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Chapter 5 _Urban Design Development

5.1 Introduction

Within the city lie many connotations such as the memories, experiences, smells, hopes, people, places, buildings and drama, which impact upon the user's impressions of a particular environment or the city as a whole. From this environment the user constructs a perception experience of the parts of the city in physical relationship to the other.

Every work of architecture impacts on the affects and details of the collective perception, whether it be localised in scale or city wide in context, and thus the image of the city is formed by the cooperative architecture in a state of concert or chaos. In the book "The image of the city" by Kevin Lynch, a study was done to understand the relationship between the physical reality of the city and that of the users' mental image within that environment. Lynch concluded that there were five basic elements that informed the user's mental image of the city.

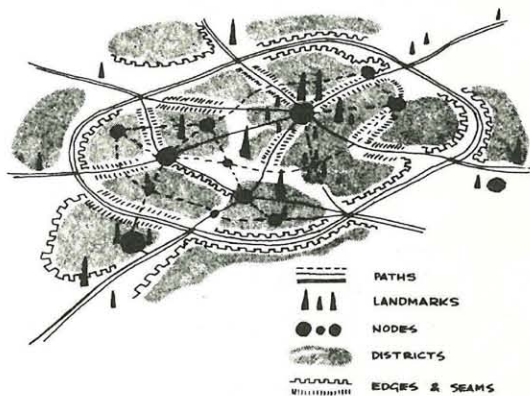


Fig. 5.1: Collective Urban elements representing the city

- **Pathways:** The major and minor routes of circulation which people use to move about at all levels of scale, whether they be city routes and networks, or pedestrian routes on Campus.
- **Districts:** the city is composed of component neighbourhoods, the districts, centres, residential, campuses, trainyards, etc. These are often times distinct in form and extent, or considerably mixed in character and do not have distinct limits.
- **Edges:** The termination of a district is its edge. Some districts have no distinct edges; rather they tend to blend into one another. When two districts are joined by an edge they form a seam.
- **Landmarks:** these are prominent visual features, which enable urban users to orient themselves within the city as well as identify the various regions.
- **Nodes:** A node is a centre of activity. It could be seen as a landmark but is distinguished from a landmark by its virtue of active function. Where a landmark is a distinct visual object, a node is a distinct hub of activity.

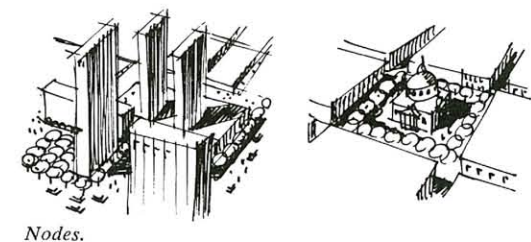
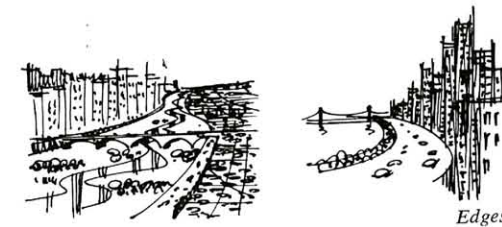
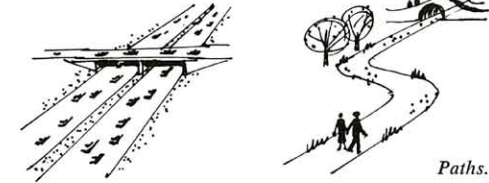


Fig. 5.2: Urban elements that inform the user perception

5.2 The Urban Space

The empiricist thinker, Jane Jacobs extends upon the theories written by Lynch concerning the aesthetic problems of borders. Jacobs states that streets and their sidewalks are the main public spaces of the city, the city's most vital organs. As a public domain the street has the potential to enhance or destroy the functional space as well as user experience. In an example Jacobs explores the possibilities concerning the university campus form. "Universities could make portions of their campuses more like the seams and less like barriers if they placed their uses intended for the public at strategic points on their perimeters, and if they also put at their perimeters, and opened up as scenes, their elements congenial to public view and interest - instead of hiding them." Jacobs gives an example of the New School for Social Research in New York where the building contains a library." The library acts as link between the street and school campus, with an attractive interior courtyard. Both the library and the view are visually opened up and dramatized and they are a delight and enlivener on their street".

Jacobs states further, that "Big universities in cities have given no thought or imagination to the unique establishments they are. Typically they either pretend to be cloistered or countrified places, nostalgically denying their transplantation, or they pretend to be office buildings." (Jacobs, 1971) Through her publication *The Death and Life of Great American Cities* Jacobs explores various theories which support a productive, habitable urban environment. She clearly indicates the importance of passive surveillance, and the responsibilities taken up by the collective individuals who treasure their environments, and identifies the three main qualities that enliven streets:

- Clearly defined public and private space.
- Natural proprietors of the street, or passive surveillance.
- A high user participation on the street.

