

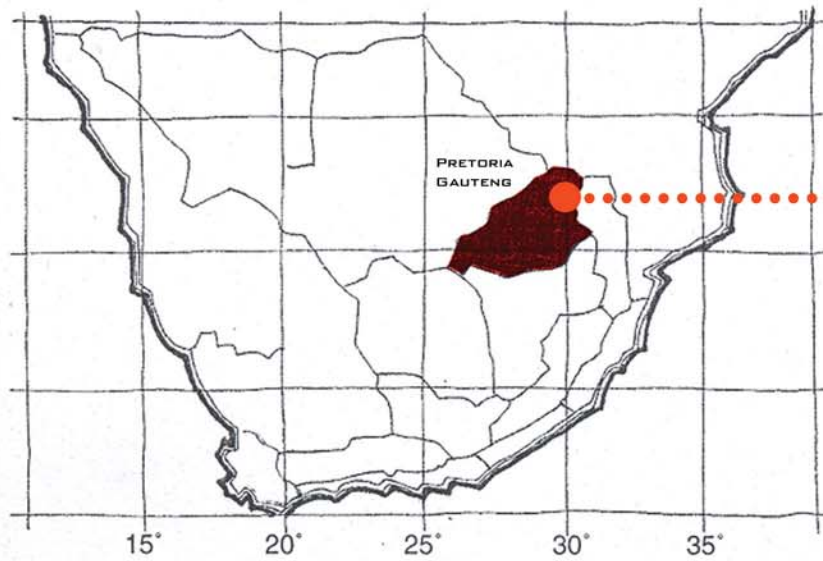


UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

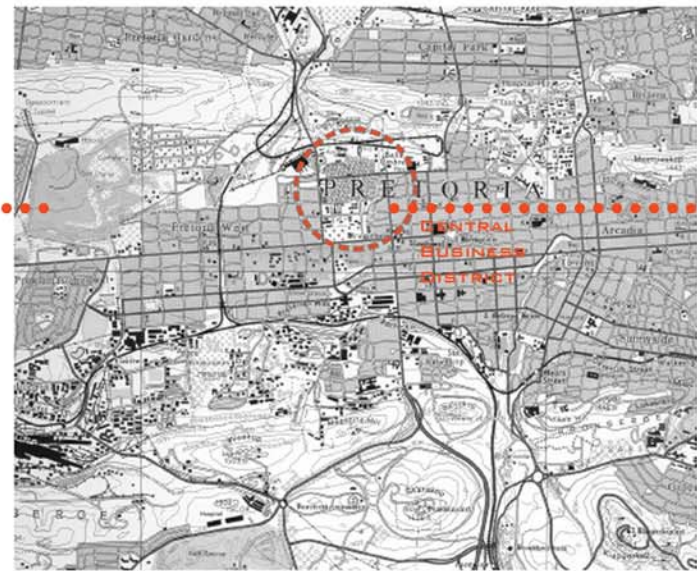
## Chapter 2

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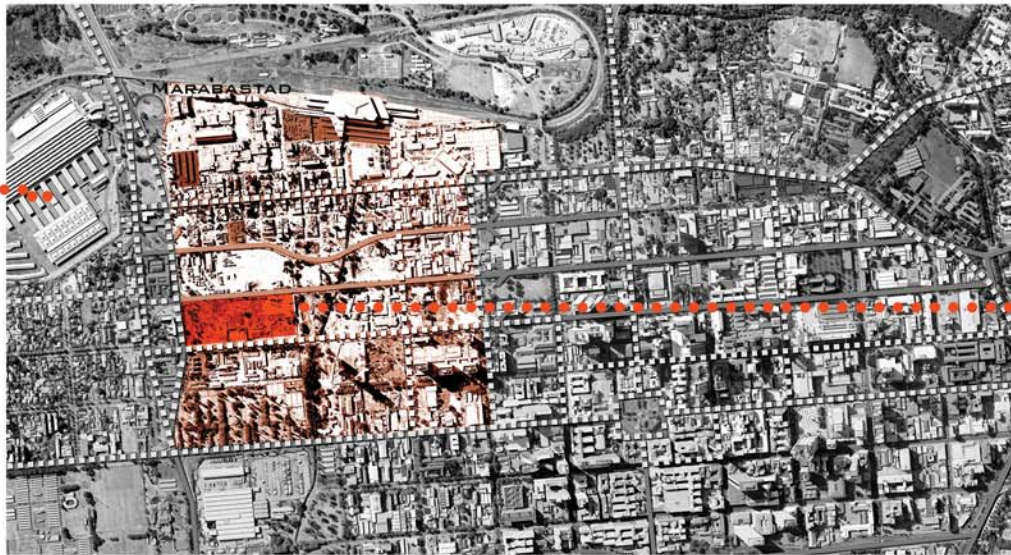
CONTEXT STUDY



**01** GAUTENG PROVINCE, REPUBLIC OF SOUTH AFRICA,  
*GEOLOGICAL SURVEY: 1970*



**02** PRETORIA CENTRAL BUSINESS DISTRICT,  
*GEOLOGICAL SURVEY: 1970*



03 MARABASTAD STUDY AREA,  
DEPARTMENT OF GEOGRAPHY : 2007, EDITED BY THE AUTHOR

### Marabastad Strategic Development Study Area

The smaller grid of Marabastad as an echo of the larger scale grid typical of the Pretoria Central Business District (Hereafter referred to as CBD)

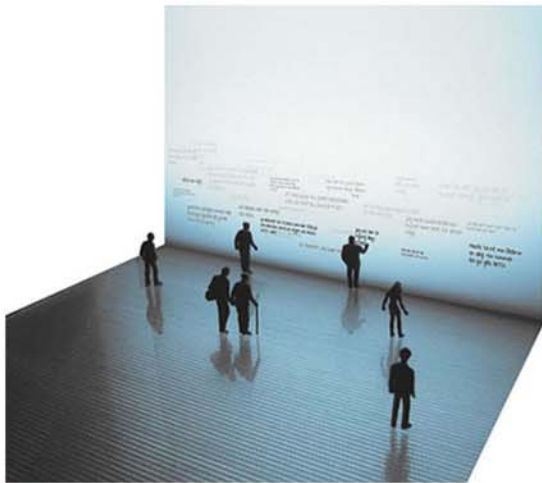


04 AERIAL PHOTO,  
DEPARTMENT OF GEOGRAPHY : 2007, EDITED BY THE AUTHOR

### Proposed Site within the Marabastad Study Area

**Pretoria Extension 14**  
Consisting of two erven numbered 3525 and 3526  
Situated on Portion 500 (A portion of portion 6)  
of the farm Pretoria Town and Townlands No. 351-JR

## 2.1 Project Location



05 DIGITAL MILE, ZARAGOZA  
MIT:2006





At one stage Marabastad was the setting for vibrant community life. The 1940 forced eviction of the entire residential population and large part of traders from the area have resulted in the annihilation of most of the community structures. Only a small portion of traders remained. The *freeze* imposed on Marabastad over the past four decades has left the area degraded and shunned by most of Greater Pretoria. The traders survive on people passing through Marabastad, today a major public node, to outlying regions. (Aziz Tayob Architects:2002:65)

The community of Marabastad is woven together with an invisible thread of diversity. There is a constant mobility existing amongst the sidewalk retail and scattered stalls accross Marabastad. It is this variable nature of Marabastad that promotes architecture of multi-functionality and adaptability.

