



CONTEXT STUDY



The formation of urban settlements can be considered as one of man's greatest achievements. The complex nature of its structuring and layers of activities creates an energetic organism that is crucial for its own survival.

Architecture can be described as the physical building blocks of such a city, but it is the social interaction between its inhabitants and the architecture that creates the city's character. It is this human element that is so often neglected, which is vital for the existence of the city.

A large majority of buildings are erected for capital gain. They become empty shells of modular monotony, waiting to be filled by occupants and specific functions in order to achieve optimum profitability. Instead buildings can be so much more. They can become enablers of social interaction, movement, orientation and a better way of urban life.



Architecture should not only be symbols of status, but rather be platforms for human activity which is generated by its surroundings. To define the character of a city one has to go beyond the physical features of such a settlement. Physicality is a feature that fades during time, buildings will be demolished or altered and changes will occur to keep up with contemporary paradigms.

The true genius loci cannot be defined by something tangible, but rather by the spirits of its inhabitants.



Fig. 1.1 ABSA Tower

1.2 City Context



Pretoria was founded in 1855 by Marthinus Wessel Pretorius and served as a centralising *Kerkplaats*¹ until the 1880's when it became the capital of the ZAR. (Holm, 1998:59) Since then, the influence of the Government had a strong effect on the image of Pretoria - old stately buildings from the ZAR era stand side by side with towering commercial skyscrapers, emphasising the complex diversity present in the city.

Like most third world cities, Pretoria functions on two levels, namely the formal- and informal level. Due to years of neglect, crime and social decay, the formal sector dissipated towards the peripheries of the city, with most of the government institutions still residing in the Central Business District. This unpopularity of the inner-city has resulted in most of the major businesses migrating towards the eastern suburbs, leaving countless buildings within the city vacant.

1. Meaning "Church Place"

Fig. 1.2 Pretoria skyline

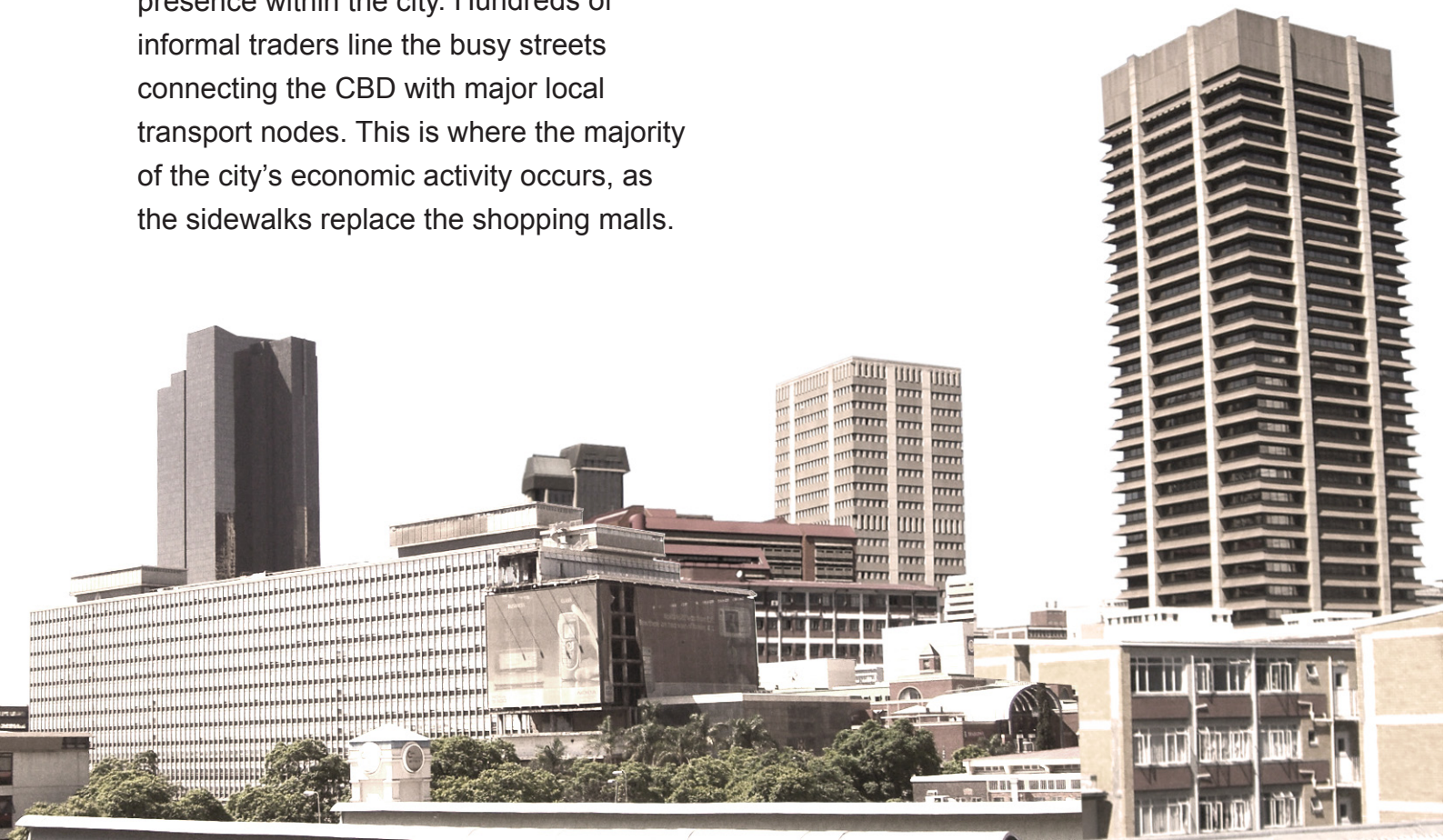




This eastward sprawl also had an enormous influence on the growth of the city -eastern residential areas had to accommodate inner-city commercial centers, resulting in inefficient and congested infrastructures and a fragmented economic backbone.

In contrast with the formal sector, the informal sectors have increased their presence within the city. Hundreds of informal traders line the busy streets connecting the CBD with major local transport nodes. This is where the majority of the city's economic activity occurs, as the sidewalks replace the shopping malls.

In the Western paradigm the city has become sterile, monofunctional and unprofitable, but in an African sense the city is a bustle of movement, a congregation of different cultures and a platform for chance happenings.



These contradicting views put Pretoria in a complicated position. On the one hand it is necessary to provide a city that is structured, rational and economically sustainable, i.e. an organised system that can be regulated. But on the other hand, a city will always be chaotic, unpredictable and unprogrammed.

The Tshwane City Vision
“...is to become the leading African capital city of excellence that empowers the community to prosper in a safe and healthy environment.”

(Tshwane ICDRS, 2005)

Fig 1.3





It is paramount that a coherent vision is established for Pretoria's inner-city in order to achieve these objectives. Peripheral developments should be reduced and consolidated within the CBD.

