THE HERMENEUTICS OF ARCHITECTURE AS A MEANS FOR TRANSPOSING PUBLIC PERCEPTION

TOWARDS THE DESIGN OF A TRANSPORT INTERCHANGE IN THE

DURBAN CENTRAL BUSINESS DISTRICT

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A dissertation submitted to the Faculty of Humanities, Development of Social Sciences, University of KwaZulu-Natal, in partial-fulfilment of the requirements for the degree of Master in Architecture

Durban, 2011

ABSTRACT

In South Africa today, railways, along with other forms of public transport have lost or in fact never had the same sense of sanguine appreciation that European stations embodied. Instead South African public transport systems, especially its railway networks, are perceived negatively by a large portion of the population and the vast majority of visitors to the country (Donaldson and Ferreira, 2008).

The problem with the perceptions and judgments made by people with regards to architecture is that they often stand in contrast to each other. These disagreements are not only limited to laymen, as disagreements among critics often go beyond the mere subjectivity of taste or opinion, even extending to matters of fact (Bonta, 1979: 11).

By extrapolating the process by which humans interpret the world around them, Hermeneutics attempts to define the determining factors behind subjective thought when making an accurate interpretation of text. In recent years these same techniques have been applied to the built environment in what can best be described as an investigation into the meaning of architecture, this investigation became known as 'architectural hermeneutics'
(Bonta, 1979 and Snodgrass & Coyne, 2006).

While hermeneutics does provide a method to deal with the problems associated with subjectivity, the tools needed to assess the validity of the resultant interpretations of architecture have not developed. In order to confirm the adequacy of any resultant interpretations the researcher must define and abstract the parts, which contribute to these interpretations, according to quantifiable guidelines that can then be measured and compared. The Guidelines utilised in this study are defined through the work of Norberg-Schultz, Thiis-Evensen, Alexander and Handa.

Through the ensuing case studies this paper demonstrated that by designing architecture in accordance with its relationship to the surrounding environment and context, the designer becomes capable of generating a supportive architecture that can reaffirm its associated functions under a positive light. By creating a continuous structure between the new architecture and its context – that is in accordance with the 'parts' which make up the meaningful 'whole' – an architect of any background can create meaningful architecture in any context.

DECLARATION

I hereby declare that this dissertation is my own original work. It is being submitted to the School of Architecture, Housing and Town Planning, University of KwaZulu-Natal, Durban, for the Master of Architecture degree, and has not been submitted before for any degree or examination at any other University.

Signed by David Tod Brett

On the 30th August 2011

ACKNOWLEDGEMENTS

My Heartfelt thanks goes out too all those at the University of KwaZulu-Natal who supported me throughout my studies from my inspirational first year lecturer Derrick van Heerden, too the students and staff who shared in the journey of my architectural education. While every lecturer played some part in my development, special mention must be made of, Kevin Bingham, Dumisani Mhlaba, Yashaen Luckan, and Walter Peters.

In regard to the following dissertation, additional gratitude must be given to the following people:

- Dr. Bill Thompson, a Lecturer in Architectural Theory at University of Ulster with a PhD in environmental psychology for not only responding to the emails of a foreign student but for the overwhelming interest and advice that he provided, without which this dissertation would not have been possible.
- Dr. Rumiko Handa, Professor of Architecture University of Nebraska-Lincoln and assistant professor of Architecture and Interior Design, University of Idaho, Randall Teal for their responses and suggestions which undeniably influenced the direction of this paper.
- Majahamahle Mthethwa, for his calming presence and compassion, when it was needed most.
- Philippe Yavo of the School of Architecture, Planning and Housing, for their guidance and encouragement.
- The Barry Biermann library staff, for their support, interest and ability to locate the un-locatable.
- My parents, Jane Elizabeth Brett and Peter Dallas Brett for their unrelenting support and patience.

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1.1 PREFACE

1.1.1 Background

Over the last century, technological advances and rapid urbanization have contributed to a built environment that is dominated by standardisation. This consistency of architecture and technology has led to a built environment that is devoid of cultural and regional identity, as the same building methods, materials, and styles are applied (Eldemery, 2009: 344).

This process of globalisation is often felt hardest by developing countries, who struggle between the economic and international opportunities offered by globalisation, and a growing disillusionment in the loss of national identity. The driving forces generally agreed to be behind economic globalisation are;

- A reduction in transport and communication costs in the private sector.
- A reduction in policy barriers to trade and investment by the public sector.
- An increase in the availability of information and technology.
- The speed with which information and technology can be transmitted (Loots, 2002: 1).

Despite South Africa having only re-entered the international economy after 1994 at a time when globalisation was beginning to gain momentum, due to new technologies such as the internet, it is approximated that 98% of South Africa's current growth performance can be credited to globalisation (Loots, 2002: 1-18).

Geoffrey Broadbent states that over the past few years it has become fashionable to write books and articles about the crises and failures of modern architecture. These architects, theorists and authors are primarily concerned with the lack of meaning inherent in this architecture and its lack of identity and sense of place (Bonta, 1979: 7).

Through these investigations into the meaning of architecture a simple indisputable fact was observed, whereby judgments made by people with regards to architecture often stand in contrast to each other. These disagreements are not only limited to laymen, as disagreements among critics often go beyond the mere subjectivity of taste or opinion, even extending to matters of fact (Bonta, 1979: 11).

> *"It is easy to react to this state of affairs with scepticism. If scholars cannot agree in judgment, then it might be best to disregard their written criticism, and to seek instead some personal experiences of the buildings themselves. But as soon as one starts passing personal judgments, one is caught in the same web of inconsistencies as the professional critics.* (Bonta, 1979: 11)

As it is unfeasible, for positivists, to claim that the interpretation of architecture and art is a subjective matter, architects have begun to return to the philosophical study of interpretation itself. By extrapolating the process by which humans interpret the world around them, these theorists attempted to define the determining factors behind subjective thought (Bonta, 1979: 11). This study of what can best be described as the meaning of meaning in architecture has come to be known as 'architectural hermeneutics'.

1.1.2 Motivation/Justification of the study

Train stations of the world developed as a symbol of the industrial revolution. They epitomised technological advancement both in the literal sense of their construction and the allegorical sense that the stations represented the future of humankind by monumentalising the new method of transporting people and goods while unifying nations (Richards and MacKenzie, 1986: 1).

While many people saw the railway in an optimistic light, believing it to be a symbol of humankind's technological advancement, ultimately uniting all of humankind in a spirit of universal brotherhood, many others opposed it, believing the large powerful machines and sores of railway tracks to be unnatural and in some cases indicative of an apocalypse. Regardless of these differences it cannot be denied that the emergence of the railway served to annihilate space and time (Brantlinger, 2002: 137).

Train stations themselves become icons of a nation's wealth, technological prowess and cultural identity. They acted as gateways to major city's welcoming travellers through awe and uniting its inhabitants through pride. The French traveller, poet and author, Theophile Gautier is quoted as saying:

> *"These cathedrals of the new humanity are the meeting points of nations, the centre where all converges, the nucleus of the huge stars whose iron rays stretch out to the ends of the earth"*
> (Richards and MacKenzie, 1986: 3).

In South Africa today, railways, along with other forms of public transport have lost or in fact never had this sense of appreciation. Instead South African public transport systems, especially the railway networks are perceived negatively by a large portion of the population and the vast majority of visitors to the country
(Donaldson and Ferreira, 2008).

Following the above statement it can be inferred that the motivation behind the proposal of a transport interchange within the Durban Central Business district comes as a direct result of South African Rails negative perception and the need for re-appropriation.

Plate 1: Metro Rail Cape

1.2 DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

1.2.1 Definition of the Problem

The abstract qualities of architecture have always been the source of much debate between professionals. The negative perceptions of public transport today can be attributed to both quantifiable matters of fact and the more existential qualities, established by the archetypal, transport buildings that have been utilised throughout South Africa. By utilising a hermeneutic approach to better understand the factors that led to its negative perception, the primary problem of how architecture can evoke a positive response in its users can be answered.

1.2.2 Aims

This proposal seeks to determine, through the process of hermeneutics, how the current perception of railways arose within modern day South African society, a set of criteria to evaluate the degree in which architecture effects this perception and the consequential techniques for its reversal.

1.2.3 Objectives

To develop an ethical process whereby researcher can begin to understanding why buildings are perceived under a certain light. Architects and researchers need to understand how buildings are perceived within a specific context and through a specific culture, in order to better understand how people from different cultural backgrounds impart a persona on buildings (Roth, 1998).

Develop an architectural language and grammar from which the important factors relating to the meaning of place can be identified and abstracted.

Establish criteria or standards by which the meaningfulness contained within these factors can be determined as successful or unsuccessful architecture

1.3 SETTING OUT THE SCOPE

1.3.1 Delimitation of Research Problem

The researcher intends to:

- Define the construct of the human condition within a specific culture.
- Define a set of guidelines/criteria from which to critically analyse historical content.
- Develop a set of criteria with which to reinterpret meaning through architecture.
- Generate a universal methodology through which meaning within the built environment can be understood

The researcher does not intend to:

- Generate a universally applicable solution for meaningful architecture in all contexts.

1.3.2 Definition of Terms

- **De-constructivism:** A recent school of thought in architecture that derives from the Russian Constructivism movement of the 1920's. TH contemporary style is considered to be a direct response to the ordered rationality of modern architecture.
- **Post Structuralist**: A collective term for any theories or methods of analysis that were derived as a direct result of structuralism, including deconstruction.
- **Multiplicity:** The state of Being various or manifold.
- **Felicitous:** *(adjective)* well-chosen or suited to the circumstances
- **Infelicitous:** *(adjective)* unfortunate or inappropriate to the circumstances
- **Polysemic***: (mass noun)* the coexistence of many possible meanings for a word or phrase.
- **Etymology:** *(mass noun)* the study of the origin of words and the way in which their meanings have changed throughout history.
- **Philology:** *(mass noun)* the branch of knowledge that deals with the structure, historical development, and relationships of a language or languages.
- **Cartesian Subject:** An individual's ability to be rational, scientific, united in consciousness and have an awareness of self.
- **Gestalt:** a perceptual pattern or structure possessing qualities as a whole that cannot be described merely as a sum of its parts
- **Ostensible:** Represented or appearing as such

1.3.3 Stating the Assumptions

This document will therefore be written under the influence of three basic assumptions:

- What people interpret as the world around them is specific to the individual by varying degrees.
- All acts of interpretation occur through a process of hermeneutical understanding.
- This Process informs a methodology by which architecture can be given a 'form' of universal meaning or identity, within a specific community, at a specific time.
- In recent years the decline of Durban's CBD has been contributed to many factors and while this document will concentrate on those factors which relate directly to public transport. It cannot be ignored that both businesses and people have been moving away from the CBD since the abolition of apartheid.
- Aesthetics alone would be an isolated and largely futile solution as the problem of image is attributed to many factors including ineffectual linkages between modes, timetables, station locations and accessibility.

1.3.4 Key Questions

- What are the circumstances that led up to the current perception of public transport?
- What factors determine how architecture is perceived?
- How can a sense of place be established through the aesthetics of space?
- What construction methods and building technologies would aid in buildings from the negative architecture of the past?

1.3.5 Hypothesis

Meaningful architecture can only be created through the process of 'Dwelling,' whereby the architect becomes a part of a specific built environment through life experience. Through historical understanding and by living and working within a particular environment the architect becomes capable of designing meaningful architecture.

> *"…only if we are capable of dwelling, only then can we build"* (Heidegger, 1971: 160).

1.4 CONCEPTS AND THEORIES

The concepts and theories utilised within this research/dissertation are set out in detail in the literature review section of the document. In order to establish some form of pre-understanding a short breakdown has been included.

In order to establish the sense of 'dwelling' suggested by Heidegger, all investigations into the meaning of buildings and their environment will be initiated by historical research carried out under the guidelines set out in the literature review. Once a pre-understanding of place has been established through historical research, the qualitative process of dwelling may begin.

The physical aspects or 'parts' associated with the experiential 'whole' can then be abstracted from the situation for analysis. Due to the linguistic foundation of hermeneutics these parts are quantified into a 'language' of architecture established in Thiis-Evensen 'archetypes' through its association with Norberg Shultz's rationalisation of 'dwelling'.

A language without structure is unable to convey meaning, there needs to be some form of grammar that establishes the relationships between the parts so that they may be structured in such a way that the meaning is conveyed to the reader. While architecture will never be as definitive in its meaning as written language, Christopher Alexander's 'A Pattern Language' (1977) provides a reference to how the physical aspects of the built environment relate to one another.

In order to design meaningful architecture, the designer must not only be able to read the built environment but design in a way that conveys meaning in their own architecture. Semiotics allows the architect to establish how to do this through the forms, structures and the aesthetics of architecture.

Every step of the process will be conducted using the principles set out by hermeneutic research in order to maintain site of the existential whole that is specific to a place and culture.

1.5 RESEARCH METHODS AND MATERIALS

For the research process to accurately reflect the theoretical approach adopted it would need to engage with both the methodology of hermeneutics itself and the process under which it suggests information is gathered and interpreted. As hermeneutics is essentially concerned with the art of interpretation and rejects the formalised architectural discourses of old, preliminary research is required to inform the process through which the validity of these interpretations can be quantified.

The hermeneutic process will be conducted before any quantifying theory is investigated; so as to avoid any predetermined abstraction from occurring. While these theories will still be presented in the literature review under the guise of a singular theory, in order to conform to positivist standards, it must be stressed that they were established after the hermeneutic process was completed.

There are three primary processes involved in the research methodology, beginning with the development of pre-understanding (Historical Research) and dwelling (a qualitative study) whilst finishing in a process of abstraction (identifying artefacts).

Pre-understanding	Dwelling	Abstraction
A standard historical study performed under the hermeneutical guidelines set out in the literature review.	*To dwell the researcher must take on the role of an active observer, in the sense of a full participant.*	*Only once dwelling has been fully completed can abstraction occur as a recognized outsider without losing sight of the perceived whole.*
Pros: establishes knowledge of the study area so that accurate conclusions may be made. **Cons:** can evoke prejudicial conclusions.	**Pros:** establishes deep insight and empathy within a qualitative situation **Cons:** means making a long-term commitment.	**Pros:** allows the researcher to capture important information at the time it occurs. **Cons:** The Hawthorne effect (Zeisel, 1984)

Secondary Sources	Primary Sources
Libraries, museums, books, the internet, artwork, pictures and statistical information in regards to culture. In order to gain a more truthful understanding historical text from multiple authors will be reviewed in an attempt to overcome any bias held within their writings.	Unstructured interviews, perceptual analysis, Field research, participation and recording equipment including: photographs, sketches and videos Primary sources can only be used once the process of dwelling has been completed.

CHAPTER 2 LITERATURE REVIEW

2.1 INTRODUCTION

2.1.1 A Critique of Positivist Theory

The following critique does not suggest a complete departure from scientific discourse. Alternatively it is intended to provide insight into some of the shortfalls associated with the Positivist's theory so as to avoid any prejudicial results.

Since Plato's Timaeus the positivist concept of an exact and systematic language made up of symbols that correspond directly to atomic facts has been the model of choice within both the scientific and architectural community. Plato believed that in order to control thinking a system of structured signs needed to be utilised, a formal language of logic. He believed this language was mathematics. Using a base of mathematical logic the positivists attempted to devise a formal 'language of science, in an attempt to define a precise and definite language devoid of any meaningless and irrelevant information contained within pseudo-sentences and lost nuances (Snodgrass & Coyne, 2006: 30).

The positivists believed that words have a direct correspondence to all things and that all words are primary elements of language or atoms which when brought together in logical successions form certain statements that are meaningful. The meaningfulness or truth of these statements can therefore be tested both against rules of succession governed by logic and against the facts they represent.

The positivist theory did not stand without opposition as philosophers and existential thinkers struggled with the notion of a complete and meaningful world without the metaphysical nuances present in everyday life. One of the most complete critiques of the positivist's theory can be found with Ludwig Wittgenstein Tractatus Logico-Philosophicus (Snodgrass & Coyne, 2006: 30- 31).

Wittgenstein's translator Bertrand Russell states that;

> *"According to this view we could only say things about the world as a whole if we could get outside the world, if, that is to say, it ceased to be for us the whole world. Our world may be bounded for some superior being who can survey it from above, but for us, however finite it may be, it cannot have a boundary, since it has nothing outside it. Wittgenstein uses, as an analogy, the field of vision. Our field of vision does not, for us, have a visual boundary, just because there is nothing outside it, and in like manner our logical world has no logical boundary because our logic knows of nothing outside it"* (Russel, 1971: 15).

Wittgenstein believed that any process of understanding that attempts to describe language in terms of rules removes the interpreter from the subject of investigation, abstracting themselves from language so as to regard it as an object. Wittgenstein suggests this to be false insisting that we are so involved in the language games we play that we cannot remove ourselves from them in the way that a hypothetical God might view the world and everything in it.

> *"Wittgenstein says that when we engage in ordinary spoken language in our daily activities we are involved in language games. We do not so much learn a language as participate in it, as we participate in playing games; and we do not so much learn a language as learn the rules of the games in which language operates. The rules of language change as the life situation, that is, the life game, change"* (Snodgrass & Coyne, 2006: 33).

By defining a set of rules for language that attempts to unequivocally stipulate the way language is used and how it is understood all objectivity is lost within a self-reflexive paradox. If the above is said to be true, determine meaning in language using a series of rules is ineffective unless rules can be applied that recognise the context in which the language appears (Dreyfus, 1978: 203).

> *"...rules to recognise the lived situation, the intentions of the speaker, the anticipations of the listener, and other rules in an endless series. These given, we then need yet more rules to govern the application of these meta-rules, and so on to infinite regress. Any constructing a perfect and precise language is doomed to failure"* (Snodgrass & Coyne 33-34:2006).

When communicating using everyday language, statements cannot be defined as true or false but instead must be interpreted upon the basis of whether they are appropriate or inappropriate within the context of the language game being played. According to (Austin, 1975) if the statement is considered to be appropriate within its context it is considered to be felicitous and if not infelicitous.

> *"Thus, for example, descriptions, which are said to be true or false or, if you like, are 'statements', are surely liable to these criticisms, since they are selective and uttered for a purpose. It is essential to realize that 'true' and 'false', like 'free' and 'unfree', do not stand for anything simple at all; but only for a general dimension of being a right or proper thing to say as opposed to a wrong thing, in these circumstances, to this audience, for these purposes and with these intentions"* (Austin, 1975: 144).

Wittgenstein believed that this quality of language rescinds the positivist's notion that's words contain a precise and exact definition as its meaning is forever changing according to the situation in which it is used. The meanings of words are in a continual flux changing with context and time and therefore cannot be defined through abstraction due to their polysemic nature. Social, cultural and etymological conventions govern the way in which statements or sentences are constructed, while the form the language takes is dependent upon its usage.

> *"Language is intimately related to particular human actions and anticipations and expectations of such actions. Rules are not imposed on the language from without and as upon an object, but inhere within a particular language game played in a particular life situation, which forms part of a socially constituted set of conventions"*
> (Snodgrass & Coyne, 2006: 34).

> *"Perpetuating dialectic of styles or fashions is as senseless as the notion that architecture can only provide material comfort and shelter"* (Perez-Gomez, 2000: 9).

Language, like art or in fact architecture, cannot be considered to be an exact system of signs or symbols similar to that found in mathematics. It is a game in which we all participate where the limits are applied only by the context in which it takes place, any attempts to abstract or contain the meaning of these symbols will obscure what it really is (Snodgrass & Coyne 35:2006).

In essence the study of interpretation must no longer be considered as a discipline for the accumulation of anaesthetized information, but be actively applied towards the service of life and form (Perez-Gomez, 2000: 8-9).

Gomez suggests that the partial and fragmented answers extrapolated from an approach of pluralism and diversity associated with positivist theory is no longer enough to constitute an applicable architectural theory. Alternatively Gomez proposes that the architect must express at the very beginning of any theoretical study, where they currently stand in terms of their theoretical underpinnings (Perez-Gomez, 2000: 8).

2.1.2 The Development of Hermeneutics

In the positivist sense of meaning, the word 'hermeneutics' originated from the Olympian messenger Hermes who interpreted messengers from the gods. The name Hermes itself also shares a linguistic relationship with the Greek noun 'hermeneia' meaning interpretation and the verb 'hermeneuein', meaning the act of interpretation (Demeterio III ,2001: 1).

However if the above critique is to be believed an investigation into the context under which hermeneutics developed needs to be carried out in order to gain greater Etymological insight into is origin and current meaning. Wilhelm Dilthey (1972: 234) believed that the philological techniques, discussed above developed out of a lack of deep and universally valid understanding. The rules and the ordering of these rules delimited meaning to a simple goal conditioned by the interpreters own knowledge. He believes however that a codification of these rules towards accurate interpretation was discovered in the analysis of understanding itself.

Hermeneutics has on some level been unwittingly practiced by people long before philosophers ever thought of it as an independent discipline. However the methodisation of hermeneutics came about as a result of biblical interpretation. Over the year's scholars and interpreters developed their own idiosyncratic methodologies and sets of rules which in turn transformed hermeneutics from a simple praxis to a methodology of interpretation. During the renaissance the writings of classical Greek and Rome gained in popularity, resulting in the generation of numerous interpretive methodologies, collectively known as ArsCritica (Demeterio III, 2001: 1).

Arguably one of the most profound and influential of these works came to fruition towards the end of the period in the form of Matthias Flacius's (Clavis Scripturae Sacrae, 1567). It is in his self-conscious work that the essential rules for interpretation were finally coupled with a systematic doctrine, in an attempt to gain universally valid comprehension (Dilthey, 1972: 237-238).

"In his 'Clavis Scripturae Sacrae' his theology of revelation and his hermeneutical rules were topics thoroughly clarified and developed. Today his reflections on the methodology of textural interpretation and the hermeneutical rules he introduced, are regarded as an anticipation of the manner of thinking in modern hermeneutics" (Saebo, 2008: 604).

During Flacius investigation into the possibility of universally valid interpretation he uncovered the many new techniques of understanding that no earlier hermeneutics had done. These methods demonstrated a much deeper connection with the psychological or technical principle of interpretation, according to which individual passages where seen as parts to be interpreted under the edicts of the intent and form of the whole, while employing rhetorical judgment in order to gain a consistent lucidity between the parts and whole of a particular literary work (Dilthey, 1972: 238).

> *"It is a kind of logical automaton, clothed with style, images, and figures"* (Dilthey, 1972: 239).

Approximately two hundred years after Flacius the second significant theological-hermeneutical tendency began emerge through initial work of Siegmund Jacob Baumgarten and the later works of his associates Johann David Michaelis and Johann Salomo Semler. Michaelis however was the first to apply to a unified historical view of language, history, nature, from which the grammatico-historical school was founded. This new concepts were then conscientiously compiled within the 'Elementary Principles of Interpretation' by Johann August Ernesti (Dilthey, 1972: 238).

Dilthey believed that this was the definitive form of the logically and scientifically based method of translation, proposing that the next step forward would have to wait for the appropriate intellect.

> *"An effective hermeneutics could only develop in a mind where a virtuoso practice of philological interpretation as united with a genuine capacity for philosophical thought. Such a one was Schleiermacher"* (Dilthey, 1972: 240).

Schleiermacher approached the theory of hermeneutics with a German transcendental philosophy, which sought to uncover some creative power, within man's unconscious that brought the entire form of the world into being within us. Through the amalgamation Schleiermacher's Philosophical tendencies and the definitive foundation of a scientific hermeneutics the 'New Hermeneutic' began to fully develop. Until then hermeneutics had been a simple set of rules held together by 'whole' of providing a universally valid interpretation (Dilthey, 1972: 240).

Friedrich Schleiermacher's English translator Andrew Bowie states:

> *"The crucial point is that successful understanding requires the completion of both kinds of interpretation. This is, though, necessarily an 'infinite task', for the kind of reasons which precluded absolute knowledge in the dialectic: the two sides cannot be reduced to each other from a finite perspective. There is, therefore, an ethical obligation to come to terms with the fact that we can never claim fully to understand the other, even though we always must understand in some measure if we can engage in dialogue or attempt to translate"* (Bowie, 1998: xxx).

Schleiermacher sought to analyse the understanding that gave rise to these rules, or in other words for a formulation of the goal of the activity as a whole. By doing so Schleiermacher hoped to understand the whole of the work out of the individual letters, and the spiritual tendencies of its creator
(Dilthey, 1972: 240).