These qualities could be summarized by stating that a well used city street is a safe street that everyone wants to use.

However it must be noted that in order for a street to be successful in terms of urban planning it must offer choice to the user. Only intricacy and vitality of use give, to the districts of a city, appropriate structure and shape. *Image of the City* by Kevin Lynch mentions the phenomenon of lost space. This 'lost space' is the resultant of an area failing to extend its diverse vitality and complexity into the overall city structure. Architecture and urban planning employ a non verbal design language from which various contexts and values are created. In the event of not identifying these values, the urban spaces as well as user experience are bound to be inimical, since the experience of well being within the city is a collective encompassment of complex relationships, encounters and perceptions.

Factors to be discussed will include social and the supportive design principles as well as the relationships between the existing site forces and the proposed development. The outcome of which will guide the project toward the vision established in the problem statement.

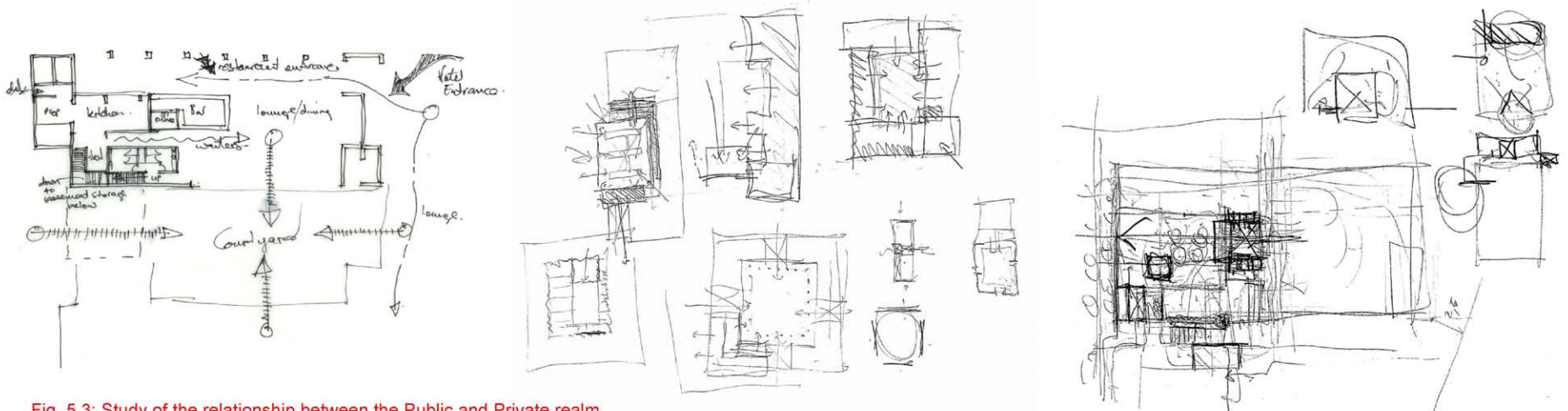


Fig. 5.3: Study of the relationship between the Public and Private realm

5.3 Social principles

The design of a space should define the kinds of behaviour and social contacts most appropriate to that place, with the primary urban design concern being the encouragement of contact and connection by fostering a sense of well being.

Professor Henry Lennard (1993) identified the following five social principles that occur in the most successful urban spaces in Europe.

Provide all members of the community safe and easy access.

Equity with regards to community participation must at all time be considered. By creating properly functioning pedestrian networks the safety and equal rights of the community can be greatly enhanced.

Facilitate frequent and regular use by local community.

Urban spaces conducive to public use are centrally located, easily accessible to all and contain in the surrounding buildings a mixture of commercial, cultural and residential functions. Public participation occurs most naturally at the heart of the community, such as crossing points of routes through the neighbourhood, where social integration and the generation of communal membership is accommodated and encouraged.

Reinforce a sense of belonging to an identifiable community.

The aim will be to foster a sense of belonging by correct placement and treatment of the threshold and the experience of visual enclosure. An essential component of both room and courtyard is the quality of the enclosed space, since the enclosure focuses attention on people and events that occur within that space.

Encourage curiosity and exploration.

Correct façade engineering can provide sensual stimulation. Varying façade depth and treatment provides dynamic patterns of light and shadow, increasing awareness of time day. Curiosity is stimulated by the views that offer glimpses of activities, such as the experiential kitchens of both the hotel and school.

Orient people and facilitate differentiated activities.

Urban spaces require articulation, such as floor surface design, level changes and focal points so that the different parts of the space have clearly defined characteristics. The clustering of various activities in close proximity provides complimentary audiences which allow free movement to occur in other sections. People are naturally gregarious, people are drawn to well used and versatile spaces. By providing planters, ledges or steps people have place to sit, which encourages momentary pause or initiates informal conversation between strangers which is an affirmation of presence to other users.

