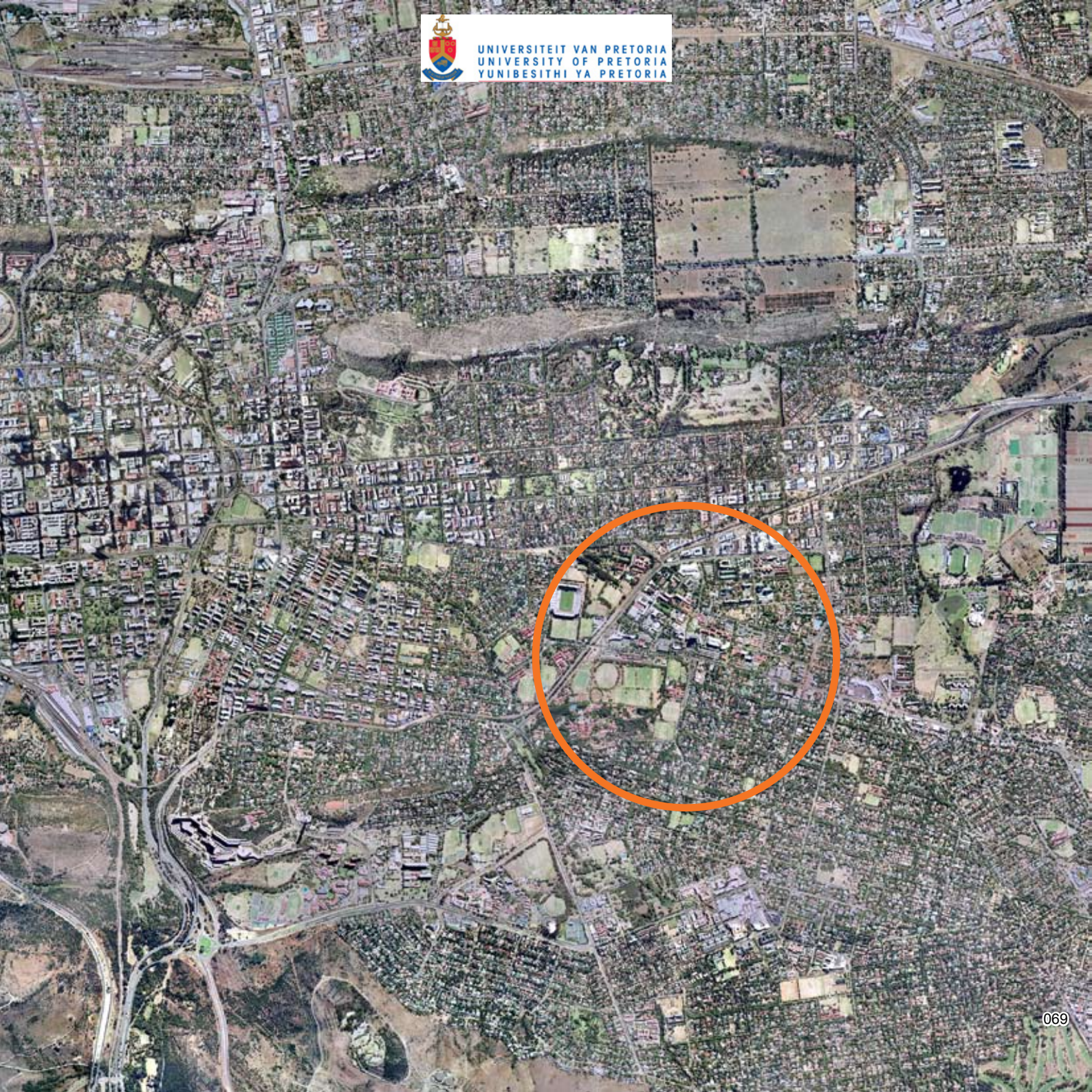


urban context



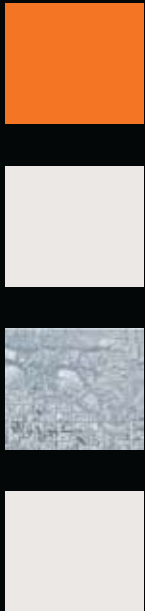


_city wide context:

"From primitive times to modern-day, man has been attached to the environment in which he finds himself. By distinguishing and naming certain parts of this environment, he formulates a visual image of his surroundings, in order to move with ease through it. If such reference should be disturbed, if way-finding cannot occur, mobile man is filled with the terror of being lost." [Lynch 1982; p123-125]

The proposed site to be investigated is located in the South African Province of Gauteng, in the city of Pretoria, established in 1855 as the seat of the ZAR government. The city functions on an orthogonal street grid, with its focal point in Church Square; a historical meeting place. In 1875, a piece of the original farm Elandspoort, east of the Apiesriver, was sold and renamed to Sunnyside. Twists between neighbours led to government taking control of the land and establishing the Transvaal University College in 1889, today known as the University of Pretoria. Situated within the Hatfield precinct - a small commercial, educational and residential district. Recently, its development increased by a rapid speed led by the new Gautrain platform, ensuring an escalation in economic growth.

