

# chapterfour



Urban Framework

## Aim of urban framework

The vision of the framework is to create a series of spaces to facilitate the interaction between the University – as an academic institution – and the community, in order to become an influential entity within society. The main aims are to:

- Penetrate the physical and psychological barriers that separate the University from its environment;
- Generate a system where the integration between students and the public can create a space for social, intellectual and practical cohesion and interaction;
- Create an opportunity where skills, experiences, cultures and innovation can be shared and transferred to empower more people.

## Framework structure

As summarised in Fig 4.1 the proposed urban framework for this dissertation is influenced by frameworks previously designed. These include the Hatfield Metropolitan Core Development Framework (HMCDF), University-City framework, the Transit Oriented Development (TOD) concept, Rejuvenation of Lynnwood Road, Holm Jordaan's Urban Development Framework for UP and UP's development policies as stipulated by Facilities Management at UP.

The frameworks are evaluated and additional proposals are added to create a cohesive framework that will enable the University to become an influential entity in society.

The Hatfield East Spatial  
Development Framework, 2003

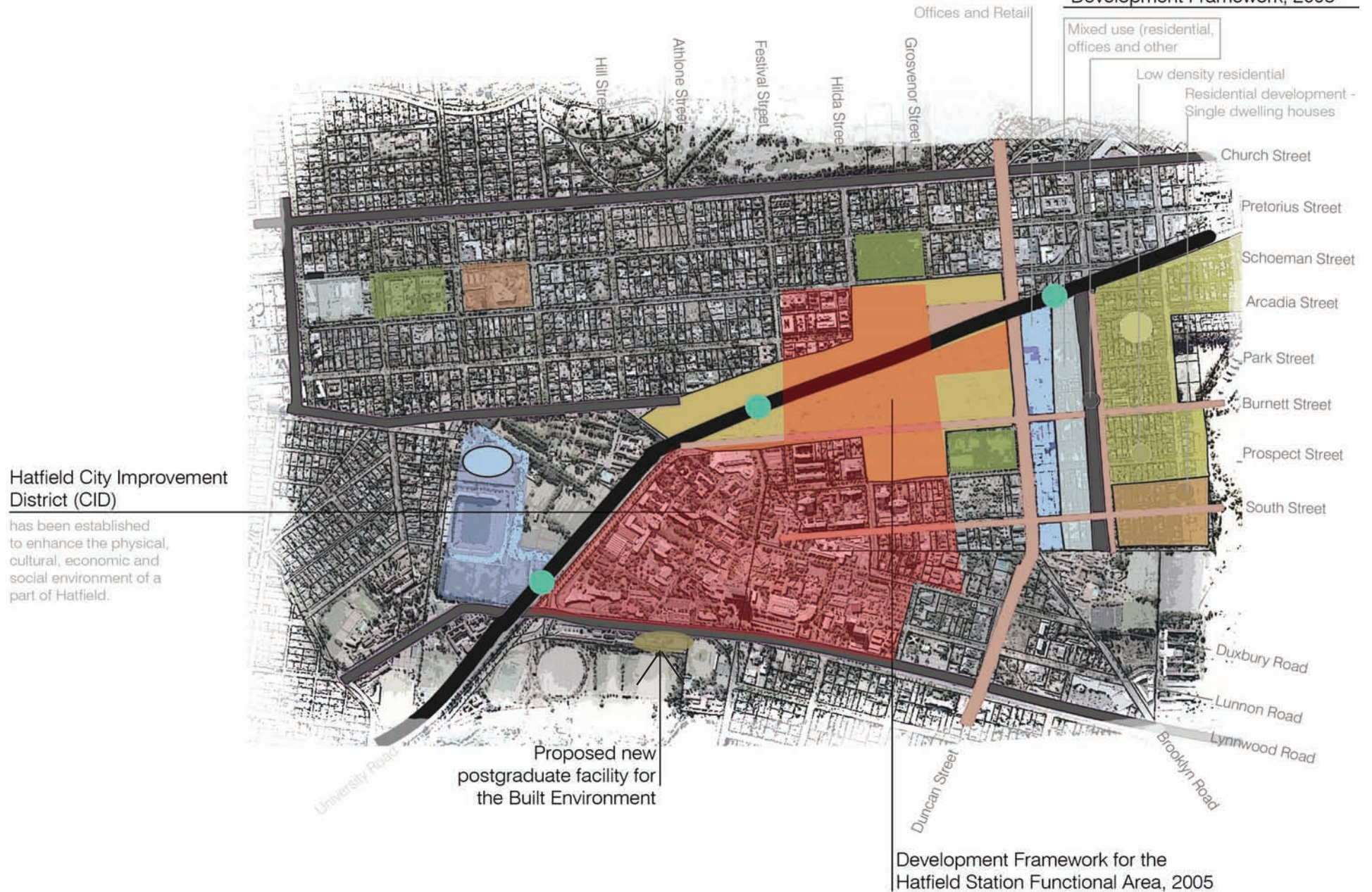


Figure 4.1 Summary of existing urban frameworks in the Hatfield area

## Hatfield Metropolitan Core Development Framework (HMCDF)

The HMCDF has been developed as a result of Hatfield being identified as one of the six metropolitan core areas according to the Tshwane Metropolitan Spatial Development Framework (TMSDF). The framework must ensure that land uses are integrated with transport and social needs, private and public domains are integrated and Green Building Codes are integrated into all new developments.

Hatfield is managed by the Hatfield City Improvement District (CID). This managing body has a close relationship with CoT, but they are also responsible for security, cleanliness and trade in the Hatfield area. As

illustrated in Fig 4.1 this does not include all of Hatfield, and yet again South Campus is completely ignored.

