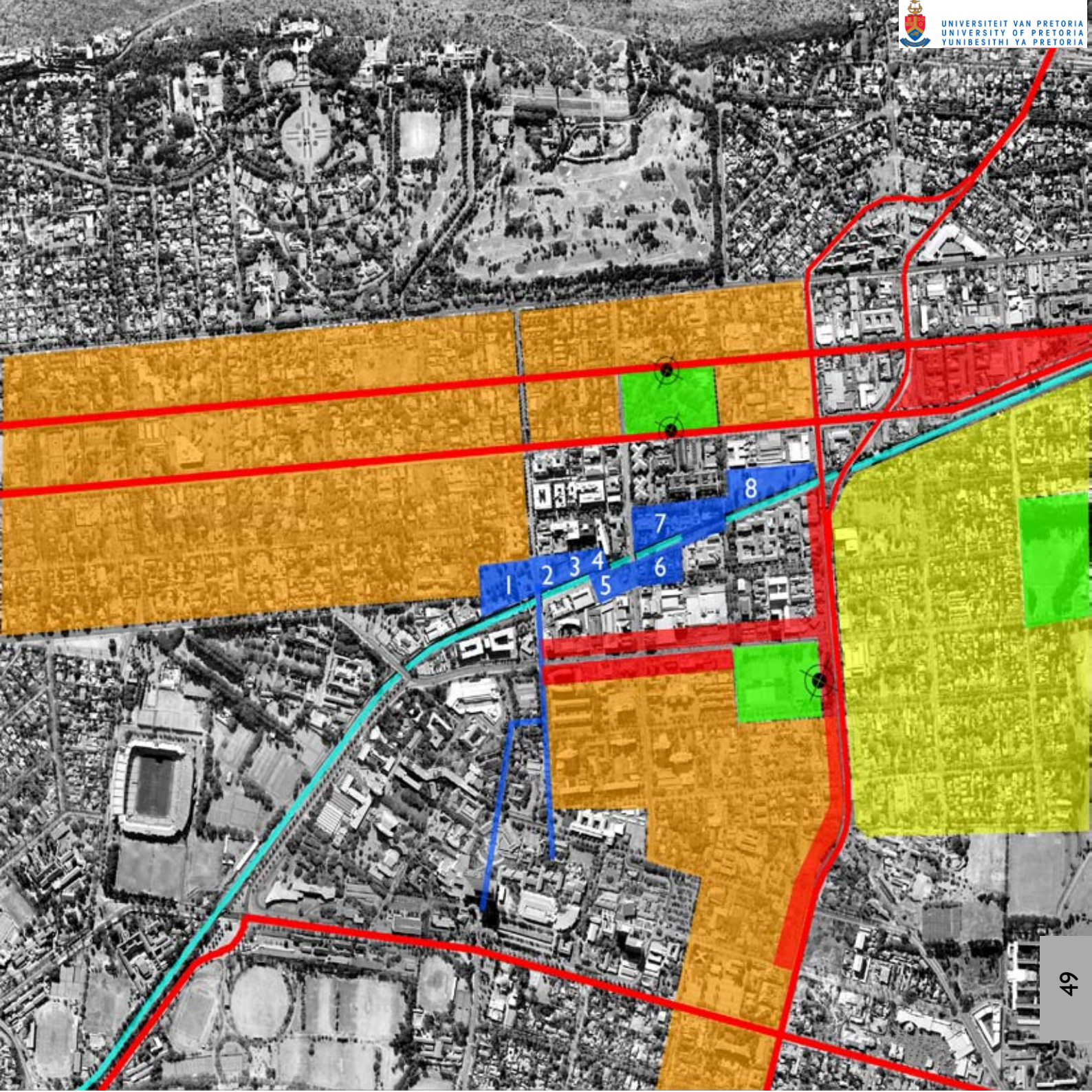
### Blue sector

This sector consists of the proposed projects with the aim of creating a vibrant activity spine connecting the Gautrain station with Rissik Station, stitching across the train track to connect the edges currently divided by the train track.

### Green Sector

The green sector rejuvenates the existing green spaces within the Hatfield area and proposes that public transportation interchange points be located along Duncan, Pretorius and Schoeman Streets, which will not only provide legibility for the users, but also renewed usage of existing green space.

