chapterone
Introduction

Background and context

The relationship between architectural education and industry forms the basis of this dissertation. The lack of synergy between these two phases in architecture causes a problematic transition from education to practice, as the gap between these two phases in an architect's career is too vast (Noero, 2000: 100). The proposed project is an attempt to narrow this gap by proposing a new building typology that can facilitate the relationship in a more acceptable and productive manner in order to benefit both the theory and practice of architecture.

Very little interaction occurs between the different departments in the Built Environment at the University of Pretoria (UP). Currently the only formal interaction is a four day workshop that is completed as part of post-graduate studies. A lack of interest and management is causing the isolation of the different departments and as a consequence the students are not aware of the potential and abilities of each others' professions (Bakker, 2011).

Lynnwood Road separates South Campus and Main Campus. A pedestrian bridge was built in 1995 after a student was killed while crossing the road (Ad Destinatum, 1995: 203). However, it is not a successful link between the two campuses as it acts as an isolated entity that links two sides of Lynnwood road and does not create an integrated campus. This causes South Campus to be experienced as a separate, isolated space.

Interaction with the public has been identified as a priority in future developments at UP according to the Strategic Plan for 2007-2011(The University of Pretoria, 2011). UP has identified its interface with society as problematic, because the University is experienced as an isolated island that is not accessible to the public. A space is needed where interaction between the university and the public can take place to demonstrate some of the pioneering works that are being done at UP.

This dissertation proposes to unify segregated entities and some problems of integration, through the creation of an inhabited bridge over Lynnwood Road. The long-term legacy of the project is to create a forum for the interaction between students and the industry in order to simplify the transition process between the two stages in an architect's career.

Project location

The City of Tshwane (CoT) Metropolitan Municipality defines the central northern part of the Gauteng province in South Africa. Formerly known as Pretoria, the Municipality was created on 5 December 2000 and is an amalgamation of 13 former city and town councils. Just over 2.2 million people currently live in CoT with an area of 3 200km^2 (City of Tshwane, 2009).

UP is situated on the corners of Lynnwood Road and University Road, Hatfield, south east of the Central Business District (CBD) of Pretoria. South Campus is situated south of Lynnwood Road and Main Campus is north of Lynnwood Road (Fig 1.6). The site is located in the north eastern quadrant of South Campus as well as west of the Boukunde building on Main Campus. An pedestrian bridge currently links the two sites.