Hatfield has also been identified as a Concentration Zone by the TMSDF. This implies that it needs to develop into a vibrant, high-density, mixed-use area. The area should create a sense of concentrated urbanity, known for its high level of activities and public environment. The integration of the private and public transport systems is dominant in the creation of such a Concentration Zone.

## Transit Oriented Development (TOD)

The concept of Transit Oriented Development is an international notion that has the main aim of integrating public transport with urban development. Due to the new Gautrain Station situated in the northern part of Hatfield, this concept is an important mechanism that can assist in the efficient design of facilities and developments in the area. The defining elements of TOD are to: enhance mobility; be more pedestrian friendly; create an integrated working and living environment; revitalise the neighbourhood; and ensure public safety.

In January 2007 the CoT approved the City Integrated Transport Plan (ITP) and the Strategic Public Transport Network (SPTN). These transport planning documents propose the implementation of the Bus Rapid Transport (BRT) system. As illustrated in Figure 4.2, line 2 of phase 1 of the implementation of the BRT system will run from the Pretoria CBD to Mamelodi via Hatfield.

Save public pedestrian accessibility and the impact the BECS will have on the local community reacts directly to these approved schemes within the city.

## Bus Rapid Transport (BRT) systems in CoT

Line 2 of phase 1 of the new BRT system will be 33.2km long with two main terminals, one in the CBD and one in Mamelodi. It will consist of 36 stations (Fig 4.2) at an average of 920m apart. Each station must have minimum dimensions of 20m x 3m. It is planned that a station will only be empty for up to ninety seconds during peak hours. These are the regulations as set out in the SPTN and ITP.

This dissertation proposes a BRT bus stop in Lynnwood Road, as close as possible to the intersection with University Road. The proposed position is indicated in Figure 4.3.

## Department Facilities Management at UP

This Department is responsible for the coordination of the UP estate - on a strategic, tactical and operational level - to serve the entire University community (The University of Pretoria: 2011). The Department assists the University in being people orientated and producing top class academics and students by managing and facilitating all developments, maintenance and operations of the UP estate.

As part of the Department's mission statement it is stated that the aim is to provide customised buildings that satisfy the needs of students, facilitators and visitors. Furthermore, renting out excess spaces for additional income is part of its responsibility.