This will encourage urban regeneration on a broader scale, encouraging better job opportunities. The rejuvenation and transformation of the city should be the priority of government, as well as the city's designers and residents. A revived inner-city may become the catalyst needed to attract better opportunities, and result in a safer and healthier Tshwane.



1.3 Geographical



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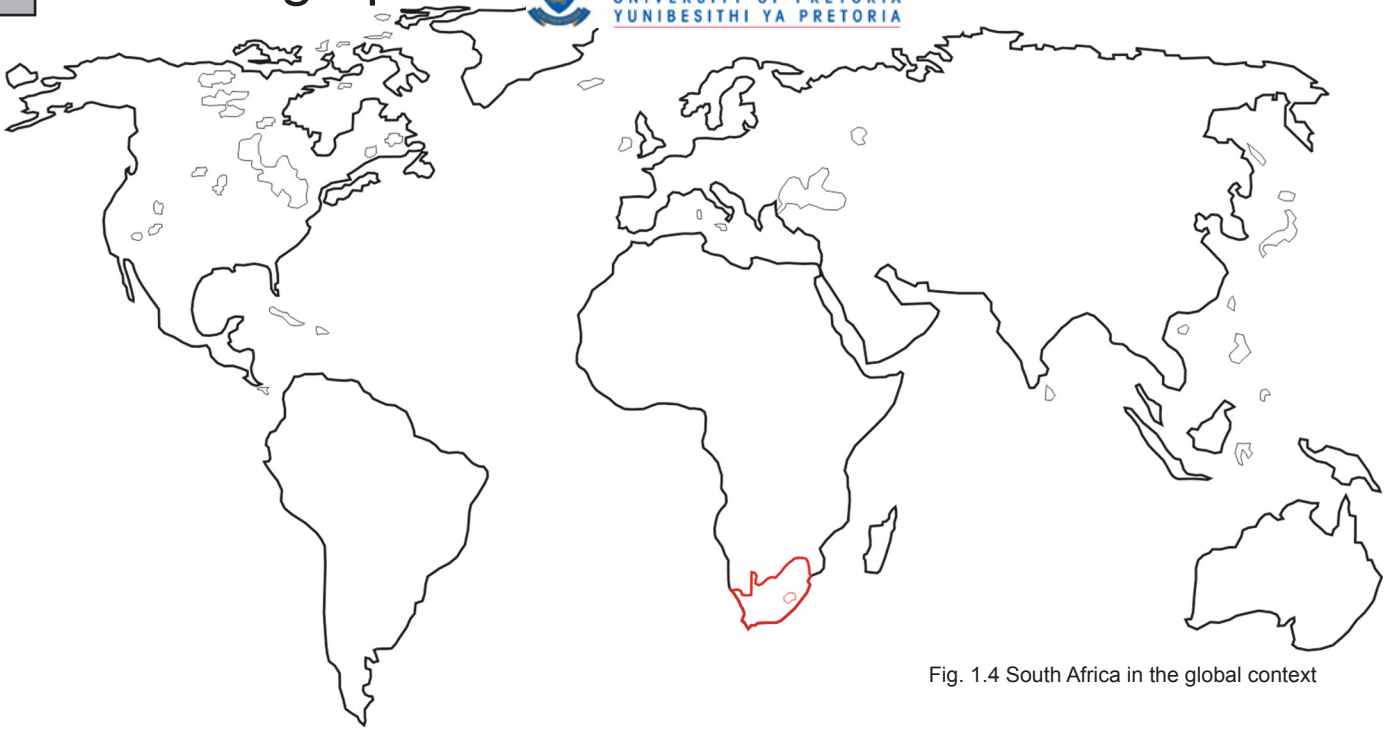


Fig. 1.4 South Africa in the global context

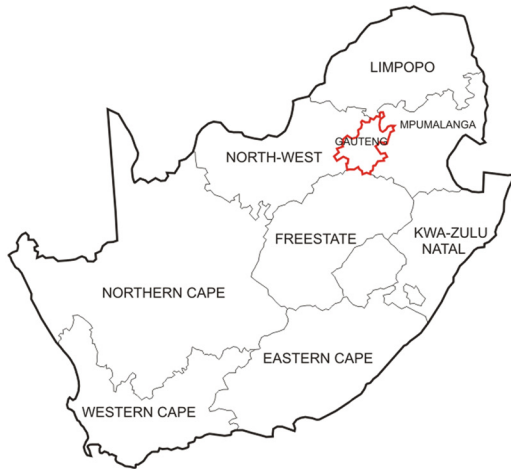


Fig 1.5 Gauteng in relationship with the other provinces of South Africa



Fig. 1.6 Tshwane and other municipalities in Gauteng

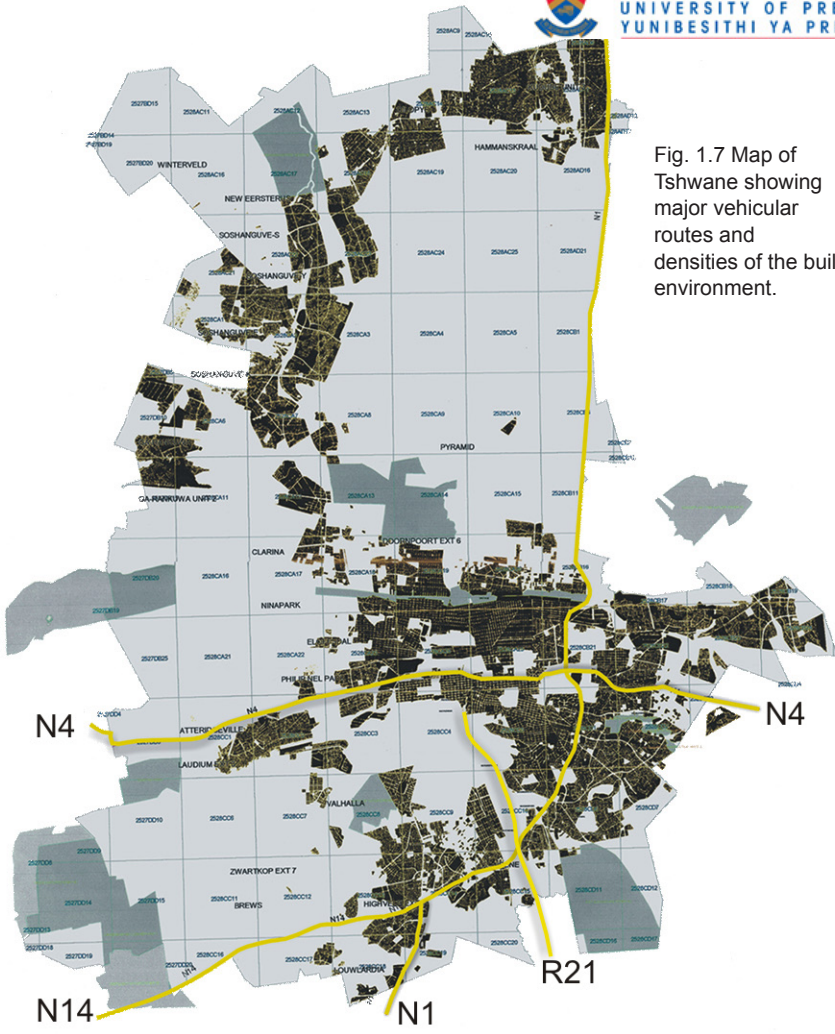


Fig. 1.7 Map of Tshwane showing major vehicular routes and densities of the built environment.