> *"… from such a formulation he derived the possibility of valid interpretation in general, along with its conceptual instruments, limits and rules. He was, however, only able to analyse Understandings a re-experiencing or reconstruction in its vital relationship to the process of literary production itself"* (Dilthey, 1972: 240).

He believed that understanding and Interpretation are instinctual to every individual and active in the game of life itself, where their fulfilment in the systematic translation of vital works is mutually inspired by the spirit of their creator (Dilthey, 1972: 241).

2.2 SCIENTIFIC PRAXIS

2.2.1 Introduction

The above investigation into how the theoretical basis of hermeneutic developed allows for an informed second investigation into which aspects of systematic and reflective scientific praxis are best suited for the particular needs of this study. Hermeneutics developed out of a mix of chaotic systems that incorporated many different methodologies of interpretation. From this chaos there emerged a need for a more critical and foundational evaluation of interpretation itself, an epistemology into its validity and possibility. (Demeterio III, 2001: 1-2)

> *"…before the modern-day praxis can ever commence a thorough investigation of theory and methodology is necessary"* (Demeterio III, 2001: 2).

Through Schleiermacher and later Dilthey the diverse systems of hermeneutics were unified under a philosophical theme referred to as romantic hermeneutics. Today these tools of interpretation can be applied to more than just text and speech but also symbols, customs, architecture, and in fact any entity that brings about understanding within an observer. Instead of reducing the number of hermeneutic systems, however, romantic hermeneutics led to the development of a new corpus of systems that diverged and expanded upon the philosophical problems that had resulted. (Demeterio III 2:2001)

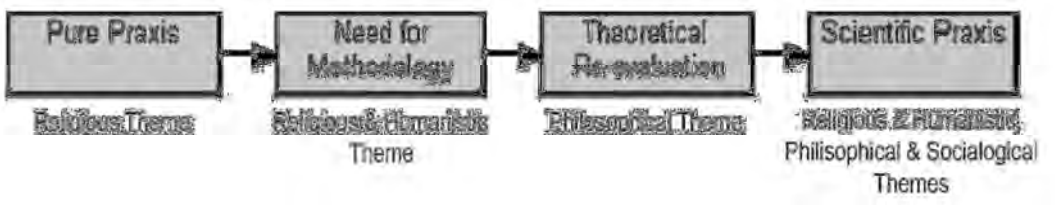


Figure 1: Progress in the Development of Hermeneutics

In order to simplify the dense cognitive forest of modern hermeneutic systems (Demeterio III) asserts that these systems can be easily categorized into just five groups of hermeneutic systems. The systems are classified according to the three main structural components of interpretation itself, namely, the interpreter, the object and the goal of the interpretive act, which is classified as either truth or meaning.

1. Romanticist Hermeneutics
2. Phenomenological Hermeneutics
3. Dialectical Hermeneutics
4. Critical Hermeneutics
5. Post-Structuralist Hermeneutics

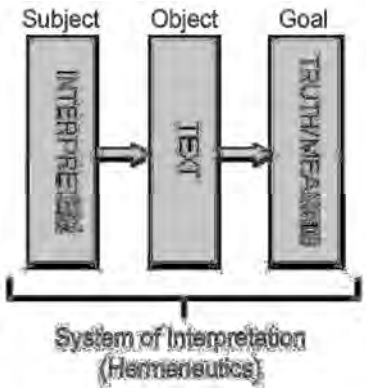


Figure 2: System of Interpretation

2.2.2 Romanticist and Phenomenological

Friedrich Schleiermacher and Wilhelm Dilthey are generally considered to be the architects of romanticist hermeneutics based on the philosophical teachings of Rene Descartes. The vagueness of texts prompted Schleiermacher to conceptualize text as a floating signifier that is incomplete when not understood in relation to the cultural contexts of the author (Demeterio III, 2001: 3).

There thinking was distinctly Romantic in assuming that the cultural interchange of interpretation involves the simple sharing of Ideas between the author and reader, insisting that meaning is fixed by the author's intention. Through this relationship between the author and the reader romanticists believe that the goal of interpretation is to understand the text better than the author did (Handa, 1999: 372).

> *"The system, as a whole, has to be rigorous with its textual, historical and cultural methodologies because of its preconception of a single and unitary truth determined by a single and unitary authorial intent"* (Demeterio III, 2001: 4).

In 'The Crisis of the European Sciences' (1935), Edmund Husserl shared the same scepticism toward the scientific method as the Romantic Movement. Despite this he believed the human subject is capable of maintaining free understanding through a more systematic approach which has come to be known as phenomenological hermeneutics, initiated by Edmund Husserl (Eagleton, 1996: 47-48).

As in romanticist hermeneutics, phenomenological hermeneutics also requires that the context of the interpretive act is set in order for understanding to occur. However unlike the Romanticists this context is not defined by the historical and cultural position of the creator but rather the context reflected by the text itself (Demeterio III, 2001: 4).

Husserl attempted to establish certainty through a process of 'phenomenological reduction' whereby anything that is considered beyond the immediate experience of the interpreter must be ignored, or 'put in brackets'. Husserl believed that by reducing the external world to the contents of the interpreter's consciousness alone a certainty of understanding can be achieved (Eagleton, 1996: 48).

> *"phenomenological system as a whole has to allocate painstaking and meticulous attention to the subjective bracketing off of biases, as well as detailed observation of and reflection on the text in order to capture the truth of text as it is"* (Demeterio III, 2001: 5).

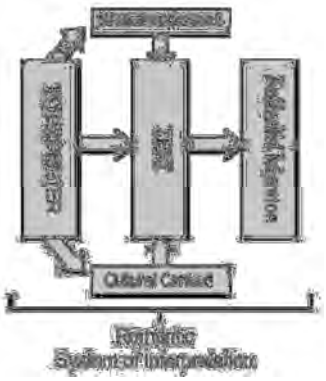


Figure 3: Romantic System of Interpretation

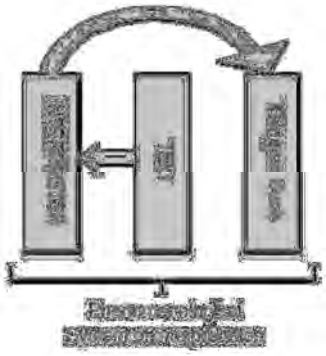


Figure 4: Phenomenological System of Interpretation

2.2.3 Dialectic

Martin Heidegger felt that while the romanticists and phenomenologists acknowledged a Cartesian subject, they failed to engage with this notion suitably. Dialectic hermeneutics developed out of Heidegger's philosophy of the interpreter as a subject, which questioned the ability of the interpreter to prevent their own bias from influencing their understanding (Demeterio III, 2001: 5).

Dialectic hermeneutics moves away from the intellectual territory of Husserl's reduction strategy and into the philosophical notion of 'Dasein', a reflection on the complex nature human existence or being itself. If phenomenological hermeneutics is essentialism then dialectic hermeneutics is existentialism (Eagleton, 1996: 53-54).

> *"The world is not an object 'out there' to be rationally analysed, set over against a contemplative subject: it is never something we can get outside of and stand over against. We emerge as subjects from inside a reality which we can never fully objectify, which encompasses both 'subject' and 'object', which is inexhaustible in its meanings and which constitutes us quite as much as we constitute it*" (Eagleton, 1996: 54).

As an alternative to rejecting bias, the Heideggerian subject suggests that the interpreter's ability to achieve self-consciousness and objective knowledge comes as a direct result of the pre-understandings that are brought into the interpretive act. Dialectical hermeneutics assumes that due to fact that all understanding develops from the idiosyncratic bias or of the individual, the subject of study can contain an array of limitless meanings. However instead of considering this to be an existential meaning, Heidegger believed the meaning to be relevant to the here and now (Demeterio III, 2001: 6).

The interpreter, through their own bias, projects an anticipated completion of the work, entering into a dialogue with it, while continuously questioning its validity as more aspects of the subject come in the light.

This process of dialog is essentially infinite and may continue, until the interpreter believes a consensus has been reached between all the aspects of the subject (Snodgrass & Coyne 46-47:2006).

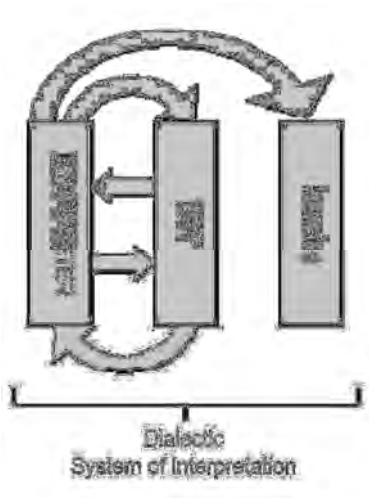


Figure 5: Dialectic System of Interpretation

2.2.4 Critical

Founded on the thoughts of Karl Marx, Friedrich Wilhelm Nietzsche and Sigmund Freud, critical hermeneutics remained faithful to the Cartesian subject that the romanticists/phenomenologists acknowledged and the dialectics engaged with. The Primary variance of critical hermeneutics is a radically new philosophy of the object being interpreted. Marx and Freud claimed that this object, primarily text could be warped and altered by the politics or cultural norms of its creator's unconscious, implying that the interpreter may never come to a consensus of truth/meaning. (Demeterio III, 2001: 7).

> *"Thinkers who have argued that the apparent meaning is not necessarily the real one have usually been met with scorn: Copernicus was followed by Marx, who claimed that the true significance of social processes went on 'behind the backs' of individual agents, and after Marx Freud argued that the real meanings of our words and actions were quite imperceptible to the conscious mind"* (Eagleton, 1996: 94).

In order to extrapolate 'true meaning' the critical hermeneutic system sets out to diagnose the hidden pathology of texts by removing all ideological distortions. The interpreter's role is to penetrate deeply into the individual parts of the objects whole from various points of view, which are defined using the cultural and historical methodologies of the romanticist hermeneutics (Demeterio III, 2001: 7).

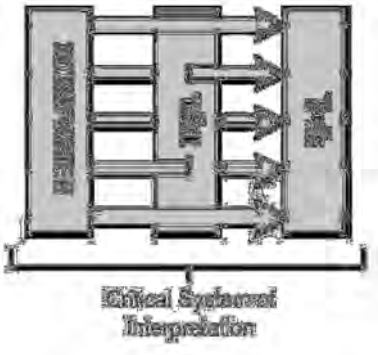


Figure 6: Critical System of Interpretation

The task of critical hermeneutics is essentially the dissolution of relations of power and ideology according to the materialistic basis of Marx's critical social theory. This theory requires that epistemological status of natural science melds with that of critique technique. These empirical investigations however do take into account the defining nature of social convention on understanding (Thompson, 1984: 82-84).

2.2.5 Post-Structural & Psychoanalytical

Taking the lead from Marx, Nietzsche and Freud, Post-structuralist hermeneutics continued under the philosophy that that the object or text being interpreted is warped by the power and the subconscious of its creator. The post structuralist believed however that their critical predecessors had overlooked the importance of the interpreter as subject. This supposedly inadequate assessment of subject fronted the notion of a subject that had become decentred, a mere intersection of point of the various socio-economic and cultural forces that shape all people. (Demeterio III, 2001: 7-8).

The question of sexism and gender roles was considered to have played a vital role in instigating the Post-Structuralist's scepticism towards the possibility of a truly Cartesian subject by asking questions which engage the deepest personal dimensions of human life. Its development was in part a response to these political demands, which offered the impression that the Cartesian subject had in fact been detached from the experience of the human subject (Eagleton, 1996: 129).

The post-structuralist philosophy of the subject wavers between the Cartesian belief in an individual's own ability to make rational and scientific decisions that are united in consciousness and awareness of self, and the existential paradigms of subjectivity seen in dialectic hermeneutics.

The goal of interpretation is therefore two-fold, following on from critical hermeneutics, it aims to diagnose the hidden pathology of texts and to free them from their ideological distortions while, like dialectical hermeneutics, it is not interested in establishing an incontestable truth, but rather the meaning of the here and now (Demeterio III, 2001: 7-8).

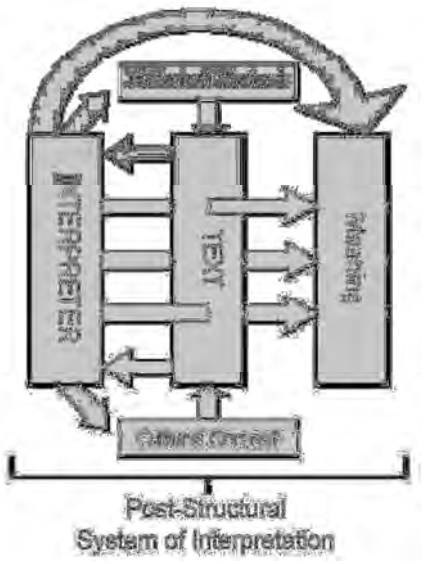


Figure 7: Post-Structural System of Interpretation

Post-structuralist hermeneutics benefited from being at the receiving end of the developments in hermeneutic philosophy. This position allowed its practitioners to question the neat symmetrical semiology of Saussure's signifier and the signified through their suspicion of methodological theorizing (Eagleton, 1996: 110).

The preceding hermeneutic systems that have influenced the development of post-structuralist hermeneutics have resulted in a system that attempts to achieve an ideologically purified truth of the here and now from a number of reference points. Primarily the goal of post-structuralist hermeneutics does not only explore the parameters of 'textuality', but also the institutional, social, and political structures that define the relationship between truth/meaning and power. (Demeterio III, 2001 7-8).

Post-structural hermeneutics encompasses a wide range of work from the deconstructive approach of Derrida and the historical work of Michel Foucault, to the feminist teachings Julia Kristeva. Jacques Lacan is often credited as having a primary role in the amalgamation of Critical and Dialectic techniques within the Post-Structural movement. This work however began to take on a theory that is more psychoanalytical than post structural (Eagleton, 1996: 116).

> *"one could suggest, then, that Lacan's understanding of psychoanalysis is the working through of defences, those attempts human beings make to deal with their ontological death-anxiety but which, by their very nature, assure us of the peculiar miseries of inauthenticity and make possible the existential moments of authentic existence"* (Hackett, 1982: 188).

Psychoanalytical hermeneutics will not act as a principle resources in regards to this paper as it moves away from the philosophical notion of understanding and deals instead with the crisis of human relationships, and human personality, as well as a social convulsion. What is perhaps significant is the movements attempt to define a systematic field of knowledge (Eagleton, 1996: 131).

2.2.6 Consolidation of Theory

As previously discussed the strategic schematization of the hermeneutic systems, based on Feorillo Petronilo A. Demeterio's 'Introduction to Hermeneutics', was prescribed by the variations of the subject, the object and the interpretive goal. Demeterio's breakdown of the above systems and their differences are provided below as a quick reference.

HERMENEUTIC SYSTEM	CONCEPTION OF THE SUBJECT	CONCEPTION OF THE OBJECT	GOAL	STRUCTURE OF THE HERMENEUTIC ARROW
Romanticist Hermeneutics	Cartesian	Realist but incomplete without the temporal and cultural contexts	Truth as authorial intention	Emanates from the subject through the text via the contexts
Phenomenological Hermeneutics	Cartesian	Realist and complete in itself	Truth as the thing as such	Emanates from the text
Dialectical Hermeneutics	[illegible]	[illegible]	[illegible]	[illegible]
Critical Hermeneutics	Cartesian	[illegible]	[illegible]	[illegible]
Poststructural Hermeneutics	[illegible]	[illegible]	[illegible]	[illegible]

Figure 8: Breakdown of Hermeneutic Systems

This section of the document, along with the preceding introduction, provides an overview of the different groups of hermeneutic systems so as to provide a point of reference with regards to the following investigation into architectural hermeneutics. This summation of hermeneutic systems still begs the question of, which interpretive system is the most powerful?

(Demeterio III, 2001 9) answers a question that in truth has already revealed itself:

> "*The praxis of hermeneutics will only happen when a subject, having a thoroughly functional knowledge of the theory and methodology of hermeneutics, applies his/her knowledge in the actual interpretation of specific texts*"

An appropriate technique for interpretation must depend on the depth interpreters own understanding of the theoretical praxis and how it can be applied to the specific hermeneutic task. In true hermeneutic tradition this truth reveals a new question as to which of the three different aspects of hermeneutical classification, theory, methodology, or praxis is the most important.

> *"…the fact that hermeneutics evolved from pure praxis to highly reflective praxis is enough proof that it is the praxis component of hermeneutics which is its most important layer"* (Demeterio III, 2001 9).

There is therefore no hermeneutic system that is better than another, only more or less appropriately suited systems for the task at hand. The following investigation shall follow these lessons by systematically exploring the aspects involved in the hermeneutic systems above, starting from the Romanticist Movement, touched upon in the introduction, to that of the Post Structuralist. The above summery is a simplified abstraction of how each system might be categorised in order to provide greater clarity of understanding. This accompanied by the fact that this paper deals solely with architectural interpretation, and not that of linguistics, means that the aspects of one system may overlap with another.

2.3 THE NEW HERMENEUTIC

2.3.1 Understanding Meaning

As previously discussed, in the introduction, Schleiermacher's philosophical approach to hermeneutics acted as the catalyst for what has now come to be known as "New Hermeneutics". He expanded upon the basic theological praxis of interpretation through the theoretical understanding of understanding itself
(Dilthey, 1972: 230).

If the original concept of hermeneutics believed that interpretation could only occur when the parts are understood in juxtaposition with the whole, it would be logical to assume that the observer could only understand a sentence upon its completion.

But how can this be possible when individuals are able to understand words as they are read or spoken, well before they have completed elucidating the subject matter as a whole. This suggests that understanding language cannot operate in the retrospective manner suggested above. Instead the understanding of language occurs simultaneously with the language event. Words are understood the moment that they are spoken, heard or read
(Snodgrass &Coyne, 2006: 36).

> *"A person who is trying to understand a text is always performing an act of projecting. He projects before himself a meaning for the text as a whole as soon as some initial meaning emerges in the text. Again, the latter emerges only because he is reading the text with particular expectations in regard to a certain meaning. The working of this fore-project, which is constantly revised in terms of what emerges as he penetrates into the meaning, is understanding what is there"* (Gadamer, 2006: 269).

Through Gadamer's understanding of meaning it can be construed that, when engaged in an interpretation event, initial indications develop into expectations of what the meaning of the whole will be, allowing the interpreter to recognise a sense of understanding in the same moment that speech is heard or the word is read. These indications act as cues which in turn begin to form a preliminary understanding of the whole. As more of the parts are made available to the interpreter, so their preliminary understanding of the whole becomes clearer. These parts are constantly evolving as the whole is better understood and thus the interpreters understanding develops from partially fragmented insights of the parts, into a greater understanding of the whole which in turn helps to revise or reinforce any prior assumptions that developed (Snodgrass &Coyne, 2006: 36-37).

> *"As soon as we initially discover some elements that can be understood, we sketch out the meaning of the whole text. We cast forward (or fore-cast) a preliminary project, which is progressively corrected as the process of understanding advances…We anticipate end states by reference to which events, both past and present, smoothly coalesce into 'action-orienting stories"* (Snodgrass &Coyne, 2006: 36-37).

According to (Gadamer, 2006: 269) the revision of the foreprojection is capable of projecting a new meaning before itself. Even assumptions that conflict may emerge beside each other until further investigation reveals a clearer unity of meaning.

> *"…interpretation begins with fore-conceptions that are replaced by more suitable ones. This constant process of new projection constitutes the movement of understanding and interpretation"* (Gadamer, 2006: 269).

Heidegger states that before we even begin to consciously interpret an object, text or verbal communication, we will have already placed the matter to be interpreted in a certain context, viewed and conceived from a predetermined perspective (Snodgrass &Coyne, 2006: 37).

This process came to be known as 'Nachbildung' through which the interpreter is obliged to translate parts from the standpoint of the individual's own foreprojections of the whole which in turn is defined by their own idiosyncratic sense of life. This philosophical approach moved the act of interpretation away from the realm of natural science and into that of Human studies affirming that understanding is first and foremost an inner reality, a coherence experienced from within. Understanding must therefore be defined as the process by which we intuit (Dilthey, 1972: 231-232).

> *"Such understanding ranges from the comprehension of the babblings of children to Hamlet or the Critique of Pure Reason. From stones and marble, musical notes, gestures, words and letters, from actions, economic decrees and constitutions, the same human spirit addresses us and demands interpretation"*
> (Dilthey, 1972: 232).

If understanding relies so heavily upon the interpreter's own prejudices it must contain some degree of variability determined by the interpreter's own interests. Logic tells us that if understanding is limited by our own interest, then understanding must be limited as well.

> *"How impatiently do we listen to many arguments; merely extracting the point that happens to be important to us practically, without any interest in the inner life of the speaker; while at other times we passionately attempt to seize the innermost reality of a speaker through his every expression, his every word"* (Dilthey, 1972: 232).

Gadamer, terms these particular forestructures as 'prejudices', unlike the positivists, Gadamer rejected the notion that all should be conducted by abstracting the information in an endeavour to remove any of the individual researcher's prejudicial inclinations. While this technique can be extremely beneficial when collecting and interpreting un-bias quantitative information, cracks begin to appear when attempting to interpret the underlying meanings depicted in art, poetry and architecture. Scientific abstraction can often lead to an ethos of alienation resulting in false interpretations of the nature of the work. He aimed instead to rehabilitate prejudice, rescuing it from its pejorative scientific connotations (Snodgrass &Coyne, 2006: 37-38).

> *"All understanding, he says, necessarily involves prejudice, fore-meanings that are not fully objectifiable. These prejudices can either be enabling or disabling, depending on the way in which they are opened up to hermeneutical understanding"* (Snodgrass & Coyne 39:2006).

Martin Heidegger asserts that when we interpret the parts of either speech or text as meaningful, it is to say that something is understood as something. Objects are not perceived as simply objects to be adorned with retrospective meaning, interpretation is grounded in the prejudices of the research something we have in advance, a pre-understanding. An interpretation can therefore never occur without independent presuppositions as all meaning gets its structure from these pre-understandings, which render the subject intelligible. The interpretation has already understood what is to be interpreted (Snodgrass & Coyne, 2006: 38).

> *"Interpretation does not, so to speak, throw a "significance" over what is nakedly objectively present and does not stick a value on it, but what is encountered in the world is always already in a relevance which is disclosed in the understanding of world, a relevance which is made explicit by interpretation. Things at hand are always already understood in terms of a totality of relevance… This is the very mode in which it is the essential foundation of everyday, circumspect interpretation. This is always based on afore-having"* (Heidegger, 1996: 140).

The tools of understanding are not alien to the interpreter but are simply there, familiar and already understood. Things are understood long before they are abstracted into objects for our direct inspection. Pre-understandings are thrown forward in every act of interpretation. The interpreter's own point of view is defined by the pre-understandings of their own past experience, implying that they, themselves are a part of the interpretation event (Snodgrass & Coyne, 2006: 39).

> *"We are not simply 'objects' in the. world, objects without a history and as if isolated from the past, but are thrown into the midst of a network of understandings of practices, institutions, conventions, aims, tools, expectations and a multitude of other factors that make us what we are"* (Snodgrass & Coyne, 2006: 39).

Forestructures are derived from the clues of parts under investigation and are dependent upon the context of the whole of which they constitute. This context is defined by the interpreters own prejudices or pre-understandings towards the whole. Consequently in can be said that forestructures emerge from pre-understandings determined within the situation itself and cannot be seen as simply subjective anticipations of the completed whole (Buck and Heath, 1978).

> *"Meaning is not fixed and firm, but is historical; it changes with time and as the situation changes. Understanding is in perpetual flux. Meaning is not an immutable object that stands over against us but is an ever-changing part of an ever-changing situation. It is not an object, but neither is it subjective. It is not something we think first and then throw over onto an external object. It is known from within and can only be so known: we cannot get around in front of meaning, any more than we can get around in front of language. We are embedded in meaning structures, and so cannot view them as objects that can be tested by the criteria of logic. Meaning exists prior to any separation of subject and object. In the interpretive act the Cartesian subject–object dichotomy dissolves"* (Snodgrass & Coyne, 2006: 40).

2.3.2 The Hermeneutic Circle

In summation one can only understand the meaning of a part of an interpretation event once the meaning of the whole has been construed. Conversely the meaning of the whole cannot be understood until the meaning of the parts is comprehended. Any act of understanding involves interplay between the parts and whole, understanding is circular (Snodgrass & Coyne, 2006: 35).

> *"Not only do we select those 'objects' in accordance with our interpretive preconceptions, but they are what we understand them to be at a particular moment in an on-going process of change"* (Snodgrass & Coyne, 2006: 47).