FIG 2.10\_Group framework implementation map





# Site scale

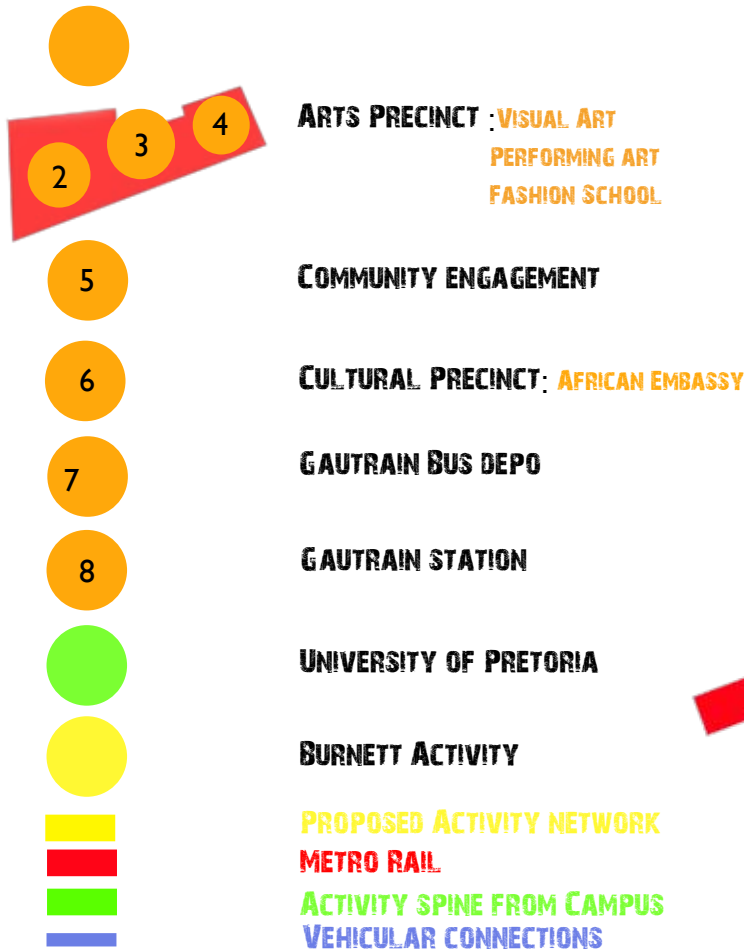


FIG 2.11\_ Framework implementation on chosen site



Activity spine from Gautrain station towards the Rissik station



Hilda Street

metro rail

Burnett street

Activity link from Burnett Street through city Property residential development

# What makes a successful urban place ?

## Abstract

There are no sure recipes or cookie-cutter solutions for creating a successful urban space. Each scenario must adhere to inherent spatial, contextual and cultural aspects in order to make the response unique and contextually responsive, therefore the right solution for a place; thriving urban space. However, there are characteristics present in every successful place that can be adapted to guide urban development, therefore laying the foundation for the constant process of humanity in transition.

## 7 guiding principles of successful places (CABE: 2006:5)

### □ Character – a sense of place and history (CABE:2006:5)

Character is how we distinguish one place from the next. It is about place-making (Manifesto for change, 1991:22). It reflects local culture, tradition and context. It establishes recognisable patterns through the use of natural features, distinctive landscapes, diverse spaces, and physical and psychological clues that are embedded in a spatial identity, the blueprint of that place. It enables environment, encapsulating timeless qualities in space.

### □ Continuity and enclosure – clarity of form (CABE: 2006:5)

What should be open and what should be closed? Who should have access and who should not? Good public space has a clear hierarchy and definition between public and private space. Positive urban environments require freedom and constraint,

setting preconditions for activities and growth to occur (Manifesto for change, 1991:23). Deliberate/purposeful articulation of urban space therefore ensures the development of healthy ownership roles and public care. Definition should occur by means of buildings that define these spaces at a scale that responds to the character of the place and that feels comfortable on a human scale.

### □ Quality of public realm – sense of well-being and amenity (CABE: 2006:5)

The public realm is the zones of greatest interaction, and therefore the areas of greatest opportunity (Manifesto for change, 1991:17); it is the setting for the formation of social networks and public ties (Manifesto for change, 1991:18). These spaces usually have distinct and clear routes and a good sense of safety and security, provide equal access to public amenities, and are detailed with good lighting, urban greenery, street furniture and public art. These spaces are structured to respond and adapt to the needs of everyone.

### □ Ease of movement – connectivity and permeability (CABE: 2006:5)

Movement is vital in our daily ritual of life, for it is the method by which we get from one place to the next. Therefore, the urban fabric should be developed to improve ease of movement with a choice of safe, high-quality connector routes. Roads, footpaths and public spaces should be well connected and provide high accessibility to public transport systems.