The aim of this dissertation is to provide Marabastad with a multi-sport centre with alternating levels of use and activity. Not just the top athlete, but all interested persons will benefit as exposure to many different games and sport will enhance their knowledge, skills and lifestyle. Through kinetic architecture the structure adapts to Marabastad's shifting nature. The centre serves schools within the Pretoria CBD, sport clubs and members of the public, constantly reshaping to cater for different needs. The centre is equipped with the necessary facilities to host practise sessions for teams taking part in the *2010 Soccer World Cup* with ample space for fans and sport enthusiasts. This feeds off the established transport infrastructure that defines Marabastad.

Inhabiting lost space within the urban fabric creates a site or destination for Marabastad dwellers to either partake in or watch the ongoing events, drawing the vibrant diversity of Boom Street towards the existing under utilised zone in the south, reinforcing the crumbling community structure. The building itself becomes a display case for sport, simultaneously creating awareness and intrigue. It can be described as a **Centre for Illustrated Sports**. The aim of this study is to create a complex where Marabastad inhabitants can actively express their vibrant nature through physical activity.





07 VEHICULAR MOVEMENT IN PRETORIA CBD  
MARABASTAD GROUP FRAMEWORK. UP : 2007



The study area, known as “Marabastad”, lies in the metropolitan area of Tshwane, a metropolitan municipality established in 2001. Within Tshwane, Marabastad forms part of the Inner City of Pretoria, and specifically forms the north-western corner of the Inner City.

The *Integrated Spatial Development Framework for the Pretoria Inner City (1999)* describes Marabastad as a specific functional area\*, which is in turn subdivided into northern and southern sub-functional areas. It describes Marabastad as “an area of great uncertainty regarding planning and future land use within the inner city.” (Aziz Tayob Architects:2002:65)

\*The identification is difficult to define because of the turbulent history of the area coupled with the current occupants.



The urban fabric of Marabastad reflects extreme contrasts; from the intimate scale of the original fine grained environment, over large scale tracts of wasteland to harsh structures of oversized mass. (Aziz Tayob Architects:2002:87)

The proposed site previously hosted municipal compounds and a bowling club. Both have been demolished. It hasn't carried any built form for 40 years except for a now vacant car repair workshop on Erf 3526. Erf 3525 is currently being used for the dumping of building material. It is a underutilized zone creating a **physical barrier** to the west, along with the two high traffic *DF Malan Drives* prohibiting pedestrian flow. To the south the *Heroes' Acre Cemetery* also cuts the area off of any connection with the important Church Street. The rest of the area is cordoned off by the strong railway line of the *Belle Ombre* station to the north and the *Steenhoven Spruit* that has been formalised in a concrete storm water canal to the east.

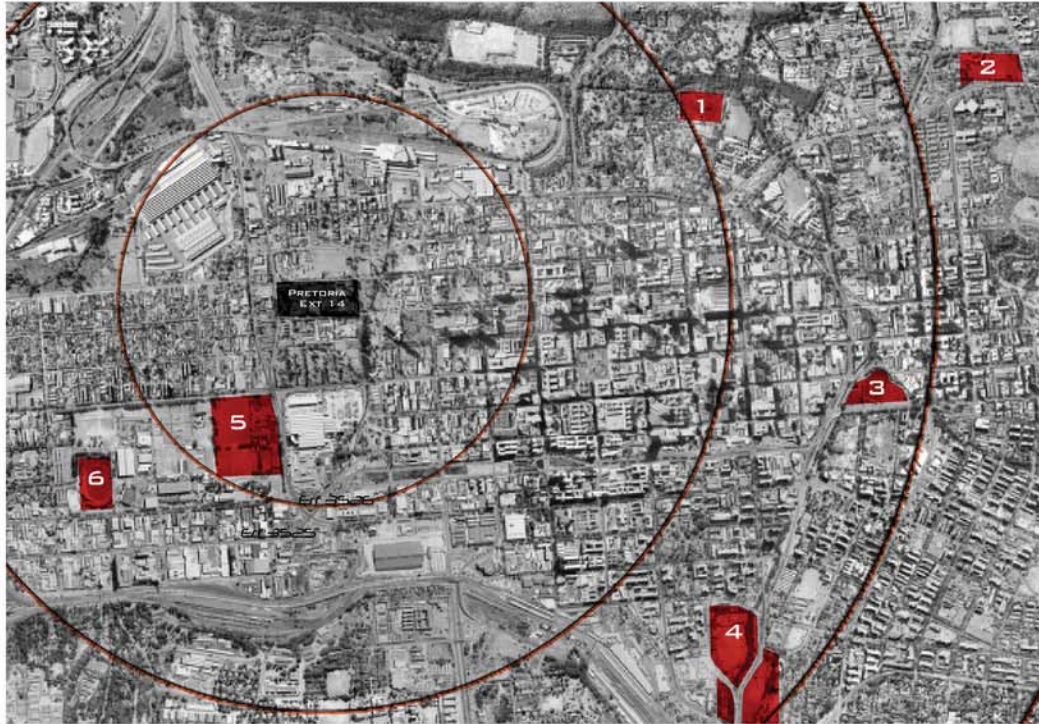
These barriers need to become permeable in order to restore Marabastad to a positive living and gathering area and re-discover it in the greater CBD context.



**08 EXISTING BARRIERS**  
MARABASTAD GROUP FRAMEWORK. UP : 2007

### 2.3.1 EXISTING BARRIERS

## 2.3 Macro Scale



**09 PROXIMITY OF EXISTING SPORTSGROUNDS IN PRETORIA CBD TO THE PROPOSED NEW COMPLEX**  
AERIAL MAP FROM DEPT. OF GEOGRAPHY UP EDITED BY AUTHOR

Existing sports grounds identified in the CBD area and the sport they accommodate:

1. *Oudstude Unie Sports Grounds* - cricket, rugby, swimming, golf, hockey & tennis
2. *Technical College Sports Grounds* - rugby, swimming, tennis & golf
3. *Caledonian Sports Grounds* - soccer
4. *Berea Park* - golf, soccer, rugby, swimming, tennis, cricket & hockey
5. *Iscor Club* - tennis, hockey, rugby, golf & squash
6. *Pilditch Stadium* - athletics  
(Mapstudio:2006)

Most of these facilities belong to specific clubs or institutions and are not open to members of the public. The *Caledonian Sports Grounds* functions as a soccer field for tournaments on weekends, but doesn't see much action during the week. Major athletic tournaments are held at the recently upgraded *Pilditch Stadium*. The show grounds situated between *Pilditch Stadium* and *Iscor Club* is to become a World Class Conference and Expo Centre, which will result in *Iscor Club* being turned into an elitist club of excellence.\* (Aziz Tayob Architects:2002:86)

\* Information obtained from discussions with representatives from the local authorities