5.4 Urban Design Precedent

Regent Street, New Walk Route, Leicester, England

John Nash

Traditionally in Britain the idea of the street has been central to understanding urbanity, as the morphology of urban form is created to a large extent by the typology of the terrace block which is represented by the general continuity in streetscape.

Regent Street was planned from 1811 as a compliment to Prince Regent, who later became George IV. The street is located in the heart of Central London. Nash's vision for the street was a wide, imperious boulevard that could accommodate a continuous stream of traffic and pedestrians while offering choice to the urban user. It was designed to connect the large royal estate, then known as Marylebone Park, in the rural area north of Portland Place, with central London, with the additional benefit of improving the depressed area round Pall Mall and the Haymarket.

From the time it was built onwards, Regent Street has been a centre of London's social and commercial activity. The street was completely rebuilt from 1904 with the majority of the work done after the First World War and completed in 1927. Emphasis was placed on the street acting as catalyst. It achieves its goal through a linear approach, allowing homogeneity with regards to the planning and design of buildings. This is also the area with the widest range of land uses, which include residential, office, religious, retail and industrial buildings.

Characteristics of the Regent Street development:

- Sensitive approach to significant history of site.
- The New Walk Route passes through a number of districts, with Regent Street merging seamlessly into a larger urban setting by means of spacious and well defined pedestrian and traffic utilities.
- It allows the user to participate in the narrative of the memory of town, so becoming an architectural event.
- The extensive use of the street ensures varied use and offers a rich urban experience.
- It respects the grid of the London's street network.



Fig. 5.4: Active Public space along Regent Street

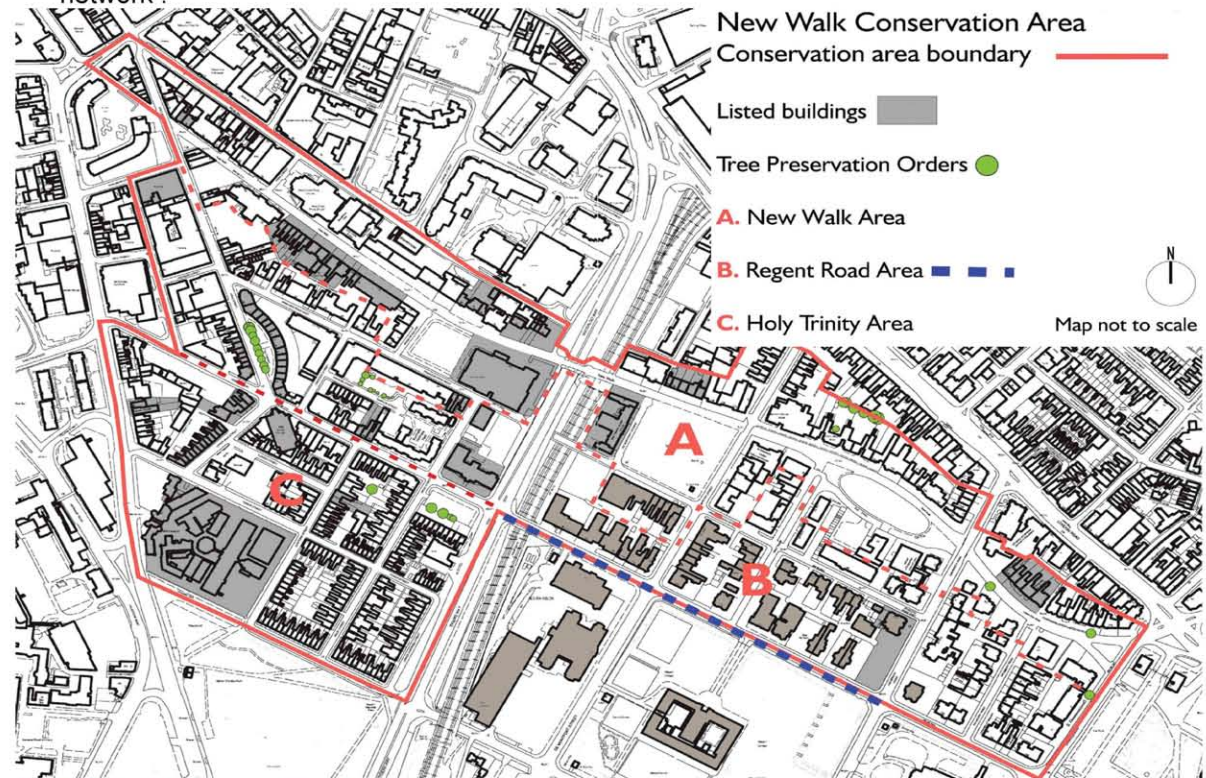


Fig. 5.5: New Walk incorporating Regent Street

5.5 The peripheral nature

Due to the site being located on the periphery of the University as well as its isolated nature, a particular design response becomes necessary. The University as a collective represents a district with an impermeable boundary. It is therefore essential to understand the inherent characteristics in order to reprogram and reintegrate the area into the surrounding urban fabric.