This contradiction of logical concealed in the circular interaction between whole and part implies that the circle is 'vicious' and understanding can never begin, yet understanding occurs. As previously discussed, and somewhat contrary to the rules of logic, the whole and the parts of the work are understood simultaneously through their connections with each other, the full comprehension of the individual parts presupposes comprehension of the whole. This circle of understanding repeats itself from an outlook determined by the relationship between the individual work itself and the individual tendencies of the interpreter (Dilthey, 1972: 243).

> *"He would begin with a review of the various divisions, which may be compared to a first rapid reading; then he would slowly block out the broad outlines of the whole, and illuminate the various difficulties, pausing reflectively at all those spots which afforded special insight into the form. Only then did the actual interpretation begin"* (Dilthey, 1972: 243).

This paradoxical nature of understanding purports that there is no start or end point in the hermeneutical circle. People do not come into an interpretive event without any presuppositions in fact there must be a minimal amount of pre-knowledge for understanding to occur. The positivist's ideal of a prejudiceless transparency of mind is unattainable (Snodgrass & Coyne, 2006: 48).

2.3.3 The Nature of Hermeneutics

The contemporary development of hermeneutics can be seen in the works of Paul Ricoeur and Hans-Georg Gadamer, whose philosophical foundation of phenomenology attempts to answer the question of how understanding occurs (Handa, 1998: 12).

Hermeneutics has three primary layers of meanings and concerns, including theory, methodology and praxis. Theory is concerned about the epistemological validity and possibility of interpretation, methodology attempts to formalise reliable systems of interpretation while the praxis deals with the process of validation. All three aspects of hermeneutics aim towards the recapturing meaning that is obscured by ideology cultural distance and false consciousness (Demeterio III, 2001: 1).

Hermeneutics succeeded in providing an essential link between the two most fundamental foundations in human studies, philosophy and the historical disciplines. Its significance lies in the appropriation of the text or parts. To appropriate a subject through interpretation means to take something that was once foreign or alien and make it one's own so that the act of interpretation brings together, equalises, rendering the subject matter contemporary and similar. Through this process the interpreter does not seek to reconnect with the original intentions of the subject's creator, but rather to expand upon their conscious horizons though actualisation (Handa, 1998: 12).

Before any text or work of art can be interpreted it must be conceived and created. During this process the creator themselves are not necessarily fully conscious of their own intended meaning. The forms symbols and words may not themselves be adequate for the task of communicating the intended meaning. The interpreter must, as a necessary consequence of the doctrine of unconscious creation, take on the role to understand the author better than the author understood themselves (Handa, 1999: 372).

> *"I shall content myself with remarking that it is nothing unusual, in common conversation as well as in written works, by comparing the thoughts which an author has delivered upon a subject, to understand him better than he understood himself inasmuch as he may not have sufficiently determined his conception, and thus have sometimes spoken, nay even thought, in opposition to his own opinions"* (Kant, 1787: 124).

2.3.4 Conclusion

Architects, designers, researchers, and in fact all human beings, do not choose to enter the hermeneutic circle but are already in it. It is apparent in the way all people think and act; from the manner in which a piece of art evokes different responses in its observers, to the very process through which scientific criteria of validation is established. Therefore the criteria, by which we assess interpretations, can only be seen as the result of interpretations (Snodgrass & Coyne, 2006: 38-40).

Hermeneutics states that a mind without prejudice is incapable of interpretation. Without independent presuppositions interpretation cannot occur as it is these pre-understandings that determine the meanings that human beings associate with objects within their environment.

If this is considered to be fact then the level of pre-understanding available to the researcher and their openness to the questions that threaten inappropriate presuppositions, determines how accurate their interpretations will be in terms of a universal 'truth'. (Snodgrass & Coyne, 2006: 38-48).

Preliminary research must therefore be carried out in regards to the local culture and history of the targeted research area. This research sets the parameters or context from which the hermeneutical investigation can ethically proceed. It must be stated however that this context is defined by the interpreter's own prejudices or pre-understandings towards the whole. Consequently in can be said that assumptions that emerge from these pre-understandings are determined within the situation itself and cannot be seen as subjective anticipations of the completed whole (Buck and Heath, 1978).

The collection of anesthetised information that supports pre-understanding is not sufficient for the task of gaining a deeper insight into the meaning of architecture and 'place'. Heidegger believes that at its core a true dwelling is an embodiment of the kindly concern for land, things, creatures and people as they are and as they can become (Zimmerman, 1983).

This notion of 'dwelling' or 'being in the world' is achieved through the logical process of experience, whereby the architect, or researcher, lives in the area being studied. This qualitative approach towards being in the world aids in determining the historical meaning of the experience and its developmental and cumulative effects on the individual and society, through a process of living and working in the area of study (Polkinghorne, 1982).

> *"Heidegger suggested that 'places' are the participants in rituals of everyday existence and human interrelationship. They report the presence of human life by accommodating and revealing necessities of subsistence, manifesting thoughtful experience*" (Sharr, 2003: 131).

By focusing on the entire investigation as a whole, from all perspectives, hermeneutic scholars suggest that a near complete understanding of human phenomena becomes achievable. It is a multi-level, multi-dimensional understanding of an environment (Barrell, Aanastoos, Richards & Arons, 1985).

This process is not without its flaws however, as 'true' interpretation must always be on guard against arbitrary fancies and the limitations imposed by the habits of thought. The interpreter must let himself be guided by the parts themselves, while constantly keeping the projected whole in mind. This is not a matter of a single conscientious decision, but is 'the first, last, and constant task' of the researcher to discount any distractions that originate from the interpreter themselves (Gadamer, 2006: 266-267).

In order to deal with the subjectivity further, Dilthey (231:1972) suggests that in order to gain a more universally applicable truth, the investigator must not only follow the process of circular understanding, where by existential findings are clarified by scientific pre-understanding and vice versus, but must also include a comparative study between the presumptions of the investigator and those of others. For the purposes of pre-understanding this information will be collected through statistical studies and data collection.

According to many positivist architects, there must be some method that is separate from the circle of interpretations, which we can be referred to assess validity of the resultant interpretations. If the above is to be believed, this method would be just as subjective as the interpretations themselves. In order to confirm the adequacy of any resultant interpretations the researcher must abstract the information, only after all qualitative work has been completed, and refer to other interpretations that support these findings, through the work of related theorists and the casual opinions of the areas inhabitants .(Snodgrass & Coyne, 2006: 40-48).

It must therefore be stated that the criteria or methodology, against which the validity of any interpretations can be assed, is subjective. Consequently the following section on the 'grounding of hermeneutics in architecture' was established after an initial qualitative study was complete in order to 'keep sight' of the projected 'whole'.

2.4 GROUNDING HERMENEUTICS IN ARCHITECTURE

2.4.1 The Root of Architectural Hermeneutics

Martin Heidegger's background in theology afforded him an alternative philosophical approach to the phenomenology pioneered by his employer Edmund Husserl (Laverty, 2003: 7). Edmund Husserl is widely considered to be the father of phenomenology (Cohen, 1987; Koch, 1996: Polkinghome, 1983; Scruton 1995).

Husserl's background in physics led to a focus on the epistemological question of the relationship between the knower and the object of study (Laverty, 2003: 3-14). Heidegger's hermeneutic roots led him to dissociate himself from this notion, moving towards the ontological question of the nature of reality and being in the world (Laverty, 2003: 14).

Another fundamental difference between Husserl's phenomenology and Heidegger's hermeneutic phenomenology is in their mutual rejection of the Cartesian Subject (Jones, 1975).

Husserl's teachings were more inclined towards a partial rejection of the Cartesian Subject, believing that we are still capable of some abstract understanding. (Polkinghome, 1983) Heidegger on the other hand completely rejected this notion in favour of the hermeneutic circle. (Heidegger, 1927/1962)

These differences are important to note as it is Heidegger's investigations into the notion of Dwelling and Place that inspired many important theoretical works in architecture, including the works of Hans Scharoun, Christopher Alexander, Peter Zumthor and Steven Holl (Sharr, 2003: 131).

In many of these works however Heidegger's more ontological inclinations have been passed over in favour of the epistemology approaches of his phenomenology in an attempt to ground the theory architecturally due to its lack of specificity in terms of design significance (David Seamon, 1998).

This disregard to the hermeneutic underpinnings of Heidegger's notion of dwelling seems to have resulted in the more recent interest in the 'Hermeneutics of Architecture' being taken on in the works of Pérez- Gómez, William Thompson, Snodgrass and Coyne.

2.4.2 'Dwelling' and the Built Environment

The most influential of Heidegger's commentaries on dwelling and place can be found in his paper 'Building Dwelling and Thinking' (Sharr, 2003: 131) in the collection of works 'Poetry, Language, Thought' (Heidegger,1971:)

In this paper Heidegger reveals, through the ontological findings of his own experiences and an etymological investigation into the origins of the words 'building' and 'Dwelling', that;:

> *"…only if we are capable of dwelling, only then can we build"* (Heidegger, 1971: 160).

Old high German word "baun" means to Dwell – remaining or staying in place which in turn creates links to a sense of at-homeness community and continuity (being-in the world).This sense of being in the world or as previously discussed the historicity takes influence from our past and projects our future needs. This notion of Dwelling implies that a certain amount of tension between what we 'wish', 'do' and 'make' (David Seamon 1998).

While not all buildings are considered dwellings, Heidegger believes they fall into the domain of our dwelling, which may extend over many buildings and even beyond an individual's place of dwelling: as in the case of a truck driver who feels at home on the highway (Heidegger, 1971: 145).

Heidegger believes that at its core a true dwelling is an embodiment of the kindly concern for land, things, creatures and people as they are and as they can become, "Sparing and preserving" (Zimmerman, 1983)

This same notion of dwelling is today defined as 'place', taking preference over the word 'space' due to its mathematical connotations (Sharr, 2003: 131).

> *"Heidegger suggested that 'places' are the participants in rituals of everyday existence and human interrelationship. They report the presence of human life by accommodating and revealing necessities of subsistence, manifesting thoughtful experience*" (Sharr, 2003: 131).

He also believed that in the more practical sense 'dwellings' or 'places' involve the coming together of what he described as the 'fourfold' earth, sky, people and the gods, a sense of spiritual reverence (David Seamon 1998).

> *"In other words, people are immersed in their world, and this immersion is qualitative, subtle—in many ways, ineffable. Thus a walk through a well-tended garden evokes a different state of being than a similar walk through an uncared-for garden or an unsightly vacant lot"* (David Seamon 1998).

Heidegger's understanding of the hermeneutic circle compelled him to suggest that architects must become sensitive to how the experiential qualities of the built environment can enhance or inhibit particular human experiences. Ultimately proposing that the key to creating a sense of place is 'letting things be' including the way we see, think, understand and even build (David Seamon 1998).

2.4.3 Rationalising the Notion of Dwelling

Throughout history design theories in architecture have often been derived from the larger philosophical and cultural movements at the time of their conception, the writings of Christian Norberg-Schulz (1926-2000) is no different. His work is a direct response to a perceived crisis in architectural design that resulted from modernism and seeks to provide a more communicative method of design. By Drawing on the works of Martin Heidegger and Edmund Husserl, place-based meaning could be transmitted clearly to the user (Larice and Macdonald, 2006: 125).

Akkelies van Nes begins his investigation into the work of Norberg-Schulz with the critical questions:

> *"How is it possible to build a theory on how places are experienced, how places guarantee a harmonic life for inhabitants, and in what ways new artefacts will guarantee a continuation of a place's sphere, when it involves human intentions, identification criteria, individual feelings and perceptions about places, and insights in various cultural backgrounds? Can it be made at all?"* (van Nes, 2008: 113)

Norberg-Schulz believed it could be made, and did so despite his own belief in the hermeneutic circle. While he agreed that abstracting the parts of this everyday circle in order to understand a particular part the existential reality of the whole is lost. However if the investigator is able to avoid mistaking the tools of abstraction for reality, the complex and contradictory relationships between the concrete things which constitute our given world can be understood (Norberg-Schulz, 1976).

He explains this principle through the dissection of Martin Heidegger's "Building Dwelling Thinking," through which the existential questions relating 'being" and identity to the notions of place where raised (Larice and Macdonald, 2006: 125).

By understanding these existential questions Norberg-Schulz seeks to understand how places are shaped through symbolical meaning as well as the functional aspects of the building process (Norberg-Schulz, 1967: 15).

Norberg Shultz asks us to assume that the everyday life-world or a moment of 'being-in-the-world' consists of physical 'phenomena,' including people, animals, trees, earth, wood, water, buildings, towns, streets and furniture. These articles are in turn surrounded by and encased in the effects of sun, moon and stars, clouds and seasons. But these moments also involve a sense of the 'place' that results from intangible phenomena such as feelings. The term 'place' is therefore an integral part of existence (Norberg-Schulz, 1976).

> *"What, then, do we mean with the word "place"? Obviously we mean something more than abstract location*" (Norberg- Schulz, 1976).

Heidegger's analysis of "A Winter Evening" by Georg Trakl (Heidegger, 1971) was of particular importance to Norberg-Schulz. While Norberg-Schulz showed great appreciation towards Heidegger's profound analysis of the poem, he did not attempt to reproduce but rather point out a few properties which he deemed significant to his investigation (Norberg-Schulz, 1976). While he considered and understood the hermeneutic circle that acted as the underpinning for Heidegger's work, Norberg-Schulz focused primarily on the Phenomenological aspects.

Trakl's poem aids Norberg-Shultz in illuminating the essential phenomena that make our life-world and establish the basic properties of place. The poem concretizes (to make the general "visible" as a concrete) these basic properties of existence in regards to a local situation (Norberg-Shultz, 1976).

> *"Whereas science departs from the "given", poetry brings us back to the concrete things, uncovering the meanings inherent in the life-world*" (Norberg-Schulz, 1963).

Norberg-Schulz sees the built environment as part of an architectural totality to which all people belong and take part. This generalisation of how people experience space creates a commonality within specific communities. It unites a group of people with a common identity and provides the basis for society (Norberg-Schulz, 1971: 16).

> *"Norberg-Schulz's writings are on the one hand scientific and on the other hand poetic"*
> (van Nes, 2008: 115).

2.4.4 Establishing the Physical Roots of Atmosphere

Norberg-Schulz analyses a place's structure and character through Vesaas's concepts of jord, himmel and synsrand (Earth, Heaven and Horizon). By which he means that what 'we' walk on, see around and above us, affects how an individual will experience a place. Unlike the hermeneutics discussed previously Norberg-Schulz does not refer to the visible spectrum as the horizon but rather the optic array, possibly due to its more direct association vision (van Nes, 2008: 118).

He demonstrates this fact by referring to the landscape paintings of Salomon and Jacob van Ruisdael, Jan van Gooyen, Meyndert Hobbema and Rembrandt van Rijn while providing an essential tool for unearthing the existential properties of place through art (van Nes, 2008: 116).

Jacob van Ruisdael's painting the 'View of Alkmaar' (plate 2) reveals these qualities through the endless horizontal line of the flat Dutch landscape and the dominant, cloudy sky above. In this depiction, van Ruisdael is able to evoke a sense of the unstable weather experienced in the Netherlands within the observer. The settlement depicted is placed on the landscape's highest and driest parts, sheltered or protected by a tree and vegetation breaking up the flat landscape and evoking the uneasy mood of the weather further (van Nes, 2008: 116).

Plate 2: Jacob van Ruisdael's 'View of Alkmaar'

This same technique can be used on James Lloyd's painting of Durban's bay to unearth the existential properties of the place at the time it was painted. Here the landscape is shown as rolling and wild, accentuated by the dominant depiction of the trees and bush. In James Lloyd's painting the sky falls away in contrast to Jacob van Ruisdael's 'View of Alkmaar' acting rather as a canvas to the rest of the scene. This subdued role insinuates that weather did not play a primary role in this particular painter's sense of 'Place' which further insinuates stable weather.

A man made road provides safe path through the trees and bushes to a settlement below. Protected from the sea by a large point of land and situated next to a flat reflective bay the settlement evokes a feeling of civilization surrounded by wilderness. The flattened vlei around the settlement, its close proximity to the bay, the road and the lighthouse all imply this place to be one of exploration and in the author's opinion adventure. It must be noted at this point however that another observer may see a foreboding in this scene as man is set to conquer and go to war. Hermeneutics however will allow for a more universally applicable conclusion to be established in the case study.

Plate 3: James Lloyd's 'Durban Bay from Maritzburg Road 1856'

When comparing the cloudy Dutch sky with the clear blue sky depicted in the painting of Durban it becomes apparent that 'heaven' varies from one place to the next according to the specific light and weather conditions of the area. According to Norberg-Schulz the earth reaches out and rises towards heaven provoking a qualitative difference between 'up' and 'down'. The optic array is in a simple sense the outer limitations of a certain place experienced by the observer. This is not considered to be a static reference to the visual boundaries of sight but rather the dynamic intake of all the physical aspects that contribute to a particular location's 'genius loci.' The description of a place's 'atmosphere' and 'character' is therefore dependent on its earth, its heaven and its optic array (van Nes, 2008: 118).

Norberg-Schulz demonstrates this further, through his qualitative analysis of the Norwegian forest (Norberg-Schulz, 1971: 30), In order to demonstrate that these principles can be applied to all places and locations this dissertation will analyse an experience that is specific to the author.

The Atlas Mountains of Morocco experience immense variations in topography upon which the ground varies, with rocks, stones, grass, bushes and sand. The heaven is radiantly bright and seemingly inescapable, altered only by the changes in day and the shadows cast by the surrounding mountains. The optic array consists mostly of mountains, rocks, trees, shrubs and hills. Similar to the Norwegian Forest (Norberg-Schulz, 1971: 30) there is a large amount of variation in regards to the optic array including valleys, caves, sheer cliffs, forested rivers, mossy springs and massive waterfalls, which change and adapt to the local light and its topography.

Plate 4: Waterfall in the Atlas Mountains of Morocco

Plate 5: River Valley in the Atlas Mountains of Morocco

By determining the atmosphere of a place through these three concepts Norberg-Schulz classifies 'place' into three types, classical, romantic and cosmological. According to Norberg-Schulz the Norwegian forest is romantic, while a Dutch landscape discussed above is cosmological. In almost all cases a 'place' will have aspects of all three types, where one is more dominant than the others. (Norberg-Schulz, 1971: 44)

If the above is considered to be true it may be assumed that the Atlas Mountains contain almost equal aspects of the romantic and cosmological with a negligible if not entirely absent classical association.

2.4.5 The Role of Architecture in the Spirit of Place

If we assume that concepts of earth, heaven and the optic array are proficient at describing 'places' then the same must also be applicable to the built environment, as all places with their buildings have a ground or a floor, a ceiling, roof or sky, and walls, trees, hills and many other artefacts that fall into and shape the optic array. (van Nes, 2008: 116)

Norberg-Schulz believed that in order for a person to completely engage with a 'place' to the point that it may be considered 'dwelling,' they must become entirely rooted in their existence. Individuals must open themselves up to the surrounding's particular artefacts and typology. The spirit of a place or the genius loci, according to Norberg-Schulz, is determined by the elements or things it consists of including the house and all other aspects of the built environment. While the house satisfies the material needs, it also acts as a 'home' whereby it assembles the world for people who use it (Norberg-Schulz, 1971: 31).

Norberg-Schulz states that successful architecture mirrors the genius loci of its surroundings. The Norwegian house is seen by all Norwegians as a warm cave 'cave of wood', therefore, everyone owns or shares these experiences together with the others. (van Nes, 2008: 119) The same cannot be said of South African's, who's cultural differences, past segregation and varied landscape contributed to a varied experience of 'place' within a relatively short distance of each other, despite or perhaps even owing to the effects of globalisation.

"the thing things world," where "thinging" is used in the original sense of "gathering," and further: "Only what conjoins itself out of world becomes a thing" (Heidegger, 1971, Pp. 181-2).

In order to extract the genius loci of the built environment without losing touch with the existential 'whole,' Norberg-Schulz suggests a three step process of analysis:

- Step One: Establish a distinction between the natural and manmade phenomena that fall into the optic array of a particular location.
- Step Two: Utilise the horizontal and vertical concepts of earth-heaven and outside-inside concepts of the built environment. The concept of outside-inside has spatial implications, not necessarily as a mathematical concept, but as an existential dimension. As already stated the buildings are related to their environment by resting on the ground and rising towards the sky. These buildings and the man-made places that encompass them may be seen as a concentration and enclosure of space. They are "insides that "gather" what is known through openings and gateways which relate to the outside.
- Step Three: Determine the character of the location by how 'things' are, these 'things' or 'artefacts' constitute man-made environments and may serve as internal foci, emphasizing the gathering function of the location. By determining character by how 'things' are, gives the investigation a basis in the concrete phenomena of our everyday life-world. (Norberg-Shultz, 1971, 1976)

"Only in this way we may fully grasp the genius loci, the 'spirit of place' which the ancients recognized as that 'opposite' man has to come to terms with, to be able to dwell.' The concept of genius loci denotes the essence of place" (Norberg-Shultz, 1976).

In summation meaningful architecture must begin by taking its users into account in terms of conditions and effects. Secondly, the means, composition and form must be taken into account independently of their effects and, thirdly, architecture must enquire/determine in how certain means correspond with certain conditions and effects. Only when all three of these aspects have been fulfilled can the built environment become a meaningful place for human beings (Norberg-Schulz, 1967: 22).

At the core of this philosophy is the belief that the typology of the landscape or the place should determine the settlement pattern, in the way that the settlement demonstrates clear organisation in the landscape (Norberg-Schulz, 1971: 38).

Meaningful settlements are shaped through natural, economic or political circumstances, the most obvious examples of this can be found in rural or vernacular architecture (van Nes, 2008: 120). The plan (Figure 9) of traditional Nguni settlement demonstrates how politics play a major in the spatial arrangement of buildings and artefacts through the hierarchical subdivisions followed in Nguni culture. The Natural aspects of the site can also be seen in the choice of building materials, while the importance of cattle as an economic commodity can be seen in the central placement of the byre. (Frescura, 1984)

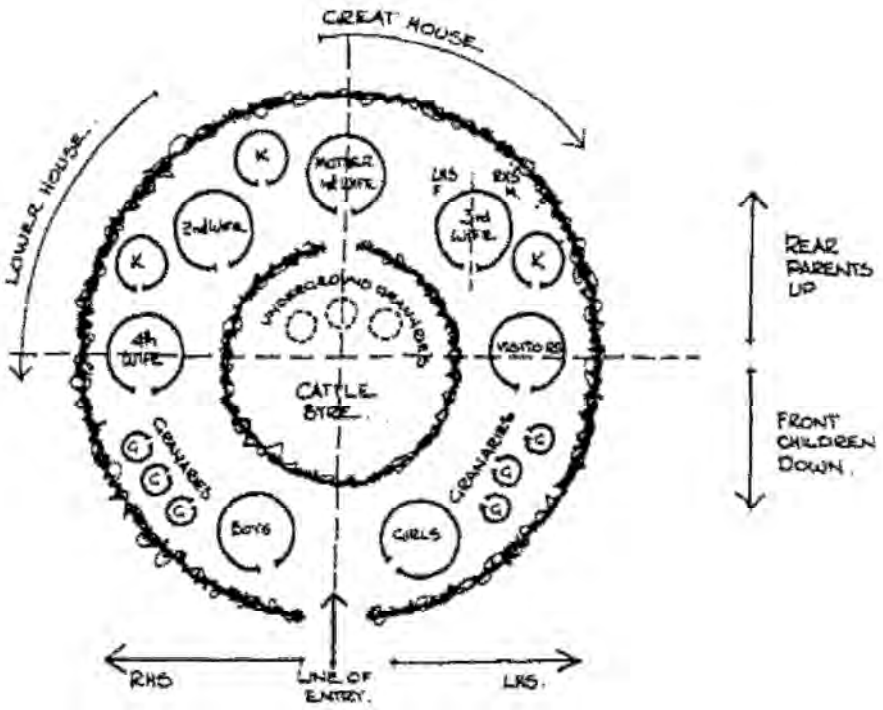


Figure 9: Nguni plan

Up to this point Norberg-Schulz has established what constitutes place in terms of the natural and manmade world. This investigation has however been primarily absorbed in rural settlement and the vernacular with insight into the urban environment. How then can the eclectic typologies of the urban genius-loci be understood:

In an urban environment character is spontaneous and conditioned by the 'way the place looks,' friendly, cold, sombre, lively, enclosed, open, etc. Unlike the previous settlements discussed the urban environment does not create the spirit of place through a complex relationship between artefacts, nature, and man. Instead the spirit of a 'place' and its inhabitants are expressed by its spatial structure and the architectural elements (van Nes, 2008: 123).