Tshwane is the administrative capital of South Africa with a population of just under one million. The city is situated in the valleys of the Magaliesberg, Daspoort and Schurweberg mountain ranges. With the Apies river, Steenhoven- and Walkerspruit converging in this area, it was considered the ideal location to establish a settlement as there was enough water to grow crops, and the natural features of the ridges protected the settlement against enemy attacks.

Because of these natural features, the north-south axis of development was hampered and most of Tshwane's development occurred in an east-west direction.

Fig. 1.8 Growth of Pretoria Inner city

Pretoria 1900-1939



Pretoria 1939-1959



Pretoria 1959-1979



Pretoria 1979-1999



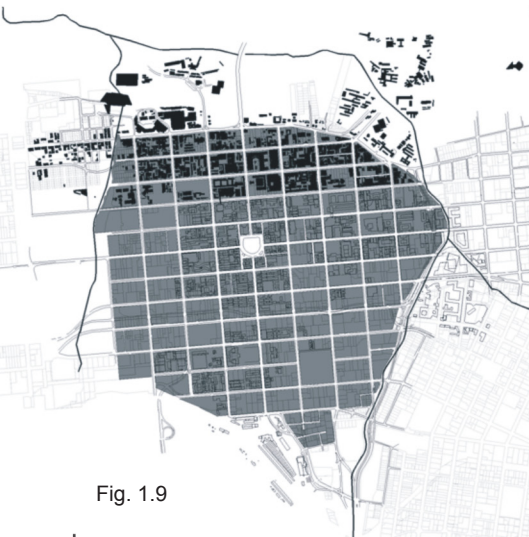


Fig. 1.9

NOLLI MAP



Fig. 1.10

OPEN SPACES

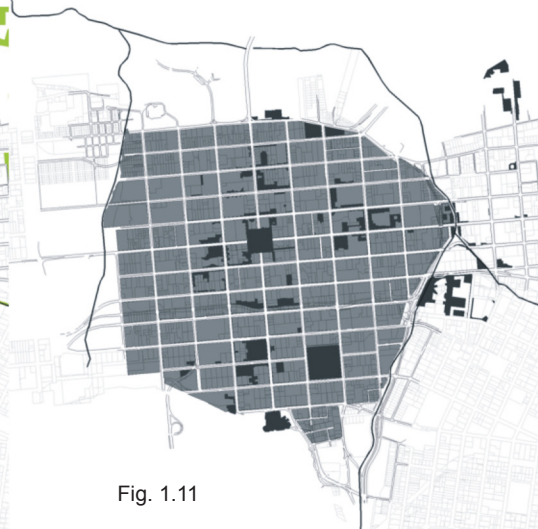


Fig. 1.11

PUBLIC SPACES

Tshwane's close proximity to major highways makes it easily accessible to the rest of the country. The N1 serves as the primary north-south connector, linking Tshwane and Cape Town to the south and Polokwane to the north.

The N4 becomes the primary east-west connector, which creates an important trading route between Gauteng and Maputo in Mozambique. The R21 is also a very integral connector as it links Tshwane with O.R Thambo International Airport.

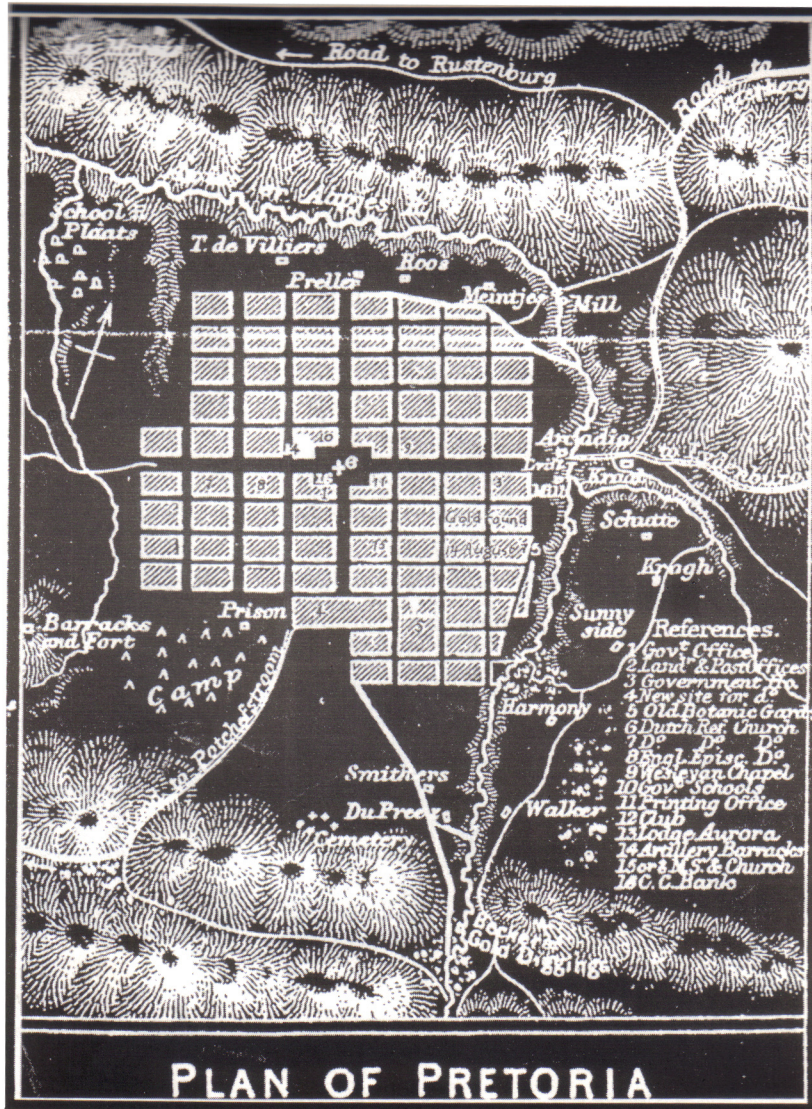


Fig. 1.12 Early map of Pretoria, 1887.

According to Holm (1998:59) Pretoria, like many other South African cities, was set out in a Westernised grid pattern. The Voortrekkers were structured people which preferred to conduct their church services and political affairs in an orderly and regulated way. Without exception they followed the same ideals in planning their settlements. These settlements were usually designed according to regular grid patterns - a model which was easily understood by both planners and users.

Pretoria was defined with the Apies River to the east and the Steenhovenspruit to the west as the natural boundaries of the settlement. These rivers encircled the town and acted much like a medieval town wall would. The centre of the town was defined by a church (hence the name Church Square) with the Roman principle of *urbs quadrata* applied in the layout of Pretoria.