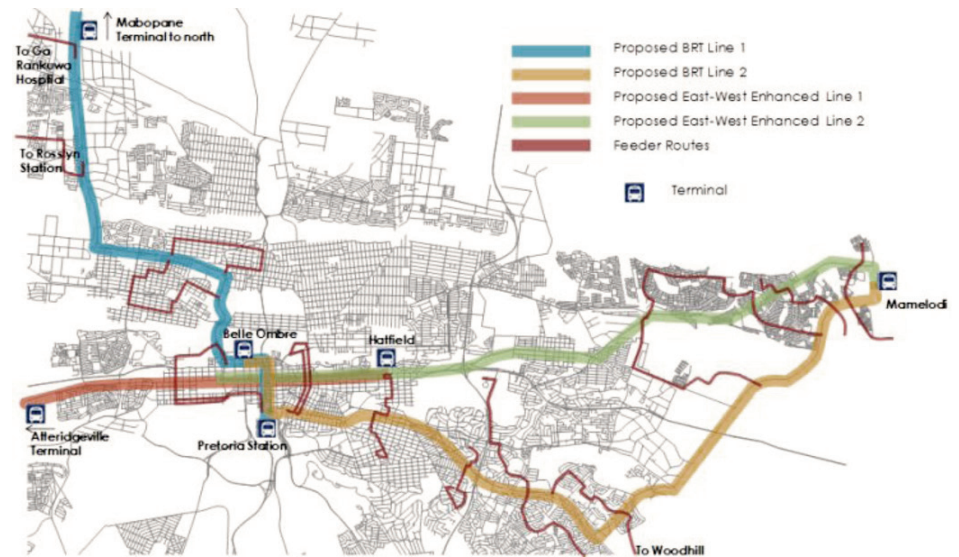


Figure 4.2 Approved BRT routes in Pretoria

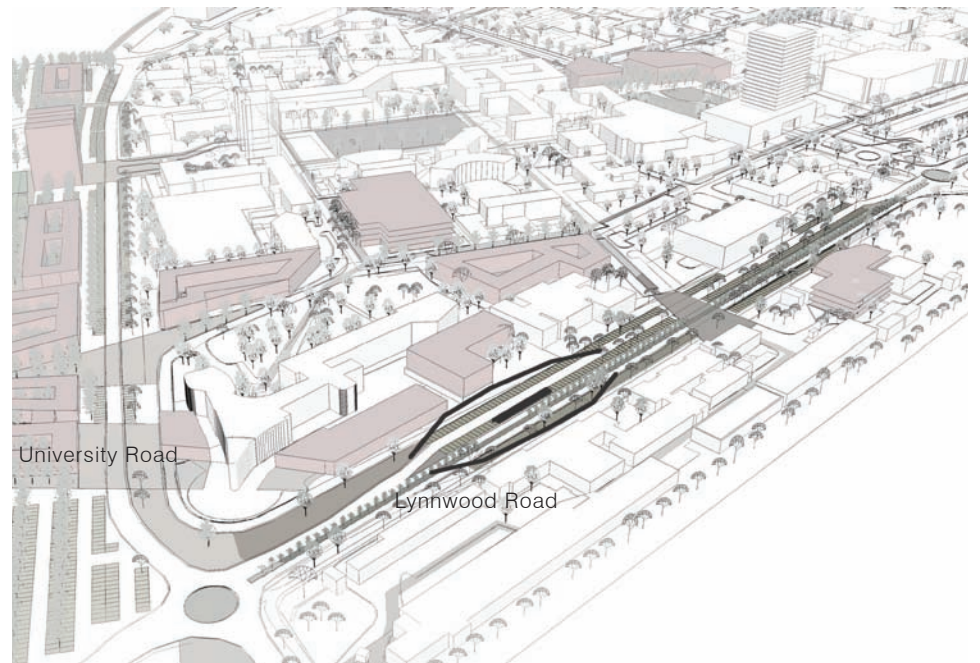


Figure 4.3 Proposed position of BRT bus stop at UP, Lynnwood Road

## Previous frameworks for UP

### Rejuvenation of Lynnwood Road

In his final year dissertation, Ryno Dreyer proposes that Lynnwood Road can be re-imagined to create a better interface between the University and the public (2008: 6.1). Lynnwood Road forms a direct link between Pretoria CBD to the west and the N1 national highway to the east of the University. This road is a four lane road separating the University from its neighbours to the south (Fig 4.4) due to daily excessive vehicular movement. Dreyer proposes that the amount of private vehicles and the speed at which they travel should be reduced drastically.

The implementation of mixed-use residential development on the southern side of Lynnwood Road is a viable argument, as this can become the threshold space between the University and the suburbs to the south. The creation of a vibrant student city can also add to the University's aim of improving its public interface, breaking down the psychological barrier that is currently created by Lynnwood Road.

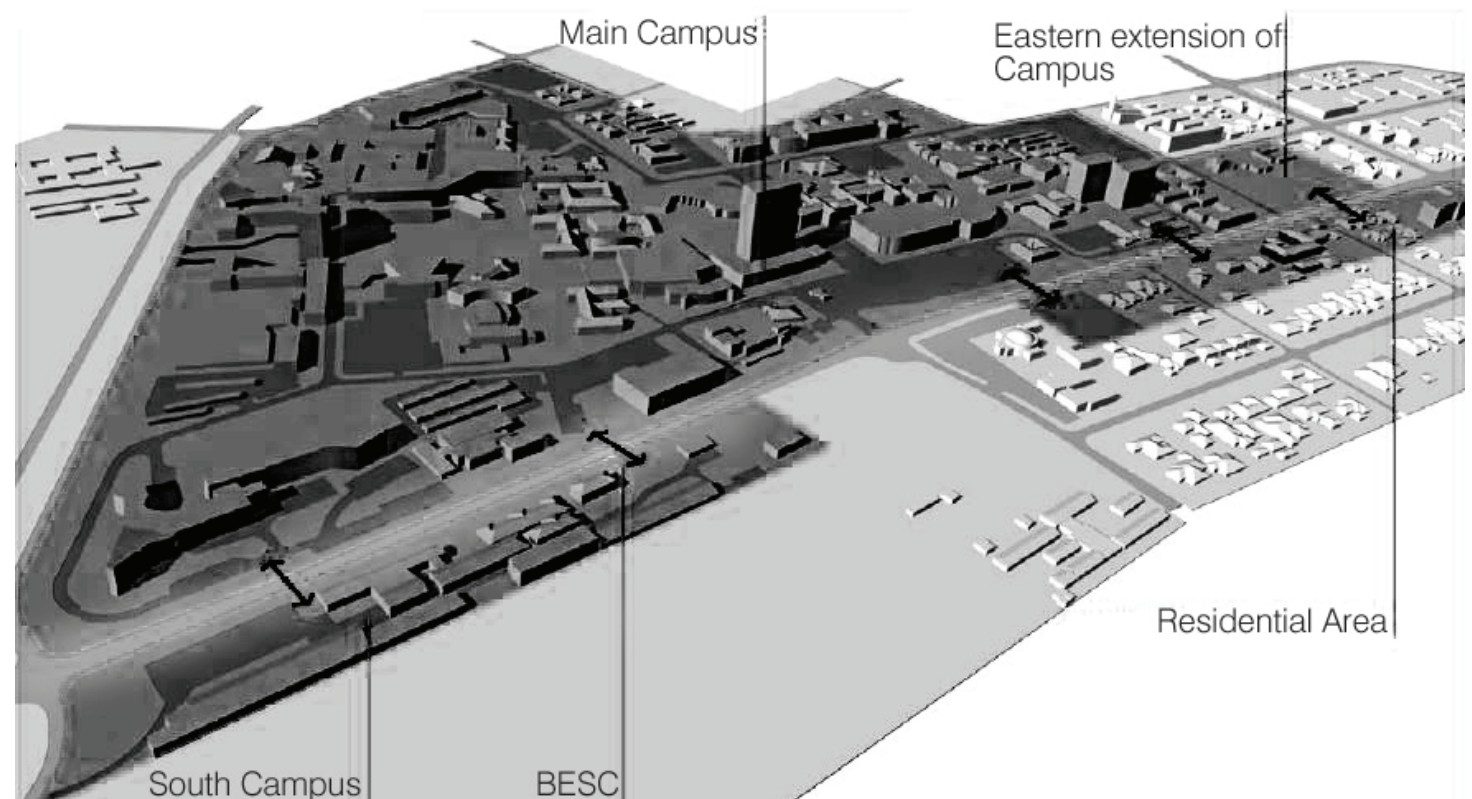


Figure 4.4 Rejuvenation of Lynnwood Road, stitching the University back into the urban fabric

## Holm Jordaan UP urban framework

Holm Jordaan Architects and Urban Designers was appointed by UP to design a ten-year development plan in order to provide the University with guidelines for development and growth. The aim was to develop a framework that would allow the University to create facilities that can relate to its context and result in more integrated spaces and facilities on campus. The Holm Jordaan Group referred to the UP Strategic Plan 2006-2011 and translated it into a framework after analysing all aspects of the UP campus, for example the physical context, economic context, urban form, public amenities, circulation and movement. Strategic commercial opportunities were identified as well as the obtaining of strategic properties that are market related in terms of the University's development strategies.