According to Dietmar Steiner (1993) the periphery could be defined as “the location of everyday life which is not subject to urban attention and embellishment, a state of between, between the old centres and new islands, a region of non location that remains in motion, free, contradictory, wild and plain beautiful.”

In a statement that bears resemblance to Steiner’s definition Rem Koolhaas explained that “the periphery had little to do with the location of a building but more to do with a certain state of mind, a sort of conscious self marginalisation from what have been the predominant paradigms of urban minded architecture.

The general characteristics of peripheral sites include:

- Increased erosion of the traditional urban fabric.
- Social and economic marginalisation.
- Unconsolidated spatialization.

In many respects the peripheral site has a negative image; however the innate characteristics also present substantial possibilities as areas of expansion and experimentation.

Design response:

- Potential characteristics of site specific nature will be explored.
- Reinforce linearity, thus consolidating Duxbury pedestrian activities with Campus.
- Generate hierarchy of space within transitional areas, thus creating nodes of relation.



Fig. 5.6: St Wilfred's Anglican Church adjacent to site



Fig. 5.7: Current boundary treatment of Campus



Fig. 5.8: Sidewalks dominated by the vehicle



Fig. 5.9: Student access into Campus west of project area

5.6 Site analysis

The proposed site is a vacant lot, which acts as student parking during the day and left unused throughout the evening. Although the land parcel is not classified as a Brownfield site it does include characteristics of such classification, such as underutilization in terms of spatial possibilities and economic potential and a general poor quality. It is located on the corner of Duxbury and Herold Streets. Although the site belongs to the University it has not been incorporated into the Campus framework as it is located outside the Campus boundary. The intention of this argument will be the exploration of possible solutions in order to integrate this site into the overall University Master Plan.

Duxbury Street to the north of the site acts as primary axis since it has a higher pedestrian footprint, as well as offering unobstructed views towards the north which extends well into the Campus property; however vehicular thoroughfare into the Campus from Duxbury Street is limited as the Erf boundary crosses the street. The parcel of land between Duxbury and Ring Road presents a particular design challenge as it is an “in-between” plot which does not serve any purpose.

The land use to the north of the site is considerably more diverse than that of the east, since it is the destination of the University of Pretoria Pre Primary School, UP Residential Affairs, residential flats, the Brooklyn Police Station, the Cuban Café restaurant and the Hillcrest Municipal Swimming Pool further eastward.

The sidewalks are of a poor quality on both public streets, however particular attention must be placed on the Herold sidewalk as the space required for pedestrian movement between parked vehicles and site perimeter is insufficient as a result of the informal parking strategy that the University employs.

According to a local car guard there is a need to formalize the parking since the students are constantly complaining about broken side view mirrors, scratches on their vehicles and the amount of dust generated by the poor sidewalk conditions. More attention will be paid to the parking strategy in section 5.8.

Directly adjacent to the corner of Duxbury and Herold Streets are the St Wilfred's Anglican Church and the Dutch Reformed Churches respectively. This provides a strong influx of student and public participation to the area over the weekends.

In terms of scale, the surrounding building heights vary considerably. The scale along Duxbury Street varies between one and five storeys, whereas along the eastern side the building heights vary from between two to seven storeys. The existing FABI building to the west of the site is a single storey courtyard building; however a preliminary proposal for a future addition and extension of the FABI faculty has been submitted. From the information gathered the new building will be of similar height to the intervention of this thesis.



Fig. 5.10: View of Dutch Reformed Church adjacent to site



Fig. 5.11: View along primary pedestrian route



Fig. 5.12: Road networks of project area

5.7 Proposed new developments

Area 1

Proposed relocation of Ring Road.

The relocation of a portion of the road ameliorates land use within the University as the proposed FABI addition will have more developable land on which to build. The parcel of land between the Ring Road and Duxbury Street is currently an awkward size, not allowing any form of productive use through its narrow dimension. The proposal therefore suggests that the Ring Road be moved three to four meters away from the existing Erf boundary in order to cater for the addition of future pedestrian walkways and allow that portion to act as buffer between the University and the public.

The proposal also includes the relocation of the bus stop which caters for the students of the L.C de Villiers residences. The current location of the bus service is South Street, one block to the north of the proposed relocation. Duxbury Street leads directly to the sport ground, with the intersection at Duncan Street being better suited to handle traffic flow since it is controlled by traffic lights.

Area 2

Proposed addition to the Forestry and Agricultural Biotechnology Institute (FABI). The preliminary plans for the addition have been submitted to the University for perusal, however no finalised scheme has been forwarded. The new addition will utilize a basement parking that will extend under the relocated Ring Road and link directly with the Hotel School basement parking. The Tourism House pedestrian movement to and from the Hotel School will be reinforced by the new FABI development.