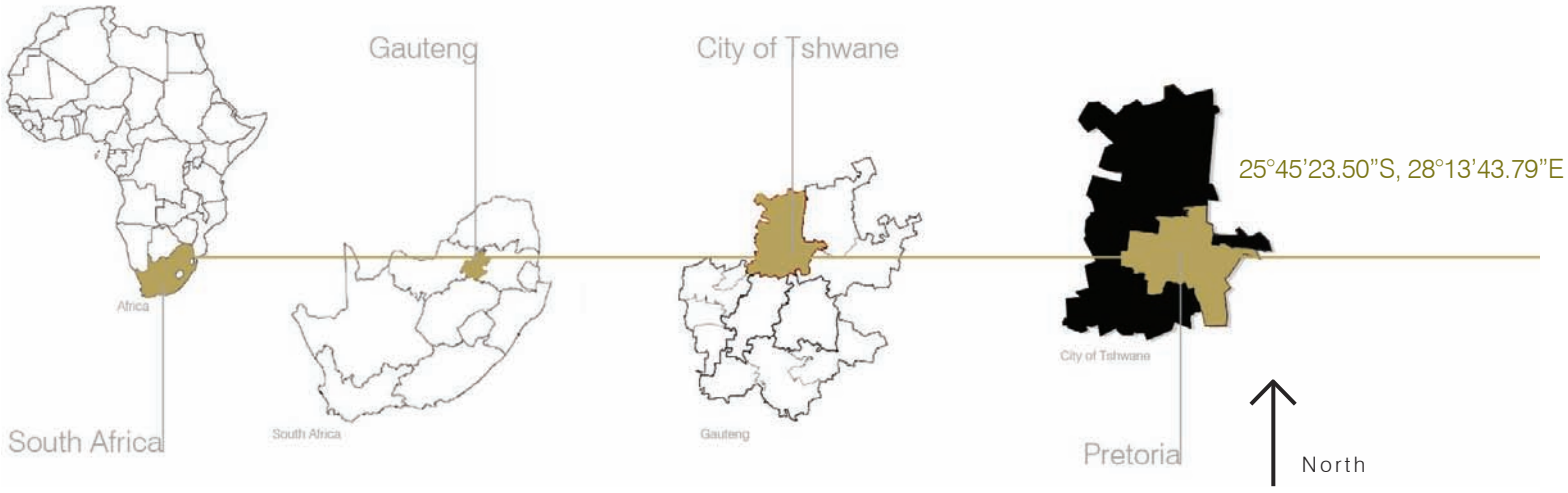


Figure 1.1 Locality in an international context

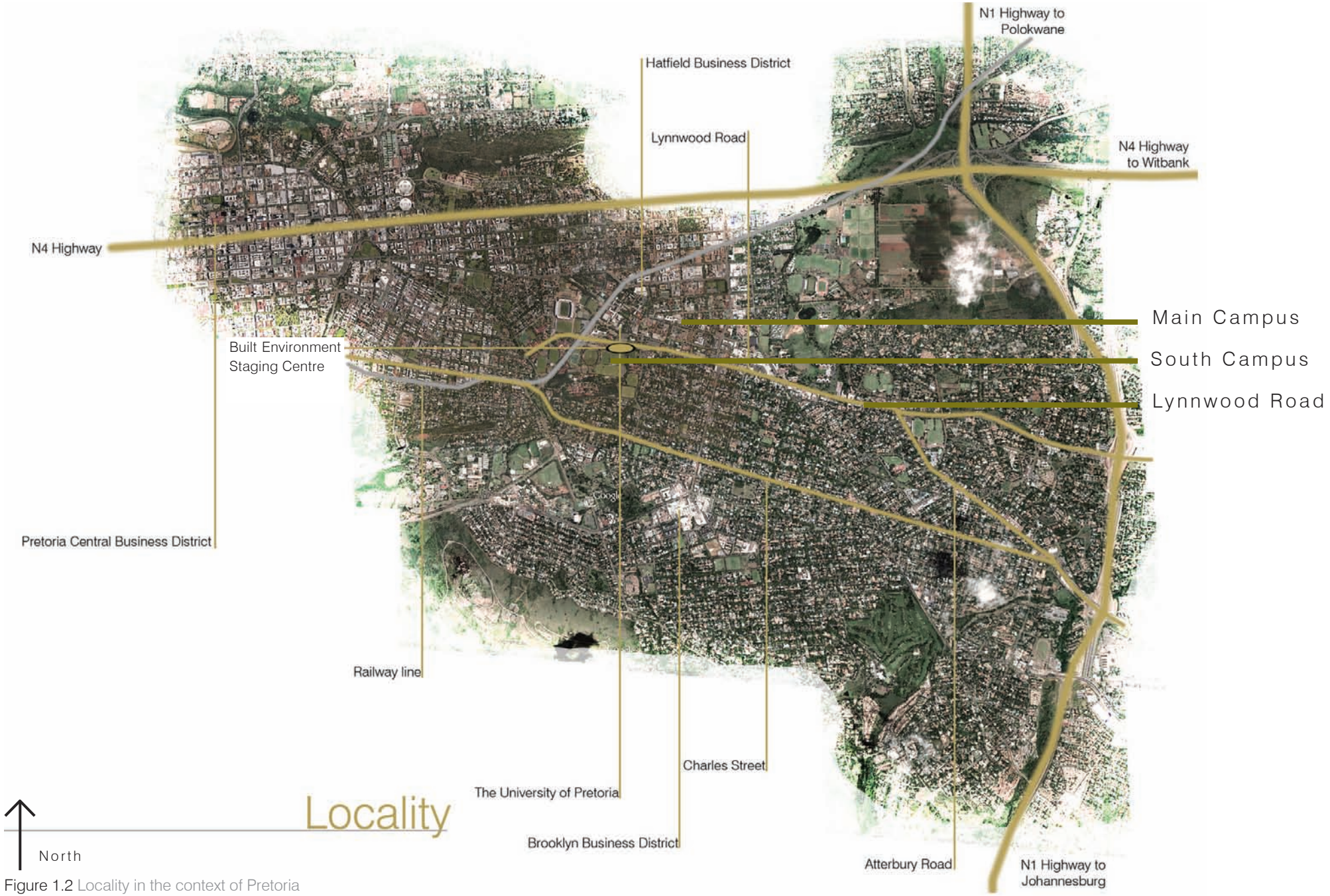


Figure 1.2 Locality in the context of Pretoria

Establishment of the University of Pretoria

The University was established in 1908 as the Pretoria campus of the Transvaal University College (TUC), situated in Johannesburg. The University has grown from its humble beginnings with 32 students, housed in one building, to almost 40 000 students in 2010, divided into 140 departments on seven campuses (The University of Pretoria, 2011). In 1930, in terms of the Private Act on the University of Pretoria (Act 13 of 1930), the University gained its independence and 10 October 1930 is the official date of establishment of the University of Pretoria.

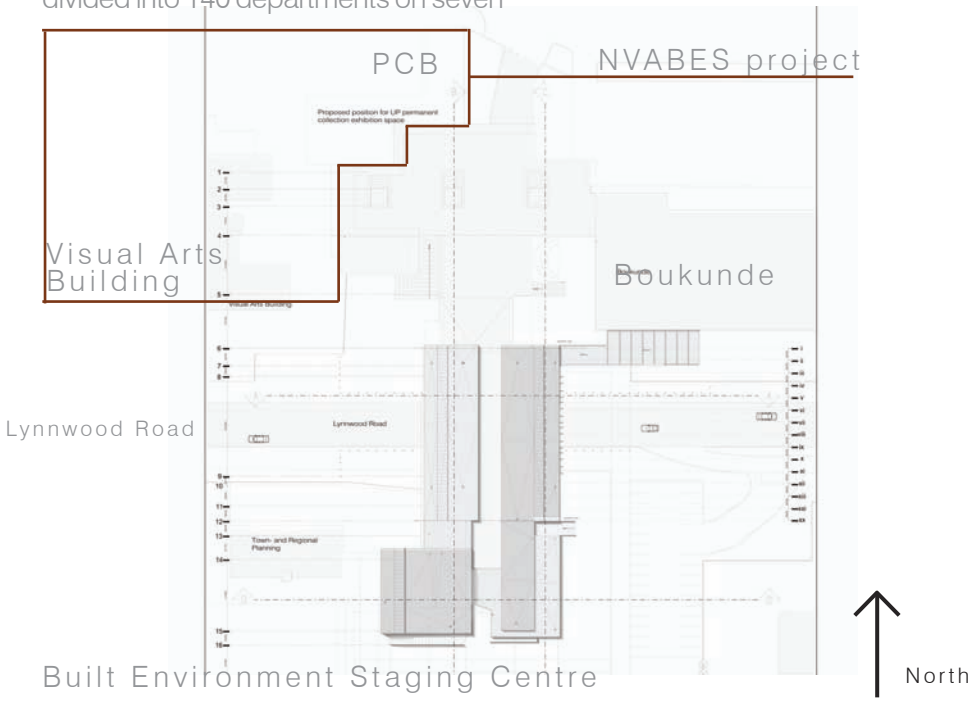


Figure 1.3 Relationship between NVABES project and Built Environment Staging Centre

Current facilities on South Campus

South Campus is a rectangular site with its long axis stretching east-west. The site currently facilitates Town and Regional Planning, Construction Management, Drama, Fine Arts, Chemical Engineering's division for water utilisation and Biotechnology. Other facilities on the campus include the Kiosk, Centre for Electromagnetism, UP Press, store rooms and a security administration building (Fig 1.5).

New developments

The University of Pretoria is planning to build a new facility for the Visual Arts Department (Vosloo, 2011) as well as additional exhibition space (NVABES). The new development is situated between Boukunde and the current Visual Arts building. The new facility will include an exhibition space that will house the University's permanent collection.

This dissertation will respond to the brief of the proposed new development as the two projects complement each other. The location and footprint for the new Permanent Collection Building (PCB) is proposed in this dissertation in order to create an integrated and cohesive new interface between the university and the public.

Figure 1.3 indicates the relationship between the NVABES project and the Built Environment Staging Centre, proposed in this dissertaion.

The University of Pretoria Strategic Plan

UP's strategic plan is a comprehensive, publically available document that specifies the outcomes and strategies of UP (The University of Pretoria, 2011). One of the main strategies is to have a sustainable and influential impact on the local community. The aims that correlate with this dissertation are to:

- have a significant local impact through better engagement with the community;

- be an economic driver and competitor in the area;

- be a force for social change;

- be more influential on a national scale, producing pioneer work that can benefit the people of Southern Africa.