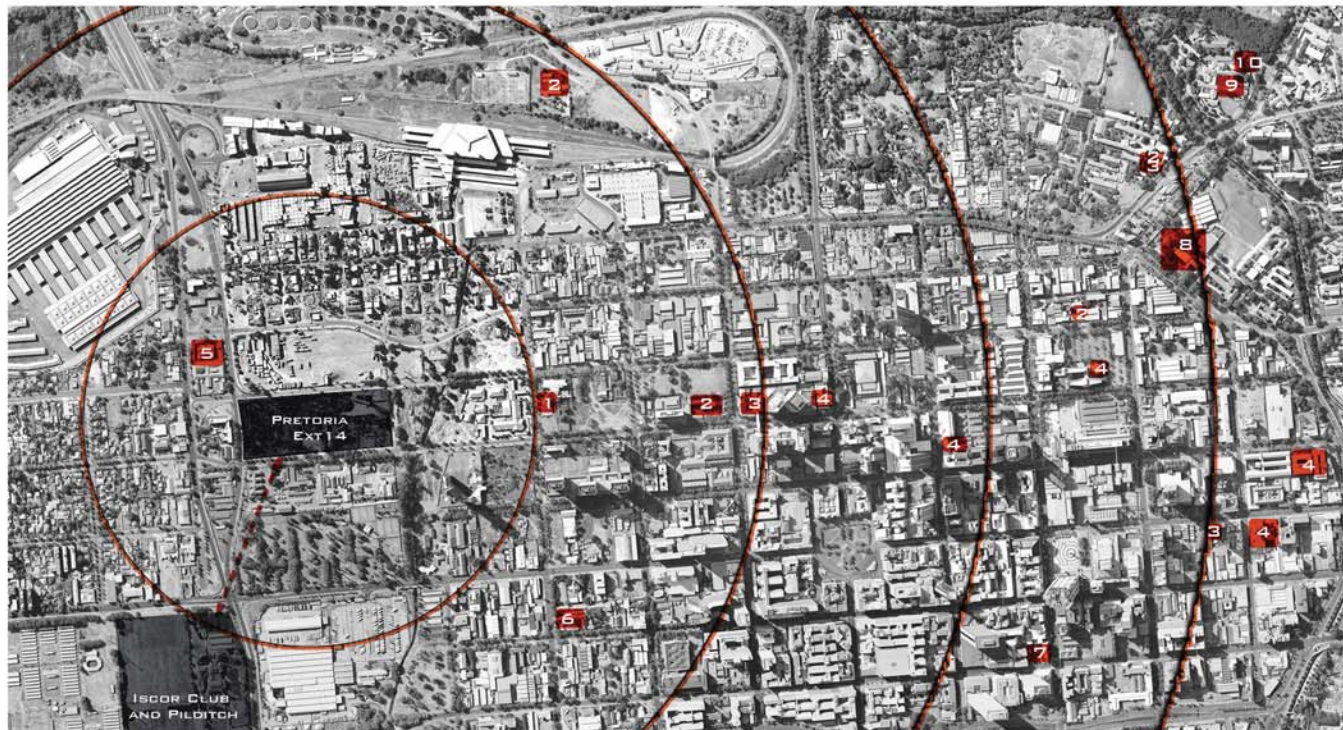
\* Circle lines indicate 500m intervals (6 minute walking distances) from the proposed site



A study on **existing schools** within a 10 block radius of Marabastad indicate:

1. 2 preschools: Nawab Daycare Centre  
Kidicol
2. 6 public and 3 private primary schools
3. 2 public and 6 private secondary schools
4. 5 colleges: Pretoria Technicon College  
New Dawn College  
Tshwane North College  
Meridian College  
Princess Park College
5. 2 Pretoria Technicon campuses
6. Lorento Convent
7. Vista University
8. DAMSA
9. School for Cerebral Palsied
10. Pretoria Hospital School

Close by, the Eendracht Primary and Langenhoven Secondary Schools (North-West of the inner city) serve the Kruger Park and Schubart Park flats. The *Protea College for Adult Education* on the corner of Proes and DF Malan East is privately run and offers private courses in business and administrative fields. The *Talking Beads Academy* is a centre for crafts training the unemployed and has a shop where crafted products are sold.

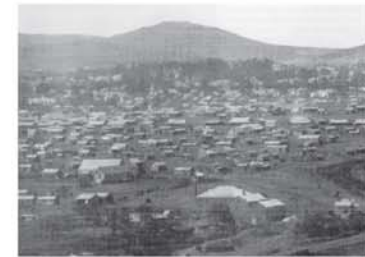
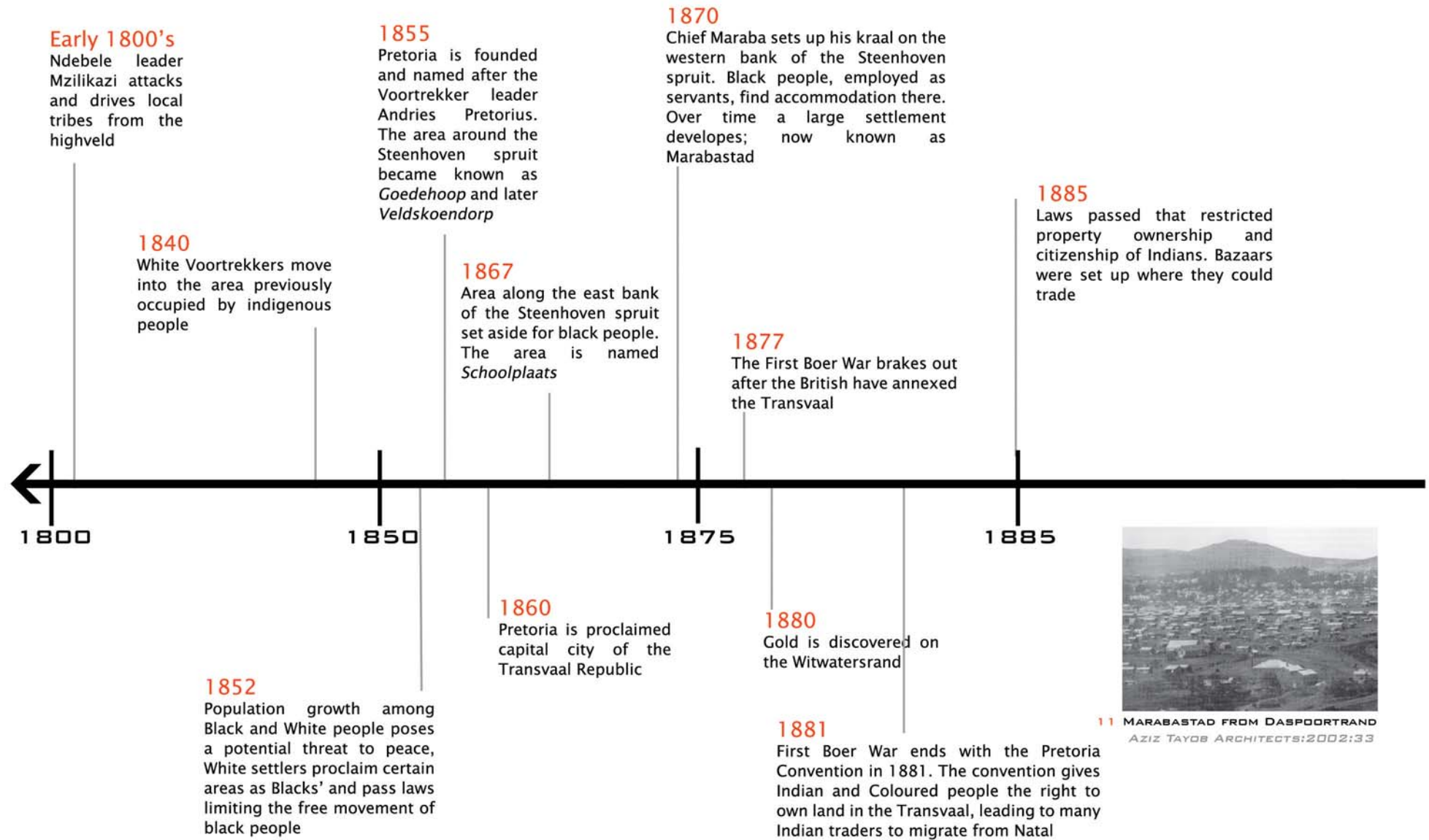


10 EXISTING SCHOOLS IN PRETORIA CBD AND THEIR PROXIMITY TO THE PROPOSED SITE \*  
AERIAL MAP FROM DEPT. OF GEOGRAPHY UP EDITED BY AUTHOR

\* Circle lines indicate 300m intervals (4 minute walking distances) from the proposed site