This implies that the town is quartered by the intersecting cross of the *kardo*² and *decumanus*. It is at this intersecting point where the central church has been positioned. Two streets radiated from this position: Paul Kruger Street and Church Street ending at the four gateways of Pretoria. The urban grid was ordered around this central position and relates to the cosmic path of the sun as well as the entrances created by the “poorte” (entrances, openings).

According to a class discussion with Morné Pienaar the reason for the arbitrary deviation of the grid in Sunnyside is that this area was used as farmland during the formative years of the settlement. With the absence of a piped water supply, farmers had to resort to an open water channel system to irrigate their crops. These water channels were positioned perpendicular to the Walkerspruit and Apies River, resulting in the deviation of the grid.

2. The antiquated spelling of *kardo* with the letter *k* is an indication of its ancient origin. The word refers to the cosmic north-south axis. This was originally understood to be the main street, crossed at right angles by the *decumanus* running east-west. The crossing, designated by a + or x sign, standing for the figure ten or decem in Latin, hence *decumanus*. (Holm, 1998:62)

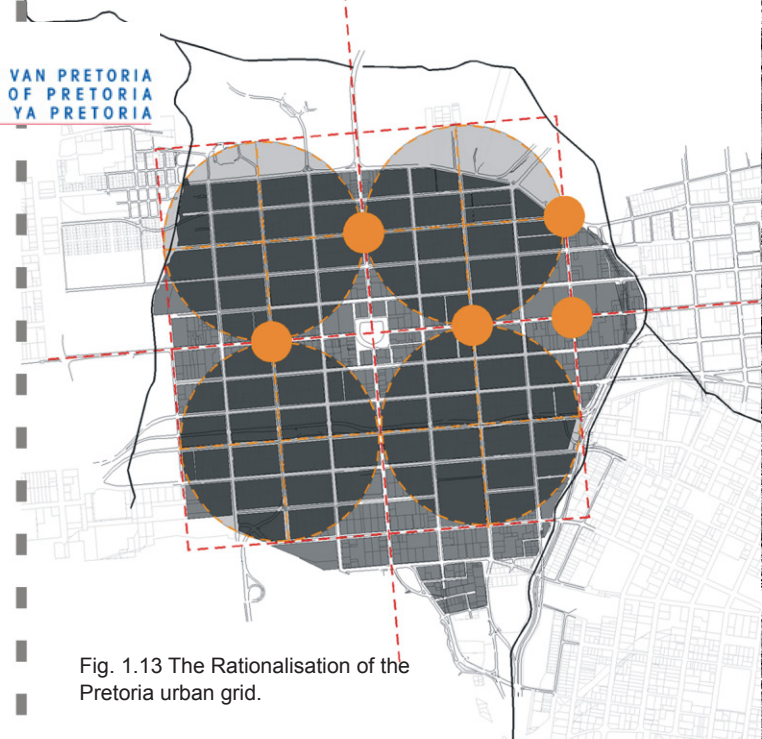


Fig. 1.13 The Rationalisation of the Pretoria urban grid.

Interestingly, if one divide Pretoria into four quarters using the *kardo* and *decumanus* that intersect in Church square, these quarters are roughly large enough to fit 1 km diameter circles within them. Where these circles touch each other and the quartered sections that it is placed within, are the locations of important Pretoria landmarks. Some of these landmarks include Church Square, the Lion bridge, Paul Kruger house, Strydom Square and the Old Synagogue. The location of the proposed site is also located on one of these intersections.



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CLIMATIC DATA

falls into the Northern Steppe climatic zone. It has distinct rainy and dry seasons, with large daily temperature variations and strong solar radiation. Humidity levels are moderate.

Temperature

Maximum average monthly temperature: 24.8 °C
Minimum average monthly temperature: 12.1 °C

Rainfall

Average annual rainfall: 380mm 700mm
Average monthly rainfall: 56mm

Wind

Summer: winds are predominantly east-north-easterly to east-south-easterly.
Winter: winds are predominantly south-westerly with a fair amount originating from the north-east.