Hence, the need for transparent logic in terms of orientation becomes a basic human necessity. To be able to identify with a specific environment through intrinsic logic by the user, feeling at ease and familiar within new environmental conditions. In order to transform transparent logic into a spatial order, Kevin Lynch proposed five physical elements contributing to strengthen the orientation of the user within an unfamiliar environment. Each of these elements adds to the identity and character of a place, ensuring a clear city image is created, producing a rich urban fabric, exploring the latent potential of the district. These elements should be used within the context of the human interrelationship with nature within the bigger precinct.



africa

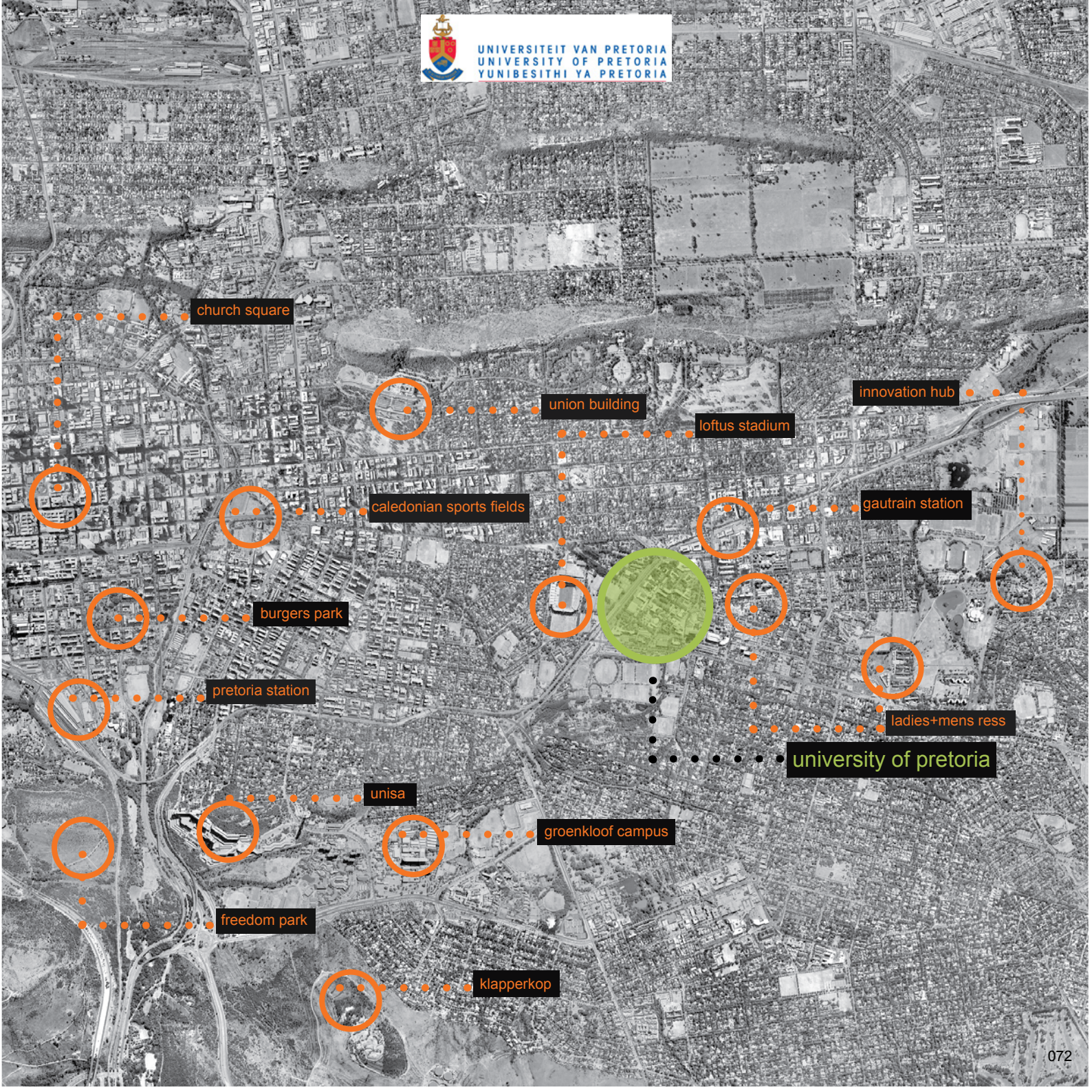


south africa



gauteng







study area



073



074



075

study area



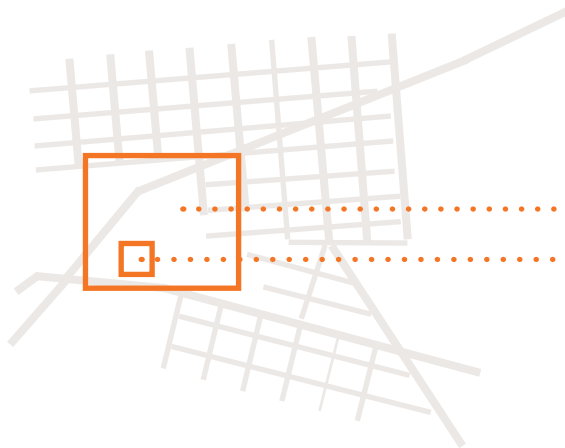
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main campus footprint

study area



main campus

site