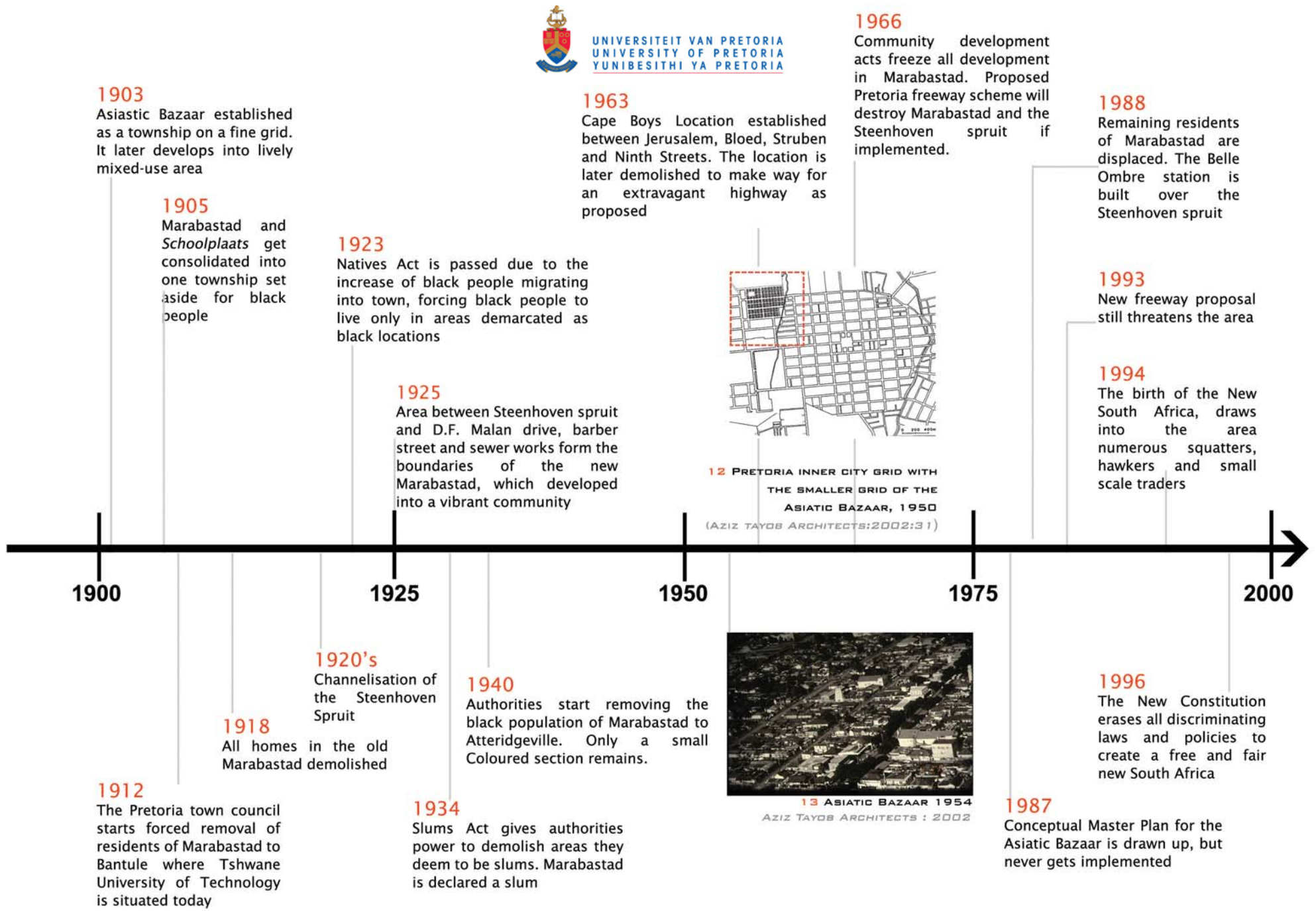
## 2.3.2 SITE ACCESSIBILITY

### 2.3 Macro Scale



11 MARABASTAD FROM DASPOORTRAND  
AZIZ TAYOB ARCHITECTS:2002:33





### 2.4.1 HISTORICAL TIMELINE OF MARABASTAD





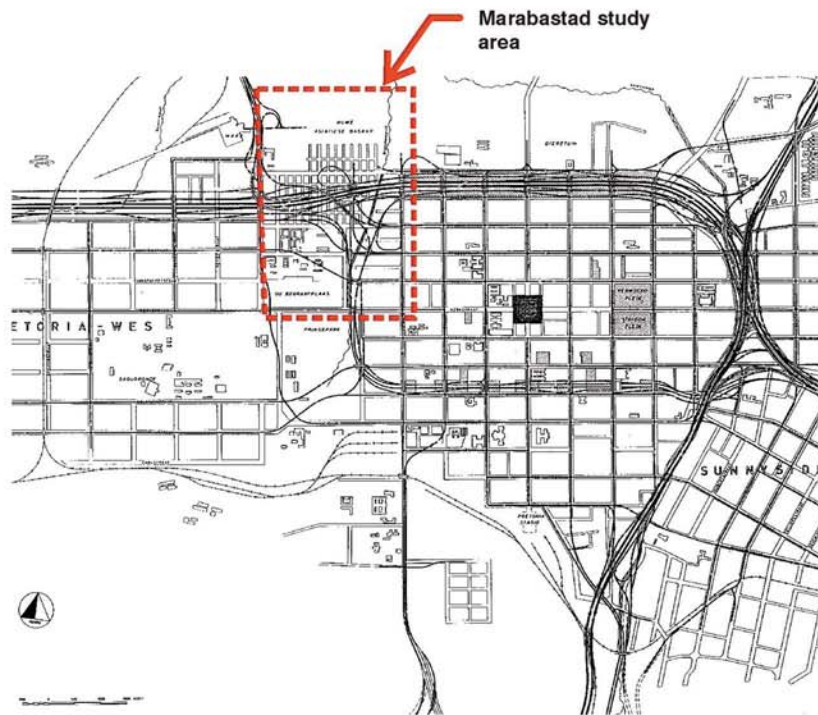
14 MARABASTAD AERIAL PHOTOGRAPHS  
AZIZ TAYOB ARCHITECTS:2002

The reasons for site selection come to light when it is recognised that the gaps left in the city by its political history. The specific site, Pretoria extension 14 of Erf 500, is a remainder of a piece of MW Pretorius's old farm Daspoort on which Pretoria was established on 16 November 1855. (Aziz Tayob architects:2002:29) It has been lying dormant since the 1950's and only the remains of an old bowling club are visible on the corner of Cowie and Proes Streets.



15 EXISTING URBAN FABRIC  
AZIZ TAYOB ARCHITECTS:2002





**16 1967 FREEWAY PROPOSAL**  
BRUNETTE KRUGER STOFFBERG & HUGO:1967



**17 INTERCHANGE OVER THE ASIATIC BAZAAR**  
BRUNETTE KRUGER STOFFBERG & HUGO:1967

Based on a **Freeway proposal** for Pretoria in 1967, the site was to become part of a major circulation system giving access to the city via an interchange over the Asiatic Bazaar. (Bruinette, K.E. 1967) This seems to be the reason for the irregular site subdivision of Pretoria Ext 14 into Erven 2325 & 2326. All the existing structures had already been demolished when the idea was dropped. After that no action followed and the plot was forgotten along with Marabastad.

## 2.4.2 A VISUAL HISTORY OF MARABASTAD



**18 PROPOSED HERITAGE ROUTE**

AERIAL PHOTO EDITED BY THE AUTHOR

A green corridor in addition to a historical route is proposed in an attempt to integrate the once marginalised Marabastad into Pretoria. The **heritage route** proposed in the *Aziz Tayob Architects framework* will be expanded to become a tourist attraction and activity route. The route runs from Church Square west along Church Street and turns north through Heroes' Acre cemetery. From here it travels further north past the proposed *Centre for Illustrated Sports* along Jerusalem Street, past the Miriammen Temple (1927) all the way up to the produce market where it turns east towards the station, and continues past the Islamic mosque and the Old Empire Cinema recently revamped.