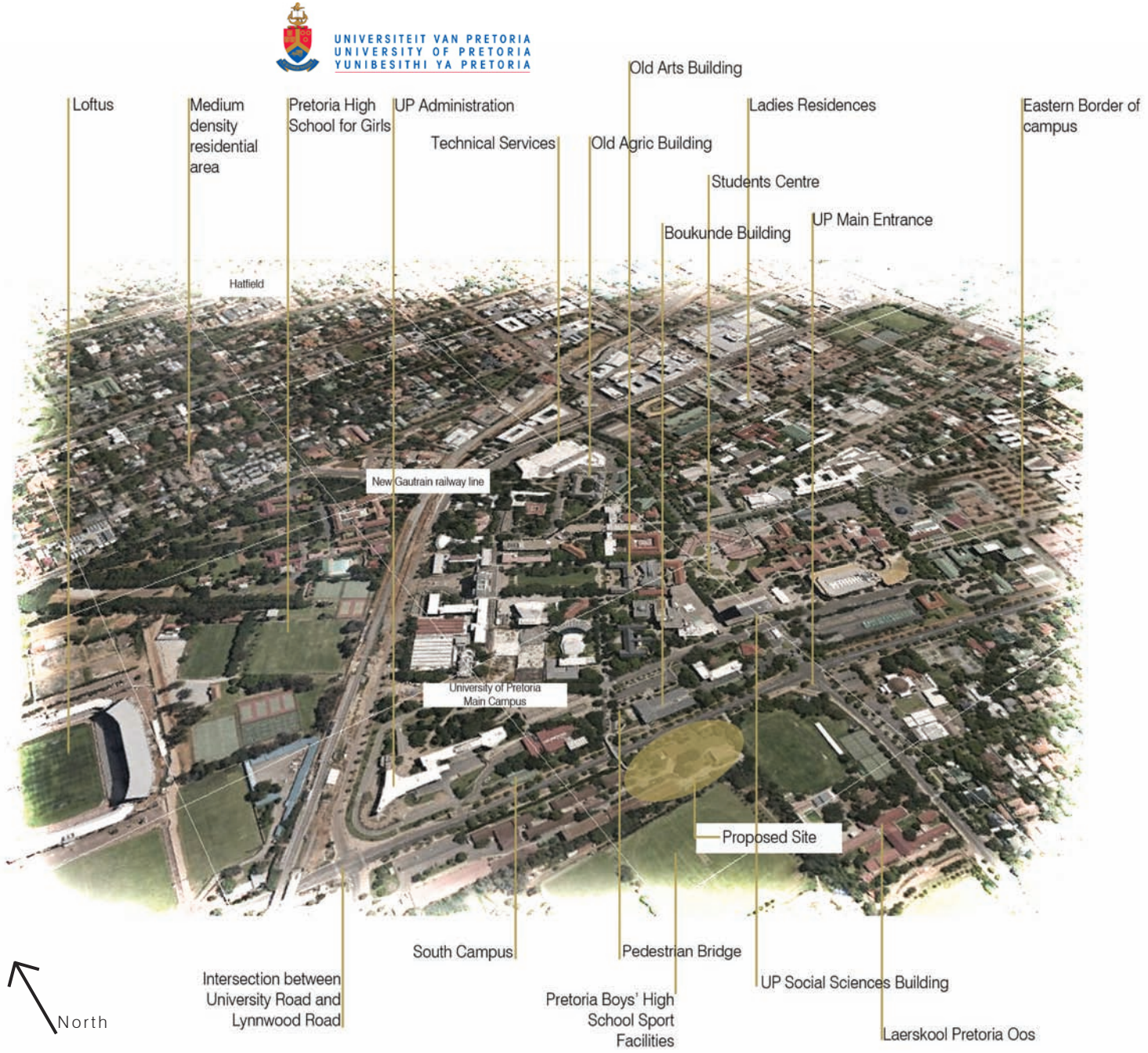


Figure 1.4 Identification of important areas around the site

Figure 1.5 Current facilities on South Campus

1. Entrance
2. Exit
3. Pump Room
4. South Campus Administration
5. Sculpture Studios
6. Geology Storage Rooms
7. Department Electrical Engineering Storage Rooms
8. Drama Storage Rooms
9. Drama Practice Rooms
10. Chemical Engineering (Water Utilisation)
11. U.P. Press
12. Construction Economics
13. Art History
14. Drama Practice Rooms
15. U.P. Press
16. Town and Regional Planning
17. Pedestrian Access Gate
18. Pedestrian Bridge over Lynnwood Road
19. Cafeteria
20. Undercover Parking
21. Centre of Electromagnetism
22. Storm water channel