The Hatfield district differs greatly from the rest of Tshwane in terms of its urban fabric, social context, form and, use, showing signs of vibrant student life - one of the key aspects and economic driving forces behind the rapid development and growth taking place in the precinct. The newest addition, the Gautrain station, holds a guarantee for further development. Interventions proposed in the group study framework, aim to stitch the Hatfield precinct to these new developments as well as with the rest of the city. Visualizing the urban regeneration of the study area holds an opportunity for thorough integration between campus life and life outside.










site



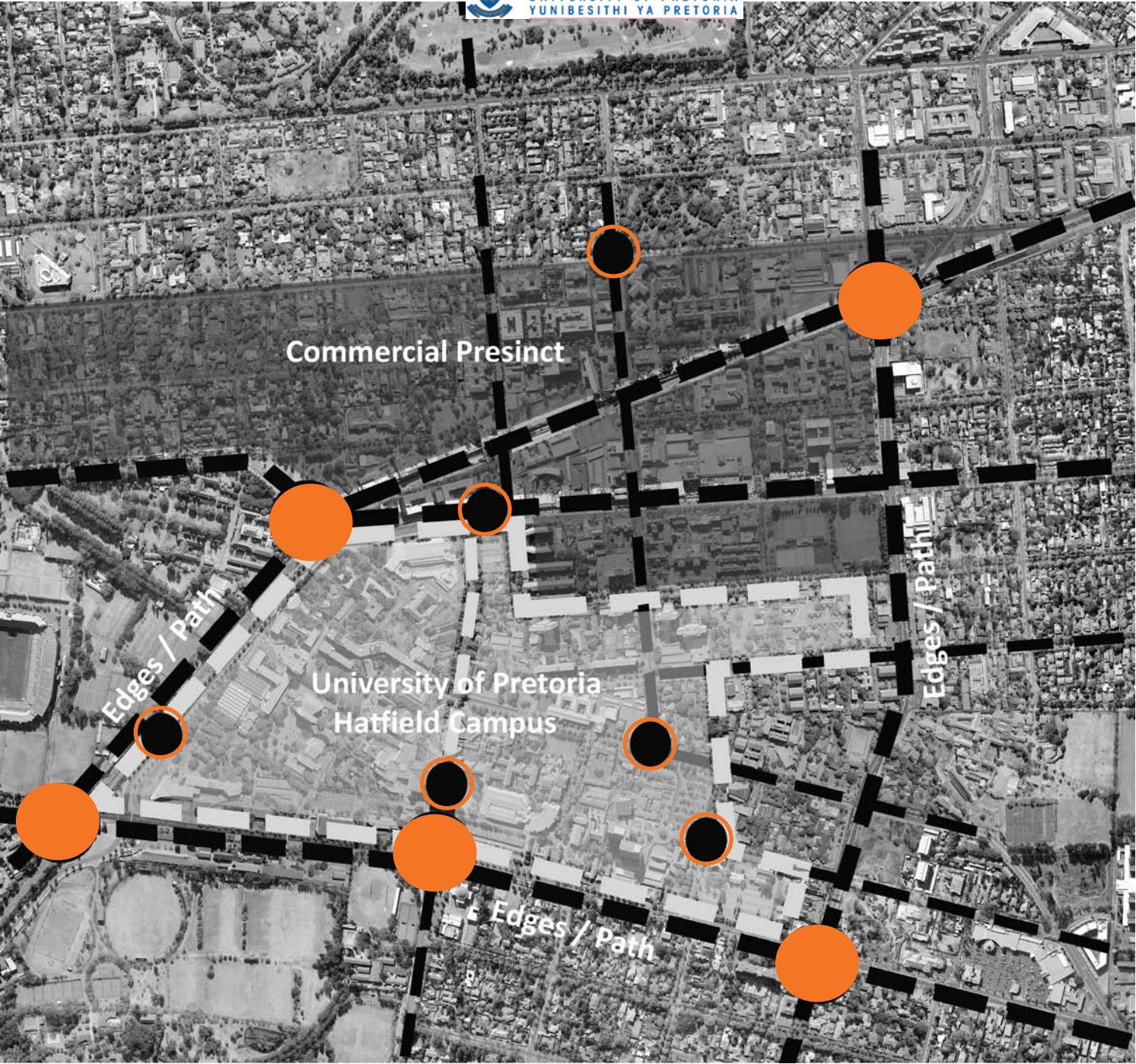
By looking at the two figure ground studies on the following page, one can see the main campus of the University of Pretoria offers an opportunity to densify. The building forms are quite diverse and scattered within the formal grid of the campus structure. The ratio of the buildings opposed to vacant land indicate that this area is underdeveloped and should therefore take on a more urban character with a definite human scale.