Then the route travels down and east along Boom Street, passing hundreds of informal trading stands that add to the identity of the area. From here the route travels south along the landscaped Steenhoven Spruit. It meanders past educational and community centres, centres for recreation, a pub or two and even a story box for the kids. A network of public squares and green areas will create opportunities for market activities. It finally spills out onto Church Street where visitors can board the new tram for the final Pretoria experience.



1. HEROES' ACRE CEMETERY



2. TALKING BEADS ACADEMY



3. YOUNG ADULTS TRAINING



4. KRUGER PARK RESIDENCE



5. SEPARATED FORM PTA CBD



Remaining buildings with significant **heritage** value in the area would be the Miriammen Temple, a former national monument (Grade 1). (*Aziz Tayob Architects:2002:161*) Furthermore, the Islamic Mosque, Pillay's Restaurant and along Church Street West, the Kruger House Museum, Reformed Church and Heroes' Acre cemetery can be found. Also worth a visit is the Orient and Empire Cinemas.

A proposed **green corridor** along the Steenhoven Spruit will improve the ecological functioning of the stream and also serve as infrastructure to public activities and circulation. This green belt will extend from the remainder of Princess Park in the south (creating a link with Church Street) to the electrical substation in the north, enabling the integration of Marabastad into the greater urban fabric.

19 MOMENTS PHOTOGRAPHED IN MARABASTAD  
PHOTOS TAKEN BY THE AUTHOR : MARCH 2007



6. MIRIAMMEN TEMPLE



7. ISLAMIC MOSQUE



8. ORIENT CINEMA

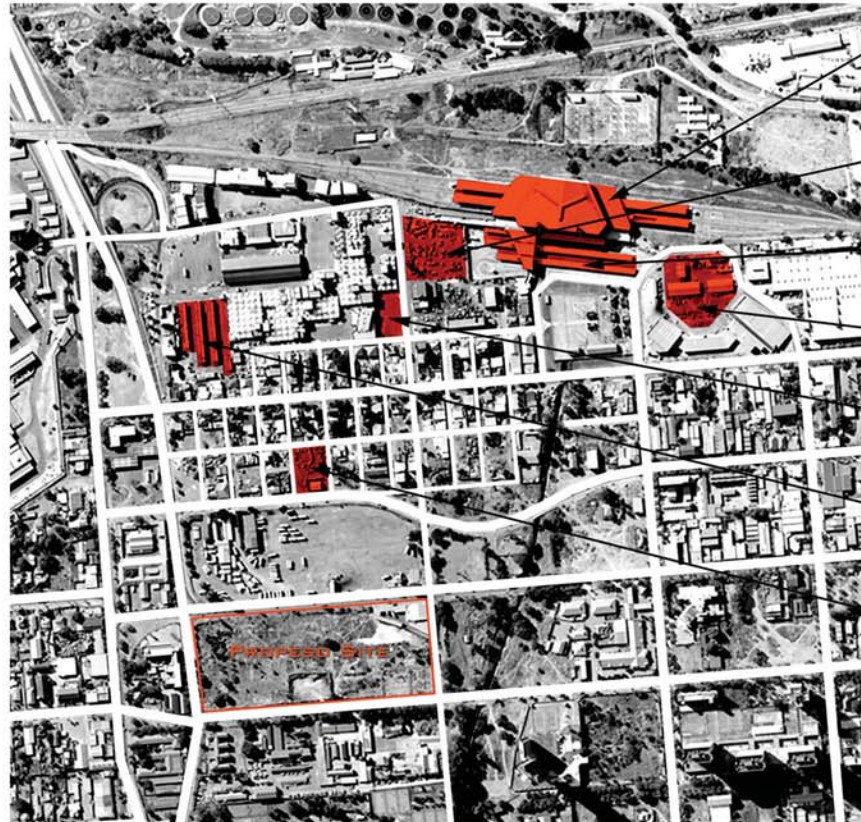


9. SIDEWALK TRADING



10. STEENHOVEN SPRUIT

### 2.4.3 THE RICHNESS OF MARABASTAD



**RAIL: BELLE OMBRE**  
24000 PASSENGERS / DAY

**TAXI: BAZAAR STREET**  
3500 PASSENGERS / DAY

**BUS: BELLE OMBRE**  
9000 PASSENGERS / DAY

**TAXI: BELLE OMBRE**  
700 PASSENGERS / DAY

**TAXI: 7TH STREET**  
500 PASSENGERS / DAY

**BUS: MARABASTAD**  
12000 PASSENGERS / DAY

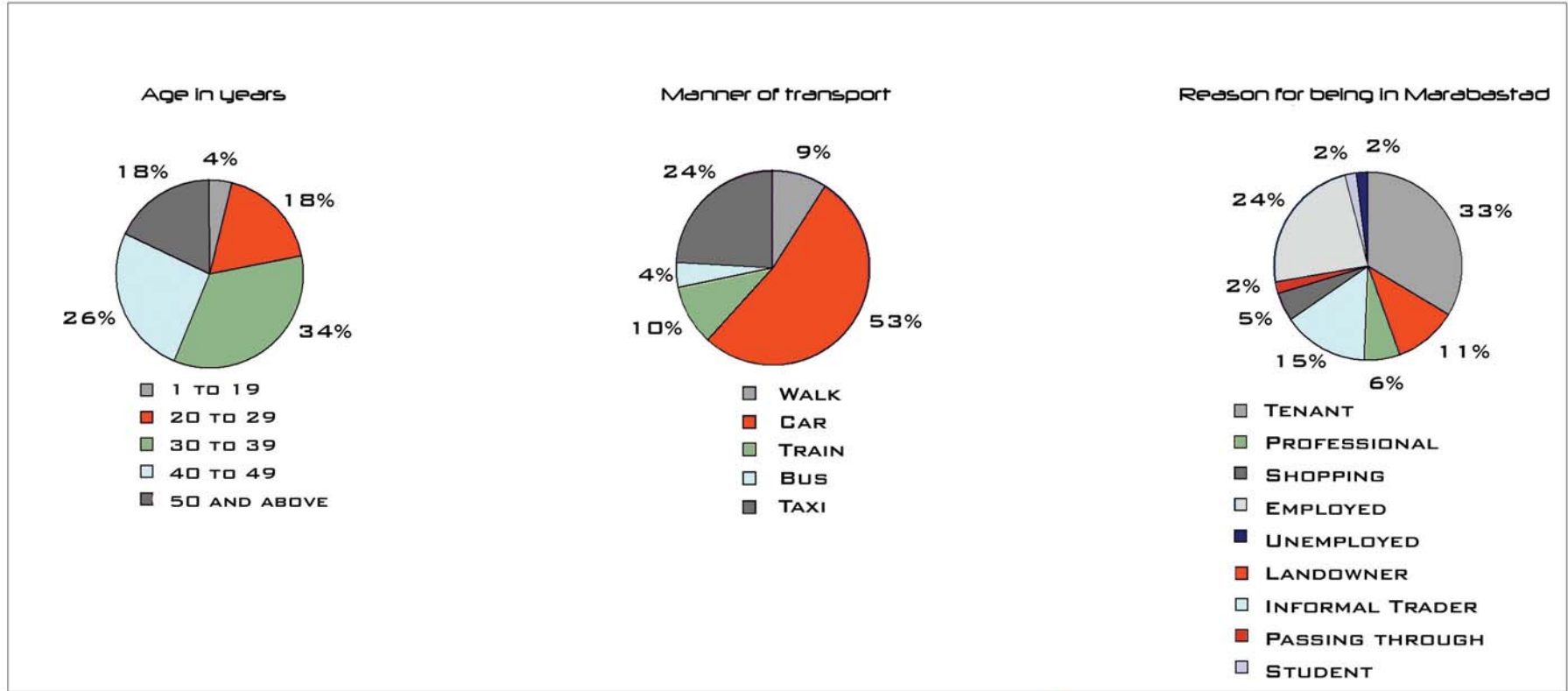
**TAXI: JERUSALEM STREET**  
3500 PASSENGERS / DAY