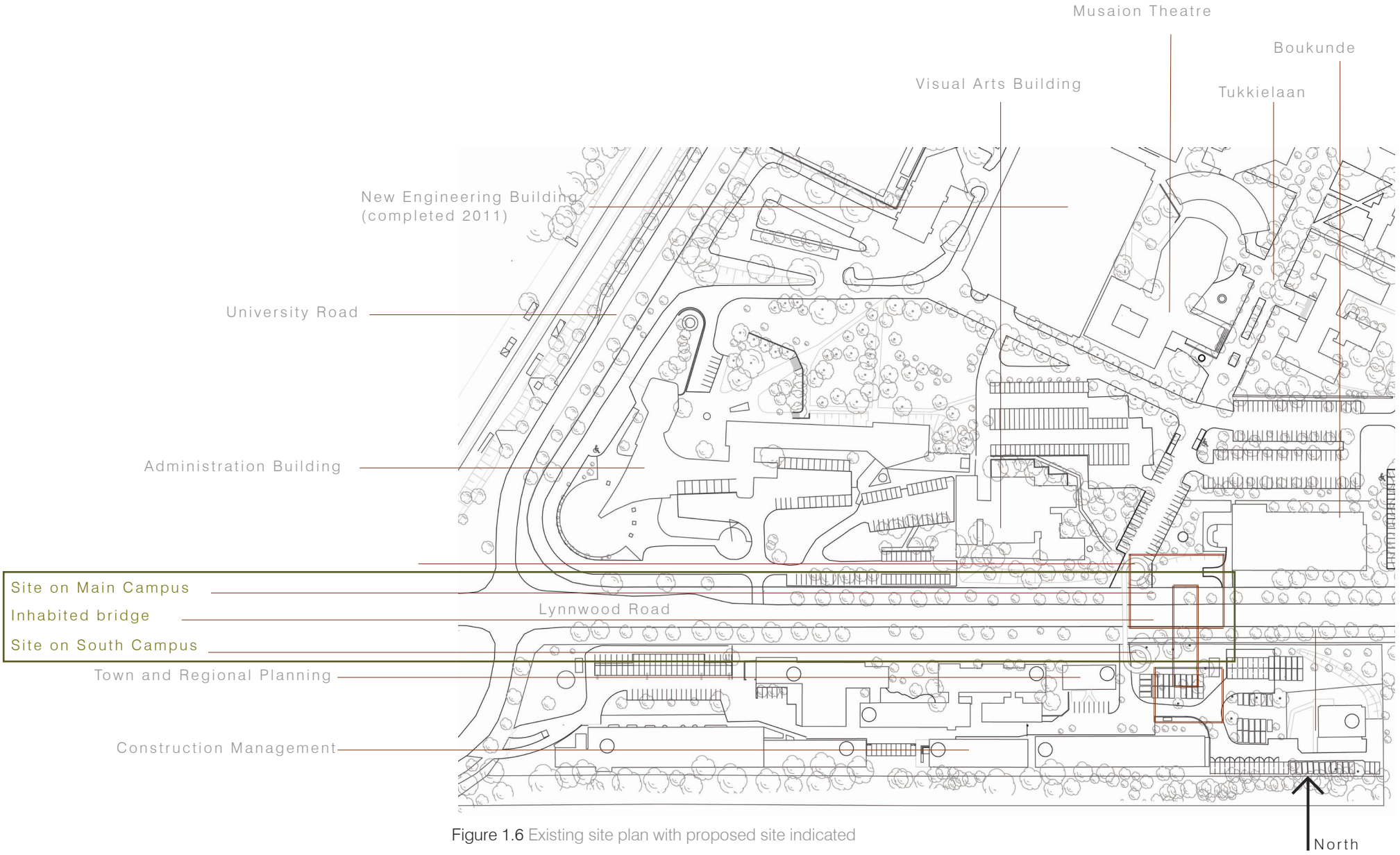


Figure 1.6 Existing site plan with proposed site indicated

Aims

The aims of this dissertation are to:

- Establish a platform for the development of a better relationship between architectural theory and practice;
- Expose the work of the students at UP to as many relevant people as possible in order to narrow the gap between education and the industry;
- Encourage interaction between the disciplines in the Department of the Built Environment;
- Create a sustainable and viable link between South Campus and Main Campus;
- Create a public interface that communicates achievements and educational development at UP to enable UP to become an influential entity within the society;

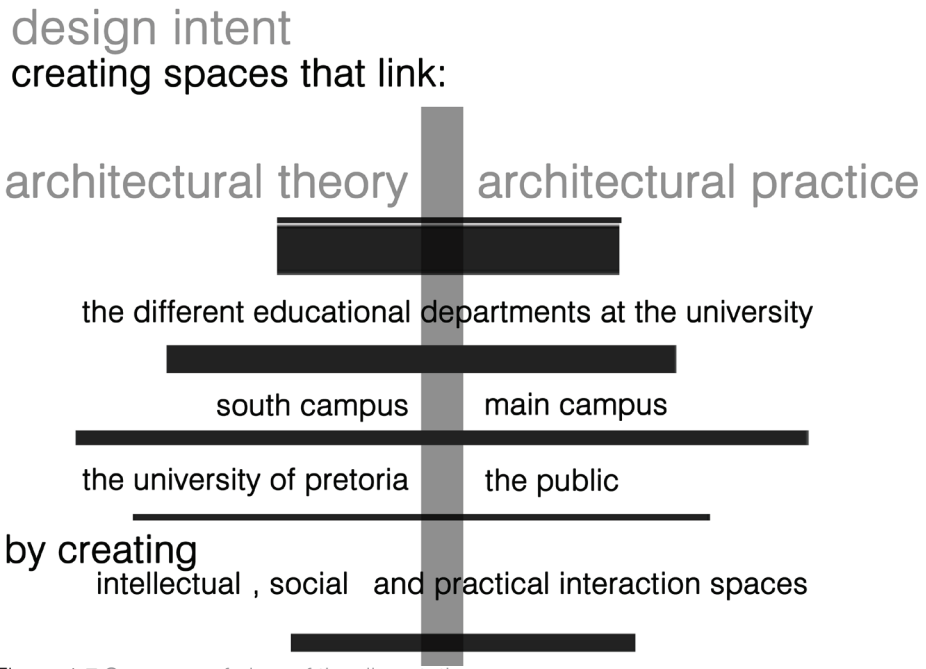


Figure 1.7 Summary of aims of the dissertation

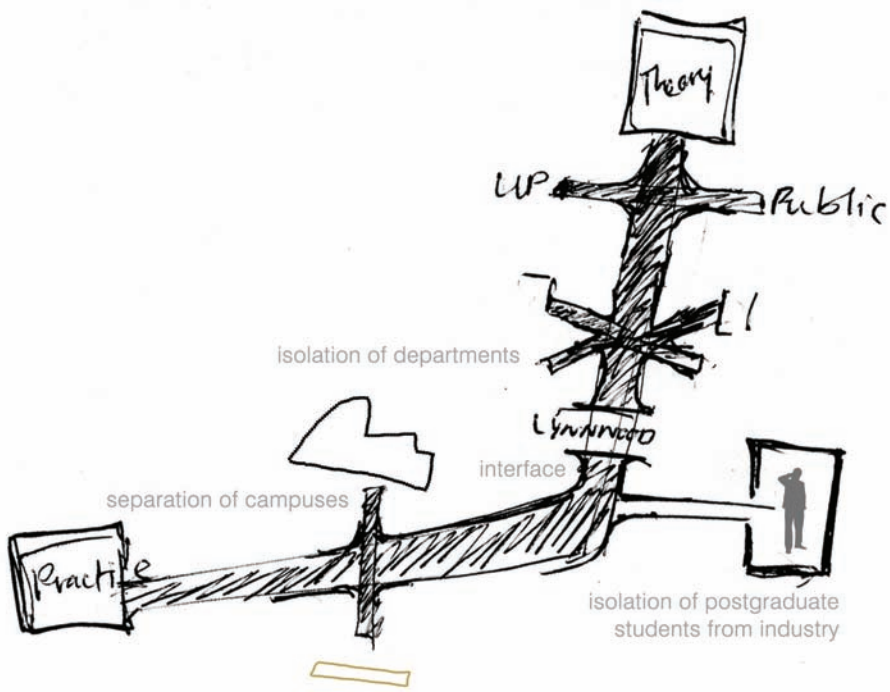


Figure 1.8 Graphic illustration of aims

Programme

A Graduate Staging Centre (GSC) is a new typology that is created to facilitate better transition between students and their future professions. The facilities are designed to constantly showcase the work that is produced at that specific academic institution and puts it in the public realm for scrutiny and evaluation.

Staging (or stage) has many different meanings in many different disciplines. The most applicable meanings for the purpose of this study are:

1. A stage – refers to a level, phase or period as a continuous process or as part of a process with a specific goal.

In this dissertation it refers to the time before the completion of the student's studies, yet close to the time when the student will be moving into the industry and start working.