Some goals that were identified in relation to the Vision of UP were: densification of campus; significant open spaces; place making; spatial structuring; growth strategies and phasing. With these goals in mind detailed guidelines were developed for the creation of boulevards, gateways and links between functional units on campus. It is important to note that this framework is not fixed, but rather a proposal that is continuously adapted by UP.

Figure 4.5 shows where negative open spaces currently are and Figure 4.6 shows where the positive open spaces are situated on campus. Furthermore, Figure 4.7 shows which parts of campus can be viewed as part of the bigger urban context.

For the densification of campus, the Holm Jordaan Group proposes many new buildings. Their proposal suggests the rejuvenation of the north-south axis with the extension of Roper Street to a green boulevard, as illustrated in Figure 4.9. Furthermore, the south eastern quadrant (including South Campus) should, according to their proposal, develop into a more dynamic gateway into the University. Further extensions towards the east are also proposed as this correlates with the University's intension of extending towards L.C. de Villiers Sport Facilities, east of Main Campus.

The Holm Jordaan Framework is evaluated in the following figures - both positive and negative aspects of the framework are identified and criticised.

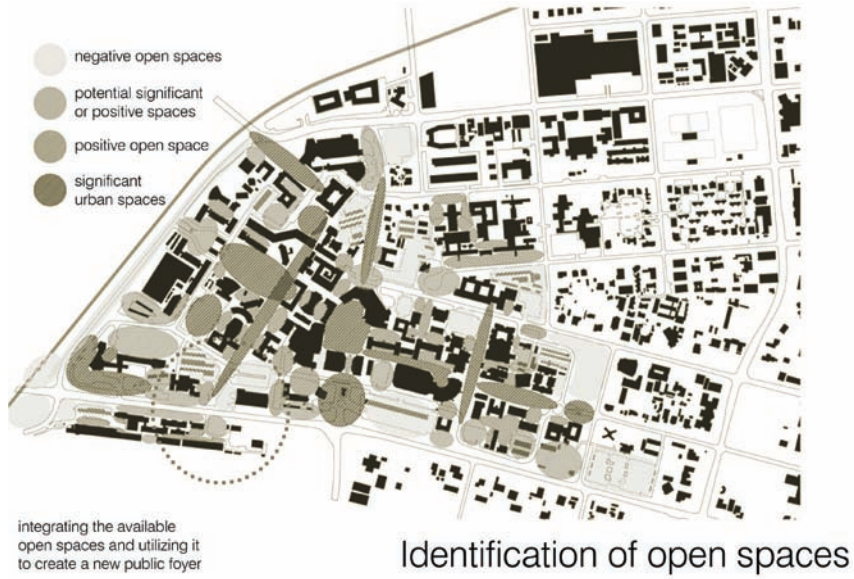
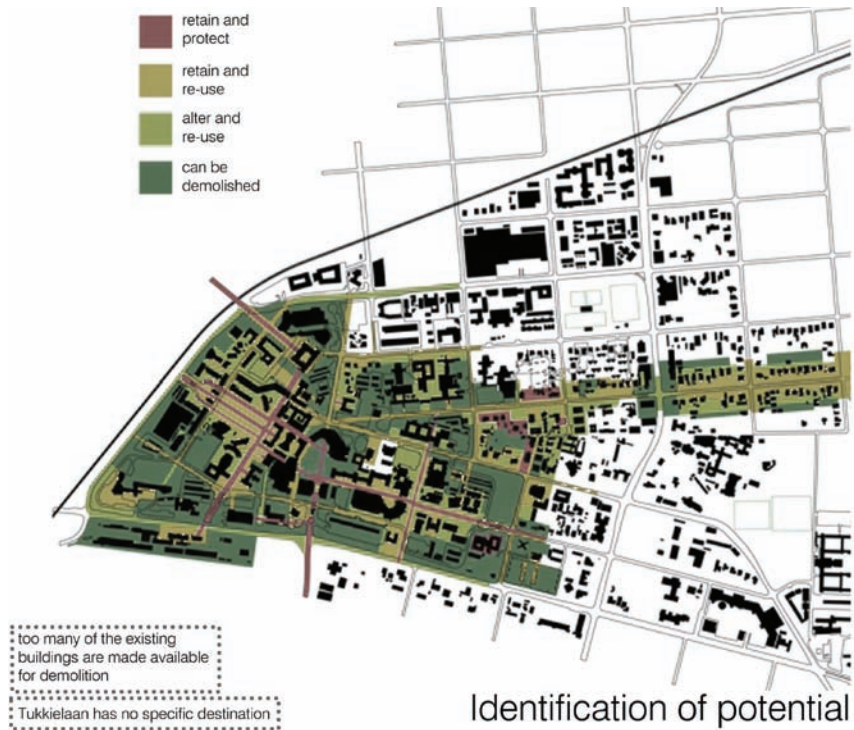


Figure 4.5 Identification of open spaces



64 Figure 4.6 Identification of potential

- linking the university with Loftus over University Road on the west
- manipulating building shape to manipulate exterior spaces and pedestrian movement
- new large crossing over Lynnwood Road - not on street level