Sun angles

Summer: 89°
Solstice: 64°
Winter: 41°

Altitude

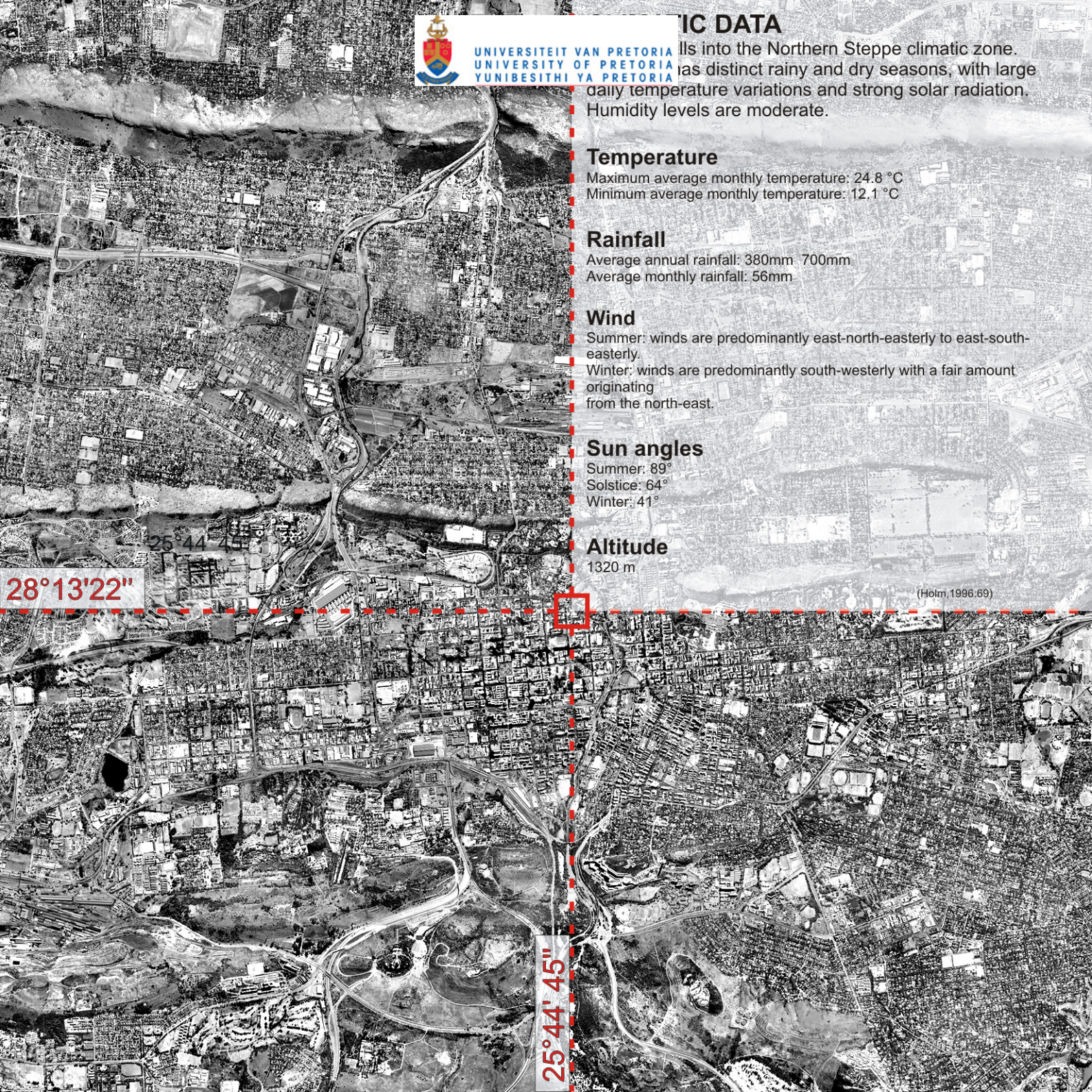
1320 m

(Holm, 1996:69)

28°13'22"

25°44'45"

25°44'45"



1.5 Site Location



The proposed site is situated in Prinshof, which is in the northern section of Pretoria's CBD. This study area is defined by Nelson Mandela drive and the Apies river in the east, Proes street in the south, Boom street in the north and D.F Malan drive in the west. Areas of interest within the study area include Belle Ombre station, the Pretoria Zoo, Marabastad, the Old Synagogue, Tshwane University of Technology, the new National Library and other civic institutions.

Through many years of neglect Prinshof has been troubled with crime, unemployment and social decay. A vast majority of businesses have moved out of this area leaving countless buildings unoccupied. A primary element defining this quarter of the city is its unstructured nature - one will find a surgery next to a motor spares dealer that is situated next to a fast food store etc.

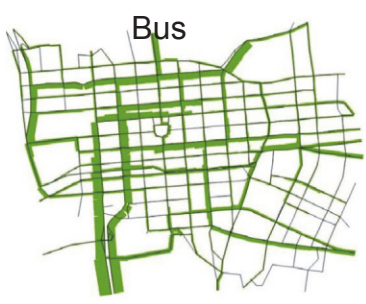
Although this specific site is still within the densely built area of the CBD, the height of the buildings from the heart of the CBD decrease drastically from 10-15 storeys to approx. 4 storeys at the periphery. This results in the area losing some of its urban qualities - it starts to feel more like an industrial neighborhood. Businesses in Prinshof comprise of vehicular repair workshops, motor spares dealers, second hand furniture stores, bargain clothing stores and small corner café's.





The informal sector within Prinshof is lively and vibrant, with most of the informal traders lining the streets running in a north-south direction (Prinsloo, van der Walt, Andries and Paul Kruger). These streets are the ones connecting the CBD with the local transport nodes, such as the Bloed street taxi rank and Belle Ombre train station.



Fig. 1.14
Pretoria Inner city showing the designated study area and important vehicular routes.

Fig. 1.15 Indicating the volume of public transport using the inner city roads



-  ENTRANCE GATEWAYS
-  MAIN VEHICULAR ROUTES
-  STUDY AREA
-  NELSON MANDELA DEVELOPMENT CORRIDOR

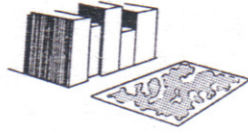


PATHS



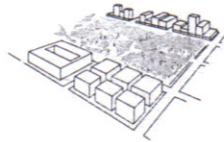
els along which the observer customarily, or potentially moves. They may be streets, walkways, transit lines, canals, railroads. For many people, these are the predominant elements in their image. People observe the city while moving through it.”

EDGES



“...linear elements not used or considered as paths by the observer. They are the boundaries between two phases, linear breaks in continuity... Such edges may be barriers, more or less penetrable, which close on region of from another.”

DISTRICTS



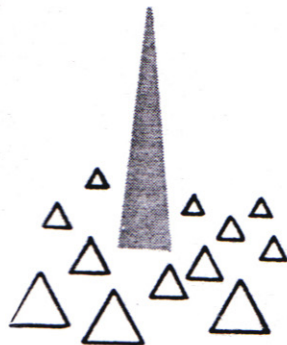
“...medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters “inside of”, and which are recognizable as having some common , identifying character.”

NODES



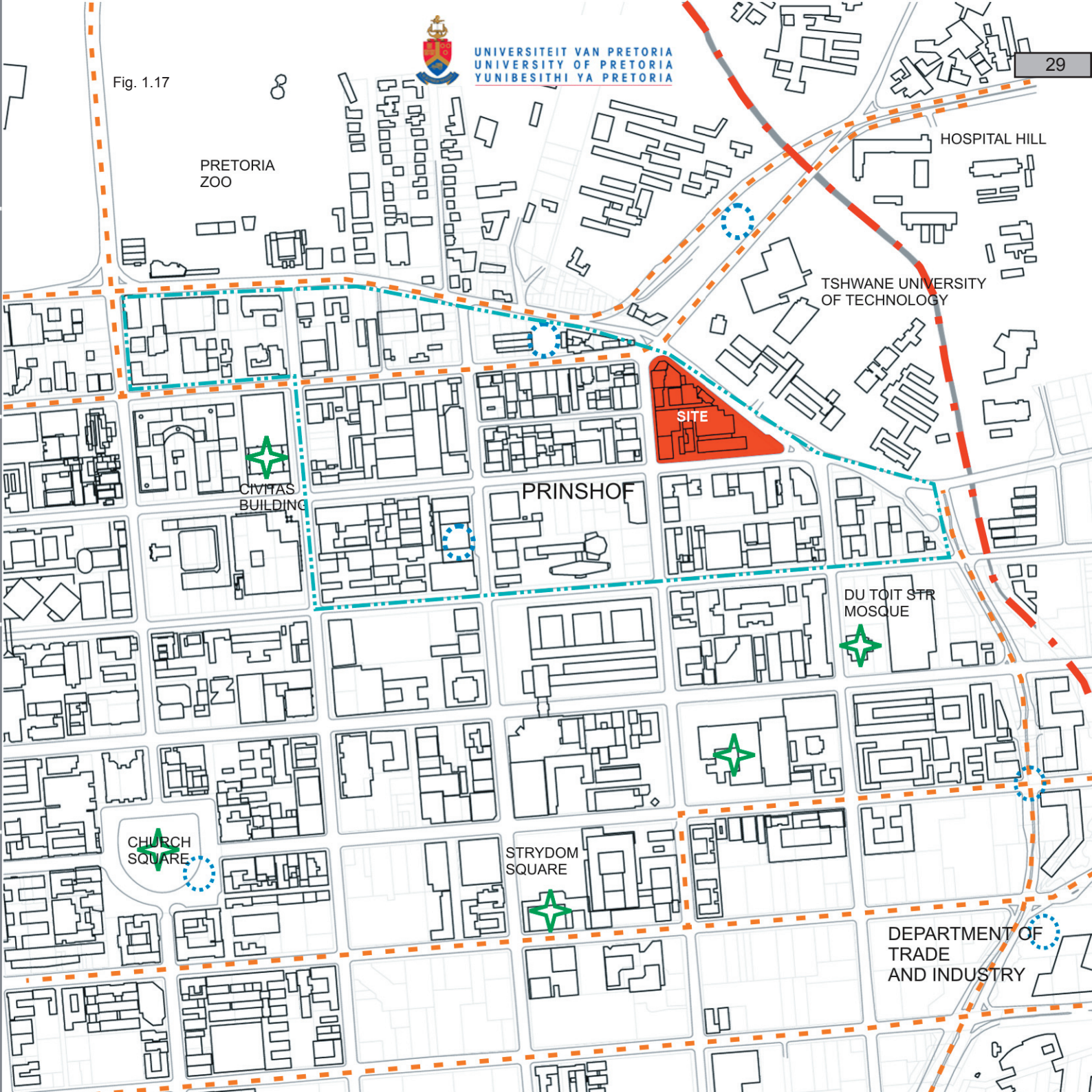
“...strategic spots in a city into which an observer can enter, and which are the intensive foci to and from which he is traveling. They may be primarily junctions, places of a break in transportation, a crossing or convergence of paths, moments of shift from one structure to another.”