Area 3

Proposed future development.

The site has the potential to reinforce the premise of this thesis through allowing a private-public interface. Possibilities include future developments that focus on outreach programmes or business oriented curricula. The intention is for the eastern portion of Campus to enable interaction between itself and the public. Other possibilities include the site remaining as parking or an additional parkade structure with retail facilities on ground level.

Area 4

Proposed parkade structure.

A high volume parking structure would facilitate the parking requirements of students attending class at the University. The parking strategy for the proposal is discussed in more detail in section 5.8.



Fig. 5.13: Proposed new developments within study area

5.8 Parking

According to a survey carried out by the University there is an estimated 5865 parking spaces in and around the Main Campus. There are 2596 parking bays within the perimeter of the University of which 809 are covered, and approximately 3269 informal parking bays located outside the University boundary (Barnard 2004).

The study concluded that the only sustainable alternative for the provision of parking would be structured parkades. It has been suggested that between 1250 and 1750 additional parking spaces be provided for within the next five years to accommodate future expansion as well as student population growth. By formalising the street parking a possible 100 additional parking bays could be accommodated for.

Five areas have been identified as possible locations for the structured parking which would alleviate the pressures on the surrounding environment associated with insufficient parking.

- H1 – The area next to the Roper Street entrance.
- H8 – Behind the Aula.
- H29 – The area on the corner of Herold and Duxbury Road.
- H30 – The area on the corner of Lynwood and Herold Street.
- H17 – The corner of Festival- and Burnett Street. This alternative could possibly be developed in cooperation with the private sector.

H 30: Adjacent to project area

Number of parking spaces:

300 of 800

Accessibility:

Access from Herold Street or Lunnon Street.

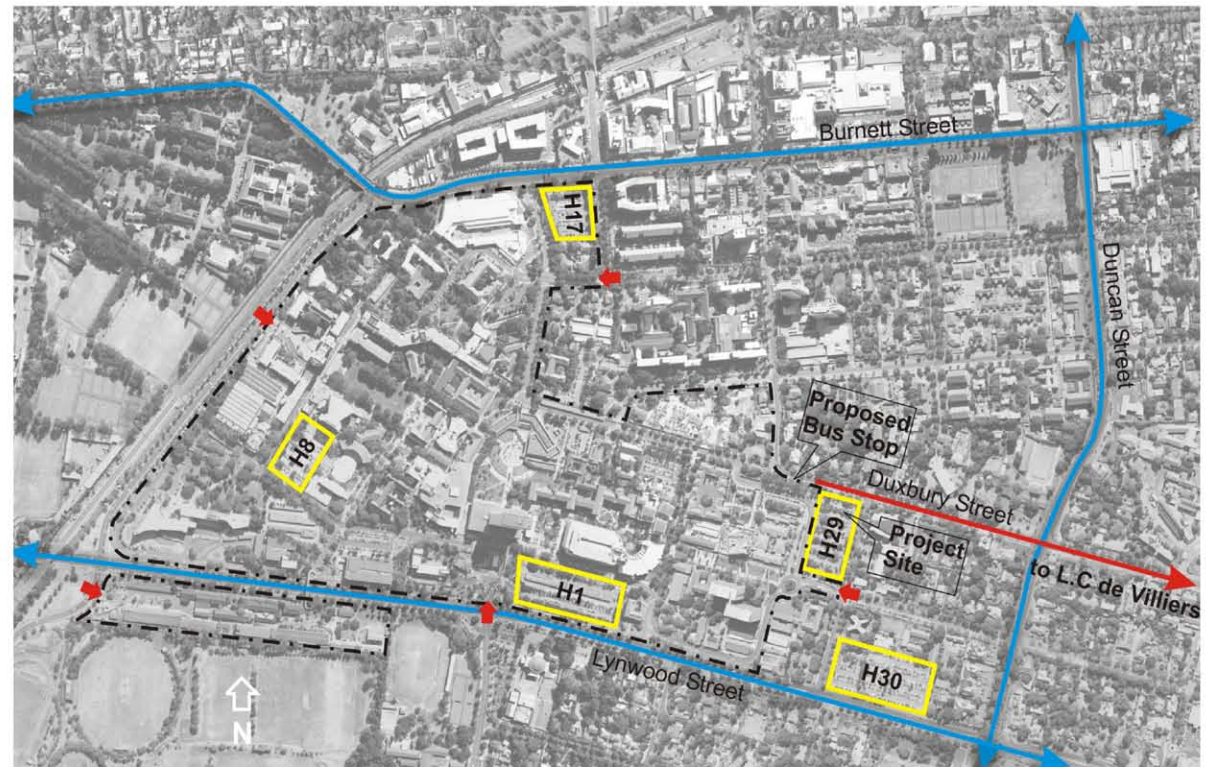
Location / walking distance from classes / personnel:

Approximately 550m from center of campus. Could serve classes on the east of Campus and possibly course attendees.