This relates to the qualitative notion of form and space discussed above. This notion simply suggests that a wide and open space can never 'feel' intimate; while a narrow space could never impart an atmosphere of grandeur and openness. Under this premise all spatial structures can be organised so as promote or hinder certain character traits. Unfortunately this vague definition of the spatial elements is the weakest part of his writings (van Nes, 2008: 119).

2.4.6 A Psychological Breakdown of Structure

Norberg-Shultz, (1976) proposes that the two main psychological functions involved, in how people experience place may be called 'orientation' and 'identification.' An individual can only begin to connect with a 'place' when they are capable of orientating themselves, so as to know where they are.

This ability to orientate one's self can only occur if the individual can identify himself with the environment, that is, he has to know how he is in a certain place.

Orientation: When breaking down the structure of orientation Norberg Shultz refers to the work of Kevin lynch (1960), whose concepts of "node," "path," and "district" denote the basic spatial structures that support man's orientation. It is the interrelation of these parts, through the definition of the shapes of the built elements and the spaces between them that establishes the character or 'environmental image' of a place. Norberg-Schulz chooses however to refer to these elements as the street, the square, and the neighbourhood, He takes the definition of these terms further by assigning properties to each.

- The square is the hub of the surrounding built environment, a place within the place.
- The street is a place of transition that seeks destination, a place through which places can connect.
- The neighbourhood is where buildings are closely located to one another and where people live together as a community. Norberg-Schulz claims that neighbourhoods and cities should have defined edges or borders. (van Nes, 2008:)

> *"Accordingly all cultures have developed "systems of orientation," that is, spatial structures which facilitate the development of a good environmental image"* (Norberg-Shultz, 1976).

These spatial structures are characterised by aspects of their form, size or both, which are defined in turn by the gestalts of the surrounding urban structures. The task of these structures is to assemble themselves as coherent parts that support and relate to the complex whole (Norberg-Schulz, 1971: 55).

Identification: According to this theory, human beings need to become 'friends' with a particular environment in order to be able to identify with it. The term of friends here does not mean to imply that the relationship is either good or bad but rather that it is meaningful. An example of this relationship can be seen the relationship between many Arab cultures and desert climate, where primarily aims of a settlement are the exclusion of sun and sand (Norberg-Shultz, 1976)

As previously discussed the surroundings of an urban space are closely related to Urban space itself. A small settlement can therefore be seen as an expression of a direct adjustment to a given natural situation and a meaningful manmade location must visualise this in the way buildings are placed. However as formerly revealed in the Nguni Home stead Culture and tradition play a major role as well. Today modern cities follow a geometric tradition that has been created in the pursuit of optimal performance and are considered to be universally identifiable. The Success of an urban space depends on the inter-relationship between these topological geometric structures (van Nes, 2008: 120)

The objects that people use for identification are concrete environmental properties. Human beings are assumed to have developed a relationship to these objects during childhood:

> *"The child grows up in green, brown or white spaces; it walks or plays on sand, earth, stone, or moss, under a cloudy or serene sky, it grasps and lifts hard and soft things; it hears noises, such as the sound of the wind moving the leaves of a particular kind of tree; and it experiences heat and cold. Thus the child gets acquainted with the environment, and develops perceptual schemata which determine all future experiences"* (Norberg Schulz, 1963: 41).

To sum up Norberg-Schulz considers that it is not only important that an environment has a spatial structure which facilitates orientation, but that it is also comprised of concrete objects of identification (Norberg-Shultz, 1976). A city that is entirely geometrical loses the roots of the place's situation, while a pure topological settlement never transcends its provincial isolation (Norberg-Schulz, 1971: 58).

An urban space has a floor (ground) and walls (surrounding urban structures). The roof is represented by the changing sky and how the user's view is influenced by cornices, towers, roof corners Opening's, building materials and colours. The rhythm and existential tension between these elements all aid in determining the character of the modern urban environment (van Nes, 2008: 123).

Openings are of great importance to Norberg-Schulz as they are seen to connect the private interior with the public space. It expresses the cities way of life through the notions of movement, light and transparency. It is also his belief that every city has its local architectural motives, a fact that will be heavily debated in the coming sections (Norberg-Schulz, 1971: 62).

It must be stated, however, that people are able to orientate themselves in strange places without attaining the true identification that comes with 'dwelling'. It would seem that although orientation and identification are aspects of a total relationship developed by living in a particular area, people are able to able to orientate themselves, in places that are foreign to them. This implies that some understanding can occur due to the shared reality of the world in which we live, true belonging however requires that both psychological functions are fully developed (Norberg-Shultz, 1976).

2.4.7 Building Structure

When referring to how the architecture of an individual affects the genius loci of a place, Norberg Shultz engages with the house specifically. In the same way that urban space influences the user, the house should express how one orients oneself to the place, and identifies with it. Before we can build we must interpret the surrounding's spatial structure and character (Norberg-Schulz, 1971: 31).

Norberg-Schulz limits his approach to the structure of a house to a description of shape. The building's typology is determined by their horizontal and vertical relations established by the natural and manmade surroundings to varying degrees, dependant on the type of settlement. The proportions of a house express its relationship to heaven and earth while the form of the roof establishes a silhouette against the skies or integrate with the surrounding landscape. The form of the roof is believed to be very important, as it distinguishes one place from another (van Nes, 2008: 122).

The way buildings influence people on how places are experienced can be determined through three specific Relationships (Norberg-Schulz, 1971: 71).

- The landscape - the volume and form, horizontally and vertically,
- The city - the differentiation of volumes and the articulation of space.
- The 'inner' urban fabric - the articulation in the façade

As with Natural locations, Rural Settlements and large Cities, the house too, can be associated with the notion of the earth, heaven and optic array. In this case the floor has a relationship to the earth, while the wall controls the extension and correlation in horizontal direction and connects the floor (earth) to the roof (heaven). The roof establishes the vertical direction, expressing its relationship to heaven. The corner shapes the house's character by connecting these elements visibly and by doing so, physically expressing the quality of these inter-relationships (van Nes, 2008: 124).

The walls of a house are said to be of great importance, due to the role they play in shaping the character of the building. In addition to directional and spatial properties disused, the wall separates the private interior from the public exterior. This relationship between its inside and outside is defined by the wall's openings, their size and shape, the degree of openness of a wall, its continuity, and degree of massiveness or lightness. From the outside the openings of a house perform in the same way that the opens of and urban space do, exposing the rhythm, tension and the character of a place (Norberg-Schulz, 1971: 78).

2.4.8 Interior Structure

From a basis of Heidegger's notion of dwelling Norberg-Shultz asserts that the atmosphere of interior space is neither derived from outside nor is it isolated from it, it is an integrated part of our being-in-the-world. Norberg-Schulz sees the interior as a 'micro cosmos' for the dweller, a miniaturised model explaining the world in the way it repeats the surrounding's basic structure of earth, heaven and the optic array. The interior's relationship between its floor and the earth, and its ceiling and heaven remains unchanged from that of the exterior. The walls however are now seen to act as boundaries to the optic array. (van Nes, 2008: 122-126)

Norberg-Schulz breaks down the structure of interior space through its shape, allowing the interiors to be divided into three main categories:

- The central room is seen to rise toward heaven.
- The axial room is directional and travels along the earth's surface.
- The oval shaped room which is considered to be both centralised and extended (Norberg-Schulz, 1971: 89-91).

Figure 10: Central Plan

Figure 11: Axial Plan

Figure 12: Oval Plan

> *"According to Norberg-Schulz, the atmosphere of the interior manifests the identity of a house. In our language we use the words 'cosy room, sacral room, intimate room', etc. in order to describe the atmosphere of a room. The interior's character creates a connection between the inner and outer world which gives life meaning. This identification is the most important aim for architecture."*
> (van Nes, 2008: 126)

This relationship between inner and outer worlds depends on the openings (predominantly windows) and how their shape, size, and placement affect the light and visual link to the outside, suggests their primary role in shaping the atmosphere of interior space (Norberg-Schulz, 1971: 92).

These openings are not solely responsible for atmosphere of an interior space but work in collaboration with the materials and colours utilised. As with all other aspects of the manmade world Interior space aims to always be experienced in correspondence with its surroundings (van Nes, 2008: 126).

Plate 6: Norwegian house

The importance of this relationship can be seen in Norberg-Schulz's (1971: 98) comparison of the way in which Arab and Norwegian houses connect with the exterior character of place.

Here he describes the Norwegian interior as representing the brief yet colourful summers experienced locally. This stands as stark a contrast against the long cold winters of Norway and ultimately aims to represent a 'cave of wood'.

Plate 7: Interior of a Typical 'Riad' in Central Marrakech

For the Arab residents of Marrakech, the interior of their town houses or 'riads' represents a shadowy oasis, by utilising a courtyard and pool the structure is passively cooled. Artefacts such as plants and trees are also found inside the buildings structure ratifying the sense that this is an oasis. Like the Norwegian house the 'riad' stands in contrast to its surroundings.

> *According to Norberg-Schulz, the interior functions as a place for human beings only when we have brought our world into our homes. Then we really dwell. It is the point of departure for our existence in the world. In studies of old cultures, a meaningful relation between the large scale and the small scale and between inside and outside is shown. This is our poetic relationship to a place* (van Nes, 2008: 127)

2.4.9 Conclusion

> *"The phenomenological and the hermeneutic inquiry methodologies support each other. The phenomenological approach focuses beneath the surface of the experience in order to describe the event. Hermeneutics attempts to analyse and understand the overall perception of individual human experience, from different angles, rather than from the specific phenomenological event"* (Filippo, 1991: 6).

The core belief of Norberg-Schulz (1971, 1980 &1985) 'phenomenology of architecture' was almost exclusively influenced by Martin Heidegger's hermeneutical phenomenology (Bechtel and Ts'erts'man, 2002: 109). This is substantiated through his insistence that settlement can only become a 'place' when the surrounding landscape is gathered and reflected by it. In doing so the settlement, its related architecture and artefacts become a base for human identification, allowing a place's identity to become our own identity and true 'dwelling' to occur (Norberg-Schulz, 1971: 49).

Architecture therefore belongs to poetry and its role in the world, is not simply to serve as shelter, but rather architecture should facilitate and help humankind to 'dwell'. To design town or buildings based upon the practical need of people is not enough; architecture is an art through which the genius loci of place is concretized. If, on the other, the building is aesthetically isolated from its surroundings, it will generate an architecture that is placeless, fragmented and meaningless (van Nes, 2008)

> *"The basic act of architecture is therefore to understand the "vocation" of the place. In this way we protect the earth and become ourselves part of a comprehensive totality. Man is an integral part of the environment, and that it can only lead to human alienation and environmental disruption if he forgets that. To belong to a place means to have an existential foothold, in a concrete everyday sense"* (Norberg-Shultz, 1976).

According to Norberg-Schulz, the architect has to resolve the practical aspects of building including form, function and technique, while taking on the responsibility of interpreting the genius loci through semantics. This means the architect must give form to both the material needs of function and the spiritual needs of 'Dwelling' (van Nes, 2008: 130).

At this point Norberg-Shultz's work loses touch with what has previously been discussed in 'The New Hermeneutic.' By abstracting artefacts for identification form the genius loci the whole process automatically becomes a subjective matter. By ensuring an ethical and collective pre-understanding of the cultural context through hermeneutic research, greater insight into the identification of place-shaping elements can be achieved.

The character-shaping elements of places, defined by Norberg-Schulz are by far the most substantial. However, the concept used to describe place structure is not clearly defined. This can be seen in both his descriptions of urban place structure and building structure (van Nes, 2008: 122).

A Student of Christian Norberg-Schulz, Thomas Thiis-Evensen, attempted to ground place structure further, through his doctoral dissertation, which later developed into the book 'Archetypes in Architecture'.
Thiis-Evensen's work went far in developing a language of architectural elements and their relationship to dwelling (Saemon 1998).

As well as, this need for the clarification place structural, Norberg-Schulz failed to engage with the rapid changes caused by the process of globalisation and the traces it leaves on the built environment. (van Nes, 2008: 122-28).It should come as no surprise, that his advocacy of place in design is central to the growth of place-making strategies, and the work of many designers around the world (Larice and Macdonald, 2006: 125).

2.5 ESTABLISHING A LANGUAGE OF ARCHITECTURE

2.5.1 Reading Architecture

The work of Martin Heidegger applied the principles of the hermeneutic circle to the built environment through the notion of 'Dwelling'. This prompted Norberg-Schultz to pursue a more grounded theory whereby the practical aspect of site could be identified and compared with the surrounding environment. These 'parts' and the existential connections between them constitute a whole which Norberg-Schultz referred to as genius loci. If it is agreed that the principles of hermeneutics discussed earlier, whereby the words, sentences and paragraphs constitute parts of the written whole, then a similar tool set or language must be applicable to how people read architecture.

> *"As being-in-the-world, therefore, understanding of our own being includes the understanding of the being of entities within the world. Heidegger calls the entities we reveal through our involvement with them zuhanden, or 'ready-to-hand'. 'Ready-to-hand' entities are thus characterized by the specific use that we make of them"* (Stepanich, 1991: 21).

As previously discussed the portion of Norberg-Schulz's work on character-shaping was well defined, grounding the existential notion of 'dwelling' in the physical properties of 'place'. His place structure remained too vague for the parts to form a clear language of architecture that could then be created and understood hermeneutically. This will begin through the writings of his protégé Thiis-Evensen (1987) and, as the next section will demonstrate, consolidated in the work of Christopher Alexander (1987-1993)

> "*Thiis-Evensen and Alexander's ideas, placed in a Heideggerian framework, point toward a way of thinking that might lead to the kind of dwelling-building relationship suggested by Heidegger"*
> (Saemon 1998).

2.5.2 Expounding the Parts

Architectural theorist Thomas Thiis-Evensen's aim is to understand 'the universality of architectural expression' by developing a language of architectural elements and their relationship to dwelling, through the most basic elements of architecture, as defined by Norberg-Schultz (Thiis-Evensen, 1987: 8).

> *"…common language of form which we can immediately understand, regardless of individual or culture"* (Thiis-Evensen, 1987: 17).

Thiis-Evensen (1987) explains that these three architectural elements are common to all historical and cultural traditions. This assumes universal truth and ignores subjectivity in the typical method of the positivist, this paper will not presume to do the same. As with Norberg-Shultz a pre-understanding will be developed through hermeneutic research in order to elucidate the subjectivity of 'place'.

> *"This work marks the start toward a descriptive language delineating the invariant elements of the built environment that have significance for human experience and dwelling"* (Saemon, 1998).

Norberg-Schulz's suggestion of floor, wall and roof, derived from the notion earth, heaven and optic array, acted as the foundation of Thiis-Evensen architectural language. This is demonstrated by his acknowledgement in their relationship with inside and outside. He defines this further by suggesting how each of the three elements contributes to this relationship.

- The floor - above and beneath.
- The wall - within and around.
- The roof – over and below
  (Thiis-Evensen, 1987: 21).

The outside, inside qualities of floors, walls, and roofs lead to the three 'existential expressions of architecture' of motion, weight, and substance. This establishes a complex series of tensions between the physical elements of architecture and the existential properties of experience. These properties are explained as follows (Thiis-Evensen, 1987: 21).

- Motion - The ostensible way in which a physical element appears to expand, to contract, or to rest in balance and the inertia it evokes.
- Weight - The sense of heaviness or lightness of the element and how it relates to gravity.
- Substance - The material sense, soft or hard, coarse or fine, warm or cold, of an element
  (Saemon, 1998).

Thiis-Evensen believes that understanding the archetypes and their expressive potentialities is essential when designing within the built environment (Thiis-Evensen, 1987: 387). 'Archetypes in architecture' essentially describes the 'first forms' or 'original models' as a formal basis for the language of architecture, a fundamental vocabulary of images relating form, function and meaning. A quick review of Thiis-Evensen work however does not necessarily provide an archetype at all but rather a reference system of prototypes or stereotypes that might instead, be considered the fundamental forms of architecture (Johnson, 1994: 290)

It may therefore be assumed that Thiis-Evensen's 'Archetypes in Architecture' promotes an understanding of architecture that is essentially hermeneutic in its basis. Thiis-Evensen promotes an ethical architect who questions the world around them through experience. By providing a fundamental language of architecture, the qualitative experiences of an initial hermeneutical investigation can be abstracted and referenced without entirely losing touch with the genius loci. In summation Thiis-Evensen created a platform by which the 'being in the world' notion of the built environment could be broken down from the 'whole' to its 'parts'.

2.5.3 Interpreting the Parts

The Following section comprises a simple breakdown of the three primary elements of architecture suggested by Thiis-Evensen. As his work essentially acts as a reference source it would be impractical to include a complete breakdown of all the archetypes. Consequently this summary is only intended to provide an understanding of how these elements may relate to form, function and meaning.

Floor: Drawing from the vertical, horizontal notions of Norberg-Schulz, floors can fall (A in figure 13) travel along a plane (B in figure 13) and descend (C in figure 13). Each specific case implies a sense of weight, whereby a floor that falls is heavy (A in figure 13) that which rises is light (C in figure). A soft and fine floor is warm and open, but if it is hard and coarse, it closes and is heavy (Thiis-Evensen, 1987: 23-39).

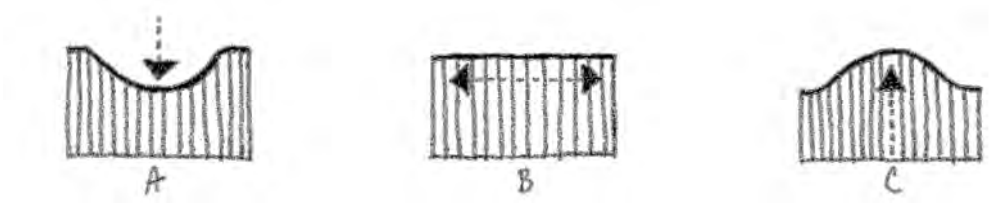


Figure 13: The Relationship between the Floor and Movement

The directional theme concerns the way in which the form of the floor emphasise certain motions, concerning one place to another. The floor (A in figure 14) acts within the walls leading from one place to another. The floor (B in figure 14) leads out of the space suggesting 'path' through a series of spaces while (C in figure 14) leads out of space by suggesting it to be part of a greater whole (Thiis-Evensen, 1987: 42)

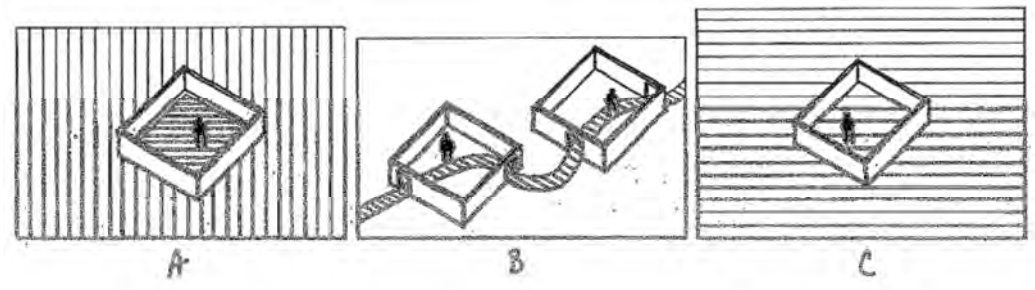


Figure 14: The Relationship between the Floor and Orientation

Roof: According to Thiis-Evensen the roof protects the inside from the outside vertical space of the sky. The roofs motion can be seen to fall (A in figure 15) and accept the sky, rise (B in figure 15) to resist it and travel along a plane to balance it (C in figure 15). The roof can also influence a buildings relationship to the horizontal outside space by directing the motion in and closing it off (D in figure 15) or by directing the motion out (E in figure 15) the relationship opens up. (Thiis-Evensen, 1987: 301)

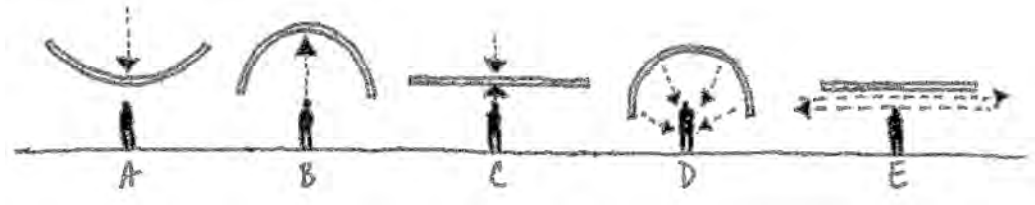


Figure 15: The Roof and its Relationship to the Sky

Thiis-Evensen continues to apply the concept of motion to a number of archetypal roofs and its effect on interior space. In the first illustration (A in figure 16) the space is considered to be neutral, (B in figure 16) is centralised by the dome. (C in figure) is directional in line with the barrel vault and (C in figure 16) (Thiis-Evensen, 1987: 302).

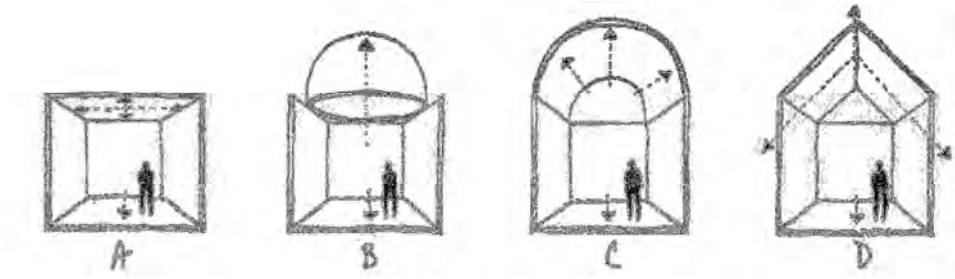


Figure 16: The Themes of the Roof and the Space Below

Walls and Openings: Like Norberg-Schulz, Thiis-Evensen believed that 'insideness' is the hallmark quality in transforming space into place and sustaining the deepest sense of dwelling (Relph 1976). If the roof protects the inside space from the outside vertical space of the sky then the walls engage and protect the inside from the primary outside horizontal space. (Thiis-Evensen, 1987: 117)

In the most practical sense a wall's role in architecture is to support the roof and delimits a space. By defining territory the wall separates two spaces and must therefore interpret the relationship between them. The fundamental way in which a wall expresses this is through its depth (A in figure 17), breadth (B in figure 17) and height (C in figure17). This can be seen in a comparison between the small windows of a fortress and the delicate structural skeleton of the great conservatory of Chatsworth (Thiis-Evensen, 1987: 117-120).

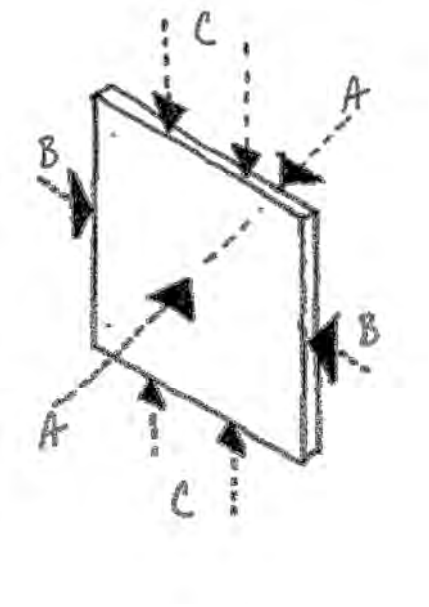


Figure 17: External Forces that affect the wall

The importance of the wall's roll in the relationship between outside and inside is reinforced by its openings. These openings allow aspects of each space to pass through, either physically or visually through doors and windows (Saemon 1998). The window is the symbol of what is inside; announcing the mode of life within the building, while the door is determined by its relation to what is outside. (Thiis-Evensen, 1987: 251)

According to Thiis-Evensen openings (page 41) that are tall and narrow ascend (A in figure 18) while openings that are short and wide sink (B in figure 18). He identifies three fundamental widow shapes and there relevant associations to the relationship between outside and inside. The vertical shape (A in figure 19) suggests a movement coming from inside out, the horizontal shape (B in figure 19) suggests a lateral movement that is occurring inside and the central shape (C in figure 19) once again suggests a movement coming from inside out. (Thiis-Evensen, 1987: 259-261)

Figure 18: Window Openings

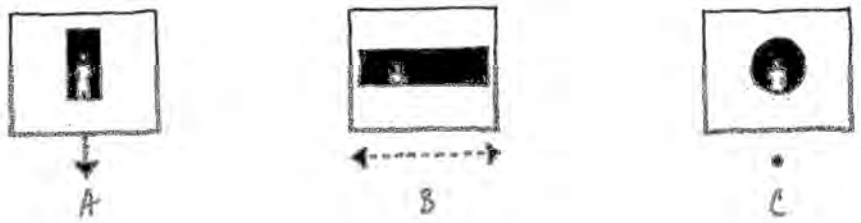


Figure 19: Window Forms and the Relationship Between Inside and Outside

The principle that windows lead the inside out is also applied to their frames. Window frames achieve this in varying ways as demonstrated in (figure 20). If all its parts are emphasised (A in Sketch 1) the entire interior space is seen to reach outward.