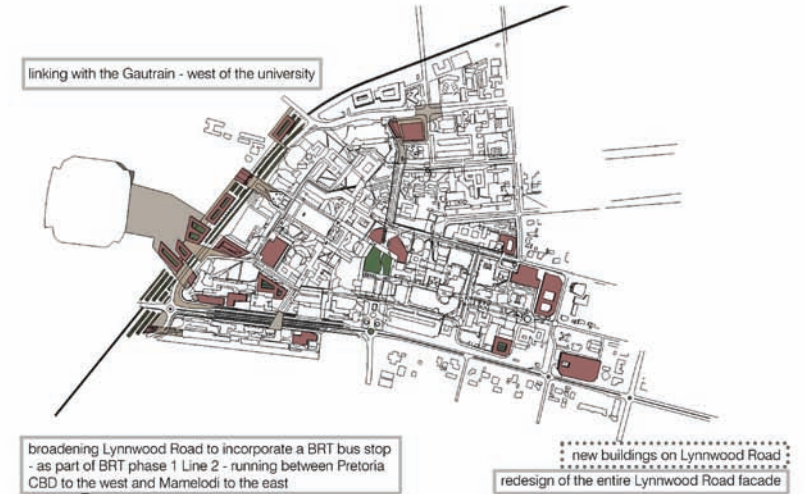


Figure 4.7 Possible links between UP and its direct context



new destination building on northern border of UP main campus

new entrance on University Road

broadening Lynnwood Road - but not for parking

closing the Admin Building should be avoided

articulation of the corner remains

proposed new structure on the eastern side of south campus

using what is there and working with it - no demolitions  
circles on the main corners is not feasible

redesign of the piazza as central urban foyer at the University of Pretoria

increasing density on the eastern side of main campus

creating an "activity street" in Lynnwood Road

20 year plan is to move east towards existing LC de Villiers Sports Facilities

the framework proposes to densify the existing campus - more sustainable approach

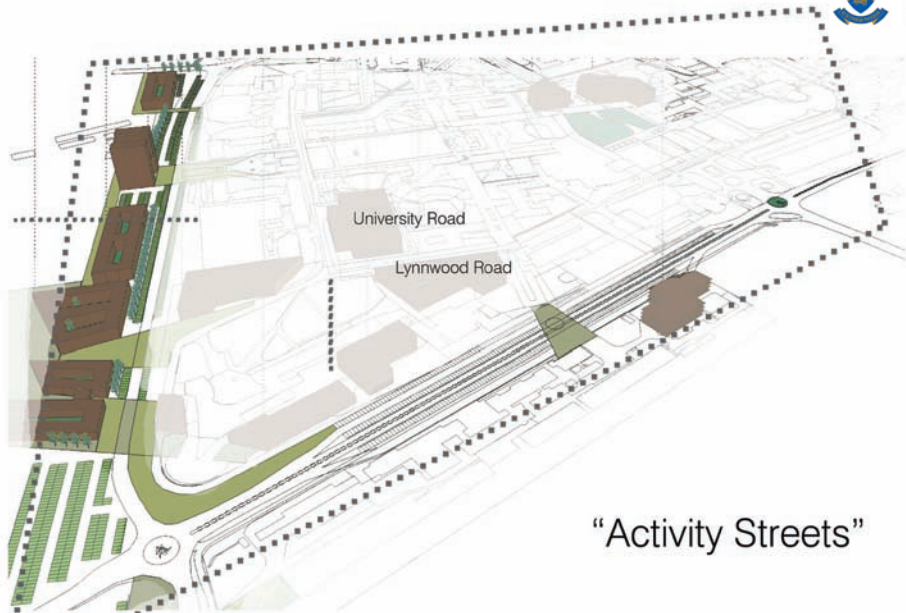
linking the university with the community around it - part of the university's strategic plan

specifically focussing on the link between the university and the suburbs towards the south on the opposite side of Lynnwood Road