KEY

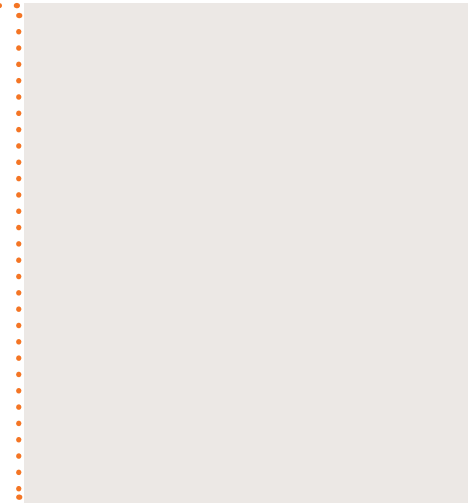
-  *primary gateway*
-  *heart of campus*
-  *campus entrance*
-  *secondary gateway*
-  *campus boundary*
-  *direct pedestrian routes*
-  *access roads to UP*







vision



group vision statement:

“TRANSFORMING THE UNIVERSITY OF PRETORIA FROM AN ISOLATED FRAGMENTED KNOWLEDGE PRODUCTION INSTITUTE, TO A UNIVERSITY CITY, A CITY OF INNOVATION.”

Removing physical, social and virtual boundaries, constraining both the University and the Hatfield precincts growth, to allow South Africa's premiere Academic institute to grow into a social amalgam, celebrating South African culture. The unification of these two distinct identities must not allow the dissolution of either's unique identity but rather reinforce each others key strengths and opportunities to allow a true city of knowledge to be born - a “UNIVERSITY CITY”.





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RING ROAD

primarily vehicles



UNIVERSITY ROAD



RING ROAD

primarily pedestrian



The streets on campus are planned with a graduated hierarchy of widths to support the varying intensity of urban activity. Each scenario is designed with a unique sense of character, rhythm and comfort. The network is classified into types, each differentiated by setback, street wall, sidewalk width, landscaping and use.

All the options are designed to act as buffer zones to mediate and harmonize the linkages between the streetscape and buildings, creating a safe environment for pedestrians to access these routes. Trees create a spatial framework and visual identity and at the same time provide shading and pause areas within the 5 minute walking circle area.

_urban design proposal:

[The following urban proposal is a group proposal, and submitted as a group framework for the research precinct]

"...the relationship between different buildings; the relationship between buildings and streets, squares, parks and waterways and other spaces which make up the public domain; the nature and quality of the public domain itself; the relationship of one part of a village, town or city, with other parts; and the patterns of movements and activity which are thereby established: in short, the complex relationships between all the elements of built and unbuilt space"

**Department of the Environment
(1997) Planning Policy Guidance**

The Initial interventions (Phase 1)

comprise the implementation of various urban design strategies and protocols. The guiding objectives behind these principles are as set out in the 'Vision Statement' for the University's proposed future development strategy. The interventions at the urban level on the campus include the implementation of pedestrian network development guidelines, proposal and guidelines for densification and development as well as the re-use of underutilized threshold green spaces.