**20 MARABASTAD INFRASTRUCTURE**  
MARABASTAD GROUP FRAMEWORK, UP : 2007

The Belle Ombre railway station serves commuters between the CBD and the settled townships on the outskirts of Pretoria. Inside Marabastad no formal taxi ranks are provided and taxi traffic operates on ad hoc arrangements. Given the existing concentration of public transport facilities in Marabastad and the volumes of commuter traffic, much pedestrian traffic is generated between the terminals for the various transport nodes, especially between Marabastad and the workplaces in the CBD. The aerial photographs indicate clear footpaths, especially along the Steenhoven Spruit, which reveals major pedestrian circulation occurring from the Belle Ombre station along the watercourse to the main streets feeding into the city.

## 2.4.4 INFRASTRUCTURE





21 MARABASTAD SOCIAL BEHAVIOUR - GIS SPATIAL DATA  
STATISTICS SOUTH AFRICA:2003

A public survey was done as part of the Urban Framework for Marabastad. Sixty-nine inhabitants of the area had to fill out a questionnaire to see what their interest in and experience of the area was. Considering the time that people have spent in Marabastad, the distance they travel to get there (more than 43% of people travel longer than 45minutes) and the interest that there is to stay or own land in the area, the conclusion can be made that there is a degree of loyalty and commitment towards Marabastad by its users. (Aziz Tayob Architects:2002:139-146)

## 2.4.5 SOCIAL ANALYSIS

### 2.4 Messo Scale



**22 PROPOSED URBAN FABRIC**  
MARABASTAD GROUP FRAMEWORK UP:2007

The framework, within which this dissertation is set, is a combination of the existing Marabastad area and a revision of the **Integrated Urban Design Framework for Marabastad** (*Aziz Tayob Architects in association with Meyer, Pienaar, Tayob Partnership Architects and Urban designers:2002*). This is done to accommodate proposed dissertations set within the Marabastad context.

The main aim is to weave together the diverse strands of social, economic, legislative and physical environments within Pretoria CBD. (*Aziz Tayob Architects:2002:3*) The cavity left by the political history needs to be filled with an environmentally sustainable development with human beings at the centre of concerns. (*Aziz Tayob Architects:2002:22*) It needs to be reinstated within the Pretoria central business district as a tourist attraction, visited for its unique vibrance and richness in historical memory.

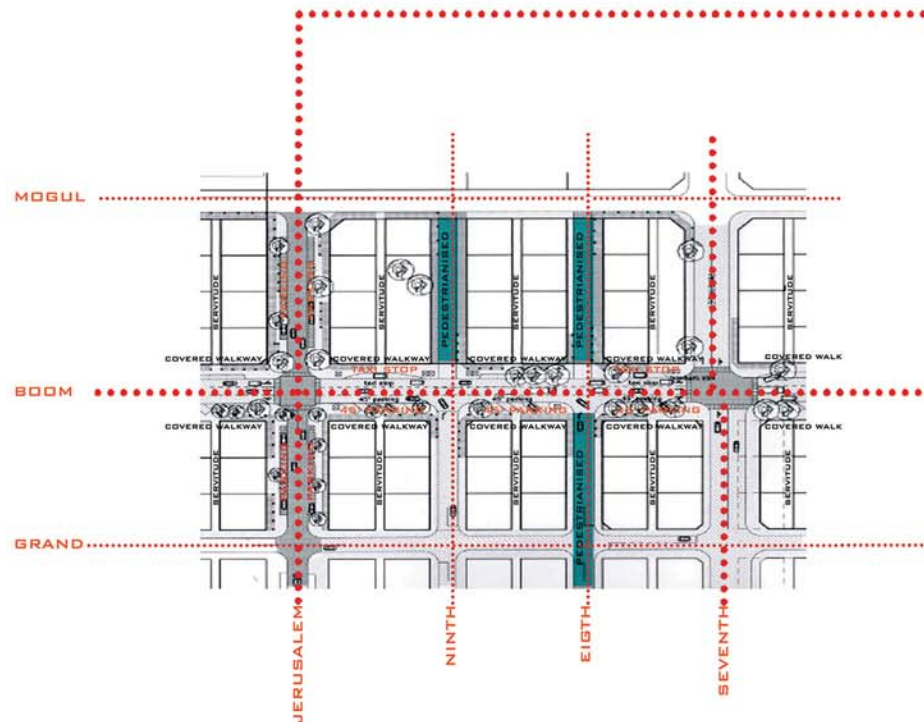
CHURCH  
SQUARE

## 2.4.6 MARABASTAD FRAMEWORK

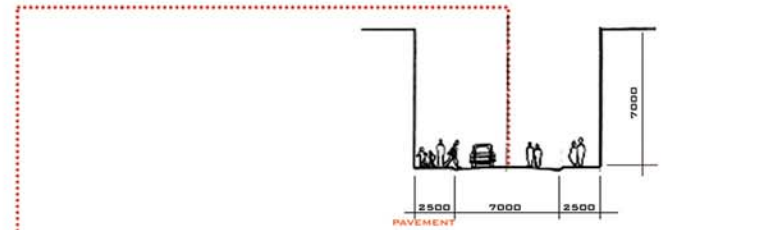


Due to the sufficient public transport infrastructure, accessibility is more than adequate. Taxi ranks will be provided on the traffic island between the two DF Malan drives East and West. The flow of pedestrians across these drives will need to be addressed by pedestrian crossings. The PUTCO bus depot will also have to be relocated (possibly to the Belle Ombre loop) in order to return the smaller grid to the site and to reach high-density housing of 60 units per hectare. (*Aziz Tayob Architects:2002:160*) An overnight taxi holding area is proposed across the Spruit to the east, utilised during the day by existing informal trade. A police station will be provided adjacent to the trading area. The *Gap Proposal for Pretoria Inner City* proposes a tram running along Boom and Church Street, with bus and taxi stops at the corner of Church and Cowie Street.

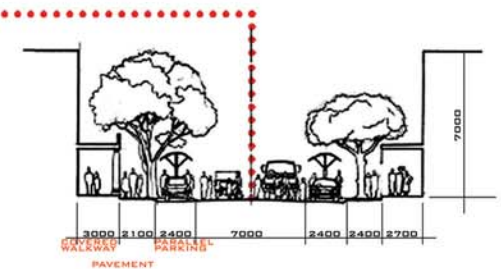
In order to implement pedestrian movement, the majority of north-south routes are pedestrianised, thus west-east routes carry faster moving traffic. Covered walkways and hawker stalls line these routes. Signage should make a positive contribution to the vibrant character of Marabastad by being liberal and creative.