When the (B in Sketch 1) lintel is accentuated the roof takes preference through upward movement. If only the sill is highlighted (C in Sketch 1) the floor takes preference through a sinking movement (Thiis-Evensen, 1987: 259-261).

In (Sketches 2 & 3 of Figure 20) the sense of movement for the entire wall is affected by the arrangement of the windows and their frames.

By quantifying the physical aspects of windows and the related existential qualities of motion and applying the results to design, Thiis-Evensen believes the architect can actually give life to a building (Thiis-Evensen, 1987: 259-261).

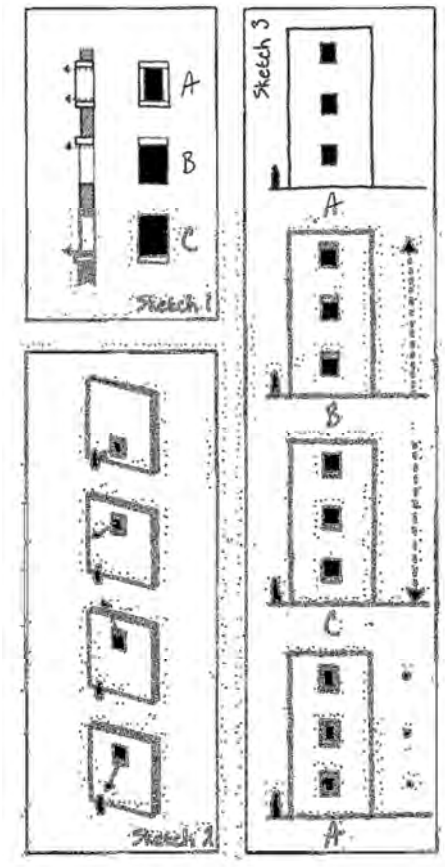


Figure 20: The Motion Expression of the frame components (Sketch 1) The Frame Motifs and Motion Expression in Terms of Placement (Sketch 2) The Frame and its Motion Effect on the Wall's Expression (Sketch 3)

2.5.4 Establishing Architectural Grammar

Thiis-Evensen's 'Archetypes in Architecture' allows architecture to be broken down to the smallest parts. These parts or archetypes of architecture establish meaningful indicators by which the built environment can be better understood, they are essentially the words of a story, being told by the built environment.

A story however cannot be understood as meaningful if the words do not subscribe to some predetermined structure or 'grammar'. Without a common understanding of how these parts of the built environment work together as a whole it would be impossible for the architect to convey meaning to the end user.

While Thiis-Evensen provided some insight to the way parts interact with each other on the small scale, it was Alexander who was more concerned with architecture in its larger environmental context.

> "*In other words, how can activities, buildings, spaces, and landscapes be designed in an integrated, coherent way to create places that are coherent, beautiful, and alive for their residents and users"* (Saemon, 1998).

Alexander found that many built environments of the past had a much greater sense of togetherness and harmony than the urban cities and settlements of today. For Alexander the solution could be found in how architectural parts belong together in a larger environmental whole (Alexander, 1979-1993).

In order to establish this sense of wholeness to the built environments of the modern world, Alexander believes, that a process of 'healing' must occur. In this sense all new construction within the environment must be made in such a way that it heals the surrounding environment whereby the artefact being constructed must work to create a continuous structure of wholes around itself (Alexander, 1987: 22).

The practical tool that Alexander developed for this very purpose was a 'pattern language'. This tool essentially -a conceptual method of structure or 'grammar' whereby a designer can identify and visualize the underlying relationships or 'patterns' between elements and in a built environment that evoke a sense of 'place' or 'dwelling' (Alexander,1977).

Through a 'pattern language' Alexander and his colleagues identify 253 of these elements and patterns. Each particular element of the built environment is described by the way it contributes to 'sense of place'. As in Thiis-Evensen's work, the work of Christopher Alexander and his colleagues is meant to be used as reference material. Evidence of this can be seen in the very structure of 'Pattern Language', for example, when investigating a public transport node; the researcher would begin in a macro context, working down towards the micro (Alexander, 1977).

Patterns that describe larger-scale environments in relation to the design of a transport interchange:

- (2) The distribution of towns
- (8) Mosaic of subcultures (9) Scattered work (10) Magic of the city (11) local transport areas
- (13) Subculture boundary (14) Identifiable neighbourhood (15)
- (16) Web of public transportation (17) Ring roads (18) Network of learning (20) Mini-buses
- (30) Activity nodes (32) Shopping street (34) Interchange
- (36) Degrees of publicness
- (48) Housing in-between
- (51) Green Streets (52) Networks of paths and cars (53) Main gateways (54) Road crossing (55) Raised walk (56) Bike Paths and Racks (57) Children in the city
- (61) Small public squares (63) Dancing in the street
- (87) Individually owned shops (88) Street café (89) Corner grocery (90) Beer Hall (91) Traveller's inn (92) Bus Stop (93) Food stands (94) Sleeping in Public (Alexander, 1977).

This first group of patterns is related to urban design and allows for the overall layout of a complex of buildings to be established in order to 'heal' it's surrounding context**.** The second group of patterns will not be extrapolated fully with regard to the design of a public transport node at this stage of the document due to its specificity in relation to site. Alternatively, some examples will be chosen in order to demonstrate the overall purpose methodology behind Alexander's work (Alexander, 1977).

Patterns that describe buildings and groups of buildings in relation the design of Transport interchange:

- (95) Building Complex (101) Building Thoroughfare etc.
- (104) site repair (108) Connected Buildings etc.
- (110) Entrance transition (116) cascade of roofs etc.

At this point, the investigation will skip ahead to the final collection of patterns. These patterns are intended to inform the designer on how to create a physical building in detail from the rough scheme of spaces, divulged in the local patterns. In this final section the structure of the building is defined (205) - (220), followed by the openings, circulation and lighting (221) - (240), and finishing with the arrangement of Artefacts (241) - (253)

Besides describing the elements by the way in which they contribute to a 'sense of place', the patterns are a practical instruction on how to design the particular element effectively for example, when referencing gateways (53) Christopher Alexander states:

> *"Mark every boundary in the city which has important human meaning--the boundary of a building cluster, a neighbourhood, a precinct--by great gateways where the major entering paths cross the boundary"* (Alexander, 1977: 278).

At its core 'Pattern Language' suggests that it is important to write a pattern language beginning with larger patterns (Macro) that then incorporates smaller patterns (Micro), when approaching any new design problem. By doing so Alexander believes that the danger of abstraction, suggested by hermeneutics, would not be as harmful as the larger qualities of environmental 'whole' are held in sight as the parts are fitted around them (Seamon, 1993).

2.5.5 Conclusion

Ultimately the 253 patterns in Pattern Language are illustrative and far from complete but it is in an on-going process of dialogue among architect, client, user, builder, and site. It is not however a set of unchangeable design principles that must be incorporated in all aspect of the built environment but rather, a way of looking at and thinking about buildings and environments so that one can better understand how their parts might work together to create a whole. New design problems may even require revised patterns or even entirely new patterns (Alexander, 1987: 16).

In this way Christopher Alexander defined the structure or 'grammar' through which the smaller parts, established by Thiis-Evensen could be understood in the 'Macro' context of the whole. Both architects are essentially seeking to resolve the notion of the virtuous circle, suggested by hermeneutics. According to David Saemon (1998) they succeeded in doing so through a pragmatic complement to the larger philosophical questions of Heidegger.

While this might be entirely true neither theorist truly engages with the aspects of subjectivity preferring to ignore the deeper cultural and historical aspects of being in the world for the more universally applicable notion of motion, suggested by Thiis-Evensen, and in the comparison of its greater context.

Despite the previous suggestion that a pre-understanding, developed through hermeneutic research, would provide a platform for universal understanding to occur, there is still no direct process by which the designer can assign meaning to architecture. The phenomenological notions of architecture's movement in relation to earth, heaven and optic array does little to enlighten a researchers understanding of symbolic meaning behind the cruciform church's plan. A true language needs goes far beyond the simple arrangement of letters, as this arrangement and its meaning can change many times over the period of its use.

Architecture needs to do more than 'heal' the greater whole or reflect the life of man, as this can result in an architecture whose formal qualities resonate with its practical needs (Saemon 1998). Architecture must not only reflect its surroundings, but also be able to 'speak' its language so that it might be understood globally.

People simply talk to convey ideas, which according to dialectic hermeneutics are completely adequate for task, in the built environment however buildings communicate through semiotics.

2.6 SEMIOTICS AND THE PROBLEM OF SIGNIFICATION

In Linguistics de Saussure believed the process by which cues are picked up from the parts and are understood without entering in the hermeneutic circle takes place between the signifier the signified.

> *"The bond between the signifier and the signified is arbitrary. Since I mean by sign the whole that results from the associating of the signifier with the signified…"* (de Saussure, 1959: 67).

When reading or listening to language the words prompt an understanding of the whole, when experiencing architecture however the parts that make up the whole become a lot more ambiguous. The meaning of architecture does not truly develop from architecture itself but rather from something beyond architecture, embedded in the way the architectural meaning itself is understood. The question of episteme with regards to objects, more so then words, is understood as a relationship between a particular object and the meaning conceived as lying behind it (Handa, 1999).

Ernest H. Gombrich begins this investigation by suggesting that the intentions of the artist and architect are of much less consequence than to those of the author. He makes this clear through his investigation of Professor Ettlinger's insight into Kandinsky's 'At Rest' in which the artist's intention of portraying a sense of calm tranquillity failed to impart itself upon the observer.

> *"Professor Ettlinger makes it clear that Kandinsky wanted the shapes themselves to suggest and convey the feeling of calm or repose... Professor Ettlinger makes no secret of his opinion that Kandinsky's experiment did not quite come off. I certainly doubt that even the most sensitive beholder would feel 'at rest' in front of this picture"* (Gombrich, 1971: 67).

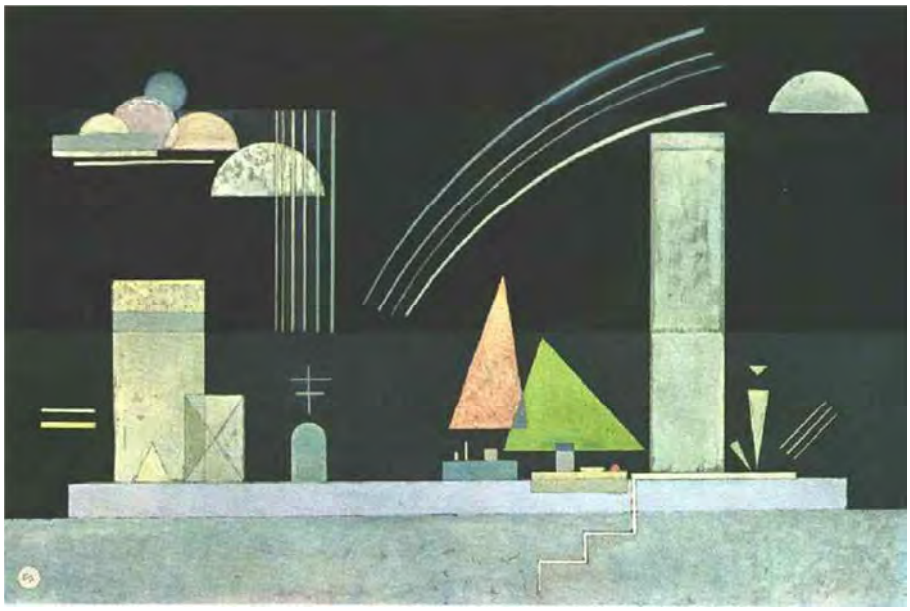


Plate 8: Wassily Kandinsky's 'At Rest'

Gombrich goes on further too suggest that shapes and forms are ambiguous, though not without some expressive value, requiring a particular cultural context from which to be interpreted.

> *"…Gombrich suggests, forms by themselves are relatively empty of meaning, it follows that the forms which we intuit will, in the unconscious mind, tend to attract to themselves certain associations of meaning"* (Colquhoun, 1981: 48-49).

Ferdinand de Saussure had confirmed this many years earlier through his investigations in linguistics, stating that any sign or in fact any meaningful expression is based up on collective behaviour or on convention assuming it is used in society (Handa, 1998: 9).

> *"In fact, every means of expression used in society is based, in principle, on collective behaviour or, what amounts to the same thing, on convention"* (de Saussure, 1959: 68).

It is important then to note that unlike linguistic interpretation, architectural interpretation does not focus on the intended meaning of the architect due to the difficulties of locating their legitimacy within wider understanding, as demonstrated in Kandinsky's 'At Rest'. It may also be assumed that original meaning does not necessarily help architecture to stay significant in the age of globalization, as seen in the cultural significance of sites such as Stonehenge and the Easter Islands
(Handa, 1999: 371).

If the above is to be believed, the meaning of architecture must be fixed by society and time preventing any observer who lacks cultural understanding from making sense out of the form. Understanding does however occur through the individuals own cultural understanding of culture, implying that the individual does in fact have the ability to apply idiosyncratic meaning to architectural form either through culturally related practices or the notion of distanciation. Gadamer describes the process of distanciation through his narrative on a pebble picked up in the courtyard of the Louvre (Handa, 1998 10-13).

> *"Of all signs, the memento most seems to have a reality of its own. It refers to the past and so is effectively a sign, but it is also precious in itself since, as a bit of the past that has not disappeared, it keeps the past present for us. But it is clear that this characteristic is not grounded in the being of the object itself. A memento has value as a memento only for someone who already, still, recalls the past. Mementos lose their value when the past of which they remind one no longer has any meaning"* (Handa, 1998: 13).

The nature of assigned signification may therefore be applied individually or culturally when viewing the forms that constitute architecture, suggesting that the parts physical attributes has nothing to do with a meaning. Alternatively the theory of natural signification suggests that the piece's physical attributes covey meaning, suggesting that architecture is inherently motivated. This fact did not even escape Gombrich's critique of Kandinsky's experiment in natural signification 'At Rest' conceding that natural signification had little to do with the result but could not be ignored (Handa, 1999).

It is possible for a single piece of architecture to have both aspects simultaneously or the weight may shift between the two in the course of time" (Handa 10:1998).

Tadao Ando is a great believer in natural signification and demonstrates this outlook through his architecture. While Ando's architecture is often referred to as minimalist, it would be superfluous to do so due to the motivations behind his work. Ando employs reduction in order to synthesis different levels of meanings, evoking absence to convey subtle meaning and hidden presences (Cutis, 1999: 5).How these efforts affect the way his buildings are interpreted by its users can be seen in Cutis's review of Ando's Church of Light:

> *"The awesome simplicity of the concept of a cross of light, which marries the modular architecture of Tadao Ando and the symbol of Christianity, creates a space of great spirituality"* (Cutis, 1999: 5).

Ando's efforts attempted to keep the intrinsic properties of architecture intact, encouraging a viewer to make an interpretation that is anchored in the physical properties of the parts in relation to the whole with or without cultural convention. As a result meaning loses much of its ambiguity allowing the viewer to extract the 'truth' of meaning without effort or social in an effort to portray a meaning that is universally recognisable (Handa, 1999: 375).

Plate 9: Interior view of Tadao Ando 'Church of Light'

"…therefore it is not only possible but also beneficial for architects to add natural signification to their designs even when they are dealing with culturally specific forms" (Handa 365:1999).
Jencks's work on the semiology of architecture substantiates the use of both natural and arbitrary meaning. This is presented through his belief that arbitrary meaning in architecture is exposed through 'iconic' and 'actual function' signs, while indexical signs expose the associated natural meaning (Jencks, 1980).

Jencks's work on the semiology of architecture substantiates the use of both natural and arbitrary meaning. This is presented through his belief that arbitrary meaning in architecture is exposed through 'iconic' and 'actual function' signs, while indexical signs expose the associated natural meaning (Jencks, 1980).

> *"It is the relation between these three entities which is important for establishing the type of architectural sign, whether it is mostly indexical, iconic or 'actual function' in architecture"* (Jencks, 1980: 8)

In conclusion the physical forms or the parts that make up architecture reveal signs that are influenced by the natural signification of its physical form and the distanciation of both the social context in which the object exists and the idiosyncrasies of the observer. Meaning as 'truth' is therefore unattainable, however when related within a context and particular time, the 'truth' of meaning finds refuge in convention.

2.7 CONCLUSION

2.7.1 Hermeneutics as a Foundation for Abstraction

In addition to the Historical and cultural research established in section (2.3.4), pre-understanding will involve investigation into historical pieces of art due to the existential insight it can provide (Norberg-Schulz, 1971: 30)

In essence the study of architecture must no longer be considered as a discipline for the accumulation of anaesthetized information, but be actively applied towards the service of life and form (Perez-Gomez, 2000: 8-9).

When a researcher enters into a qualitative situation, the circle of understanding suggests that the aim of establishing the perfected 'whole' becomes more definite as the particularities of the situation become clearer. As a result of this, the meaning behind these particularities or 'parts,' becomes clearer itself, indicating that both the 'whole' and its 'parts' are seen to have been incoherent at the beginning of the interpretive process.

This qualitative approach towards 'being in the world through a process of living and working is not adequate for the task, of architectural analysis. Once the perceived 'whole' is better understood through the all-encompassing approach of 'being in the world' The researcher will need to abstract the parts in order to confirm their own assumptions and identify the problem areas.

Despite the risks suggested by Snodgrass and Coyne (2006), the investigator may, theoretically, remove themselves from the subject of investigation and take on the positivists approach in order to architecturally analyse these parts and in so doing the researcher assumes the role of the Cartesian Subject.

In literary hermeneutics we read text by understanding the 'parts' or words in the context of the greater whole under the guidelines of grammar. In architecture and the built environment common objects and their forms constitute the parts of the greater whole. Heidegger describes these objects as 'ready to hand tools' (Stepanich, 1991).

2.7.2 Analysis Macro

Despite the historical and cultural understanding that is achieved, in regards to a particular location and situation, through the foundation of hermeneutics, the suggestion that a chair or any kind of 'ready to hand' object is sufficient for the process of abstraction is naïve. As in literature, a language of the built environment must be established.

This was achieved by understanding the parts and the relationships between them in accordance to the work of Norberg-Schultz, Thiis-Evensen, Christopher Alexander, Rumiko Handa, Charles Jencks and Kevin Lynch. By utilising the previous investigation to an insight to how the inhabitants of an area understand their specific environment, the researcher will in turn nullify any of the negative results that may occur through the lack of subjectivity within a universally applicable language.

Through this research two primary or 'Macro' relationships of architecture were identified. Both Norberg-Schultz, Thiis-Evensen agree, that in order to create meaningful buildings, architecture must reflect both its natural environment and its urban environment:

- **Natural Environment:** The natural environment earth, heaven and optic array. Heaven is defined by climate and lighting, the ground by its horizontal and vertical overtones and the optic array by the artefacts that constitute it. The effect of these defining factors establishes a natural setting as being classical, romantic or cosmological.
- **Urban Environment :** Taking its cue from earth, heaven and optic array, the Urban environment is primarily defined by the notions of ground, roof and surrounding urban structures, which are in turned defined by their relationship with the environment through the horizontal and vertical overtones they evoke.

The above definition of the urban environment is too vague for any real understanding to be achieved. A more direct relationship has to be established between the urban environment and its meaning must be established. This was achieved through the work of Norberg-Schulz and Kevin Lynch. By referring to the universally acceptable aspects of psychoanalysis and how people identify with cities, Norberg-Schulz was able to establish links to the relevant aspects of Lynch's work.

- **Orientation:** In order for a person to be able to use a city as it was meant they must be able to orientate themselves. This is achieved through lynch's concept of node path and district, however Norberg-Schulz's choice of neighbourhood will take preference over Lynch's notion of district.
- **Identification:** Identification occurs when the user is able to relate culturally with aspects of the city and feel at home. Norberg-Shultz does establish this knowledge beyond the basic notion of 'dwelling'. The initial Hermeneutic investigation shall provide the necessary knowledge for this task (Norberg-Shultz, 1976).

2.7.3 Analysis Micro

The meaningful quality of individual buildings can be understood, according to Norberg- Schulz, through their relationship to inside and outside. Thiis-Evensen's 'Archetypes in Architecture' allows architecture to be broken down to the smallest parts. These parts or archetypes of architecture establish meaningful indicators by which the built environment can be better understood, they are essentially the words of an architectural language.

Once again taking its cue from earth, heaven and optic array, Individual buildings are defined by three factors:

- **The floor:** above and beneath.
- **The wall:** within and around.
- **The roof:** over and below

These factors are then redefined in accordance to the three 'existential expressions of architecture, motion, weight, and substance, establishing a complex series of tensions between the physical elements of architecture and the existential properties of experience (Thiis-Evensen, 1987).

Thiis-Evensen's 'Archetypes in Architecture' becomes a reference tool for the 'parts' of architecture that constitute a meaningful 'whole' or genius loci of place. If Thiis-Evensen's work is considered to be a sort of architectural 'dictionary', it cannot be utilised in a meaningful way without some predetermined structure or 'grammar'.

While both Norberg-Schulz and Thiis-Evensen's provided a structure whereby the 'parts' of the built environment may be defined in accordance with the above examples, a true language of architecture must also subscribe to a structure determined by the relationship of the 'parts' to each other. This is achieved through Christopher Alexander's 'Pattern Language', in which he attempts to establish how architectural parts belong together in a larger environmental whole (Alexander, 1979-1993).

The work of Alexander and Thiis-Evensen will be predominantly used as reference material in relation to the physical aspects of place described by Norberg Shultz. Hermeneutics will contend with the problems of subjectivity in terms of understanding architectural meaning within a particular community while semiotics will establish how this meaning can be reinterpreted and conveyed more universally.

2.7.4 Synopsis

By designing architecture in accordance to its relationship to the environmental, urban and cultural context that surrounds it, the designer can help to heal the surrounding built environment. By creating a continuous structure between the new architecture and the 'parts' around it, in accordance with the meaningful 'whole', an architect of any background can create meaningful architecture in any context.

> *The basic act of architecture is therefore to understand the "vocation" of the place. In this way we protect the earth and become ourselves part of a comprehensive totality. Man is an integral part of the environment, and that it can only lead to human alienation and environmental disruption if he forgets that. To belong to a place means to have an existential foothold, in a concrete everyday sense"* (Norberg-Shultz, 1976).