_pedestrian streets:

“Streets are the arteries of our communities – a community’s success can depend on how well it is connected to local services and the wider world. However, it is all too easy to forget that streets are not just there to get people from A to B. In reality they are the tissue that connects and keeps alive the urban body of the campus. They form vital components of residential areas and greatly affect the overall quality of life for local people.”

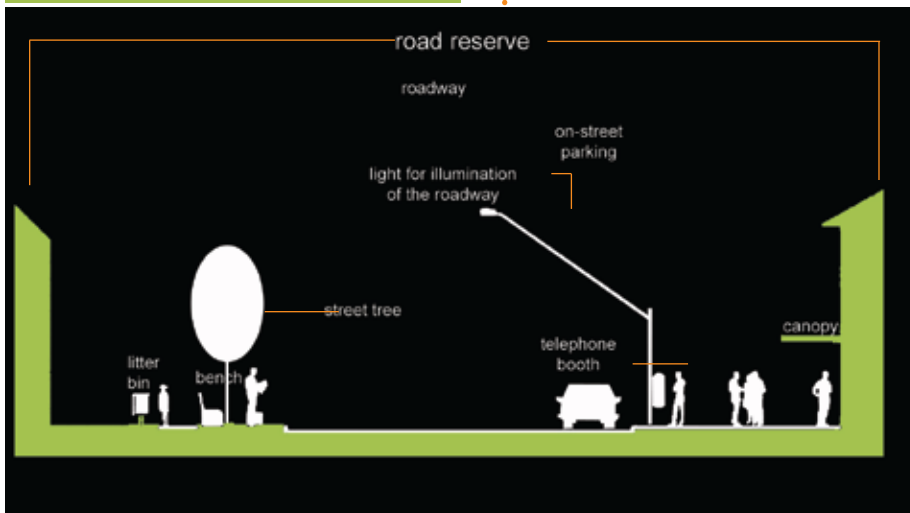
As stated in the UK’s Department of Transport manual for street design, streets are more than just routes from a to b, and nowhere is this more true than on a campus.

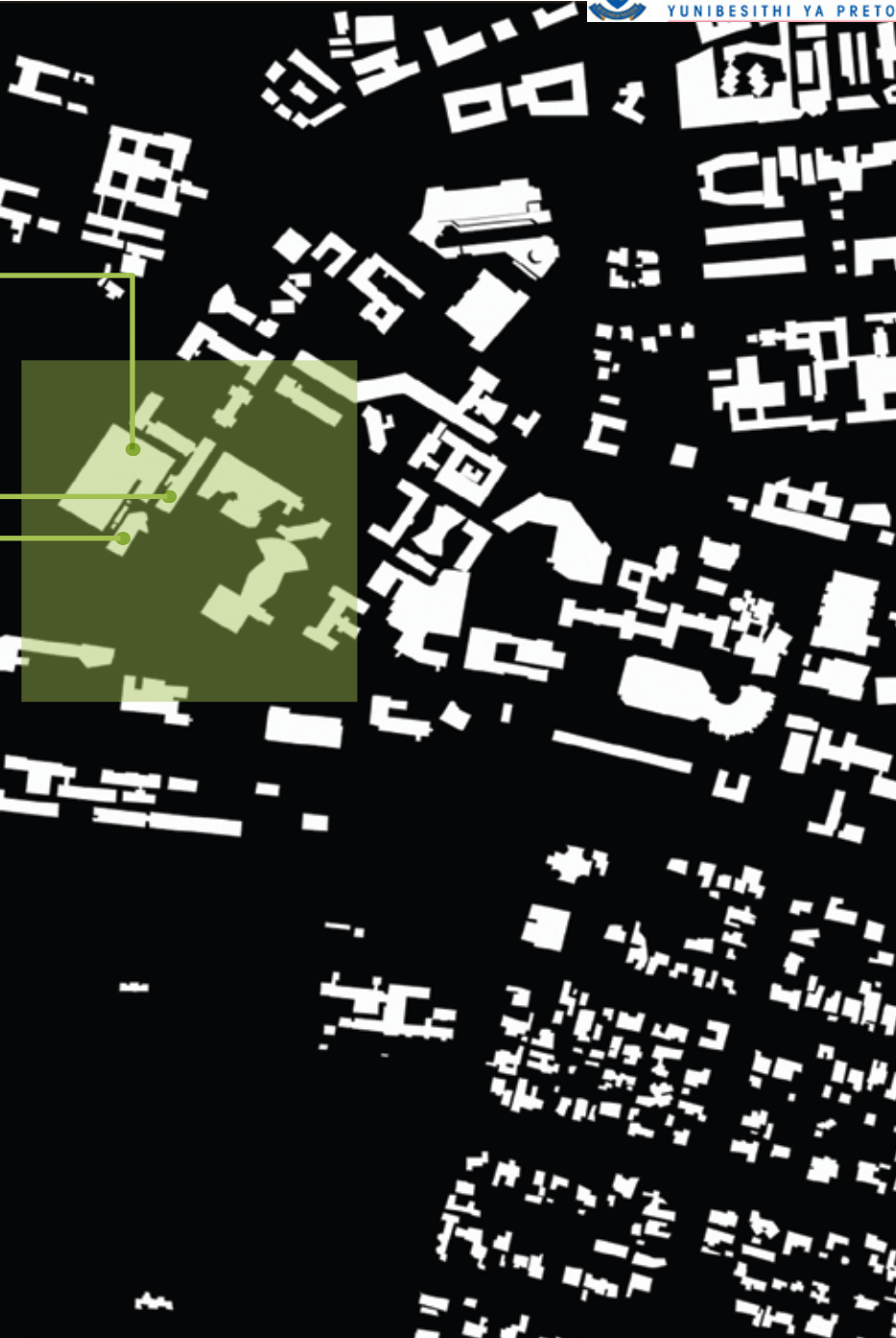
We have proposed three scales of intervention at a street level, each of them suited to a different pedestrian environment. **One at a main artery scale**, to accommodate pedestrians comfortably with high speed traffic, **secondly at campus ring road scale** to accommodate both intercampus vehicle and pedestrian traffic with prominence being given to pedestrians and **thirdly at a pedestrian only scale**.