Development potential:

The possibility exists to develop the parkade in collaboration with the residential developments occurring within the area, where the higher levels could be reserved for private use.

The bus service which transports students between the men's residents at L.C de Villiers and main campus could be accommodated to the west of the project area. Two to three busses depart simultaneously at 07:00, 08:00 and 12:30 with a total of 14 busses per day containing a collective 1260 passengers being transported and dropped off at the student access point along Duxbury Street.



- - - Existing Campus Boundary Proposed Parkade Structures ➔ University Vehicular Entrances

Fig. 5.14: Proposed location of structured parking facilities

5.9 Urban Design Informants

- It is crucial that the design acknowledge the existing visual and pedestrian axes of the site.
- Attention must be focused on celebrating the corner of the development.
- Integration of building with existing Campus boundary.
- Reinforcing user participation by recognizing existing street grid through boundary treatment and pedestrian accommodation.
- Treatment of enclosure, by creating a hierarchy which defines the level of visual and physical access allowed into the intervention.
- The introduction of spatial links within the site.

5.10 Context Analysis: Issues, opportunities and threats

In terms of the opportunities and constraints for the proposed development a spatial framework consisting of three key issues are identified.

Integration Constraints

- Limited public accessibility.
- No contextual relationship with surrounding urban fabric.
- Perception of exclusivity through office park type security.

Integration opportunities

- The depth of programme and variation of function allows the site to play an integral role in regenerating interaction between Institution and general public.
- The site has the potential to effectively merge the threshold between private and public functions.
- Hierarchy between public and private domain.
- The graduation of public to private realm aids in the identification of space.

Hierarchical Constraints

- Spatial connections may be confused with freedom of access, rather than expression of flexible domain.

Hierarchical Opportunities

- Individuality of spatial configurations can provide a source of identity.
- The overlapping of hierarchical space allows for the development of social exchange and heightened perceptive experience.
- The order of hierarchy and its implementation allows for the potential of flexible spatial use, since no concrete boundary exists spatial manipulation is possible through multi functional domains.

Pedestrian connectivity

The primary users of the site are students and staff of the University, the flow of pedestrian movement is therefore an influential determinant on spatial connection.

Pedestrian Constraints

- The site is surrounded by vehicular movement, it is therefore necessary to provide for safe connections.

Pedestrian Opportunities

- The site geometry and active pedestrian desire lines provides invaluable information when connecting new buildings to existing infrastructure.
- By connecting the site to the surrounding it fosters a range of social interaction and investment by both the users of public and private realms.