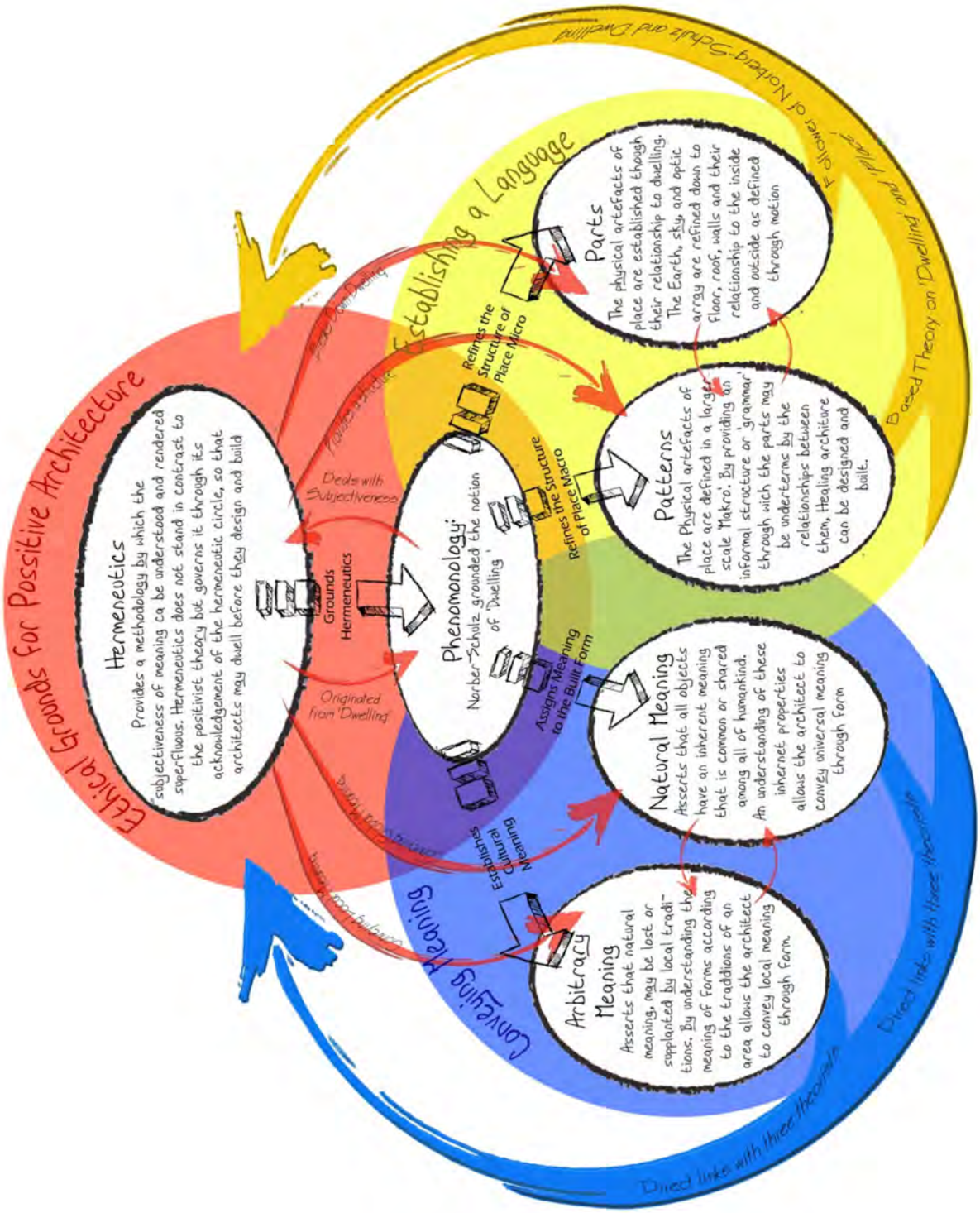


Figure 21: Breakdown of Theoretical Process (Author 2011)

CHAPTER 3 CASE STUDIES

3.1 PRE-UNDERSTANDING

3.1.1 Historical Study of Durban

In accordance with the proceeding literature review a pre-understanding of the context must be developed before any qualitative or quantitative analysis can be executed accurately and ethically. The following historical study sets the foundation for this pre-understanding, beginning here with a historical study of Durban and concluding with an investigation into the development of public transportation. This macro context will then be refined further in the proceeding case studies to a micro context specific to each site.

The first recorded discovery of Durban was by Vasco da Gama, the great Portuguese navigator, who named the port Rio de Natal in reference to the day of anchorage on Christmas day of 1497. During these early times Natal remained home only to its autochthonous population and the crews and passengers of shipwrecked vessels (Malherbe, 1965).

A hundred years before Vasco da Gama Christmas day discovery, the Nguni people started their southward migration settling in the Natal midlands and later moved down to present-day Durban and the bluff where they finally settled in the place they called Thekwini meaning “The Lagoon”. In 1685 the English ship the Good Hope was grounded upon the North shore while trying to enter the bay and formed a small settlement.

After approximately a year the crew of the Good hope where joined by a few weary Dutch sailors who had travelled north after their ship the Stavenisse went aground near Port Shepstone. Together the new consortium of Dutch and English Crew Members put together a two masted, 50-foot craft and sailed back to Cape Town (Malherbe, 1965).

Upon their return an inspired Governor Simon van der Stel ordered Captain Pieter Timmerman of the ship Noord to head for the Bay of Natal in order to procure it from the local population on behalf of the Dutch east India Company. However, the proof of sale was later lost in a storm on the return trip to Cape Town (Morrison, 1987). As far as the white man's history books are concerned it was at the bay in 1823 when Lieutenant Francis Farewell (Plate 10) and Lieutenant James Saunders King brought the Salisbury over the sand when it all began.

Having surveyed the Bay (Figure 21) and convincing both themselves and the Governor of the Cape, Lord Charles Sommerset of its commercial value, Farewell visited with King Shaka at his kraal to purchase approximately nine thousand square kilometres of territory around the Bay. This established the settlement of Durban and marked the start for the colonial town of Port Natal, which was renamed D'Urban in 1835 by the missionary and ex-naval officer Allan Gardiner, in honour of the Cape’s Governor (van Niekerk, 1979: 6).

At its earliest the settlement was made up of only a few huts belonging mostly to the ivory traders. These settlers chose to live at this outpost without even the protection of the flag, Francis Farewell Square is situated at the site of this original settlement to which Lt. George Francis Farewell and Henry Francis Fynn returned in 1824 and engaged in their first indaba with Shaka (Bender, 1988).

Plate 10: Francis George Farewell

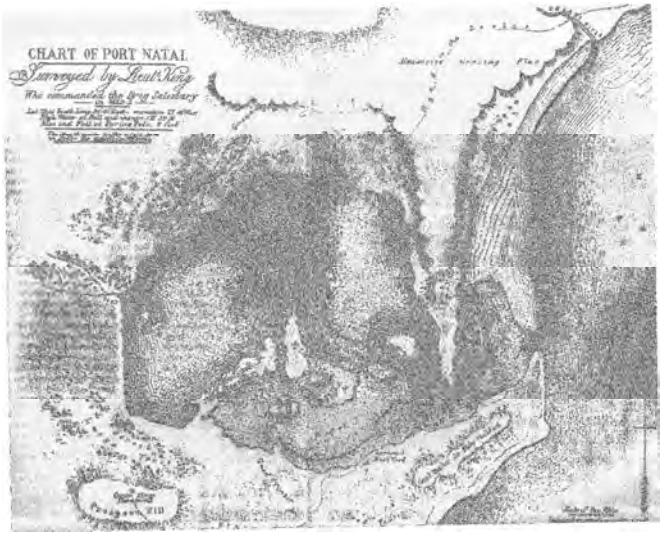


Figure 22: Fist Survey of the bay

The Voortrekkers arrived and settled in Durban in 1837 led by Piet Retief, however this settlement was short lived as Retief was Murdered by Dingaan and his Zulu warriors and the British seized the opportunity to take possession of Port Natal, arriving at the bay on the 6th December 1838. The British stay was only temporary as the Boers returned to Durban after the defeat of the Zulu army and they fled back to the Cape. Refusing to back down the British sent Capt. T.C. Smith back to retake the port from the Boers and in 1842 Durban fell under British rule (Russel, 1971).

By the mid nineteenth century Natal was annexed to the Cape Colony to become a dependency under the Governorship of Martin West, after whom West Street was named. Allen Gardiner was originally selected to draw up the town plans but these were rejected due to unrealistic ideals and George Cato assumed the responsibility of developing a plan (Figure 22) for the town in 1840.

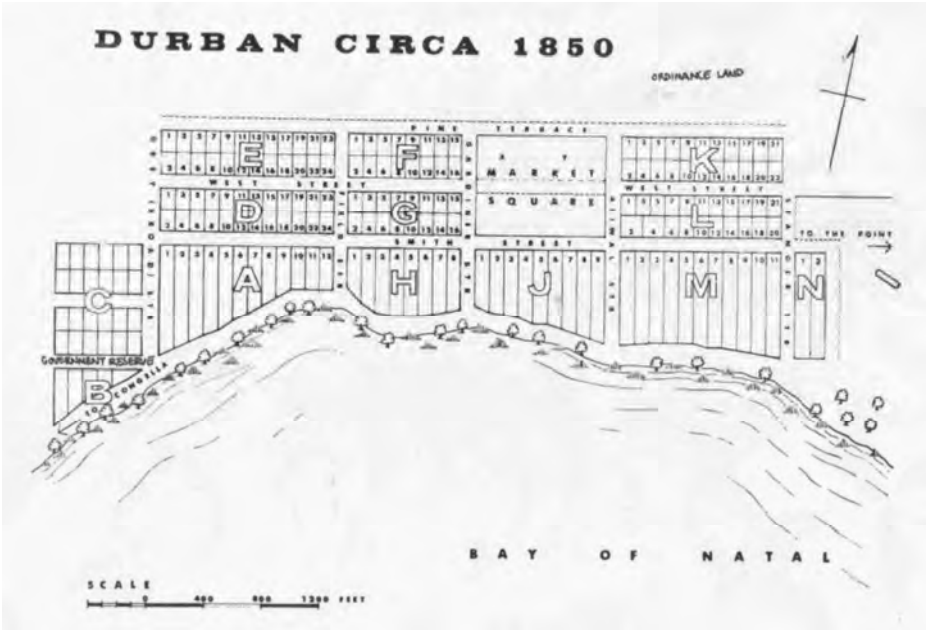


Figure 23: Fist Survey of the bay

Today the original town plan can still be seen reflected in the streets of Durban's Central Business District. Initially the streets were around thirty metres in width in order to allow the massive carriages, drawn by up to sixteen oxen, to turn properly providing wide roads for the vehicular traffic used today. The central focus of the plan falls upon the Market Square where produce was sold and visitors could stable their oxen.

The residential district of the town was confined to the inner Point area stretching from Gardiner Street, along Smith and West Streets terminating at what is now the Marine Parade, nevertheless a few scattered houses were built on the ex-missionary site of the Berea. The land to the North of Pine Terrace will be the major focus of this study, originally known as Ordinance land the space remained undeveloped for some time, is only been fully developed today as massive parking sprawl in reaction to the pending world cup (Morrison, 1987: 12).

In spite of Cato's detailed planning, the city remained small and exceedingly unpopulated while playing host to only a majority of insubstantial structures including wattle and daub huts. In 1850's however this trend began to reverse as British immigrants started arriving and by 1854 the town's population had grown to 1204 residents owing to Joseph Charles Byrnes private immigration scheme. This scheme was fulsomely supported by the Colonial Office as a desperate supply of raw materials was needed in the English mills and factories.

Plate 11: Thomas William Bowler's 'Natal landing of the 45th Regiment August 1945'

This population increase resulted in the proclamation of Durban as a Borough, encompassing an area of 33 square kilometres bounded by the Umgeni River to the North, the Indian Ocean to the East, the Bay of Natal to the South and the farms of Springfield and Cato's Manor to the West (Malherbe, 1965).

Despite this growth the buildings remained relatively simple as most were still constructed using wattle and daub, and there were only a few brick buildings in town due to the high cost of bricks produced in the Greyville area at the time. Corrugated iron was also introduced as it was impervious to the insects that where causing a huge problem in the sub-tropical climate.

In 1860 the streets of Durban remained unhardened, unsmoothed and unlit, vacant lots were heaped full of rubbish, drains were left open and water was obtained from a large well on Smith Street. Surprisingly however the Berea had developed into an attractive residential area where large plots opened onto tree- lined streets. As more and more people began to move into the area new streets and blocks were developed, closing the gap between the Town and Berea.

In 1860 indentured Indian immigrants arrived to work on the surrounding farms the final major cultural influence to occur as a direct result of changes in population composition until 1894. Their arrival would forever change the face of Durban, its urban development and spatial growth. Many so called “Passenger Indians” accompanied the immigrants immediately taking up work within the sea-fishing industry, retail trade, manufacturing, craft and retail sectors, resulting in slums due to overcrowding within the metropolitan area.

During this time built up land was still focused centrally while commercial activities were concentrated at the eastern end of the grid towards the point. Over the next few years land prices in the west of the Market Square became cheaper and the business began to relocate slowly across the city.

The central area continued to develop as the focus from which all transport routes radiated. As trade increased West Street was expanded to accommodate the new business followed closely by an irregular zone of merchants wholesalers, and storage facilities along the edges of the centre.

As previously discussed the “Passenger Indians” began to take up trade within the city, opting to live in shacks built next to their shops along the north western edge of Durban, as many couldn’t afford property in the white business district.

As the town became a city its architecture was completely in keeping with the ideology of the British settlers who were resolved to constructing a city centre based on the European model. Durban’s city centre was designed to be a bastion of British culture and ideology and was intended to be used only by the white population while excluding the local population (Marschall, 2010).

During the early twentieth Century South Africa had become a Union and Durban was in a state of progress, electricity had become widely available allowing for street lighting, a waterborne sewerage system, hardened main street surfaces and Back Beach had begun its transformation into the Marine Parade of Durban’s modern era. Durban had also become a major destination for Holiday makers attracted by the beautiful beaches and the Durban’s Lord’s Grounds a favorite venue for South African national sports fixtures. Ox Carts slowly began to make way as motor cars began to supersede them as the most popular form of public transport (Malherbe, 1965).

Plate 12: Percy Bowyer's 'Durban Harbour from the Bluff 1906'

Residential areas were relocated to the edges of the city and peripheral areas as business became a priority within city's center. White and Indian businesses occupied approximately 60% of the city's grid forming a rectangular centre, The white businesses where predictably located at the centre of CBD while the Indian area extended in a north westerly direction towards what was one the Springfield farms.

The Bay to the south, the beach to the east, the railway yards to the north and the central railway lines to the west all inhibited this growth creating an area of extremely high property demand for Major businesses but limited space. By the 1930's the city began to expand vertically as a result of these conditions once again forever changing the image of the city. Resentment between the Indians and whites began to develop due to the unwanted competition the Indian traders exacted upon the white businesses giving rise to the restriction on the expansion of the Indian business to the north-west of the CBD (Howard, 1985).

However the shortage of land within the Indian areas led to the upper floors of buildings been used as residences. Later on however all further residential development within the area was prohibited by the Group Areas act (Howard, 1985).

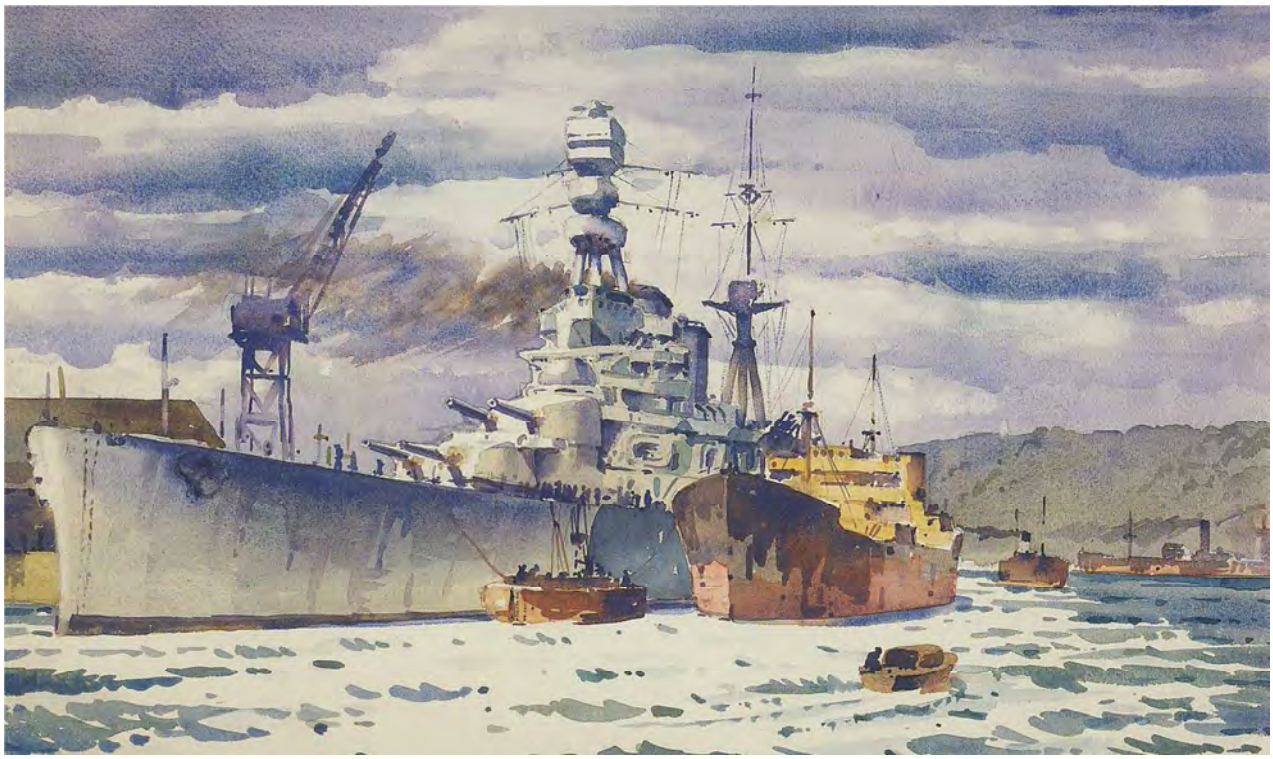


Plate 13: Nils Severin Andersen's 'HMS Repulse Refuelling 1941'

Due to the integral role of Durban's harbor within the economy of South Africa, Durban underwent a period of rapid commercial and industrial expansion which in turn led to an explosion in the city's population. To accommodate this, the city has sprawled out in all possible directions becoming the hub of a developing city region including a network of many minor loci. Today Durban has developed a typical but small western city CBD with a surrounding area of 2297 km^2 falling under the authority of the eThekwini municipality and is home to a population of just under four million people (Machen, 2008).

Plate 14: John Churchill Simpson's 'Durban Harbour from the Bluff 1982'

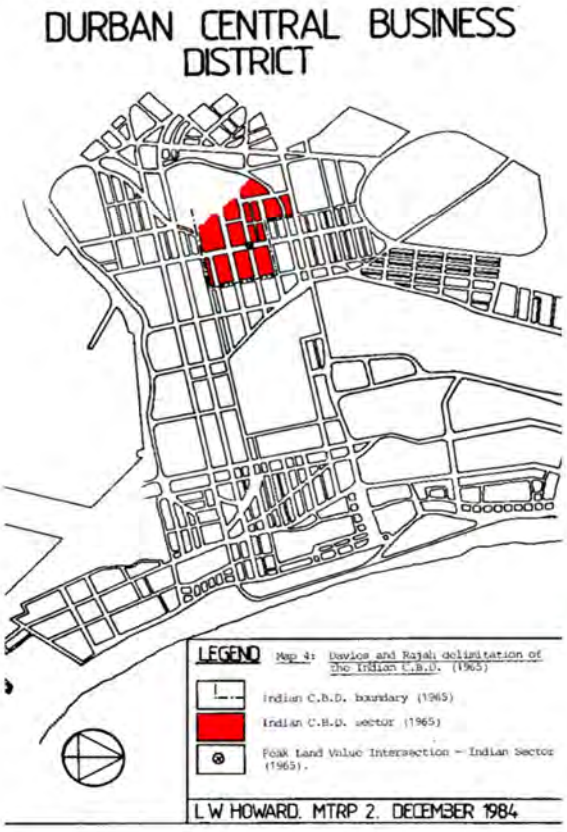


Figure 26: Durban Delimitation 1965

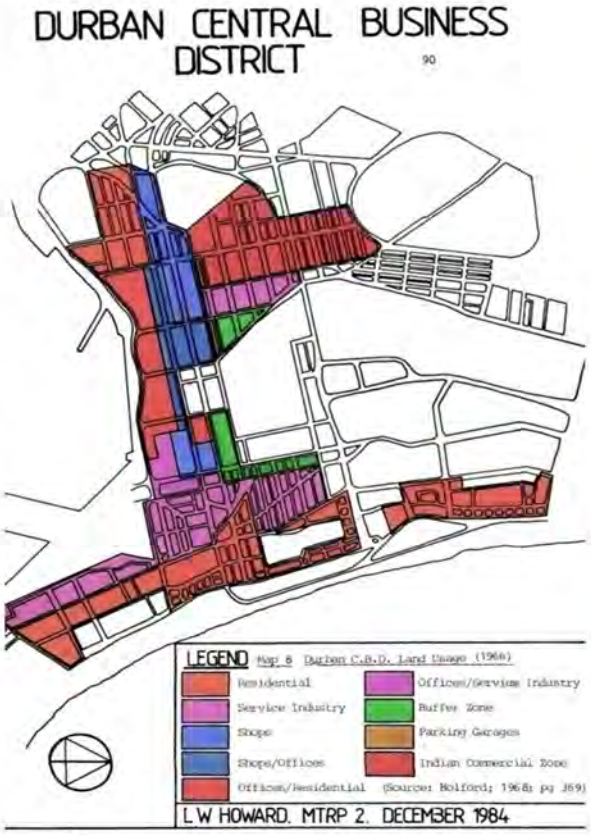


Figure 25: Durban Land Usage 1966

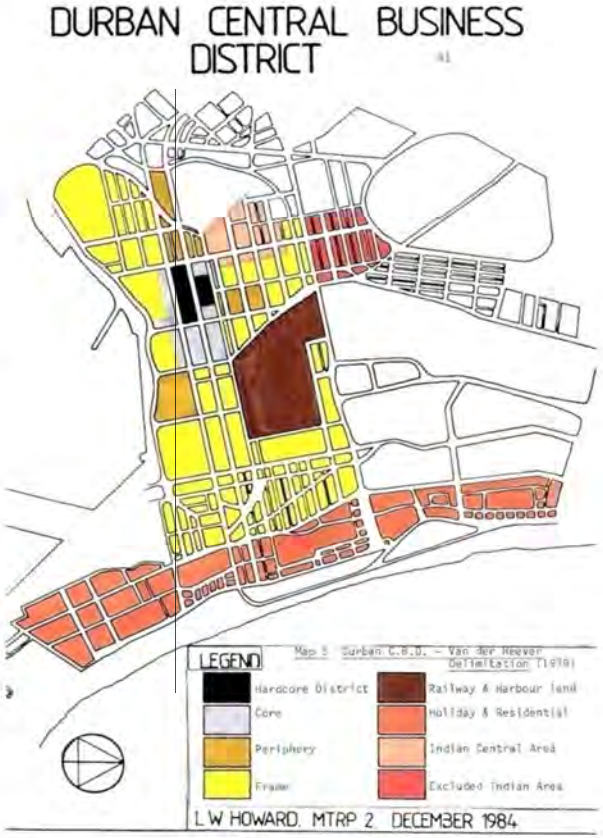


Figure 24: Durban Delimitation 1979

3.1.2 The Development of Public Transport

Now that a greater insight into the political and cultural aspects of Durban has been considered through historical research, the investigation must focus on the history of public transport directly. This second part of the study will concentrate on the origins, planning, motivations and unique typologies of the public transport Industry in order to gain insight into the current perception of public transportation.

In 1819 parties of English immigrants began to regularly arrive in Durban, followed shortly by indentured labourers. This population increase, combined with the growth of the sugar industry, meant that the upgrading of the harbour and the cities transport infrastructure had become a necessity. This began with the construction of two bridges across the Umgeni (www.sahistory.org.za, 2011: 2).

The development of transport infrastructure hit a problem, when in 1856 a torrential downpour began resulted in the Umgeni River bursting its banks and washing away both bridges as well as flooding most of Durban. This meant that any new bridges would have to be a lot more permanent and also led to the draining of the eastern marsh, as well as the channelling of Cato Creek by harbour Engineer, John Milne (www.sahistory.org.za, 2011).

In order for this construction to continue, new sources for durable materials would have to be located. This was found at a quarry near the banks of the Umgeni River and by 1856 the council began setting out a formal settlement for the workers. The difficulty involved in transporting the raw materials over the eastern marsh, instigated the need for a mechanised form of transport linking the Point to Umgeni (Russell, 1971).

On 20 January 1859 British civil engineer Albert Robinson, announced that he had completed the plans for a new railway line from the Custom House at the Point to the Market Square in Durban. On this same day the citizens of Durban were informed that:

> *"… a project is on foot under the auspices of an eminent practical engineer … for constructing a railway, with locomotive steam power, between the Point and the town, through the bush and along the principal street thoroughfares"* (Russell 1971: 393).

Over the next six months to a year disagreements began to break out over the location of the new market station. From meeting too meeting, petitions, lawyers, and corruption meant that the newly formed Natal Railway Company and the citizens of Durban struggled to come to an agreement. Finally the Natal Railway Company conceded to the wishes of the city's residents and settled for a site located on ordinance land. (www.sahistory.org.za, 2011)

> *"… that the Market Square ought not to be appropriated … and that the most eligible site for a terminus in front of Pine Terrace, north-west of St Paul's Church"* (Russell, 1971: 395).