□ **Legibility – ease of understanding**  
**(CABE: 2006:5)**

Places should have focal points, landmarks, distinct views and gateways that act as points of reference, provide visual order and guide passage through space. Good articulation of built form, adequate lighting, signage and creative way-markers provide the basis for a good sense of direction and provide the clues needed to equip the user to navigate public space.

□ **Adaptability – ease of change**  
**(CABE: 2006:5)**

Spaces that can only be used for a single purpose, remain empty most of the time. Therefore it is essential for spaces to have flexible uses, and to be adaptable to current and future spatial requirements. Adaptive re-use of buildings with historic value also improves the quality of the public realm and enhances the character and legibility of a space.

□ **Diversity – ease of choice**  
**(CABE: 2006:5)**

Monotony is the enemy. Diversity increases the range of choices that people are exposed to (Manifesto for change, 1991:17). Places should be multifunctional and provide for a mix of compatible uses and programmes. These places should cater for diverse communities and cultures and offer a wide spectrum of activities and communal functions. Spaces that possess a healthy diversity of people, culture and architecture are the groundwork for positive social interaction and expression.

## For the people.....inclusive design!

□ **The principles of inclusive design**

[ They include you ]

The necessity to design environments that include rather than exclude cannot be stressed adequately. Practitioners are all aware that built fabric should be designed with disabled users in mind, but as can be seen in current new interventions, this is rarely the case. As the heading explains, able-bodied humans should be included in inclusive design thinking when considering how un-legible urban space, public transport and urban signage have become.

[Good design is inclusive design -CABE, 2006:10 ]

All appropriate civic used buildings should be designed keeping a diverse spectrum of users in mind, aiming to include rather than exclude as a given and not a privileged necessity.

### Inclusive design deliverables

□ **5 inclusive design guidelines**

1 Inclusive design places people at the heart of the design process. As an obvious first step, avoid steps. Replace them with a gentle incline between floors and add low windowsills for a better view. Wheelchair access should be the base level, not an optional extra. The same goes for pushchair access.

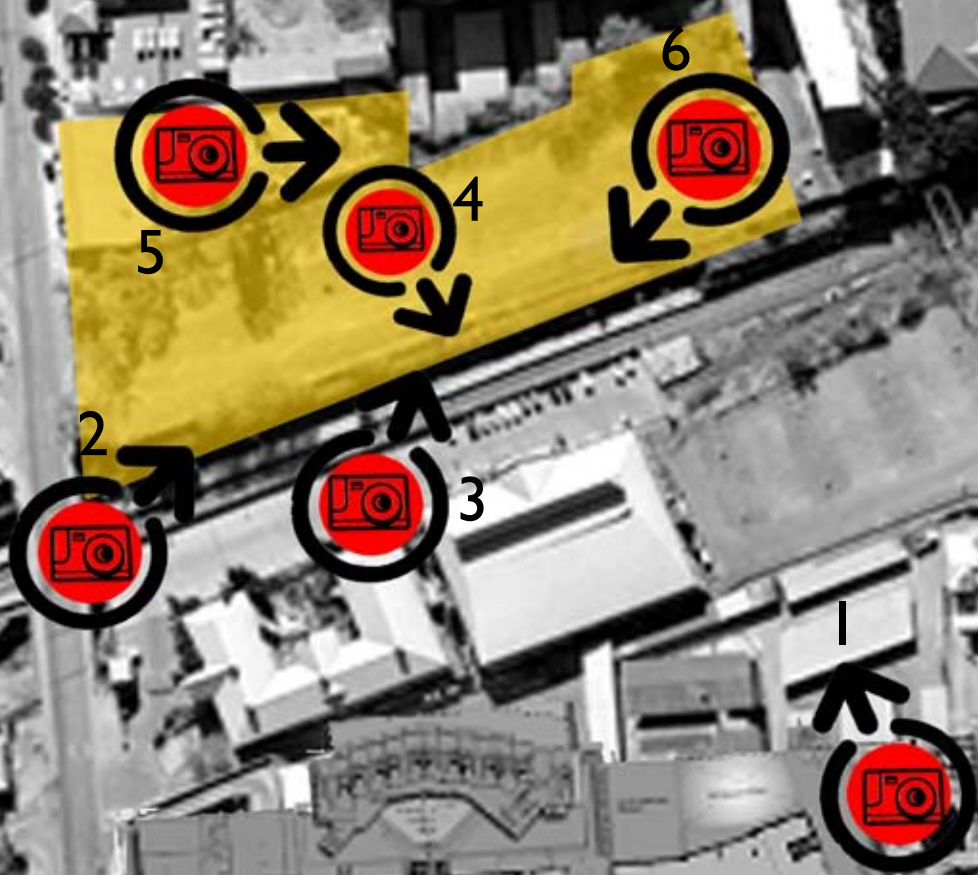
2 Inclusive design acknowledges diversity and difference. Ensure that doors are highly visible. Lay non-slip mats and make automatic doors the automatic choice.