LANDMARKS



“...another type of point-reference, but in this case the observer does not enter within them, they are external. They are usually a rather simply defined physical object: building, sign, store or mountain. Their use involves the singling out of one element from a host of possibilities.”

Fig. 1.17



Site

The selected site for this dissertation is situated at the busy intersection of Boom street, Bloed street, Du Toit street, Prinsloo street and Dr. Savage road. This triangular site is defined by Du Toit street to the east, Prinsloo street to the west and Struben street to the south. The site also forms part of the edge of the CBD (defined by Nelson Mandela drive and the Apies River). The site is one of the first sites that commuters come in contact with when entering the city from Mamelodi, Bronkhorstspuit and Cullinan, thus being an important gateway into Pretoria's CBD.

Building density and height within the CBD starts to fragment as it moves closer to the periphery. It is therefore important that the scale and proportions of new developments within this area correlate better with the existing structures towards the central CBD.

This will ensure a gradual increase in scale as one move towards the CBD. It will also promote a better visual connection between the CBD and its surrounding areas.

Close proximity to the Bloed street taxi rank and the Tshwane University of Technology (TUT) is vital for an entertainment based development. This ensures that an efficient amount of pedestrian movement will occur around the site, in order to create the preferred interaction.

Fig. 1.18 Aerial photograph of the proposed site and its general surroundings

Fig. 1.19 Map of site location

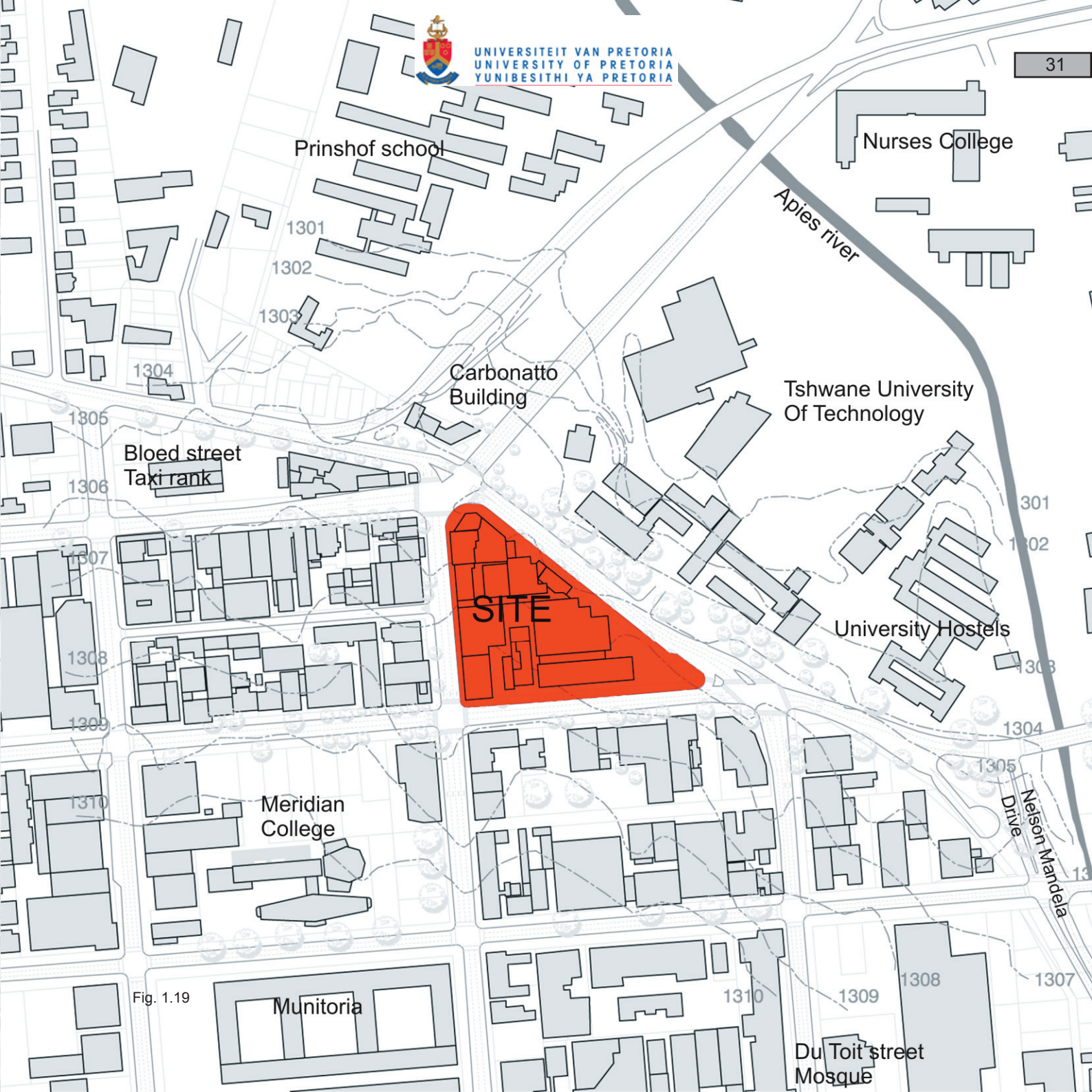


Fig. 1.19

Site Accessibility



The proposed site is easily accessible to both private and public transportation.

Important vehicular access routes to the site are:

- Nelson Mandela drive (an extension of the R21) connects the site with O.R Thambo International Airport.
- Boom street accommodates commuters from the western parts of Pretoria and Soshanguwe. Boom and Bloed street are the connectors between the site and Belle Ombre train station.
- Dr. Savage road is the incoming connector to Mamelodi, while Soutpansberg drive is the outgoing connector.