_heavy machinery laboratory

_engineer building II

_micro-electronic building





research precinct development:

The establishment of a research precinct on the University's ground is based on numerous positive objectives. The improvement of access and connection to enhance scientific and academic collaboration and interaction is the key driver to a successful precinct development. The new precinct will serve to develop and sustain a collegial research community where interaction and interdisciplinary research with the community is implied. The new precinct will help to streamline the research processes by, allowing for resource, facility allocation and sharing. The proposed research precinct is located in an area of the campus that has established research facilities in the Microelectronics research building, the Engineering research facility and heavy machinery laboratory, however it is located in an area of the campus that affords the precinct a large area of underutilised space for future developments. Lastly the research precinct is located adjacent to the established arts precinct on campus; the framework is to encourage design that facilitates interaction between these two diverse fields of study, opening up new avenues of study and collaboration.

Proposed Parking Structure:

The proposed parking structure is to accommodate current and future campus parking requirements; it is to act as a base structure for future development on the site. The future development should conform to the requirements as set out in the research precinct and urban development frameworks. The parking structure will consist of one basement level and two semi – lower ground levels, it will serve as parking for students, faculty and visitors to the campus as well as the general public during sporting events. The structure should be designed as such to allow flexible planning parameters (structure, services and access) for the future proposed covering development.