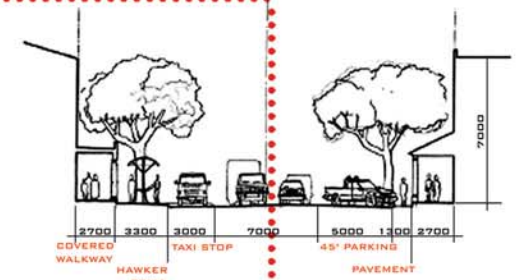
23 STREETScape DESIGN  
MARABASTAD GROUP FRAMEWORK 2007



TYPICAL SECTION THROUGH A SIDE STREET



TYPICAL SECTION THROUGH JERUSALEM STREET



TYPICAL SECTION THROUGH BOOM STREET

## 2.4.7 PROPOSED ROAD DESIGN

# 2.4 Messo Scale



**24 EXISTING CONTOURS, VEGETATIONS AND BUILT-FORM**

MAP FROM DEPARTMENT OF GEOGRAPHY, UP, EDITED BY AUTHOR

- **BUILDING LINES**
  - sides: 4.5m
  - street boundary: 3.5m
- **ZONING**
  - the site is currently zoned for municipal use with consented purposes such as institutions, parking sites, places of instruction, social halls and special buildings
- **HEIGHT**
  - Zone 5: up to 3 storeys
- **FSR**
  - Zone 5: 0.8
- **ALLOWED COVERAGE**
  - Zone 5: 50%
- **PARKING REQUIREMENTS**
  - 2 bays per 100m<sup>2</sup> of lettable area
- **DRAINAGE**
  - the existing drainage pipe runs through the centre of the site and will have to be rerouted to connect with the pipes along the perimeter
- **WATER CONNECTIONS**
  - all street lines are serviced with a connection point to the north of the site
- **SG DIAGRAM**
  - site area = 4.7436 Ha

ZONING AND RIGHTS FOR PRETORIA EXT 14  
PRETORIA METROPOLITAN COUNCIL:2007.

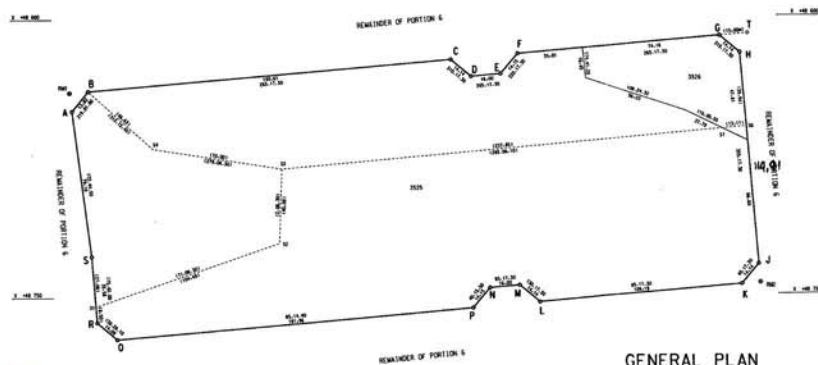
## 2.5.1 ZONING AND RIGHTS



Large **Bluegum trees** mostly grow along the edge of the Steenhoven Spruit; they can be found growing in Cowie(Seventh) Street. Along Proes Street there is an established line of **Tipuana trees** that should be kept intact and designed for within the building layout. Apart from these, the site itself carries a total number of 13 trees. A proper **planting plan** will be required for the area, to address the harsh conditions.

The site itself doesn't carry any built form and is currently used for the dumping of building material. Aerial photographs show the amount of pedestrian footpaths through and across the site, yet there is no formal gathering or use for the site.

The **geology** of the area is of Precambrian origin. The east-west zone consists of localised shale and siltstone, with quartzite and grit at the top. For construction purposes the soil conditions create for highly variable foundation conditions from solid rock at shallow depth to potentially expansive residual andesite soils. These aspects will have to be investigated properly by geotechnical engineers. (*Aziz Tayob architects:2002:74*)



**25 SG-DIAGRAM**  
MUNITORIA : 2007

GENERAL PLAN  
OF THE TOWNSHIP OF  
**PRETORIA EXTENSION 14**  
COMPRISING 2 ERVEN NUMBERED 3525 AND 3526  
SITUATED ON PORTION 500 (A PORTION OF PORTION 6)  
OF THE FARM  
PRETORIA TOWN AND TOWNLANDS No. 351-JR  
VIDE DIAGRAM S.G. No. 5275/2005 . DEED OF TRANSFER No.