2. Theatre staging – putting something on display and in the public realm, in order to showcase or demonstrate.

In this dissertation it refers to putting the work or projects on display, to showcase work that is produced to fellow students, members of the industry and the general public.

3. Data Staging – the last phase of data editing and manipulation before the production of a software product.

In this dissertation it refers to the educational aspect that is still present. The students are still in an academic environment and need additional skills and experience before they can become practicing professionals.

This dissertation proposes a Built Environment Staging Centre. This is a GSC for the students, members and interested parties of the built environment.

The Programme is discussed in detail in Chapter three of this dissertation.

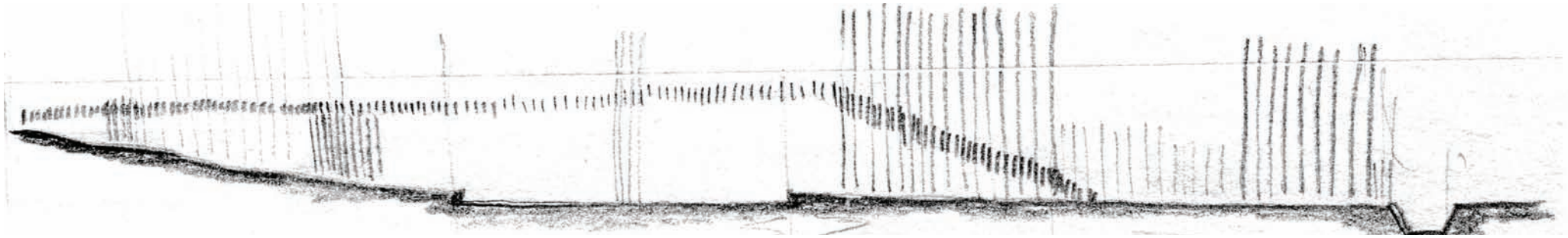


Figure 1.9 Conceptual section depicting activity intensity

Importance of the project

The transition from education to practice is inevitable for most students. The long-term legacy for the project is to become an established incubator for students, which facilitates regular interaction between students and the industry. This process empowers both students and the industry as it creates a controlled environment where the members of the industry are exposed to students' work and can therefore make more informed decisions when recruiting.

The interaction between the different disciplines enables students to develop relationships with their peers within the Built Environment. This leads to a more comprehensive understanding of the dynamics of the built environment and further simplifies the transition into the industry as students are already well connected.

In addition, members of the public, who are ultimately the clients when referring to building commissions, are exposed to the academic development within the built environment, thereby resulting in better and more informed design briefs and projects.

Client

The building will be commissioned by the Department Facilities Management of UP, in collaboration with the NVABES commission.

The project will partially sustain itself through the provision of incubation offices, exhibition spaces and retail facilities. According to the Strategic Plan, Innovation Generation: Creating the Future, 2007-2011 (The University of Pretoria, 2011), it is intended that the University investigates the exploitation of commercial activity through its developments. A commercial aspect to generate funds through private initiatives is therefore included in the design.

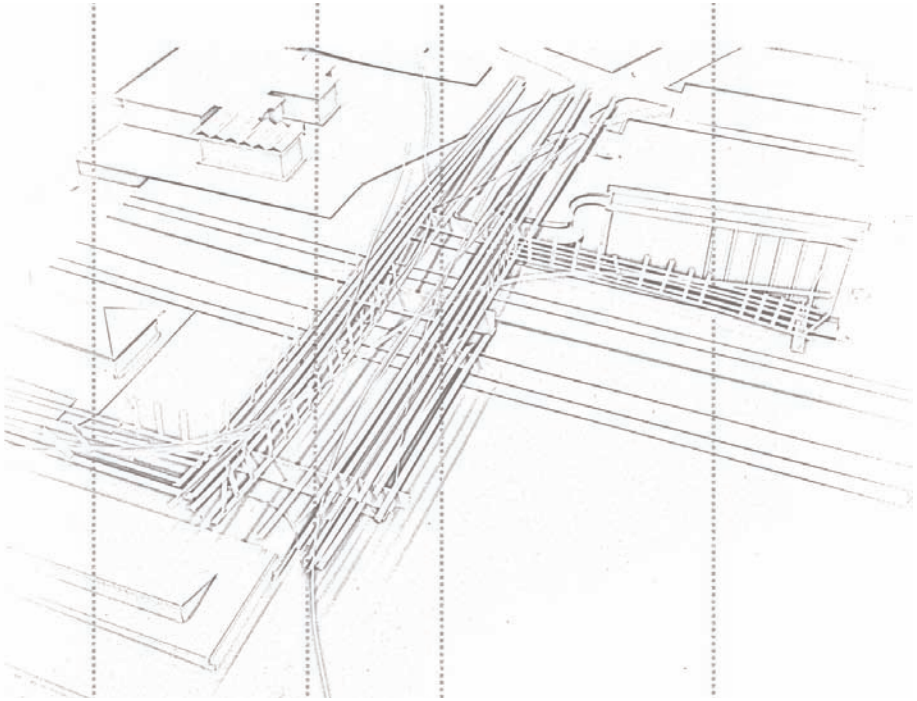


Figure 1.10 Picture of conceptual model - investigating the linearity of the structure

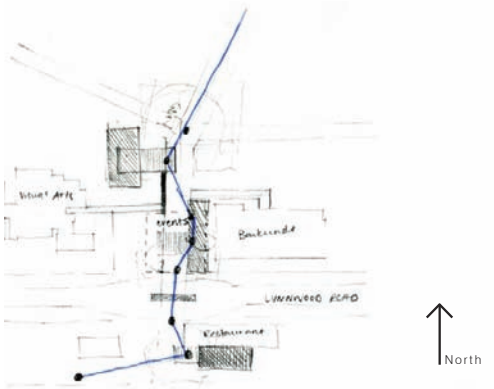
Approach

A sustainable relationship between two entities that have been segregated is difficult to develop and enforce; the academic study revolves around how this can be achieved. It is clear that new relationships need to be identified and developed to establish successful interaction between segregated entities. Therefore, in order to create a space that can foster interaction between theory and practice, three types of relationships were established, namely: social, intellectual and practical: social relationships are established through regular, uncontrolled interaction; intellectual relationships arise from interaction on an intellectual level, where skills are transferred, communicated and taught; and practical relationships are based on formal relationships that develop within the academic and industry frameworks, where students and member of the built environment interact through projects and formal meetings. The amalgamation of these relationships can possibly lead to a sustainable relationship between theory and practice.