PUBLIC TRANSPORT

The site is located within 50m of the Bloed street taxi rank, making it extremely accessible to local and long-distance commuters. A vast amount of taxis pass through this area on any given day, resulting in activity levels commencing in the early morning hours and only subsiding during the evening.

In August 2007, the Bloed street taxi rank was temporarily moved to Paul Kruger street to start construction of a new transportation hub (similar to the Metro Mall in Johannesburg) on the present site. This will have great benefits for this dissertation's design proposal, as it will ensure an increase in the number of commuters traveling through this area. With the completion of the "Metro Mall" it is almost

certain that the Bloed street taxi rank will become one of the most important transport nodes in Tshwane.

Bus stops are situated along Prinsloo street connecting the site with Church Square. The site is approximately 2 km from the Belle Ombre train station which feeds the northern suburbs as well as Soshanguwe.

Because most of the public transport operates during office hours, diurnal access to the site becomes difficult. This results in the area becoming extremely busy during the day, but dies down completely during the night.

PEDESTRIAN MOVEMENTS

Most of the streets running in a north-south direction within Prinshof are important pedestrian links, as they connect the Bloed street taxi rank with the heart of the CBD. Van der Walt street is the main pedestrian connection, which is evident when comparing the amount of street trading to those on other streets. Pedestrian numbers decline from Van der Walt street to the streets toward the east and west - these east-west pedestrian movements occur mainly on Bloed street. This can directly be attributed towards the activities relating to the taxi rank. A large amount of street trading also occurs along Bloed street, due to the number of pedestrians passing by.

Fig. 1.20 Pedestrian and vehicular movements around the site



Fig. 1.20



PEDESTRIAN
MOVEMENT



PROPOSED SITE



TRANSPORT
NODES



VEHICULAR
ACCESS ROUTES

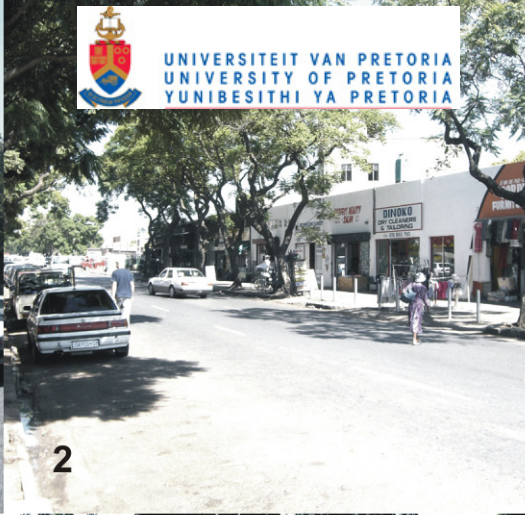




Fig. 1.21 Photographs of the site and its surroundings

Fig. 1.22 Key map of photographs



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Fig. 1.23 Panoramic view of the site and the intersection. This image explains the visual importance the site already has through the display of large merchandise boards on the corner of the existing building



Fig. 1.24 Panoramic view of the site from Du Toit street



Fig. 1.25 Panoramic view of site from Boom street.

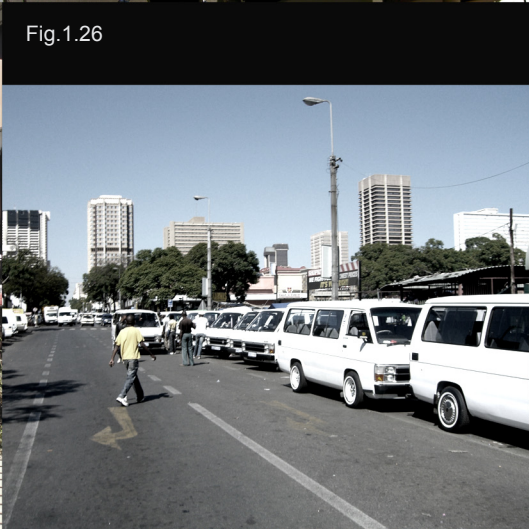


Fig. 1.26

SITE ACTIVITIES



AUTOZONE BUILDING

TPOLOGY: Double storey Light-industrial warehouse building

MATERIALS: Plastered brick structure, painted, corrugated iron roof, reflective glazing. Pre-cast concrete gutters

CONDITION: Good

FUNCTION: Automotive spares retailer and workshop

OCCUPATION: 100% Occupied



- this is a truly beautiful street, lined with lush old London Plane trees. However, this image is tarnished by vehicles lining the sidewalks waiting to be repaired. Spare parts are scattered across the sidewalks while motor-oil seeps into the ground, completely discouraging any pedestrians to walk past.

TV 2 MOTOR SPARES

TPOLOGY: Double storey Commercial building

MATERIALS: Plastered brick structure, corrugated iron roof, Glazing covered with advertisements

CONDITION: Fair

FUNCTION: Automotive spares retailer

OCCUPATION: 100% Occupied



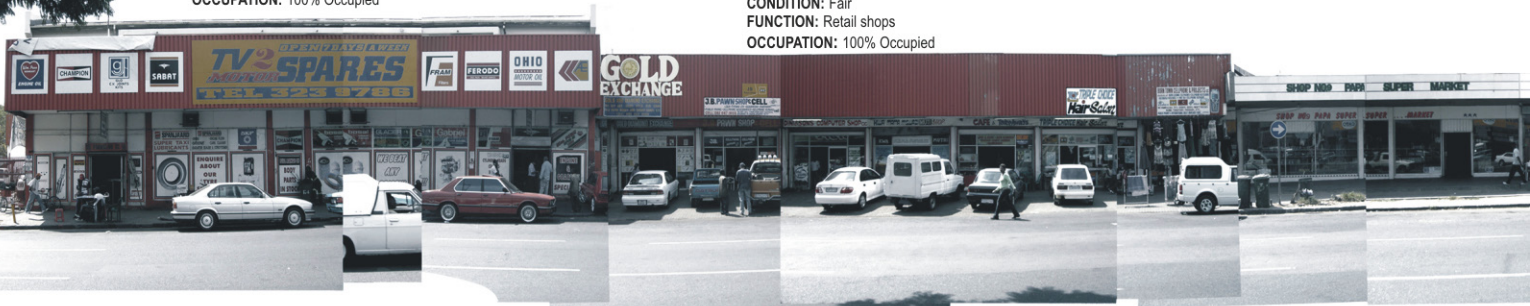
TPOLOGY: Single storey Commercial building

MATERIALS: Plastered brick structure, corrugated iron roof, glazing covered with advertisements

CONDITION: Fair

FUNCTION: Retail shops

OCCUPATION: 100% Occupied



- retail occurs mostly along Prinsloo Street. This is emphasised by the large amount of merchandise signage on the corner of the TV2 spares store. Due to the lack of sufficient buying power caused by the lower-income community, these stores have become increasingly rundown.