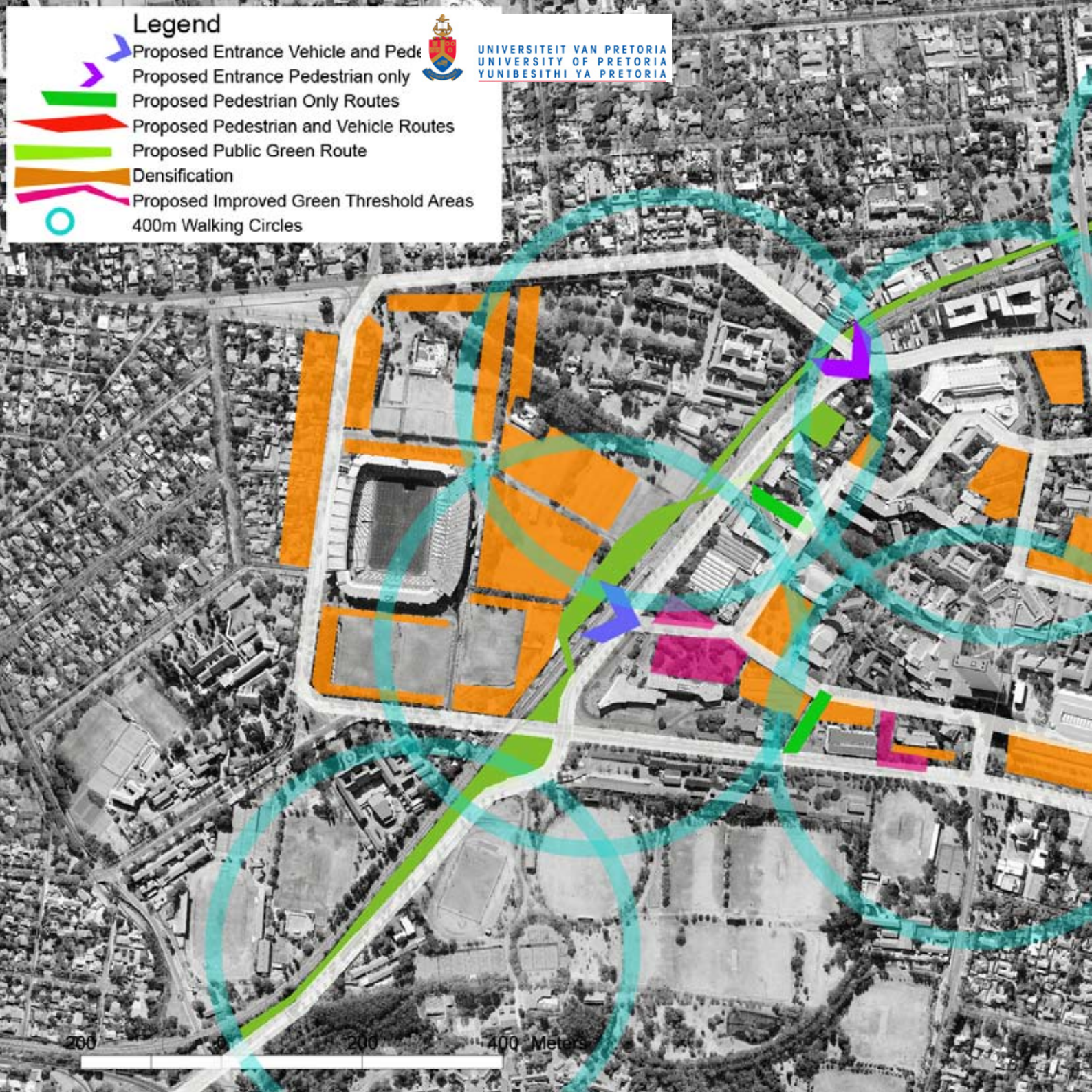


Legend



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- Proposed Entrance Vehicle and Pedestrian
- Proposed Entrance Pedestrian only
- Proposed Pedestrian Only Routes
- Proposed Pedestrian and Vehicle Routes
- Proposed Public Green Route
- Densification
- Proposed Improved Green Threshold Areas
- 400m Walking Circles



200 200 400 Meters



50 0 50 100 150 200 Meters

densification:

The University of Pretoria's main campus is riddled with low density low efficiency land use in the form of parking areas and unused threshold green spaces. These areas have been identified as areas that are underutilized and have good development potential without impacting on the community environment that is being developed on campus. The proposed developments on these areas are highlighted in our opportunities section of this framework.



adaptability



density and mix



facade and interface



building type



details and material



facade and interface



character



diversity



height and massing



continuity and closure



ease of movement



legibility



quality of public realm



street and landscape



urban grain



urban structure



legend

-  good
-  average
-  poor

Successful streets, spaces, villages, towns and cities tend to have specific qualities in common. These qualities are abstract theoretical concepts, designed to ensure the inclusion of strategies to obtain a proper design product, based on urban design principles. When applying design principles to a particular part of a project, it needs to be placed into the broader context of the city. The principles are not rigid and should be applied in a flexible manner, specific to the design proposal. A good design results from a consideration of the widest range of concerns and issues - imaginative, creative resolution of potential conflicts. The fundamental qualities of successful places, which all development must contribute to, are summarized through the use of a figure ground study of the precinct. The areas were subdivided into smaller zones and analyzed according to the specific criteria guidelines [mentioned on the following page]. These results were assessed, combined into a summary specifying the opportunities and problems, which can and need to be applied in the specific zone. Each zone was graded [good, medium, bad] to specify the level or degree of change that needs to be applied.