Activities and events are used to attract the public and members of the industry to the GSC, leading to the development of social relationships. These will then act as the forum for the development of intellectual relationships. Intellectual relationships are formed when informal and semi-formal relationships start to develop between the students and the members of the industry. This in turn can lead to the establishment of formal practical relationships. All three these relationships are necessary to develop a sustainable relationship between theory and practice; one relationship will not function successfully without the other two relationships. If one relationship exists without the other, it will then lead to an imbalance in the relationship between theory and practice.

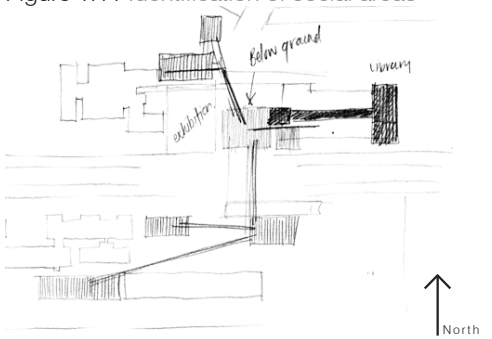
The type of relationships which are encouraged through the design and programming of the GSC are explained in Chapter three. These basic relationships will inevitably lead to more, and more diverse, relationships.

Figure 1.11 - 1.13 are diagrams indicating the process that was followed to establish a programme that can facilitate the interaction between the different types of relationships that were identified.



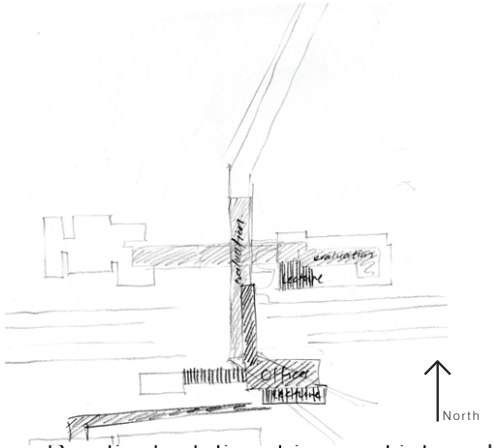
Social relationships and interaction

Figure 1.11 Identification of social areas



Intellectual relationships and interaction

Figure 1.12 Identification of intellectual areas



Practical relationships and interaction

Figure 1.13 Identification of practical areas

Research Questions

How does one create an interface that accommodates the interaction between:

- Education and the industry?
- Students of the respective disciplines in the Built Environment?
- The University and the public?
- Seperated campusses?

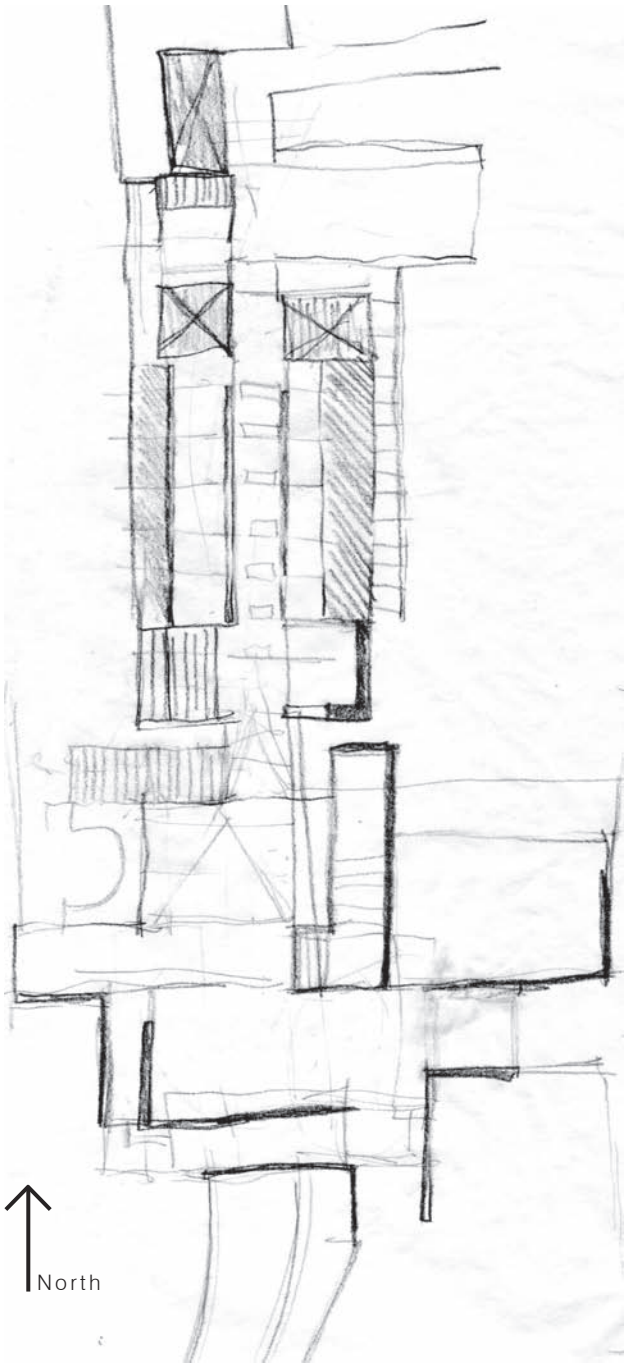


Figure 1.14 Conceptual sketch exploring the linearity of the plan in relation to the proposed programmes

Research methodology

The debate regarding the current relationship between architectural theory and practice is analysed and discussed. Current relationships are identified and then the possibilities of how to achieve a better relationship and proposals are investigated.
Both qualitative and quantitative research methodologies will be used:

Qualitative research

- Debating architectural education – The role of architectural education and the relationship between architectural education and the industry are investigated through a literature review and a series of interviews.

- Precedent studies – The Bauhaus, as a successful educational and design facility that remained influential over a large period of time, is analysed in depth. This study assisted in the development of a programme as well as architectural principles have been identified from the design of the Bauhaus building in Dessau, Germany. Further precedent studies were done during the design process.

- The history of the education of architecture, both locally and internationally, is discussed in order to develop a new stance for the creation of a more successful relationship between theory and practice.

Quantitative research

- The history of the buildings in the vicinity of the proposed building is considered in terms of the history of the establishment of UP as a university, in order to react to the context appropriately. UP boasts a rich heritage and history of more than 100 years.

- Personal interviews with HoD's from the different architectural schools in the Pretoria vicinity, as well as practicing architects in the area, assisted in the identification of the detailed programme - discussed in Chapter three.

- A context analysis is done through an analysis of photographic documentation, academic research of the history, data obtained from CoT and previously developed frameworks for the Hatfield area.