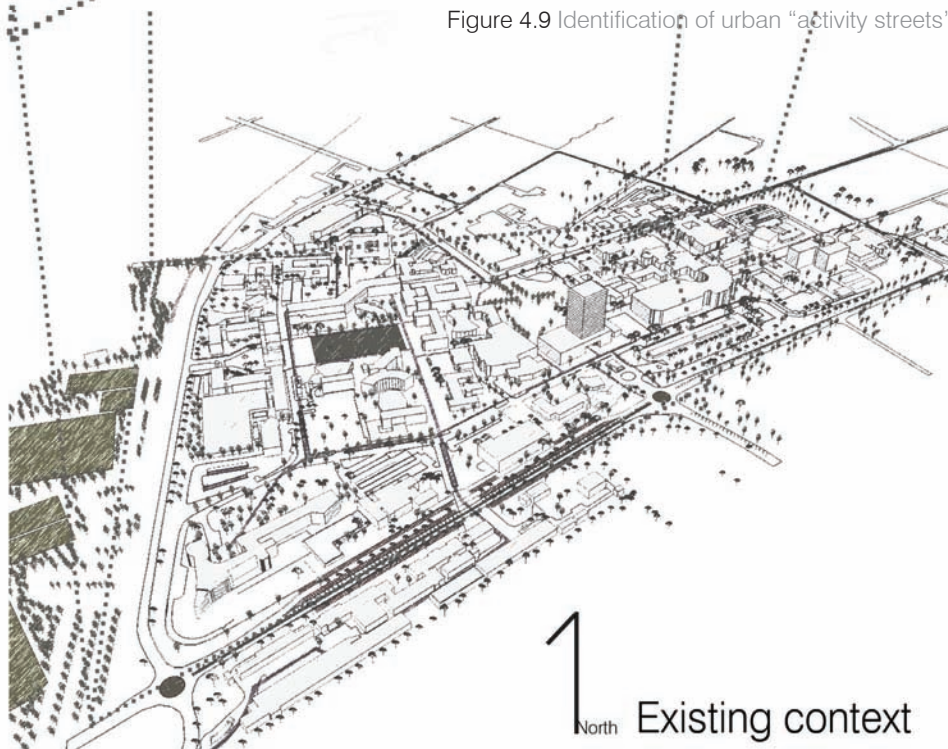
## Proposed intervention

Figure 4.8 Evaluation of proposed Holm Jordaan Framework for UP

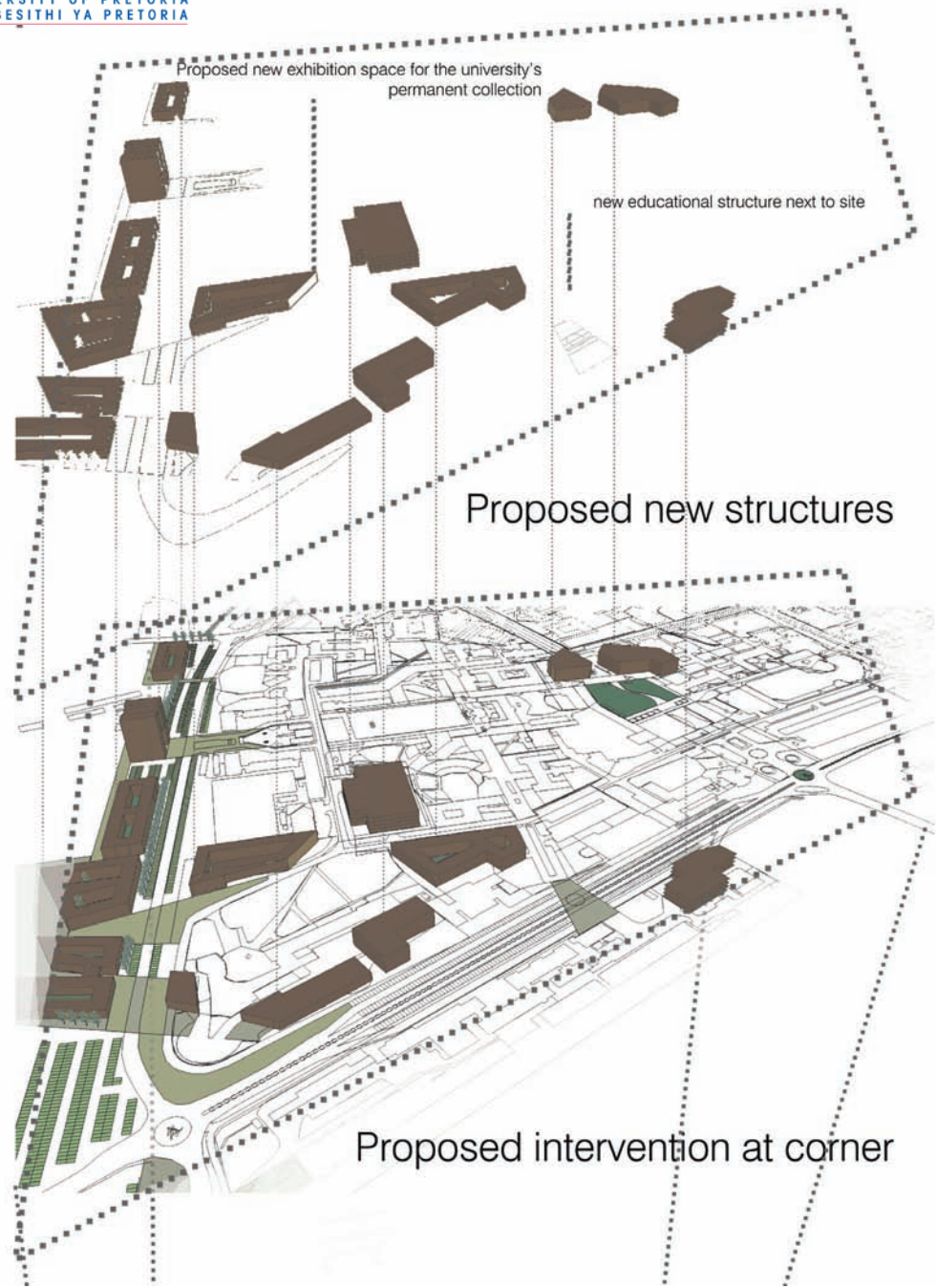


“Activity Streets”

Figure 4.9 Identification of urban “activity streets”



North Existing context



Proposed new structures

Proposed intervention at corner

Figure 4.11 Evaluation of Holm Jordaan Framework at the corners of Lynnwood Road and the University

# Proposed framework

## Introduction

The proposed urban framework is an amalgamation and extension of the previously discussed frameworks.

## Urban problems

The main urban problems are identified and it is the aim of the framework to address these problems:

- The physical interface between UP and the surrounding community is problematic as the University is experienced as an isolated island;
- UP is experienced as an isolated island due to security measures, such as fencing and access card control;
- South Campus is completely segregated from Main Campus, apart from an un-integrated pedestrian bridge;
- Some of the current public spaces at UP are experienced as being unsafe;
- Transport and parking do not yet make out an integrated part of the University's urban design framework.

## Key indicators

Some key indicators have been identified and need to be addressed as requirements when designing all future developments in and around campus:

- Adaptability – all developments must be flexible and should be adaptable as requirements and needs are constantly changing;
- Connections – all new developments should cohesively link with the existing infrastructure of the University as well as add to the quality of the connections between spaces and functions;
- Multifunctional – all new public as well as facility-specific spaces should be multifunctional in order to encourage interaction between different groups of people as well as adding variety;
- People orientated spaces – interaction between all people should be encouraged;
- Adding quality to existing context – the University has a rich heritage and this should be respected; however value should be added through the incorporation of safe, comfortable and attractive public spaces.