3 Inclusive design offers choice where a single design solution cannot accommodate all users. An inclusive environment does not attempt to meet every need. By considering people's diversity, however, it can break down barriers and exclusion and will often achieve superior solutions that benefit everyone.

4 Inclusive design provides for flexibility in use. Meeting the principles of inclusive design requires an understanding of how the building or space will be used and who will use it. Places need to be designed so that they can adapt to changing uses and demands.

5 Inclusive design provides buildings and environments that are convenient and enjoyable to use for everyone. Ensuring this 'intellectual' and 'emotional' access means considering signage, lighting, visual contrast and materials. At the beginning of the design process it is important to analyse the transport patterns to and within a development. Roads, parking, walkways, building entrances and other routes should be considered. People's opportunity to use all elements within the site, including the inside of buildings, is crucial.





# Site analysis

The chosen site lies centrally located between the proposed new Gautrain station and the existing Rissik Station. No traces of any infrastructure on the site could be established. Maps found in the South African Archives indicate that the site has been vacant from as early as 1908. Surrounding infrastructure, including the Mozambican café, was occupied during the 1920s. Currently the site is owned by the property portfolio company of the South African Railway called Intersite. To date, no development plans are on the table for this piece of vacant land, but Intersite did inform me that they are currently researching interventions abroad that address the same problems of vacant land next to the railway track. The possibility of stitching across the railway track was also mentioned as part of the initial concept enquiring into solutions for the spatial divide created by the railway track.

Currently the site is in dire need of rejuvenation and forms a problematic slum area, encouraging unauthorised squatting within the Hatfield development core deducting from the already poorly divided urbanity. As was previously indicated on the cross section, the scale of the existing built fabric slopes down from both sides towards the site, creating the atmosphere of an urban amphitheatre, with surrounding buildings looking down onto the piece of land. This opens up the possibility of developing this piece of land as a vibrant destination space within the built fabric.

However the railway track creates a spatial divide, hindering efficient use and spatial continuity of the site due to the immense insertion into the typography. Before any informed design responses can be generated, it is important to understand the existing scale, architectural language and surrounding land uses. The following pages address these issues, pre-empting the proposed design responses for the site.

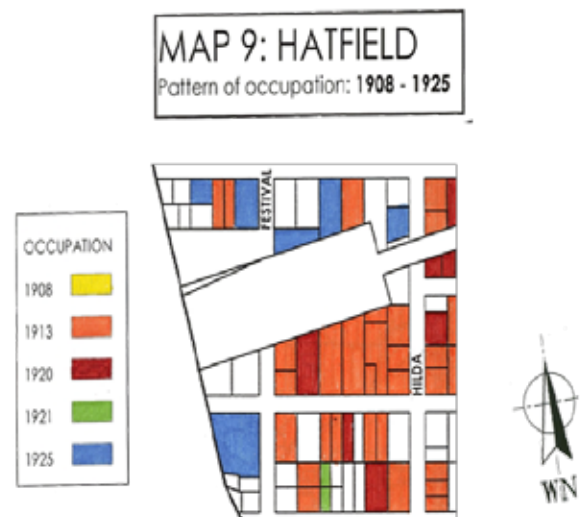


FIG 2.12\_ Photographic orientation diagram

FIG 2.13\_ Historical site occupancy map



FIG 2.14\_ Site panorama taken from City Property development



FIG 2.16\_ Site panorama taken from Damlin







FIG 2.15\_ Site panorama taken from Festival Bridge





These photos taken on the site clearly indicates the dilapidated nature of the site. At the time of these photos the site was used to dump building rubble and to provide for construction worker residencies working on the city property development. The internal courtyard behind the Mosambiquan café is used as a waste paper disposal depot and for informal agriculture. Within the scope of the proposed Hatfield development methodology these areas does not contribute to the sense of place of the area and needs drastic intervention to uplift and regenerate the area. These areas, if left unchanged, will encourage unauthorized squatting becoming a health and safety risk and stimulate criminal activities within the area. The challenge is to develop the site as a destination place within Hatfield, while positively contributing to the surrounding areas so that the enhanced energy generated by the site users can create a means of passive surveillance allowing for a safe urban environment. C