By April 1860 half the line had already been laid and the locomotive was aboard a ship from Cadiz, on its way to Durban. Arriving in pieces on 13 May, the locomotive was pushed, in pieces, along the 4ft 8ins gauge tracks by Black labourers to a new shed located about 73m from Market Street Station, where they were assembled. The train consisted of four-wheeled ballast trucks with fold-down sides, which were loaded by two cranes with rotating wooden jibs and a cast-iron counter poise fitted on four-wheeled trolleys (www.sahistory.org.za, 2011).

While the train was considered to be simple for the time, the coach (Plate 22) was the opposite. The coach consisted of three compartments, in the centre a First Class section seated 8-10 passengers, with Second Class compartments situated on either side. No Third Class section was provided due to the fact that the local population was seen as not being able to afford the fare (Van Lingen, 1960 and Russell, 1971).

Plate 15: First passenger carriage

Aesthetically, the dark green engine of the locomotive (Plate 23) was offset by the copper-coloured wheels and brass 'Natal' name plate on its side. This created a regal appearance that reflected the town as a British Colony and is still used as the primary South African sporting colours of today. From the outside, the smoke stack ended in the 'American' wide mouthed funnel style, while insides of the coach were protected by glass windows and fitted with scarlet silk blinds (Van Lingen, 1960 and Russell, 1971).

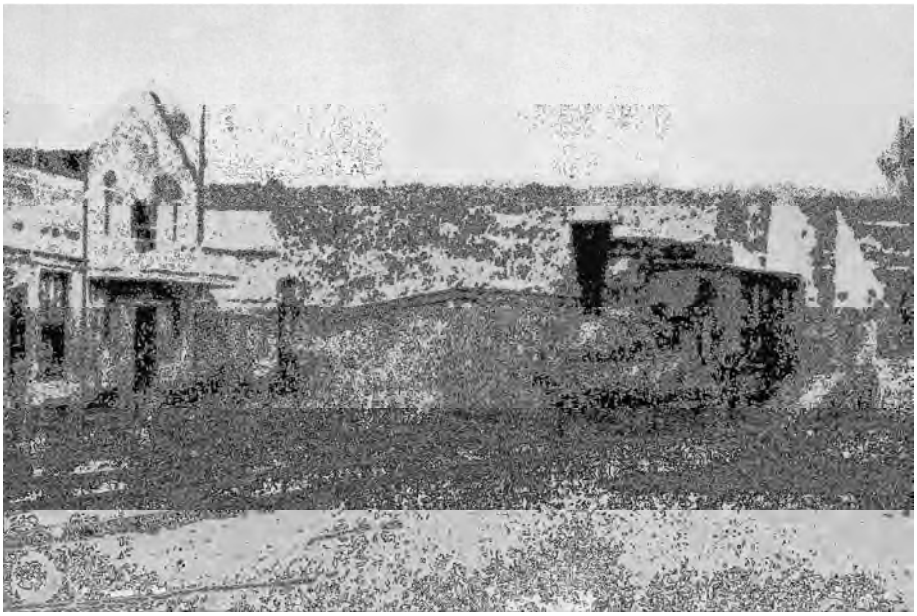
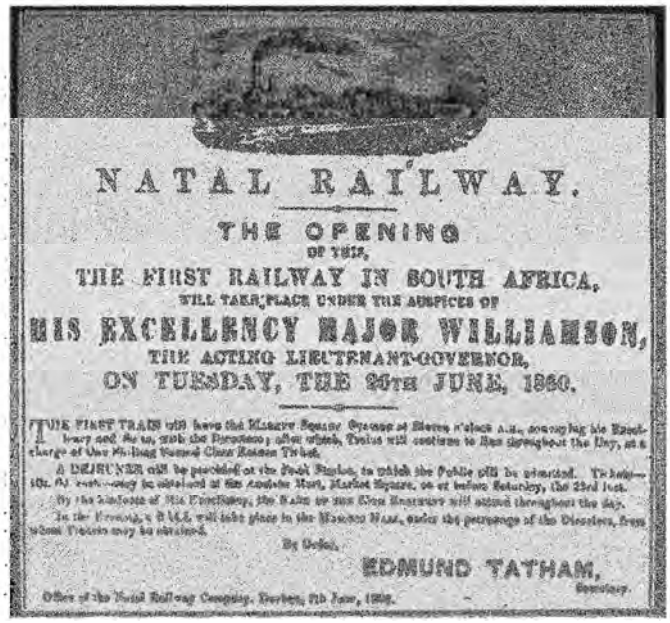


Plate 16 The train at Point Station

The 3.2 km of line that originally connected the Point Station to Durban Central followed the inner shoreline of the bay before turning along Pine Terrace and continuing onto the ordinance land upon which its terminus and its later workshops were located (www.sahistory.org.za, 2011).



NATAL RAILWAY.

THE OPENING
OF THIS,
THE FIRST RAILWAY IN SOUTH AFRICA,
WILL TAKE PLACE UNDER THE AUSPICES OF
HIS EXCELLENCY MAJOR WILLIAMSON,
THE ACTING LIEUTENANT-GOVERNOR,
ON TUESDAY, THE 26TH JUNE, 1860.

THE FIRST TRAIN will leave the Masonic Square Station at Eleven o'clock A.M., conveying the Executive and Suite, with the Provisional Officers, after which, Trains will continue to run throughout the Day, at a charge of One Shilling Second Class Return Ticket.

A DEJEUNER will be provided at the Point Station, to which the Public will be admitted. Tickets (2s. 6d. each) may be obtained at the Customs House, Market Square, on or before Saturday, the 23rd Inst.

By the kindness of His Excellency, the Band of the 45th Regiment will attend throughout the day.

In the Evening a BALL will take place in the Masonic Hall, under the patronage of the Directors, from whom Tickets may be obtained.

By Order,

EDMUND TATHAM,
Secretary.

Office of the Natal Railway Company, Durban, 7th June, 1860.

Plate 17: News Paper Clipping from the Opening of the Railway

The station at the Point, (Plate 16) was constructed using a timber frame, which was clad in corrugated iron and raised on timber piles to avoid flooding. At this stage the Market Street terminus consisted only of a raised wooden platform, but this was soon covered in a roof of corrugated iron sheeting. As the demand for raw material grew, work began on a new line between the Market Station and the new Umgeni village (www.sahistory.org.za, 2011).

After completing the line in1867, sand began to play havoc with the working parts of the locomotive. This meant that the train was often taken out of service, causing delays to passengers and materials. As a result, the tracks size was reduced to a 3ft 6ins gauge and a second locomotive brought into service soon thereafter (Russell, 1971).

This meant that the old train became obsolete and was later sold as a boiler to power a saw mill. After being dismantled and shipped the engine was never put into service, and the pieces were eventually buried at a site near the Port St John's river. This loss of great historical importance was not permanent however, as the engine was recovered in in 1943 and returned to Durban where it was restored in the SAR&H workshops (Jackson, 2007: 81-2). Today the old engine stands in centre of Durban Central Station's entrance foyer.

In 1877 the Natal Railway Company assets, properties and operations were, unsurprisingly transferred to the Colonial Government. Construction therefore began to leap ahead, so much so that by the time gold was discovered on the Witwatersrand the line had already reached Ladysmith and Charlestown. Approximately a decade after gold was discovered the Durban line was finally linked into the Transvaal system, instantly establishing Durban as the preferred port of importation due to its highly developed transport infrastructure (Van Lingen, 1960 and Russell, 1971).

Without the incentive of gold, progress down the South Coast was a lot slower and only reached Port Shepstone by the same time the connection was with the Transvaal system had been established. Reaching Kokstad nearly two decades later the line has never extended past Michael's-on-Sea. This lack of progress hints at what the government's priorities were at the time, even today the proposed linkage between Kokstad and mTata has never been built (Van Lingen, 1960 and Russell, 1971).

By the 1870s Durban Central had had grown beyond the boundaries defined by the Western Vlei as new streets were added to the western town plan. These new streets meant that the railway line running between Gardiner and Grey Streets was interrupted by five level crossings, causing delays to both railway and traffic. As a result the Government proposed a new route (Figure 27) out of town and the subsequent design of a new and more imposing railway station at the corner of Railway and Pine Streets (www.sahistory.org.za, 2011).

As a second consequence of the new line, a new station was built in 1904. This new station, known as Berea Road Station acted as the main road link with Durban's developing inland residential suburbs. By 1980's the racist perceptions of apartheid had taken over and black citizens where no longer welcome to live in the city centre. This meant that trains were now primarily responsible for the transport of black migrant workers into the city, something the government at the time could not stand for. As a result the Durban Station and railway workshops where closed and the new ironically named Durban Central Station was constructed towards the edge of the city (Bannister, 1995 and Russell, 1971).

Figure 27: History map of Durban Railway

3.1.3 Public Transportation Today

The historical investigation above provides a context from which the perception of public transport today can be better understood. In South Africa today public transport still bears the scars of its apartheid past. During the early years of apartheid railway commuters were almost exclusively by black labourers. (Figure 33-34) Due to this the white population of the time began to see rail transport as a "poor man's" or a "low class' form of transportation. However sad it might be, the underutilisation of rail indicates that this perception still rings true today, (Figure 38) albeit under the added influence of the neglect that resulted.

According to local architect Derek Van Heerden, this new focus meant that budgets for stations where drastically reduced and relocated to the edges of the city centre.

> *"Since South African stations were designed primarily for the black workers at the time of apartheid, their planning was based on people getting through the station only with no attempt to create a place with an inviting character"* (Mtembu, 2008).

This left many of the traditional 19th century railway sheds of the past to be re-established as shopping malls and other icons of capitalism forever losing the link between South African railway architecture and the western world.

Over time the struggle for equality began to heighten and train stations became a symbol of the oppressive government to the local people. This resulted in many of the stations becoming sites of protest and vandalism as the people tried to fight back by any means at their disposal. . These new stations were located according to industrial needs and the location of labourer's homes and constructed according to strict financial restraints.

The Government responded by commissioning new train stations that where brutally constructed out of robust materials, so as to prevent or at least reduce the damage incurred from rioting. The architects showed no regard for experiential or gathering spaces but instead train station where defined simply as a point of interchange. These new stations supported this concept by actively encouraging the through movement of commuters.

This is confirmed in the relatively recent interview of David Stromberg, where he states:

> *"The system of Apartheid was in the verge of breaking down in the late 1980's, and as a result in 1990, railway commuters became uncontrollable and this era saw evasion of fees and vandalism of the stations which were seen as symbols of white domination"*
> (Mtembu, 2008: A5).

These factors have attributed to the current day perception that public transport, principally train travel, is dangerous, dirty and inferior to all forms of private transportation.

South Africa's train stations have therefore developed autonomously compare to the western world and never inherited the image of prestige portrayed. Today however train stations of the west are no longer seen as symbols of the industrial revolution but have evolved over time as a beacon of economic, technological advancement and more recently environmental sustainability. (Bannister, 1995: 1)

3.1.4 Cultural Study

The eclectic mix of cultures that inhabit the eThekwini area and their past separation, establishes the need for cultural understanding within this context further then hermeneutics actually requires. In the Context of South Africa, many cultures differ in their views and perceptions, as these developed out of the isolation of each group. In order to verify the supposed current day perception of public transport described above, the views of each particular race groups (during Apartheid) and income groups (post-Apartheid) will be established through to quantitative data. This pre-understanding will aid in establishing an insight into the other inhabitants of the city during the qualitative study of "Dwelling'. If these cultural differences can be understood and quantified, a universally acceptable result is more likely to be achieved.

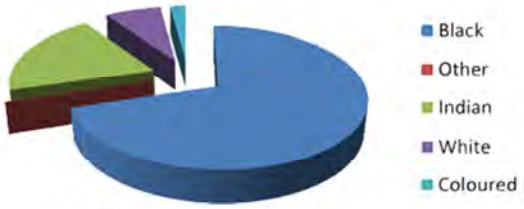


Figure 28: Population by Race 2010

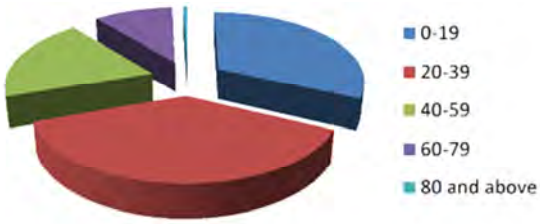


Figure 29: Population by Age 2010

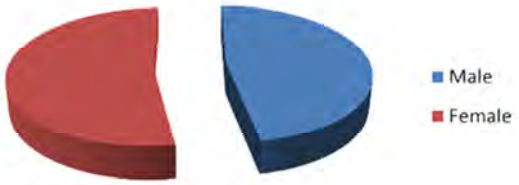


Figure 30: Population by Gender 2010

Figure 31: Population by Education 2010

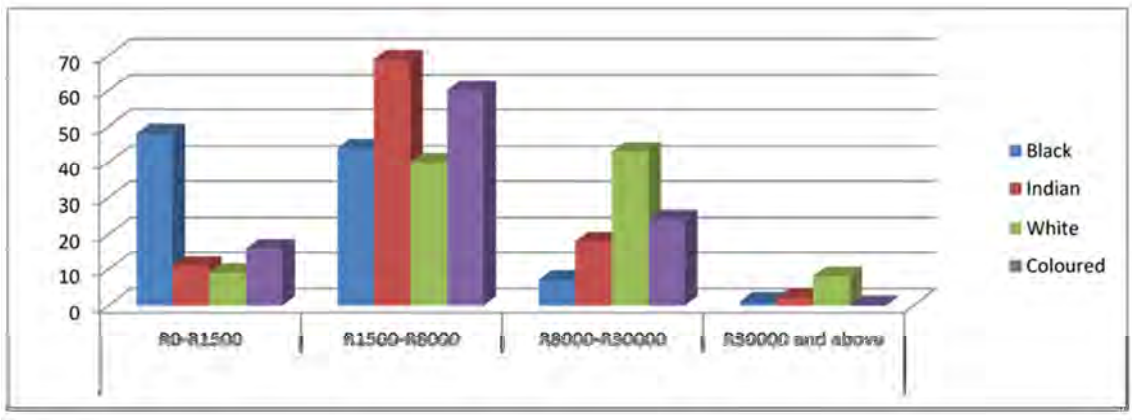


Figure 32: Income level by Race 2010

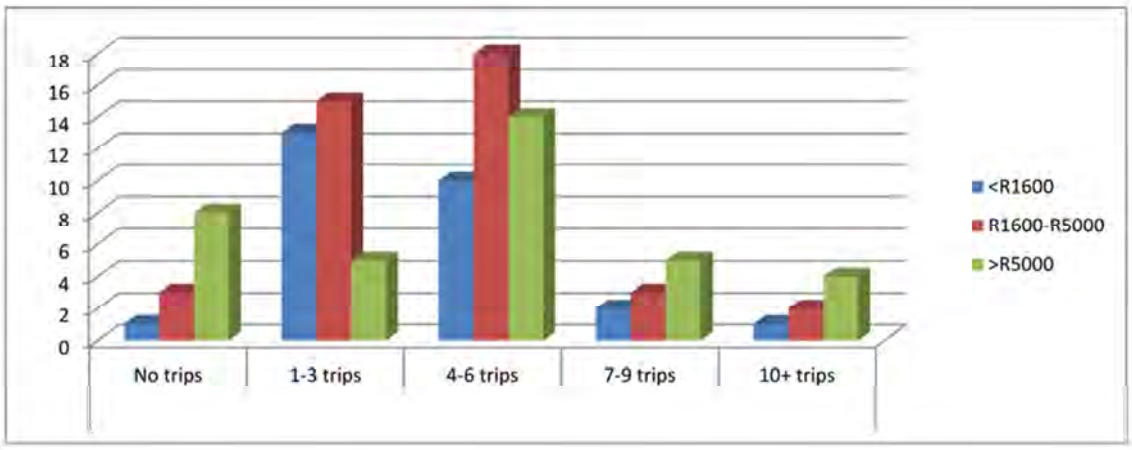


Figure 33: Daily Trips by Income Level 2010

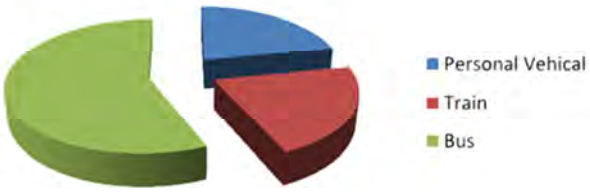


Figure 34: Population by Transport Method 1969: *Non-White*

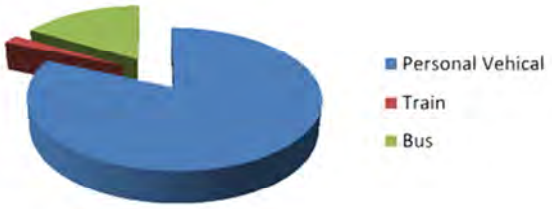


Figure 35: Population by Transport Method 1969: *White*

Figure 36: Population by Transport Method 1999: *Low Income*

Figure 37: Population by Transport Method1999: *High Income*

Figure 38: Households with Vehicle Access 2010

Figure 39: Population by Transport Method 2010

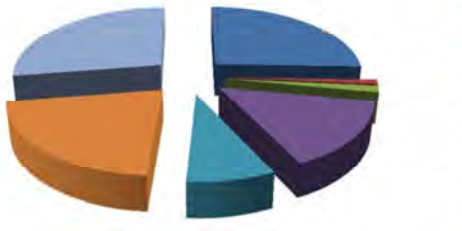


Figure 40: Reasons for not using Public Transport 1999: *Low Income*

Figure 41: Reasons for not using Public Transport 1999: *High Income*

All of the above stats are confined to the eThekwini area only. The Majority of people residing in this area are predominantly black, with Indians and whites constituting the bulk of the remaining population by, of which 52 % are female. The large majority of this population where between 0 and 10 years old at the time apartheid was abolished, begging the question, how segregated are these demographics today?

Most inhabitants have been to school but only a very small percentage carry on to tertiary level and less than a third complete secondary school. In terms of income the segregation of the past still appears to have a strong influence on the income level of previously disadvantaged citizens, this is most likely linked to the affordability of tertiary education. This negative influence of the past is expected to decrease over time, as the 20 -39 year olds establish themselves and their families.

The decline in public transport usage within the white community was already apparent in 1966 while at the same time Busses and trains had become the primary form of travel for non-whites. By 1999 the Low income travellers were hardly using trains, opting instead to use minibus taxis and buses. The high income earners of 1999 had begun to use all forms of transport more equally, but still travelled primarily by personal vehicle.

By 2010 the overall population were using rail transport even less in favour of busses, taxis and private vehicles, of which the large majority now had access too.

The reasons for people gravitating away from public transport vary drastically between income levels except in regards to convenience, reliability and availability. Omitting these to similarities, low income travellers only show real concern regarding the expense of public transport while high income travellers are concerned more with safety. The validity of these disassociated conclusions developed out of the quantitative study above needs to be confirmed through the qualitative task of ‘dwelling’.

3.2 URBAN INVESTIGATION

3.2.1 Areas of Investigation

Figure 42: Study Areas and Surrounds

3.2.2 Qualitative Examples

The preliminary research carried out above sets the parameters from which the below hermeneutical investigation can ethically proceed. This study seeks to provide a deeper understanding of human experience through a multi-level, multi-dimensional understanding of the environment.

The Following examples where quantified through diaries that were updated directly after each experience in order to maintain sight of the experiential whole that was established. To continue this method of understanding each extract was written using everyday language in order to reduce the need for premature abstraction, however due to the long and un-scientific nature of these written extracts, only the important points have been provided in each example. It must be noted however that these points are qualitative and based upon the authors own experiences.

Accessibility of information: The first task of the qualitative study was to acquire a train time table between Avoca Station and Durban Central Station.

- The starting point of this search began over the phone to little success as staff seemed unwilling to provide exact information regarding train times except regarding the schedule of the specific day in question.
- For more long term information they advised using the website provided by Metrorail
- By simply following the links to [http://www.durbantransport.com/traintimetable.htm] the user is taken to a list of excel spread sheet timetables.
- At this stage it must be noted that in order to select the appropriate time table the user must have some knowledge as to which routes are applicable to themselves.
- Once this has been established the correct time sheet can be downloaded. Before it can be of any benefit to the user however they would have to have access to spread sheet software and a basic understanding of how the workspaces contained within the spread sheets work.

MONDAYS TO FRIDAYS	BEREA ROAD - STANGER (kwaDUKUZA)																	MONDAYS TO FRIDAYS
Distance km	STATIONS	Usual Platform	0253 W	0257	0263	0271	9375 U	0277 A	0285	0289	0291							
-	BEREA ROAD	7	12:54	13:50	15:01	16:08	16:25	16:47	17:18	17:55	18:29							
2	DURBAN	7	12:58	13:54	15:05	16:12	16:30	16:52	17:22	17:59	18:33							
5	UMGENI	2	13:05	14:01	15:12	16:19	16:38	16:59	17:29	18:06	18:40							
8	*BRIARDENE*	-	13:11	14:07	15:18	16:25	16:44		17:35	18:12	18:46							
10	*GREENWOOD PARK*	1	13:14	14:10	15:21	16:28	16:48		17:38	18:16	18:49							
11	*RED HILL*	-	13:17	14:13	15:24	16:31	16:51		17:41	18:19	18:52							
13	*AVOCA*	-	13:23	14:19	15:30	16:37	16:57		17:47	18:25	18:58							

Figure 43: Local Timetable

According to the quantitative cultural study carried out earlier the majority of train users fall within the group of low income earners. From this it can be assumed that a large number of train users do not have direct access to internet let alone the relevant skills and software required to access the information. A physical search is therefore necessary to establish how accessible this information is for the majority of rail users.

Physical Search - Avoca Station: At 9:30 on a Friday morning the search for a hard copy of the applicable time table began. The logical starting point of this investigation is Avoca Station, due to its close proximity with the author.

- With prior knowledge of the location available, orientation still proved difficult as the station is situated on a small side road below the horizontal plane of the main road.
- Despite the fairly derelict surrounds the station appeared to be undergoing a transformation, looking fresh and new if somewhat unfinished
- This new, clean and well planned station orientates the user subconsciously and encourages a sense of safety and togetherness.
- This sense of togetherness is enhanced by the smiles and friendly greetings of busy workers pushing wheelbarrows.
- The regular commuters on the other hand, cast unwavering stares and quizzical expressions, generating a sense of uneasiness and alienation. The most likely result of this may be due to a difference in racial backgrounds and the almost negligible number of white travellers began to feel that maybe I was somewhere I was not meant to be, an alien in this world, and everyone knew it.
- The arrival of a surprisingly modern looking train shattered this sense of alienation as the passengers attention moved to the journey ahead allowing the sense of togetherness to once again return.
- When requesting a time table however the staff were unable to provide a hard copy but instead referred to a handwritten copy of the day's trains.