TV 2 WAREHOUSE

TYPOLOGY: Single storey Light-industrial warehouse building

MATERIALS: Plastered brick structure, painted, corrugated iron roof, metal roller garage doors

CONDITION: Fair

FUNCTION: Automotive spares warehouse

OCCUPATION: Unoccupied

Fig. 1.27 Elevation of Du Toit street showing the state of the buildings and activities happening in the street.



The Tshwane University of Technology's art campus is situated in Du Toit street. The campus currently accommodates \pm 1 800 students, and presents courses ranging from Fine Arts and Performance Art to Film and Photography.

To accommodate the large amount of long-distance taxi drivers waiting in this area, local street vendors line Du Toit street preparing meals. These vending stalls stand next to the oil-drenched soil created by the repaired vehicles. This is an extremely unhygienic situation and provision should be made to accommodate them somewhere else.

TYPOLOGY: Single storey Commercial building

MATERIALS: Plastered brick structure, corrugated iron roof, glazed shopfront

CONDITION: Fair

FUNCTION: Retail shops

OCCUPATION: 100% Occupied

TYPOLOGY: Single storey Commercial building

MATERIALS: Plastered brick structure, corrugated iron roof, Glazed shopfront, covered sidewalk

CONDITION: Poor

FUNCTION: Retail shops

OCCUPATION: 90% Occupied



Fig. 1.28 Elevation of Prinsloo street and its activities.



TPOLOGY: Single storey Commercial building

MATERIALS: Plastered brick structure, corrugated iron roof, glazed shopfront, covered sidewalk

CONDITION: Poor

FUNCTION: Retail shops

OCCUPATION: 90% Occupied

TPOLOGY: Single storey Commercial building

MATERIALS: Concrete frame structure with brick infill, corrugated iron roof, painted glazing

CONDITION: Poor

FUNCTION: Restaurant and sports bar

OCCUPATION: 100% Occupied

OZ AUTOBODY AND MECHANICS

TPOLOGY: Single storey Light-Industrial building

MATERIALS: Brick building, corrugated iron roof, glazed shopfront

CONDITION: Poor

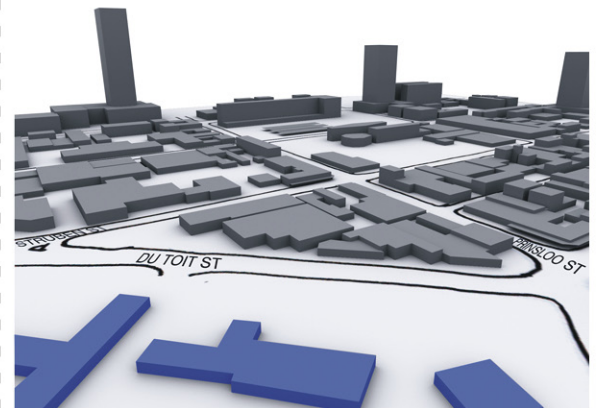
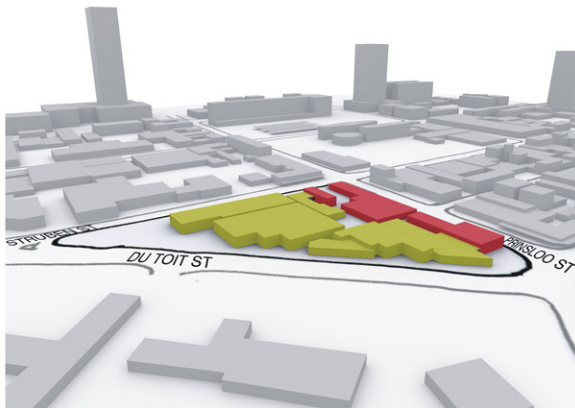
FUNCTION: Automotive Mechanics

OCCUPATION: 100% Occupied



- Struben street is relatively quiet compared to the other two streets. The reason for this calm environment is the lack of attractions, as some street vending activities occur closer towards Prinsloo street. Vehicle repairs are however also present in Struben Street.

LAND USE





AUTOZONE BUILDING

TYPOLOGY: Double storey Light-industrial warehouse building

MATERIALS: Plastered brick structure, painted, corrugated iron roof, reflective glazing, pre-cast concrete gutters

CONDITION: Good

FUNCTION: Automotive spares retailer and workshop

OCCUPATION: 100% Occupied



Fig. 1.29 Elevation of Struben street



Institutional



Industrial



Commercial



Residential

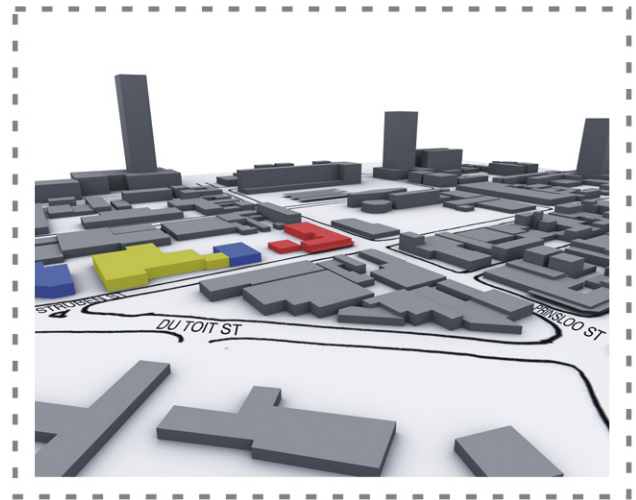
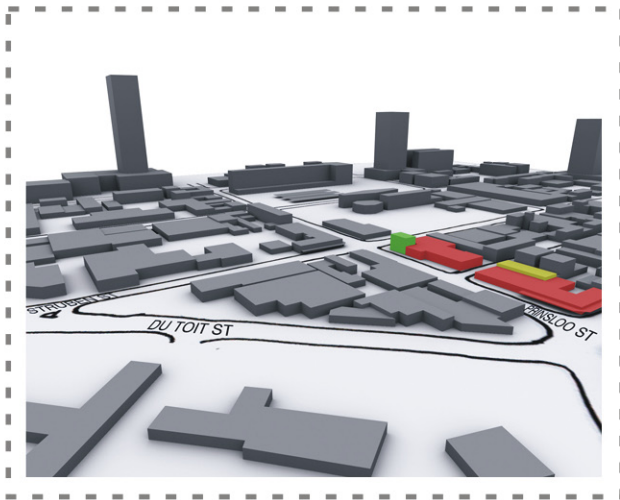


Fig. 1.30 Current land use of the site

1.6 Site Opportunities



- Opportunities
- Creating public spaces
 - Integration of formal and informal trading
 - Diversification of activities within the area
 - Increasing the permeability of city blocks
 - Densification of the Prinshof area
 - Increase residential densities
 - Increased economic activity due to the increase in taxi commuters
- Constraints
- Scarce public green spaces
 - Security low due to poor police coverage
 - Low-income community
 - Illegal trading
 - Low maintenance of infrastructure and services
 - High investment risk



Fig. 1.31 Aerial photograph of the proposed site in the 1950's