Figure 1.15 graphically depicts the research methodology. Even though the process is depicted as a linear process the reality is that the sequence and methodology constantly changes as it is questioned and re-examined.

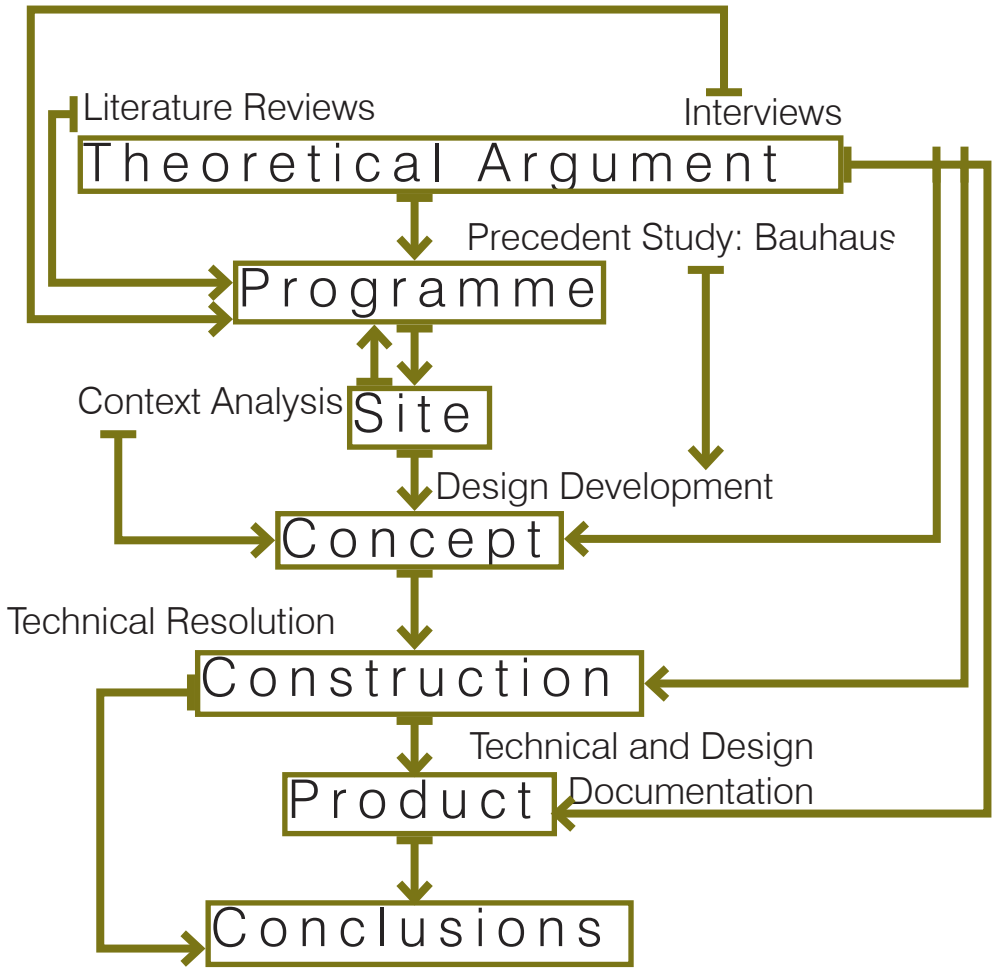


Figure 1.15 Research methodology

Design brief

An inhabited bridge structure that can facilitate the relationship between architectural education and the industry will be developed. The main element of the structure will consist of exhibition spaces. The programme will also include functions that will aid in the development of social, intellectual and practical relationships between students and members of the built environment industry. These will include workshop studios, a restaurant, public spaces, lecture facilities, library, architectural offices and studios. In general the structure will be able to facilitate many different sizes and types of events.

The link between South Campus and Main Campus as well as the University's interface with the public will form an integral part of the design. All the spaces will be adaptable and subject to change as the requirements and nature of the relationship between theory and practice develops and changes.

New foyers will be created in the open spaces or squares around the site to facilitate social, intellectual or practical interaction between the users of the spaces. The interaction between these foyers, the building and the spaces around it will lead to a contextualised and well-rounded intervention between the two campuses.

A parking structure is zoned on the far eastern corner of South Campus (Fig 1.16), but there are currently no formal plans to start with construction. The space is currently a well-shaded lawn that will be utilised by temporary programmes derived from the design, but the presence of the parking structure in the future will be considered and recognised.

Rentable space will be included in the design to create a partly financially independent building. The exhibition spaces will be able to host private exhibitions of different scales and natures.

The brief is to create a landmark structure in Lynnwood Road that will act as a foyer between the University and the public that also communicates the competence and quality of education received by the students at UP.

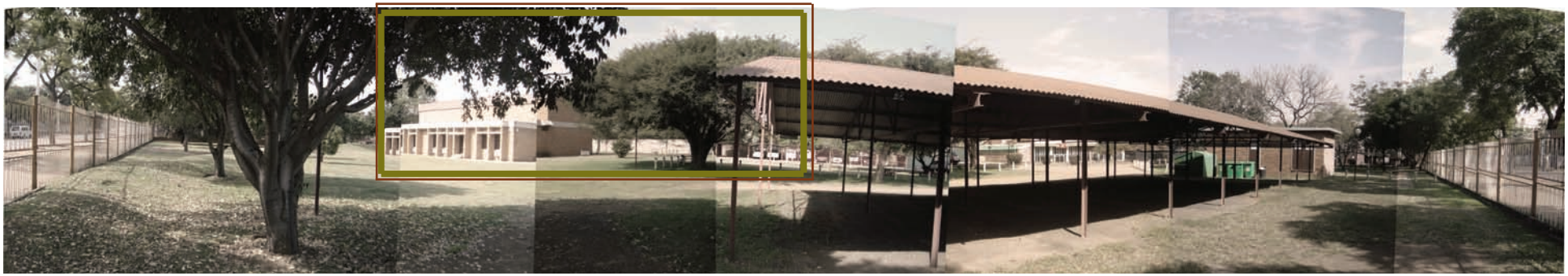


Figure 1.16 Panorama view of South Campus with position of future parking structure

Design approach

Figure 1.17 demonstrates the main design generators. Firstly the context, with a natural northern slope and Lynnwood Road as arterial road in Pretoria are to be utilised to achieve the requirements as set out in the design brief.

The spaces on the northern and southern side of Lynnwood Road become urban foyers, moving away from the University's isolated identity.

The two urban foyers are then linked with a bridge structure spanning over Lynnwood Road. The bridge is programmed and becomes an urban foyer on its own, linking the other two urban foyers.

The direct context, identity and function of the surrounding buildings are complimented and integrated into the design.