## Built Environment Staging Centre

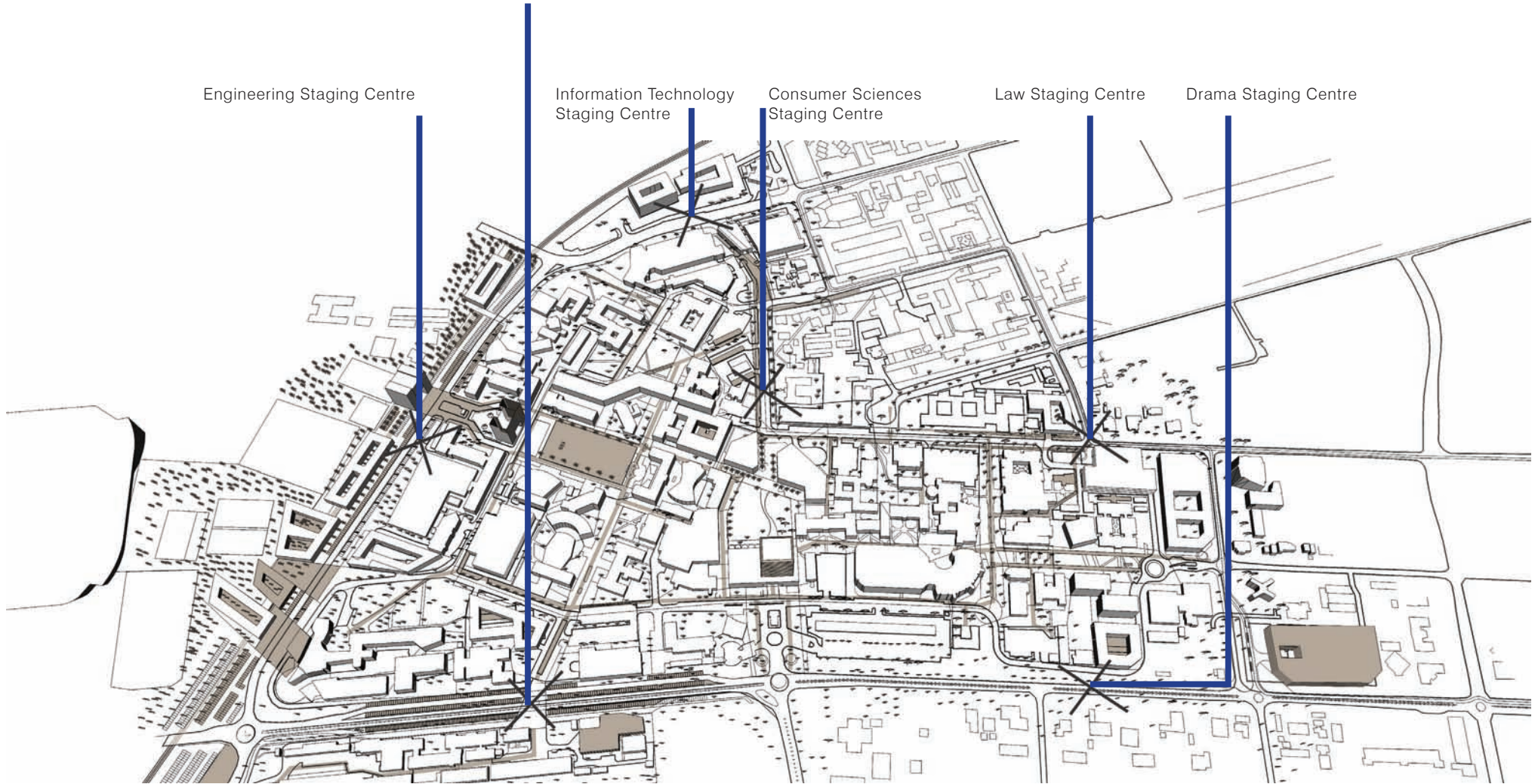


Figure 4.12 Proposed positions for GSCs

The proposal is to accept the Holm Jordaan Framework, with the exception of the previously mentioned aspects. In addition GSCs are proposed around the Main Campus periphery. The GSCs act as urban foyers that allow the public access to the academic environment. The characteristics of GSCs were discussed in detail in Chapter three.