FIG 2.19\_ Panoramic view from site towards gym





FIG 2.17\_ Site used as construction worker informal residency



FIG 2.18\_ Current state of site







f

g

h

j

k

e

d

i

l

b

c

a

m

n

o

p

q

r

# Surrounding building use

<b>a</b>	<b>RISSIK STATION</b>	<b>m</b>	<b>VERGIN ACVTIVE GYM</b>
<b>b</b>	<b>MOZAMBIQUE CAFE</b>	<b>n</b>	<b>DAMELIN</b>
<b>c</b>	<b>DILAPIDATED HOUSE</b>	<b>o</b>	<b>FIELD 15 FLATS</b>
<b>d</b>	<b>STORE ROOM</b>	<b>p</b>	<b>BURNFIELD HOTEL</b>
<b>e</b>	<b>TELKOM</b>	<b>q</b>	<b>CITY PROPERTY FLATS</b>
<b>f</b>	<b>MOTORCYCLE RENTALS</b>	<b>r</b>	<b>ABSA BANK BUILDING</b>
<b>g</b>	<b>FLATS</b>		
<b>h</b>	<b>OFFICES AND RETAIL</b>		
<b>i</b>	<b>TWO LEVEL PARKING</b>		
<b>j</b>	<b>FLATS</b>		
<b>k</b>	<b>FLATS</b>		
<b>l</b>	<b>JAZZ BAR</b>		

FIG 2.20\_Surrounding building use distribution





9



8



7

6



4



2



10



5



3



1



# Existing fabric

The existing fabric ranges from recently completed projects such as the City Property residential apartments completed in 2008 to buildings dating back to the 1920s, such as the Mozambique café erected in 1925. For any new proposed development to become routed within its context it is important that the surrounding architectural language be understood.

The surrounding context thus contains a range of architectural eras, from early modern expressions to post-modern architecture. No scale correlation between neighbouring buildings can be established with single-level buildings next to multi-storey apartment and office blocks. The experience on a human scale becomes problematic in such a context, with varying degrees of public to private hierarchies. This lack of architectural continuity results in architectural space definition that is not easily readable by the public.

Although no continuity on the basis of scale can be established, the materiality of these surrounding buildings does display a strong similarity. The architectural tectonic of face brick combined with exposed concrete structures forms the bulk of the context materiality employed. This is identifiable regardless of the era in which the building was erected. Although, as was mentioned before, no scale continuity can be established in the surrounding buildings, I do believe that the materiality of these creates a specific character for the site. Some people might argue that this language developed due to the availability and cost-efficiency of these materials, which I agree to, but I feel that regardless of availability and cost implications, this language is rooted in the Pretoria context.

The question now remains how we create an architectural language in an era of immense development boom responding to a contemporary architectural era, but at the same time rooted in the surrounding context.

These photos taken on the site clearly indicate the dilapidated nature of the site. At the time of these photos the site was used to dump building rubble and to provide a place to stay for construction workers working on the city property development. The internal courtyard behind the Mozambique café was used as a waste paper disposal depot and for informal agriculture. Within the scope of the proposed Hatfield development methodology these areas do not contribute to the sense of place of the area and drastic intervention is needed to uplift and regenerate the area. These areas, if left unchanged, will encourage unauthorised squatting, which can become a health and safety risk and stimulate criminal activities within the area. The challenge is to develop the site as a destination place within Hatfield, while positively contributing to the surrounding areas so that the enhanced energy generated by the site users can create a means of passive surveillance, allowing for a safe urban environment.

FIG 2.21 \_Photographic orientation diagram





FIG 2.22\_Current development on Burnett street



FIG 2.23\_Surrounding building materiality



FIG 2.24\_Current state of Mozambique café

- 1 City Property apartments
- 2 Vergin Active Gym
- 3 ABSA Bank building
- 4 Mozambique café
- 5 Rissik Station



2

FIG 2.25\_Surrounding materiality



4



5

FIG 2.26\_Historical important landmark





6

FIG 2.27\_Surrounding building materiality



10

FIG 2.28\_Scale of recently completed residential block

- 6 Telkom Services
- 7 Apartments
- 8 Office building
- 9 Motorcycle rentals
- 10 City Property development





7

FIG 2.29\_ Traditional face brick tectonics



9

FIG 2.30\_ Surrounding building use



8

FIG 2.31\_ Building forms backdrop to our site, basement parking entrance