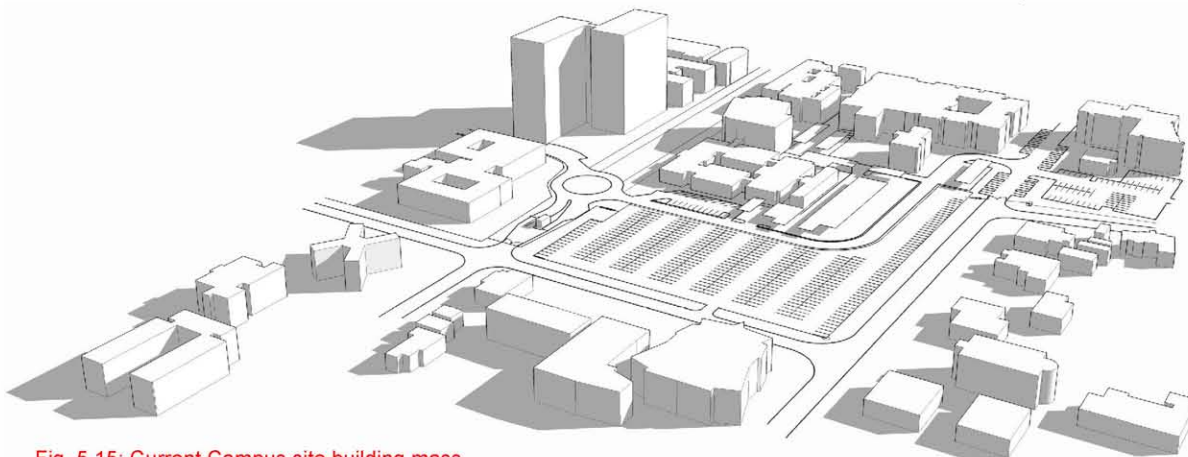


Fig. 5.15: Current Campus site building mass

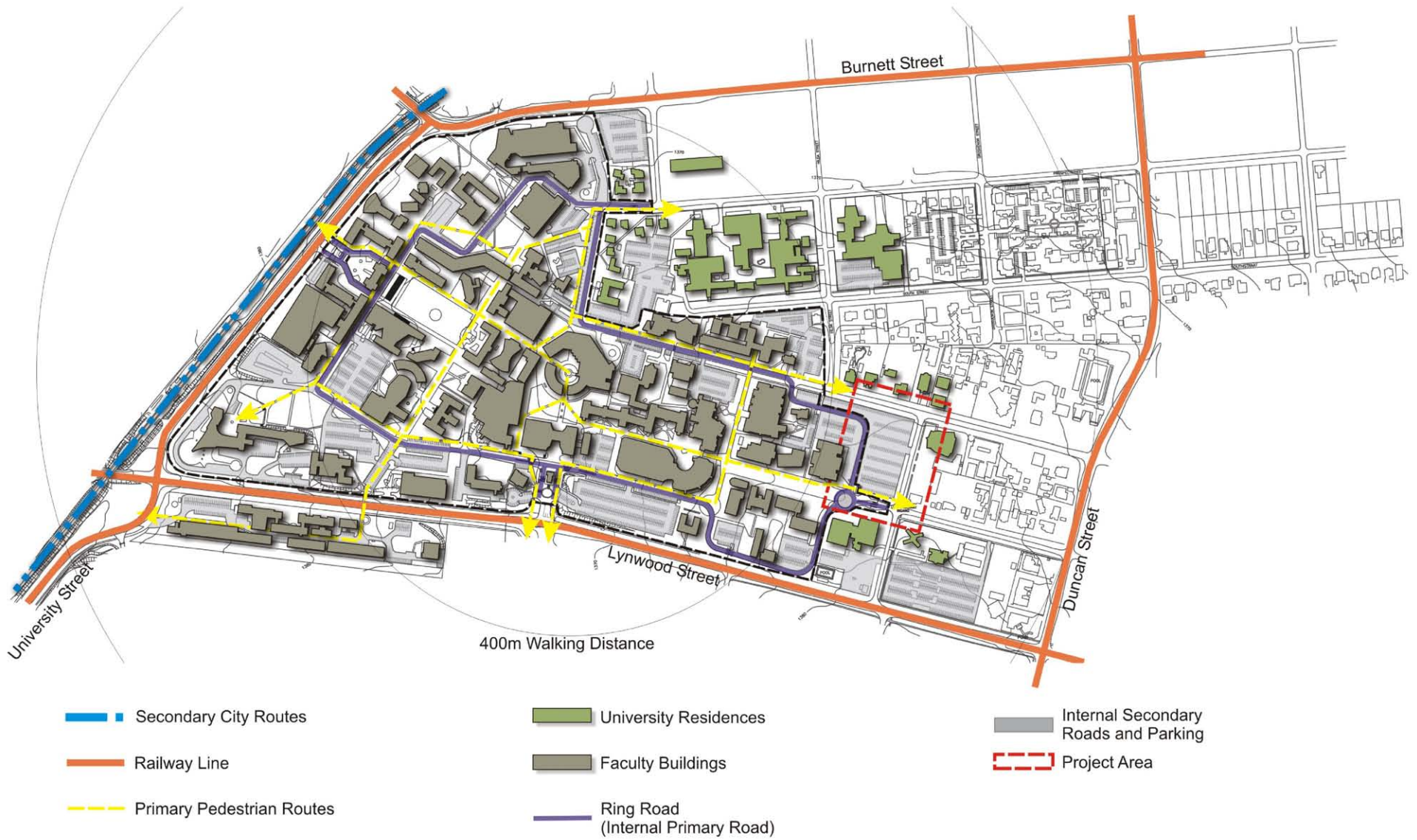


Fig. 5.16: Current Campus site forces and movement (Refer to Fig. 7.11)

5.11 Site Selection

Nature of the problem

- The site should respond to the campus's need to extend into and link with surrounding area.
- The site must address the establishment of both private and public functions, as well as enhance the sense of arrival at a UP destination.
- The site is situated on the threshold between the Campus and city; it therefore needs to be developed accordingly.
- The site is isolated and does not relate to any buildings directly.
- Due to the route that Ring Road follows just west of the site, the creation of awkward space has been created. The solution will be the relocation of a portion of the road in order to accommodate the public realm as well offer more space for development within the University.

The site was selected as a result of the following reasons.

- Its strategic location near the secure vehicular entrance.
- Its proximity to the existing Tourism House.
- The site is situated on the periphery of the Campus, allowing public participation.
- The current use does not reflect the true potential of the site.
- Its accessibility.
- Its location in terms of the tranquil setting, the variation and diversity of activities taking place in the immediate area as well as the high volume of pedestrian movement.
- Its location in proximity to the business nodes of Hatfield and Brooklyn centres.
- The possibility of the development to act as catalyst between the Campus itself as well as the community.

Vision for the site

The site is located on the periphery of the Campus, the resultant, it is the collective communities first encounter of the University. The intention will be to treat the building as a gateway building introducing the touchstones of the University to the user.