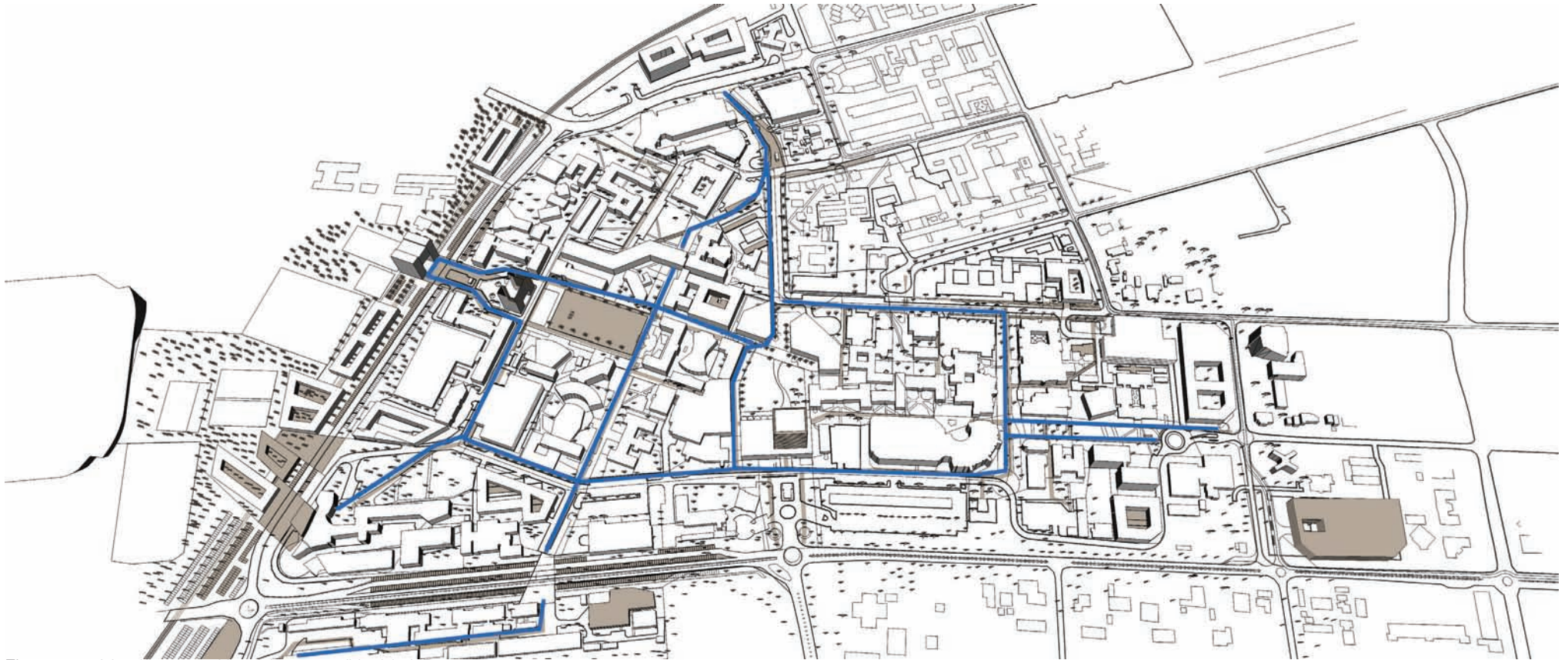


Figure 4.13 Identification of "activity streets" inside UP

## Activity streets

Activity streets have been identified as illustrated in Figure 4.13; they are broad corridors that encourage public interaction. Retail activity is encouraged in these streets and parking areas are not regarded as part of these avenues. These streets are to be well lit and well within the public eye, with ample public seating provided. They are situated around existing movement patterns to encourage social exchange.

Buildings defining the edges of activity streets are to be built up to the building line to create a corridor that defines the public domain. Commercial activity is encouraged on ground level.

These streets are both inside and around the periphery of UP, this is done in order to reconnect the University with its context and community.

## Architectural standards

The National Building Regulations are applicable in all cases. The following are encouraged:

- Each building should read as a separate entity;
- The interaction between buildings and the thresholds between buildings should be well designed and planned;
- The use of new materials that reflects the technology of the time
- Compliance with Green Star Accreditation System;
- The use of SANS 204 is compulsory.

## Build-to lines

All buildings should be built up to the Build-To line to better define public spaces and to create safer streets and public walkways by providing eyes on the street.

## Cooperative design approach

All new buildings are to be built on the cooperative design approach. This implies that buildings can share facilities such as a canteen, recreational facilities or service alleys. The main aim is to avoid underutilised dark alleys – this can also improve safety in the area.

## Landscaping

All landscaping should contribute to the public value of the space in terms of functionality, aesthetics and security. Planting should be used to soften the landscape as well as provide ample shading for the public; however, only indigenous plants are to be used. Where alien plant matter already

exists its influence on the surrounding landscape should be evaluated and then it should either be removed and replaced with indigenous species or kept until it dies naturally.

Xeriscaping should be used where possible to keep water consumption of the landscape as low as possible. The landscaped areas should assist the rainwater drainage to avoid storm water volumes increasing due to the introduction of many more hard surfaces.

## Parking design and development standards

New parking structures are zoned in and around campus. These structures are all to be multifunctional as it should be integrated with an educational programme similar to the new engineering building recently completed at UP.

Where parking is not part of a structure, it should comply with Table G of the

Tshwane Town-Planning Scheme, 2008 (City of Tshwane, 2008: 59). These include general requirements including minimum dimensions of 2,5m x 5m as well as 7,5m manoeuvring space. At least 10% of the total area of a parking area is to be landscaped with a minimum of one tree for every five parking bays.

It is encouraged to obtain the relevant consent to lower the required number of parking bays, as the implementation of the new public transport systems will lower the use of and need for private vehicles.

## Sidewalk design

All sidewalks are to be re-used and upgraded to create an urban character. Trees, lighting, seating, dustbins, planters and removable façade furniture are to be part of the sidewalks. All sidewalks are to be accessible to everyone, including disabled people and cyclists.

Where possible, a separate bicycle lane should be part of the sidewalk, encouraging the use of lower energy transportation.

## Storm water management

Grass bricks are introduced in order to assist in storm water management. Storm water management should be a part of each individual design with a zero run-off policy throughout.

## Street furniture

- All street furniture to be low cost, low maintenance and vandal proof;
- Street furniture to be integrated into the building fabric;
- Seating and refuse bins should be provided on 100m intervals on alternate sides of the boulevards and synchronised with street lamp spacing.

## Conclusion

The University can play an influential role in its direct community as well as in society at large. Creating spaces and facilities that make the University's image and iconic status more permeable will aid in the development of the influence the University has on society. Better accessibility and more inclusive design will enable the University to communicate better to the public as well as enhance its status in intellectual circles.

The opportunities around UP are endless, especially with the newly completed Gautrain Station, linking Hatfield to Johannesburg (Sandton) and the rest of the world (O.R. Tambo International Airport). The University should latch into this link and connection, allowing the University's influence within society to be more accessible to a much wider range of people in South Africa and around the world.