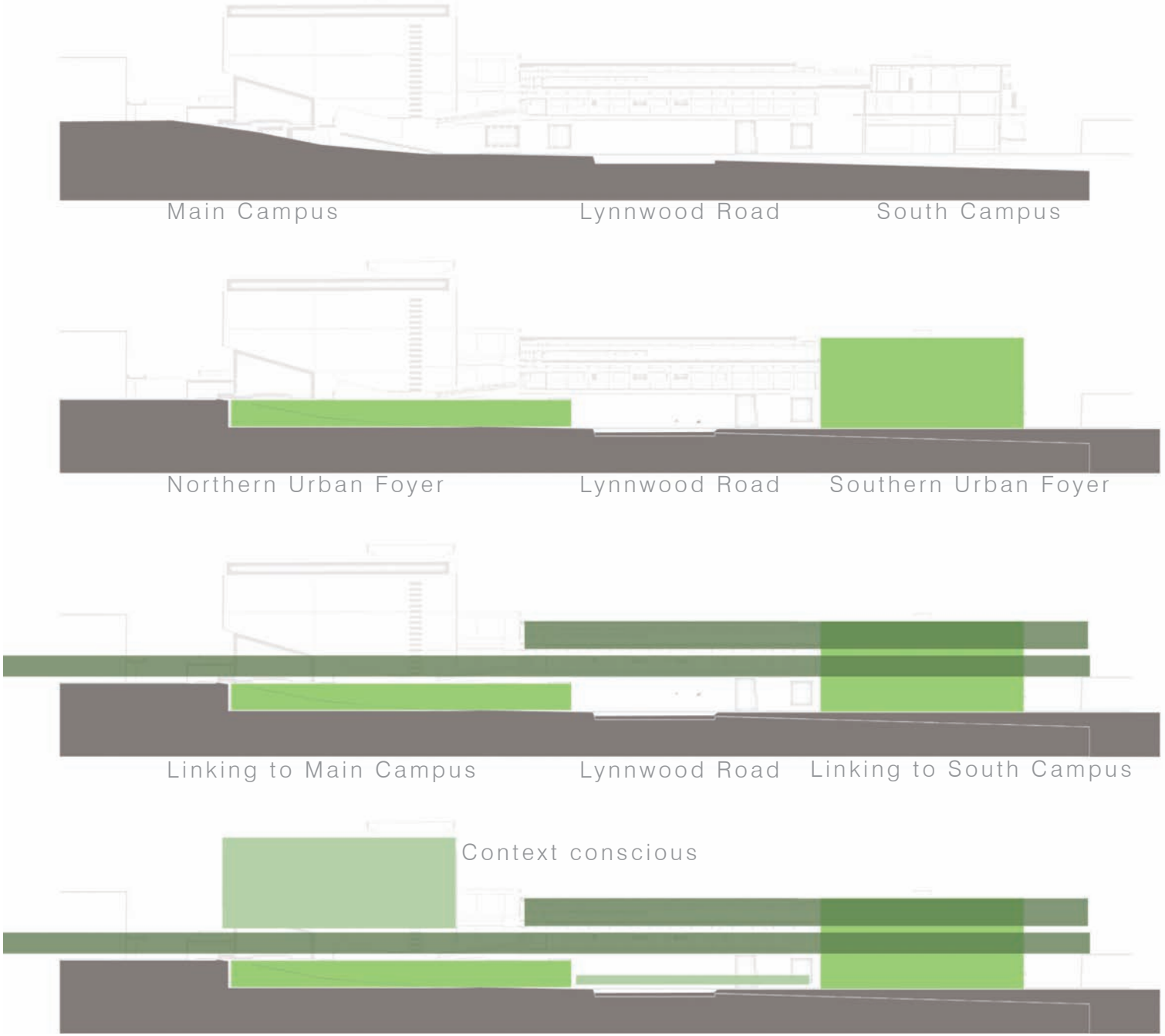


Figure 1.17 Design approach diagrams

Assumptions and delimitations

It is assumed that the additions and alterations to the existing Visual Arts Building will not enlarge the building's footprint and the entrance will remain in the same position. Also, the new exhibition space for the permanent collection does not need to be directly on the street, though still needs direct public access. Furthermore it is assumed that both projects can be funded and constructed simultaneously.

This dissertation develops a possible stance regarding the debate around what the relationship between architectural theory and practice should be. It is important to keep in mind that the nature of the relationship between architectural theory and practice is constantly debated and every individual has a personal opinion of what the relationship is suppose to be. Even though the study was done as thoroughly as possible, it is inevitable that not all opinions have been included.

It is assumed that the University will be able to obtain the right zoning to construct an inhabited bridge over Lynnwood Road.

Additions are proposed to the current Boukunde building. The new structure will be independent, but new openings and alterations are proposed on the southern facade and on the ground floor. It is assumed that this will be possible.

Structure of the study

Chapter one acts as an introduction to the dissertation. The background and context together with the location is given in Chapter one. The aims are identified and reasoned through an introduction to the programme, importance of the project and the identification of the problems. The research questions and methodology are then discussed followed by the design brief and approach as well as the assumptions and delimitations.

In Chapter two the debate surrounding the relationship between architectural education and the industry is discussed. The history of the relationship between architectural theory and practice is established followed by a discussion on the opinions of influential individuals on the subject matter. To complete the discussion, possible solutions that have worked in the past are discussed as well as the current structure of the relationship between architectural theory and practice in South Africa.

The programme and its development are discussed in detail in Chapter three. The three types of relationships (social, intellectual and practical) are explained and translated into a programme. The areas between the formal spaces are explained and discussed as these areas define many of the most important spaces in the design. Chapter three also relates to Appendix A, a precedent study that was performed as part of the process to determine a programme for the building.

Chapter four deals with the urban framework. Existing frameworks for the Hatfield area are discussed and combined to create one comprehensive framework for the University as part of the Hatfield precinct. The University's role in society is enhanced through the incorporation of a number of urban foyers in the form of GSCs.

The physical properties and characteristics of the site are discussed in Chapter five. The influence the new BESC structure will have on its context as well as how the context informed the design is explained. The concept was derived from a contextual background. The relationship between the context and concept and how the context influenced the concept development is explained.

Chapter six deals with the design development and the process that inform the building design. The design reasoning and logic is discussed in relation to the process that was followed.

The structural, services and environmental systems are explained and demonstrated in Chapter seven. The integration of the various services and systems, and how these changed the design and aesthetic of the building is focused on.

Technical detailing and resolution are documented in Chapter eight. Detailing and building functionality form the basis of this chapter.

Conclusions are drawn in Chapter nine. The project is synthesised and projections are made into the future.
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