PROVINCE: GAUTENG  
SCALE 1 : 750

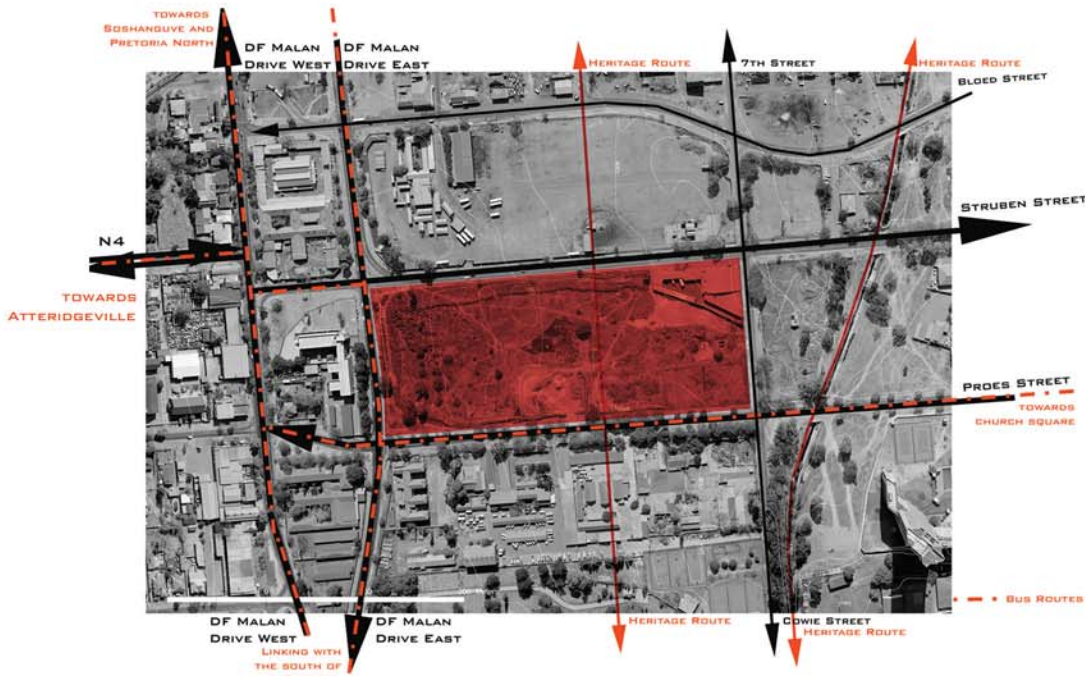


**26 PRETORIA EXTENSION 14 VIEWED FROM COWIE STREET**  
PHOTO TAKEN BY AUTHOR 2007

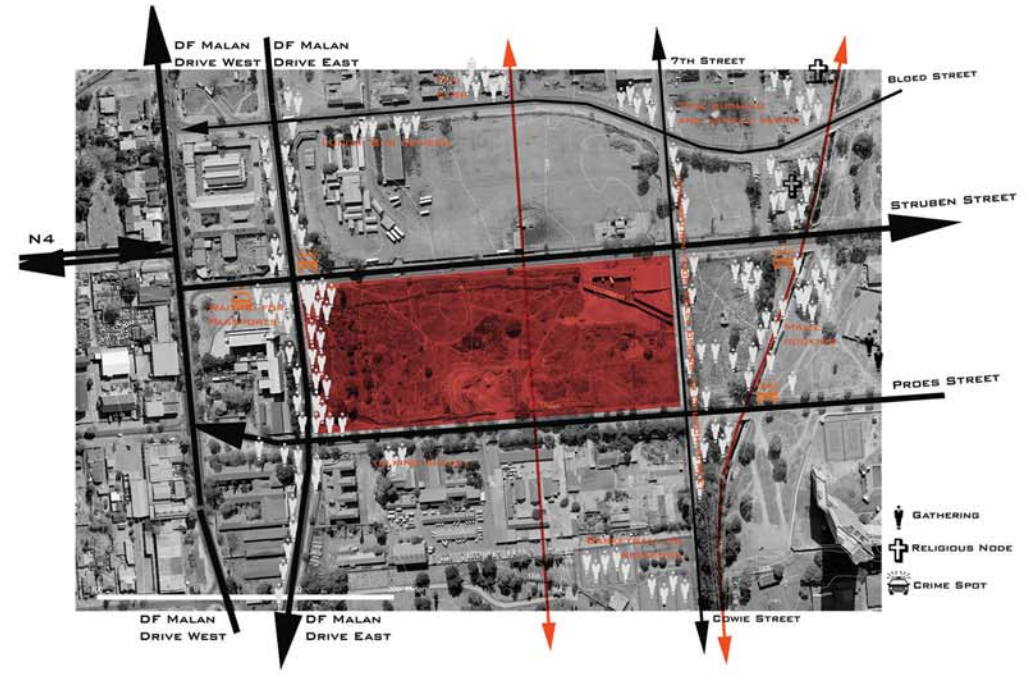


**27 VIEWED FROM PROES STREET, LINED WITH THE ONLY PROPER SHADE-PROVIDING TIPUANA TREES**  
PHOTO TAKEN BY AUTHOR 2007

## 2.5.2 VEGETATION, GEOLOGY AND EXISTING USE



**28 MAJOR ROUTING**  
MAP EDITED BY AUTHOR



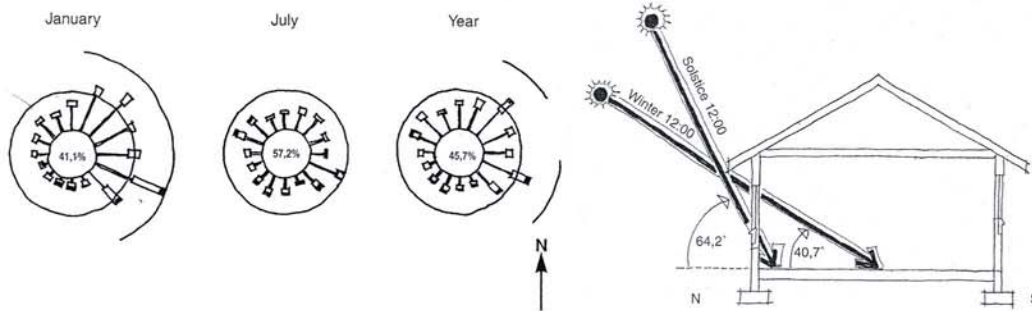
**29 PEDESTRIAN BEHAVIOR**  
MAP EDITED BY AUTHOR

A SWOT-analysis of the area highlighted the lack of public facilities and ownership in the area. Presently, it is very littered and polluted (burning of plastic bags) whilst the *spruit* is at times used for bathing. The existing structure is in a state of decay. The increasing amount of squatters, illegal immigrants and hawkers is evident in the area, and these aspects support the already high crime rate.

However, a strong base of informal trade feeds off the high pedestrian flow within the area. The site has a central locality; situated 10 minutes from Church Square and the Belle Ombre station, and the N4 connects to the site in the West. The huge produce market and settled transport infrastructure creates opportunity for development. The site requires a building to compliment its locality and size: a structure of integrity that becomes a destination or landmark.

## 2.5.3 SOCIAL BEHAVIOUR





**30 ROOF OVERHANG, WINDOW HEIGHT AND POSITIONING FOR PRETORIA**  
 HOLM, D : 1996

Jan	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Maximum average monthly temperature (°c)	28,6	28	27	24,1	21,9	19,1	19,6	22,2	25,5	26,6	27,1	28	24,81
Minimum average monthly temperature (°c)	17,4	17,2	16	12,2	7,8	4,5	4,5	7,6	11,7	14,2	15,7	16,8	12,13
Average monthly amplitude (K)	11,2	10,8	11	11,9	14,1	14,6	15,1	14,6	13,8	12,4	11,4	11,2	12,68
Average monthly relative humidity (%)	58,0	59,5	60,0	59,5	55,0	53,0	50,0	46,0	45,0	49,5	54,0	56,5	53,83
Average monthly rainfall (mm)	136	75	82	51	13	7	3	6	22	71	98	110	56,17
Rham 72	74	76	78	76	75	71	64	61	64	68	70	75	70,75
Rhpm 44	45	44	41	34	31	29	28	29	35	40	43	44	36,92

**31 PRETORIA CLIMATIC ANALYSIS**  
 HOLM, D : 1997

**Climate:** Marabastad is characterised by generally high temperatures and relatively low humidity, frequently combined with high afternoon temperatures in the summer. Summer rains average 741mm per year. Precipitation occurs mostly due to thunderstorms with rates around 90-100mm per hour. Hailstorms are fairly common as well. Cloud cover is about 33% per year (13% in July and 54% in December).

**Wind:** Prevailing winds are calm and blow from the north-east. During winter cold snaps bring winds from the south with approximately 89 days of frost per year. In the summer thunderstorms are accompanied by turbulent wind patterns. (Aziz Tayob Architects:2002:45)

Therefore efficient climatic design is necessary in order to prevent pollution. It will also require building mass that can accommodate for varying temperature movements as well as materials resistant to hail storms. There is a need for a structure that provides shade and shelter against heat and precipitation. One example is the use of covered verandas over pavements.



**32 TEMPORARY SHADING DEVICES FOUND IN MARABASTAD**  
 PHOTO'S TAKEN BY AUTHOR : 2007

## 2.5.4 BIO-PHYSICAL ANALYSIS

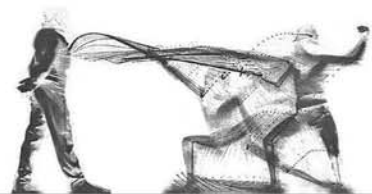


*"If a building could mediate our needs and the environment outside, its demand on physical resources could be slashed.*

*If it could transform to facilitate multi-uses, its function would be optimized.*

*If a building could adapt to our desires, it would shape our experience."*

Guy Nordenson M.A.Fox:2002



**33 FENCING**

MAREY DEMENY : 1914





STEENHOVEN SPRUIT



VEHICLE REPAIR SHOP



THE MULTI-FUNCTIONALITY OF A TREE

34 THE VARIABLE NATURE OF MARABASTAD

PHOTOS TAKEN BY AUTHOR : 2007

Marabastad is the kind of place where a *Spruit* is used for bathing in broad daylight, it's a place where old drums are turned into burners in order to sustain a maize-cooking business. Marabastad is home to sidewalks turned into shops and old tyres used as seating, barriers, a swing and even a climbing structure for kids. In Marabastad you will find that two steel ramps have the makings of an entire vehicle repair shop. A tree becomes a shelter against the scorching sun, a restaurant for busdrivers over lunch, a stand to sell goods at, a gathering spot for street games in the afternoon and even a washing line on weekends.

The inhabitants of Marabastad utilize existing structures to cater for their needs; the Belle Ombre Tennis Club is used as a basketball court on weekends, the vacant lot between Struben and Proes Street is used as a dumping site and the area demarcated as an overnight taxi holding area is used as a precinct for informal trading during the day.

It is this variable nature of the inhabitants of Marabastad that this dissertation attempts to address. Providing Marabastad with a structure that will create a platform for adaptability on a more formal scale: controlling chaos, whilst embracing transformation.