The development will comprise of two primary components: the School and the experiential/experiential Hotel, with the administrative function linking the two programmes.

Architecture of the event

Bernard Tshumi stresses the importance of cross-programming or providing multiple programmed spaces provides an architecture which allows for the generation of event occurrence. He further states that often the building scale alone ensures it of being a generator of new events, or it could simply cater for current events. It is therefore vital that the building placement be where routes or programmes converge resulting in a condition where momentary pause and contradiction occurs.

5.12 Conclusion

The spatial vision for the proposed development consists of 5 key elements.

- To establish and revitalize access routes through the exploration of place making.
- Enhance the Campus sense of place, in both the public and private areas. This will be achieved by structuring the building to accommodate the movement routes, which would integrate structure and site into a continuous set of events.
- Create a gateway development that will enhance the spatial character of the University of Pretoria's east side, by allowing choice to the user by varying the functions of the proposal.
- The services and those served will be separated. A stronger continuity of space will be possible by placing the served spaces in direct relation to the more social areas. The services will be placed toward the south edge so as to define an edge and form a buffer zone between the building and parking/ future development.
- Incorporate the site into the master framework plan of the University through cognisant planning.

The intention of the development on the chosen site will be to unify the Campus. Through this unification it is hoped that the users would become active participants rather than passive observers. Regardless of the isolated nature of the site, the precinct offers variety of choice, which is to the benefit of the community at large. The integration however does require the consideration of safety and security, as the site is located on land belonging to the University of Pretoria.

By allowing for varying degrees of visual freedom and connection that are within the limits of the programmes. The hotel and restaurant to the north will increase the eyes on the street effectively increasing the passive surveillance on the more demanding side of the development.

In terms of permeability the development will have specific programmes that allow multiple use. The courtyard area acts as spill out space for both the School and Restaurant in the event of a function requiring extra space.

It becomes necessary to formalise the streetscape on the public realm in order to accommodate the pedestrian walkways without interference of the vehicle. Structuring of the building will respect and conform to existing as well as proposed pedestrian desire lines.

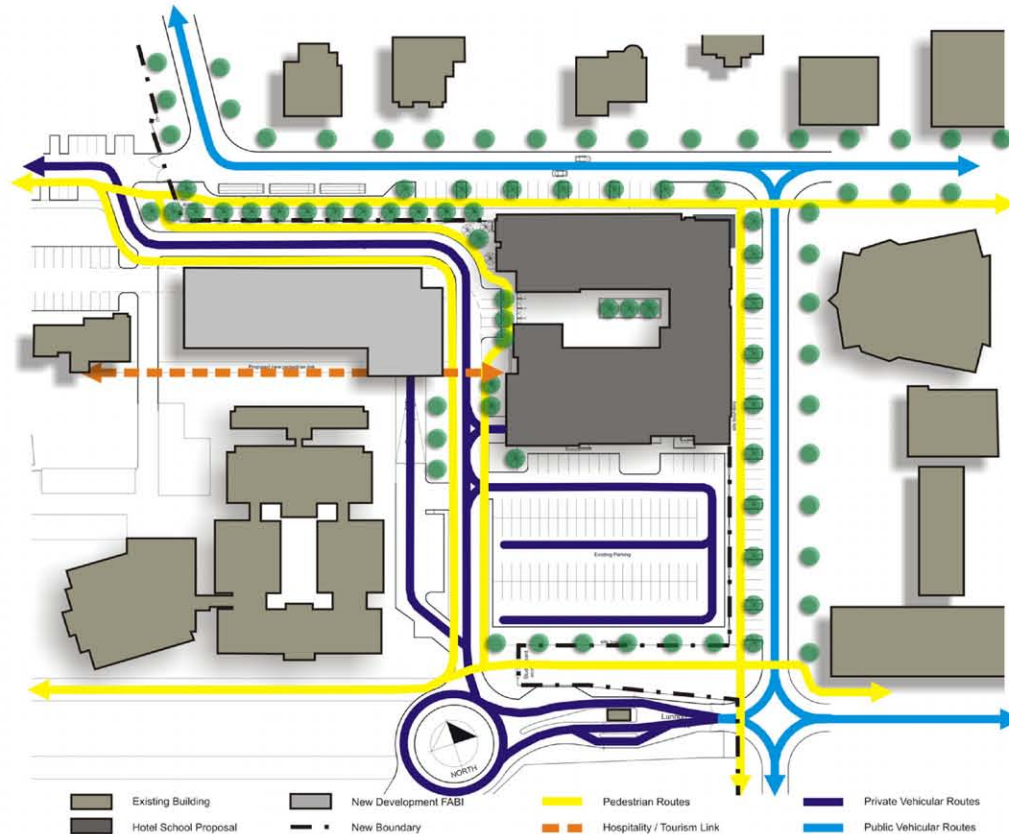


Fig. 5.17: Proposed on site forces, movement accommodation and building edge definition