Research precinct

Summary

- *the subdivision of the area into small development parcels*
- **Density and mix** - the range of use
- **Permeability** - move and connect
- **Vitality** - exciting places; the spice of life
- **Variety** - diversity; 'the spice of life'
- Legibility - ease of understanding
- **Robustness** - change and adapt as required
- **Character** - sense of place and history
- **Continuity and enclosure** - clarity of form
- **Quality of public realm** - sense of wellbeing and amenity
- **Ease of movement** - connectivity
- **Diversity** - ease of choice
- **Urban structure** - the essential diagram of a place showing
- **Urban grain** - the nature and extent of

- **Height and massing** - scale of building in relation to
- **Building type** - setback, floorplate size, relation to context
- **Facade and interface** - relationship of building to the street
- **Details and materials** - appearance of building
- **Streetscape and landscape** - the design of the spaces, ecology and biodiversity

historical context



1939



1950



1954





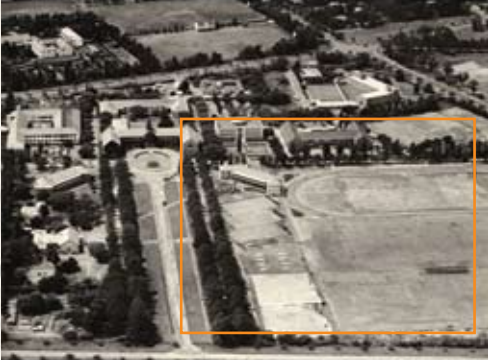
1939

General Jan Smuts, one of the co-founders of the University of Pretoria advocated the idea of a campus specifically located in Pretoria. Separated from the old Transvaal University College in Johannesburg, it converted to an Afrikaans-language institution in 1930 under the influence of Gerhard Moerdyk. He initiated the new site layout plan for the Pretoria campus in 1940, which involved the history of the site of the proposed project. The department of Human Movement Science was initiated in 1946 on the south-westerly part of campus. This part of campus hosted sport fields since 1947 under the supervision of prof. C. Smit. Most of the buildings initially were placed in a random order with no specific guidelines or relationship with each other. In 1953, the specific issue was addressed by adding the Maths- and Natural Science buildings as well as the Engineering platform to create a relationship between the existing and the new. In 1958 the Aula was built forming the start of the Arts precinct. The new music department would add to this precinct, with Mr. Brian Sandrock in charge of designing a three storey music department as well as an open air theatre [the amphitheatre, 3000 seats] and the music hall [the musaion, 500 seats], replacing the athletic field and other sport facilities. The new administration building was added in 1968 in the south-westerly corner of the campus for easy access by the public and in the process replacing a few tennis courts. This building became one of the campus's landmark buildings. During this time the University experienced rapid growth and an additional wing was added in 1973. One of the most significant developments on campus was the Engineering tower, hosting many functions, this building had to be placed central to share its facilities with other departments. In 1975 this ten storey building was ready for occupancy by 700 students.





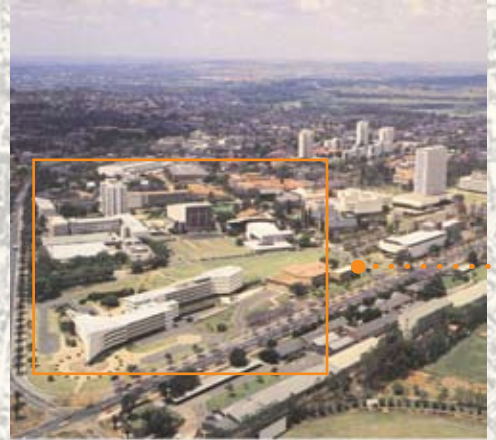
1954



Aula 1958



1967





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114



115



1990

1970

2004



088



089

1985

Musaion 1959

1987



090

Amfi theatre 1960



091

social context



Economic

Social

Environmental

Local character

Helps promote and give identity to cities and regions
Contributes a competitive edge by offering difference

Reinforces a sense of identity
Encourages people to become actively involved in managing their neighborhoods
Offers choice among a wide range of distinct places and experiences

Helps protect limited natural resources

Connections

Increase the success of local service shops and facilities
Makes a site or area easier to access, increasing land value

Improves security
Encourages walking and cycling leading to health benefits

Reduces vehicle emissions

Mixed use

Increase value for those preferring a mixed-use neighbourhood
Uses parking and transport networks more efficiently
Increases the success of local shops and facilities
Lowers people's spending on transport

Improves access to essential facilities and activities
Encourages walking and cycling leading to health benefits
Reduces the need to own a car
Increases personal safety

Reduces car use

High-quality public areas

Attracts people and activity leading to an improved economy

Increases involvement in community and cultural activities
Increases use of public space
Gives a greater sense of personal safety
Attracts social interaction