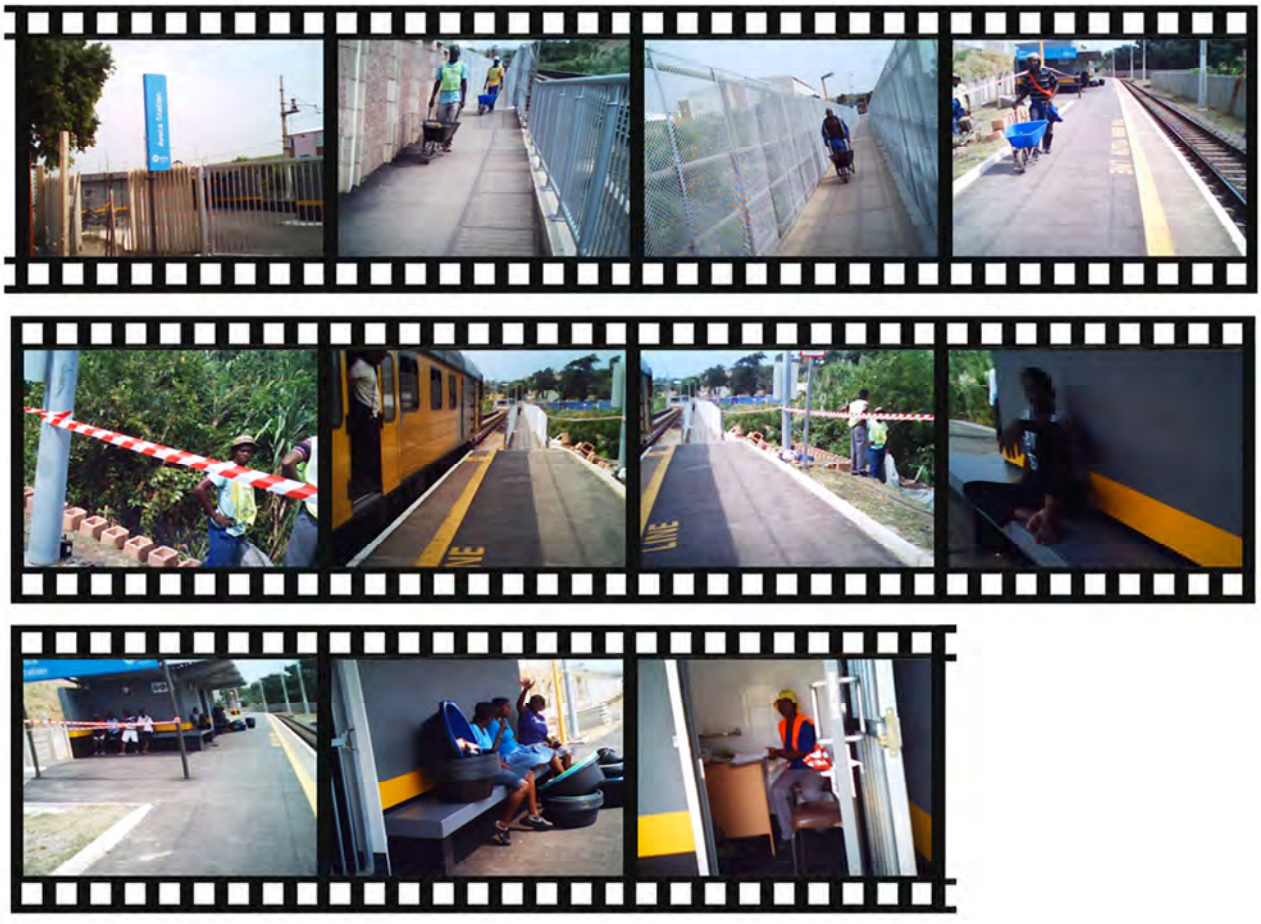


Plate 18: Physical Search Avoca Station

Many positive factors were revealed through this trip to Avoca Station including, the quality of the architectural finishes, planning, friendly workers and helpful staff. However a hard copy of the timetable was not able to be obtained and the passenger's apparent suspicion towards presence of a white participant lead to some feelings of alienation

Physical Search – Durban Central Station: Due to the difficulties experienced in obtaining information in regards to the train times the search moved to Durban Central Station.

- Access from the street was relatively simple as the streets themselves orientate the user towards a large white vaulted structure.
- Upon first impressions the building appeared to resemble a shopping centre more than a transport interchange due to the large array of advertising boards and the authors own experiences developed through the past usage of European public transport.
- In the busy atmosphere of the parking lot people of all races meld into the single entity of the crowd, removing any past sense of alienation and strengthens the bonds of social togetherness.
- Upon exiting the car park, the ease of orientation becomes lost. Moving from the bus terminal to different parking lots and staff only areas parking until a short discussion with a fellow lost soul established the location of the actual train station.
- The interior of station has undergone massive improvements that can only be described as a clinical shopping mall that's ceiling had slipped too low and instead of retail stores the shop fronts contained an array of travel companies.
- Besides the old steam train these travel companies are the only signs that this shopping centre was in fact a transport interchange.
- The ticket sales directives hung from the ceiling, lead the towards the glass window which at this time was empty. After some yelling for attention a staff member arrived and once prompted solemnly explained that there weren't any time tables and that everyone just reads the daily information boards?

Plate 19: Physical Search Durban Central

From this, the perception of low income earners that Public transport does have issues regarding convenience and reliability, in the sense that the times of trains appear to change daily and access to any long term route information is only accessible over the internet. However in regards to safety and expense more qualitative research is required.

Typical Train Journey: In the true sense of Heidegger's concept of dwelling multiple train journeys where undertaken in order to establish the impact of safety and expense, as well as the experiential qualities involved

- The sense of alienation was slowly replaced by good humour as the surprised an quizzical responses from staff resulted in some light hearted teasing as Zulu announcements were quickly followed by ones giggled in English. Once aboard, the passengers also warmed up by opening doors and offering seats.
- Safety therefore seemed to be a problem established only in the minds of the people who don't actually use public transport, however dialectic discussions with these passengers established that crime was still a small problem but had been vastly improved in the run up to the world cup.
- While these changes directly affected the safety, cleanliness and reliability of both trains and stations, some resentment seems to remain with the large majority of rail passengers, over the fact, that these changes only occurred in the run-up to the world cup.
- At a one way price of five Rand to get from Avoca to Durban central it is hard to see that expense is a major problem, but as always this is very subjective.

Plate 20: Typical Train Journey

3.2.3 Exploring the Built Environment

Through the work of Norberg-Shultz, important Architecture that relates to the identification genius loci within an urban environment may be extracted trough the qualitative experience of 'dwelling'. Once the qualitative process has been completed and the "whole' notion of genius loci has been established, the artefacts and buildings that appear most influential in establishing this whole may be extracted. The below Investigation provides examples of these identifiable buildings

Figure 44: Reference Map of Influential Architecture

1. Durban Hindi Temple: The Durban Hindu Temple in Somtseu Road was built in 1901 and recalls the elegance of the North Indian architecture through Victorian and Islamic influences. The temple stands today as primary place of worship for the Hindu culture of Durban (Durban-direct.com, 2011)

Plate 21: Durban Hindi Temple

2. Sahara Kingsmead - Cricket Stadium: This iconic stadium has played host to multiple test matches since January 1923. The form of the ground follows its function utilising grass banks and modern reinforced concrete stands help to create a relaxed atmosphere (espncricinfo.com, 2011).

Plate 22: Sahara Kingsmead

3. Hilton Hotel and ICC: Constructed in 1994 The Hilton Hotel was Durban's First 5 star hotel since the abolition of apartheid. Both the hotel and the ICC reflect the nature of the site using form and material (icc.co.za, 1011).

Plate 23: Hilton Hotel and ICC

4. Train Workshop - shopping centre: Originally built in 1893 as a train repair shed, the building was later recycled in 1986 as a shopping centre that was befittingly called the Workshop (Itafa Amalinde Heritage trust 2010).

Plate 24: Workshop

5. Tourist Centre: Old Railway Station: The Flemish Revival style station was designed in two phases by W Street Wilson. In 1894 the first two story phase was completed, then in 1904 an additional two stories were added (Itafa Amalinde Heritage trust 2010).

Plate 25: Tourist Centre

6. Post Office: Constructed in 1882 the building originally served as the city hall and later as a museum. The Roman Revival style design of Philip Dudgeon won the public competition to design the building (Bennet, Adams and Brusse, 1987).

Plate 26: Post Office

7. St Pauls Church: The Tudor Revival church that stands today was constructed in 1909 as a replacement for the original 1853 building that burnt down (Itafa Amalinde Heritage trust 2010).

Plate 27: St Pauls Church

8. City Hall: Supposedly inspired by the city hall of Belfast, this Revised Baroque idiom, designed by Stanley Hudson, was completed in 1910 (Bennet, Adams and Brusse, 1987).

Plate 28: City Hall

9. 320 West Street: Originally Built in 1973 by the architects Harris, Fels, Janks and Nussbaum. 320 West Street was constructed in a truly modernist sense,

Plate 29: 320 West Street

by utilising glass steel and concrete 320 west street establishes itself as icon to the modernist movement of Durban (skyscraperpage.com, 2011).

10. 88 Field Street: Helmut Jahn originally designed the building now situated at 88 Field Street for a competition in Louisville, Kentucky. Constructed in 1986, a spiral form wraps

Plate 30: 88 Field Street

around the octagonal shaped tower terminating in a mast. The building is constructed using primarily steel and glass in a high-tech style (skyscraperpage.com, 2011).

11. Play House: Originally designed as a movie house in the1920's, the faux Tudor architecture has become synonymous with Durban since its popularity with serviceman in World War two (Itafa Amalinde Heritage trust 2010).

Plate 31: The Play House

12. The Embassy: Designed by architects Artek4 and Built in 1981. The L-shaped form houses the British Consulate and many multinational company offices. The building reflects its environment despite its modern design (skyscraperpage.com, 2011).

Plate 32: The Embassy

13. Transnet Tower: Constructed in 1973 by the architects Radomsky and Smith for retail and office use. It stands today as another typical example of modernism. (ibid, 2011).

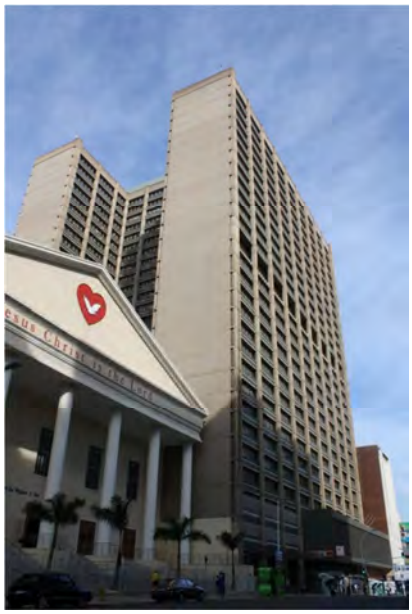


Plate 33: Transnet Building

14. 101 Victoria Embankment: Built as a residential building in 1981 by Monte, Bryer and Rood. Built using masonry steel and glass, the buildings form reflects its surroundings (ibid, 2011).

Plate 34: 101 Victoria Embankment

15. Juma Musjid Mosque: The original mosque at this site was rebuilt in 1927 by the architects Payne & Payne. The building has a strong Union period vernacular (Bennet, Adams and Brusse, 1987).

Plate 35: Juma Musjid Mosque

16. Nedbank Building: Another example of brutal modernism, constructed in 1975 by Oscar Murray & Pokroy. The building houses both retail and office space above parking (emporis.com, 2011).

Plate 36: Nedbank Building

17. John Ross House: Architects Hesketh & Driman designed the John Ross house in 1973 as a mixed use building's form reflects the street (skyscraperpage.com, 2011).

Plate 37: Nedbank Building

18. Protea Hotel Landmark Lodge: Constructed in 1976 by Selsick Wolpe and Partners using the modern style of glass and concrete. The building is for Residential use (ibid, 2011).

Plate 38: Protea Landmark Lodge

19. Metal Industries House: Designed by Monte, Bryer and Rood and built in1973. The modern masonry tower accentuates its own verticality. (emporis.com, 2011).

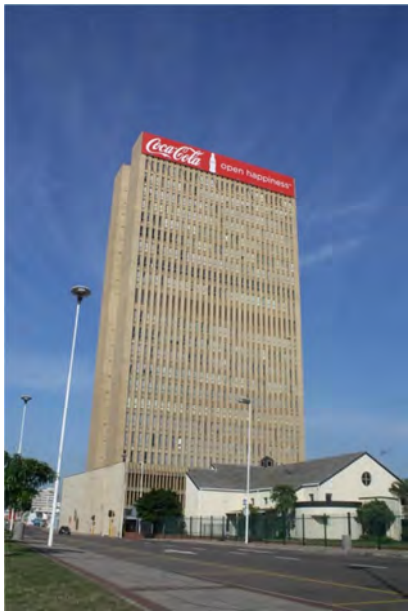


Plate 39: Metal Industries House

20. Holiday Inn: One of the last few buildings influenced by art deco that has not fallen in dereliction. The hotel was designed by Meyer Pienaar using glass, steel and concrete and built in 1985 (skyscraperpage.com, 2011).

Plate 40: Holiday Inn Garden Court

Through the above investigation it can be determined that the city of Durban does not contain the archetypal architecture that Thomas Thiis-Evensen and Christopher Alexander so desired. Despite this, four major movements in architecture can be extracted from the melee, including Modernist, Revivalist, Hi-tech and Art Deco. These movements in architecture can be seen throughout the city but follow no apparent structure, except those defined by the zoning of racial divides in the past. In order to better understand this lack of structure, Norberg Shultz concept of 'orientation' will be examined through the analysis of the built environment according to node, path, and neighbourhoods.

3.2.4 Analysis of the Built Environment

Figure 45: Urban Analysis Map.

3.2.4 Gateways and Boundaries

Figure 46: Gateways Reference Map

Plate 41: Gateway 1 Tollgate

Plate 42: Gateway 2 Stalwart Simelane / Argyle Road

Plate 43: Gateway 3 Masabalala Yengwa Avenue

Plate 44: Gateway 4 Soldiers way / Umgeni Road

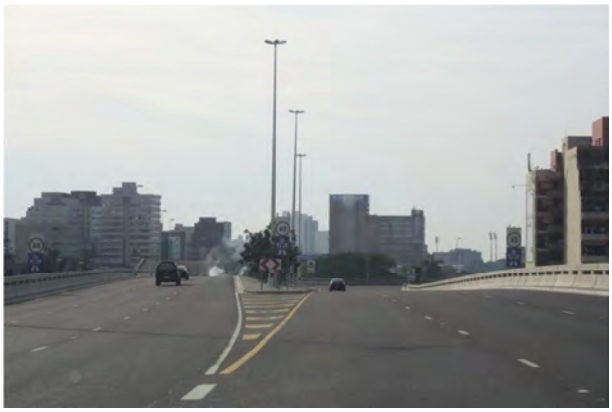


Plate 45: Gateway 5 N3 towards Durban Central

Plate 46: Gateway 6 M4 towards Durban Central

According to Norberg-Schulz and Kevin lynch Neighbourhoods are defined by their boundaries and the gateways through which paths enter. With the exception of Tollgate Bridge, the majority of gateways identified through qualitative research are somewhat undefined in regards to any particular physical structure. Instead the gateways of Durban are established by the experiential difference between areas of varying urban structure, and the physical boundaries defined by roads and railways.

Figure 47: Edges and Boundaries

Plate 47: Railway Boundaries

Plate 48: Traffic Boundaries

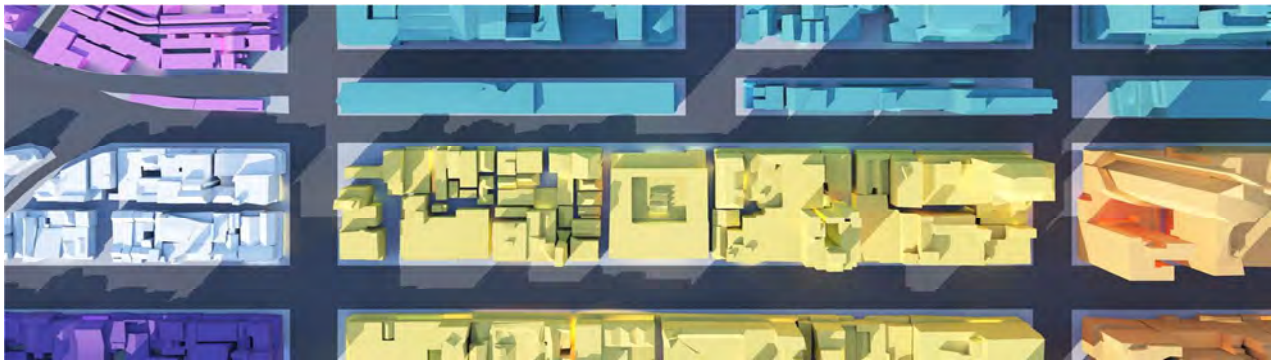


Plate 49: Area Boundaries according to urban density

3.2.5 Neighbourhoods where People Live and Work

Plate 50: Neighbourhoods by Zoning

Plate 51: Were People Live by Population

Through the preceding studies the architectural 'grammar' or 'pattern' that occurs, may be analysed, in accordance with the work of Christopher Alexander. According to which neighbourhoods are places where people work and live. Transport interchanges must be treated as the first priority and transportation lines as secondary through local control (Alexander, 1977). Transport nodes should form centres of public life acting as a part of the gateways into neighbourhoods (Alexander, 1977: 451-453).

In comparison to these ideals the Durban CBD fails to provide the healing neighbourhoods he described, as the residential areas are predominantly kept towards the peripheries of the city, while historical research revealed that the position of the major transport interchanges where not only a secondary thought compared to the placement of lines but are a direct result of from apartheid land reforms. The stations success as a centre of public life acting as a part of the gateway into the city is still to be determined.

3.2.6 Environmental Study

In order to establish whether both buildings being studied have taken into account Thiis-Evensen's and Norberg-Schulz's notion of 'heaven' whereby architecture identifies with the surrounding climate, a pre-understanding must be established through the following environmental study

Durban's following point of location means there are an average of 2343 hours of sunlight per year with an average of 6.4 hours of sunlight per day. Average sunlight hours in Durban range between 5.2 hours per day in October and 7.4 hours per day in May (gaisma.com, 2010).

Latitude: 29°52'12"S

Latitude: 29°52'12"S

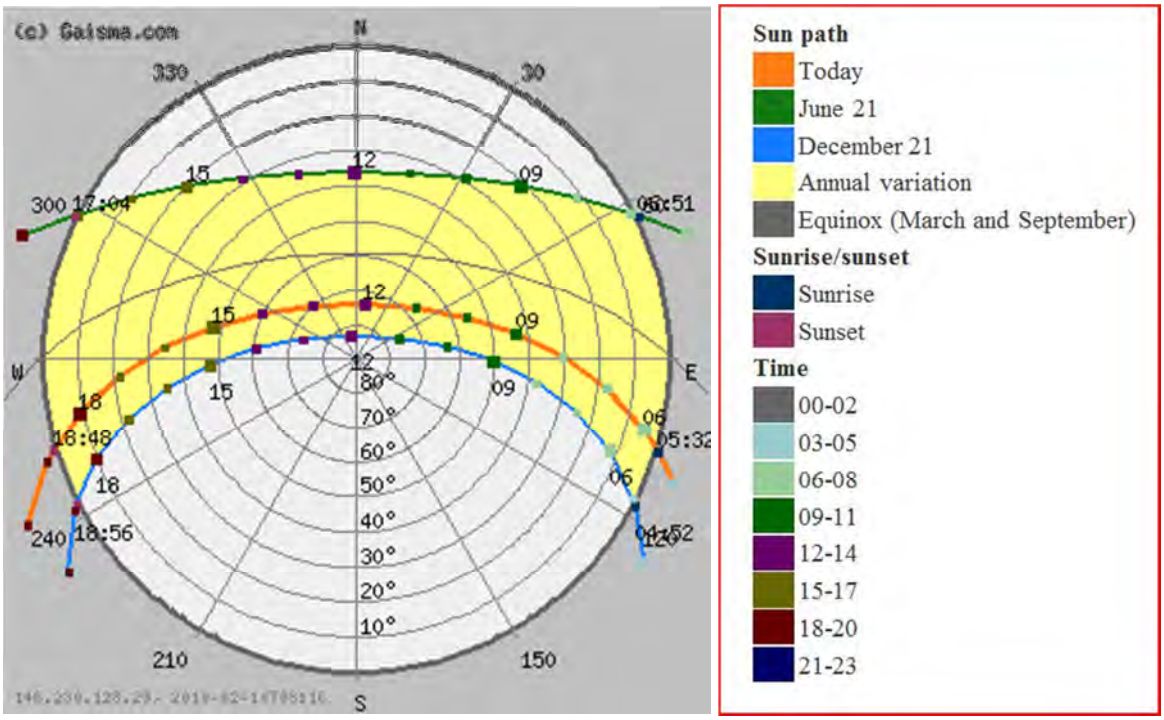


Figure 48: Basic Solar Chart for Durban on the 10th of February

The wind speeds in Durban are conserved to be relatively moderate, peaking in strength over the month of November and bottoming out over the Months of May, June and July. More importantly the direction of this wind remains extremely stable between the, warm weather bringing, North Easterly to the, cold weather Bringing, South Westerly (windfinder.com, 2011).

Durban Airport (DURBAN)
Statistics based on observations taken between 9/2001 - 4/2011 daily from 7am to 7pm local time.

Month of year	Jan 01	Feb 02	Mar 03	Apr 04	May 05	Jun 06	Jul 07	Aug 08	Sep 09	Oct 10	Nov 11	Dec 12	SUM 1-12
Dominant Wind dir.	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗
Wind probability > = 4 Beaufort (%)	48	42	41	37	26	25	23	45	48	49	54	46	**40**
Average Wind speed (Knots)	11	10	10	10	8	8	8	10	11	11	12	11	**10**
Average air temp. (°C)	26	27	26	24	23	20	20	21	22	22	23	25	**23**
Select month (Help)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year

Wind dir. distribution Durban Airport all year

Figure 49: Wind Directions throughout the Year

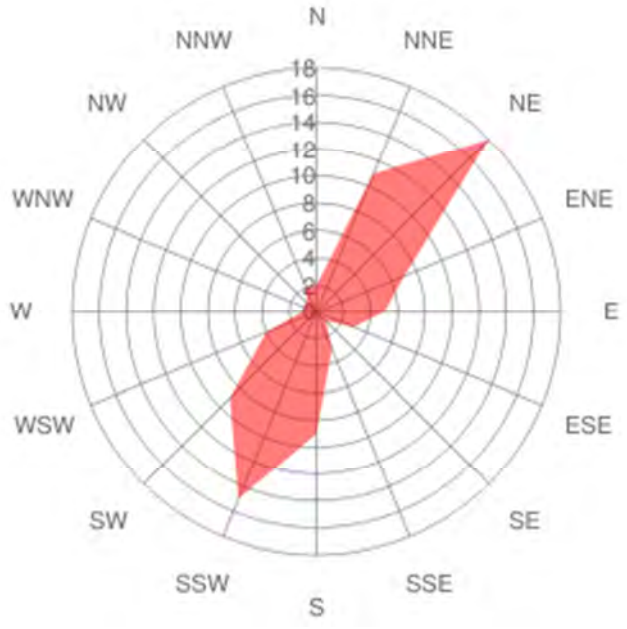


Figure 50: Overall Predominant Wind Directions

The average temperature in Durban is a mild 20.5°C with an average high of 28°C and an average low of 11°C. During the winter months the temperature can get as low as 3°C and during the summer months as high as 40°C. During the summer months of January to march relative humidity levels rise from the average annual level of 79.1% to 83% in March. This high overall humidity not only means that Durban is mild all year round but also that the period of summer can feel substantially hotter than the actual temperature (old.weathersa.co.za, 2001).

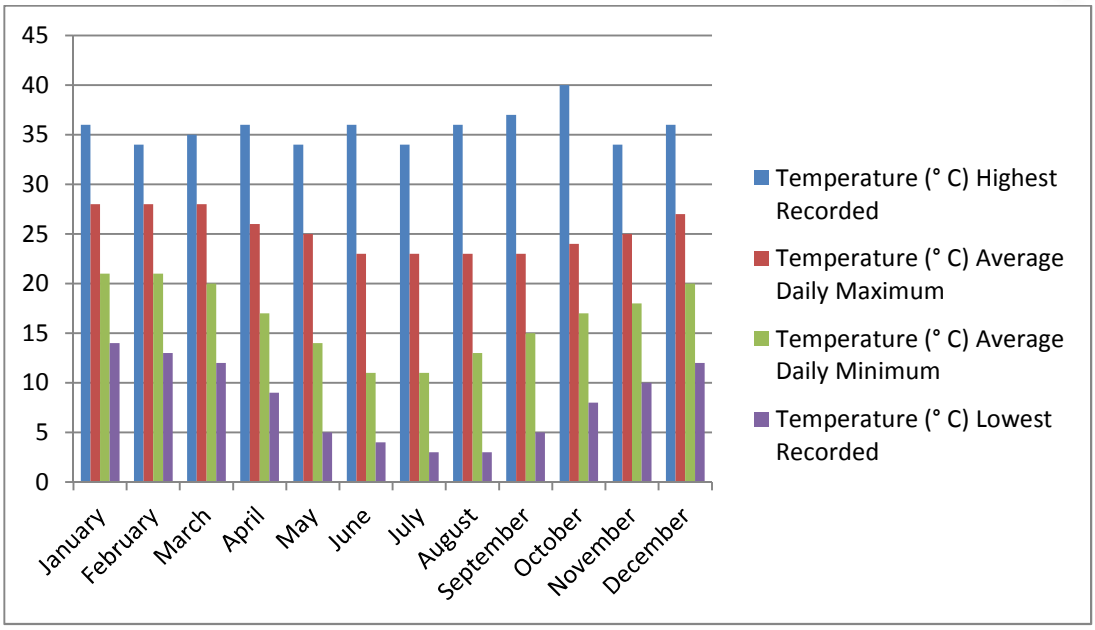


Figure 51: Temperature information is based on monthly averages for the 30-year period 1961 – 1990

Durban's climate receives an average of 1003 mm of rainfall / year, or 84 mm / month. The majority of rainfall occurs during the summer months, with the highest rainfall in documented history occurring in February (old.weathersa.co.za, 2001).

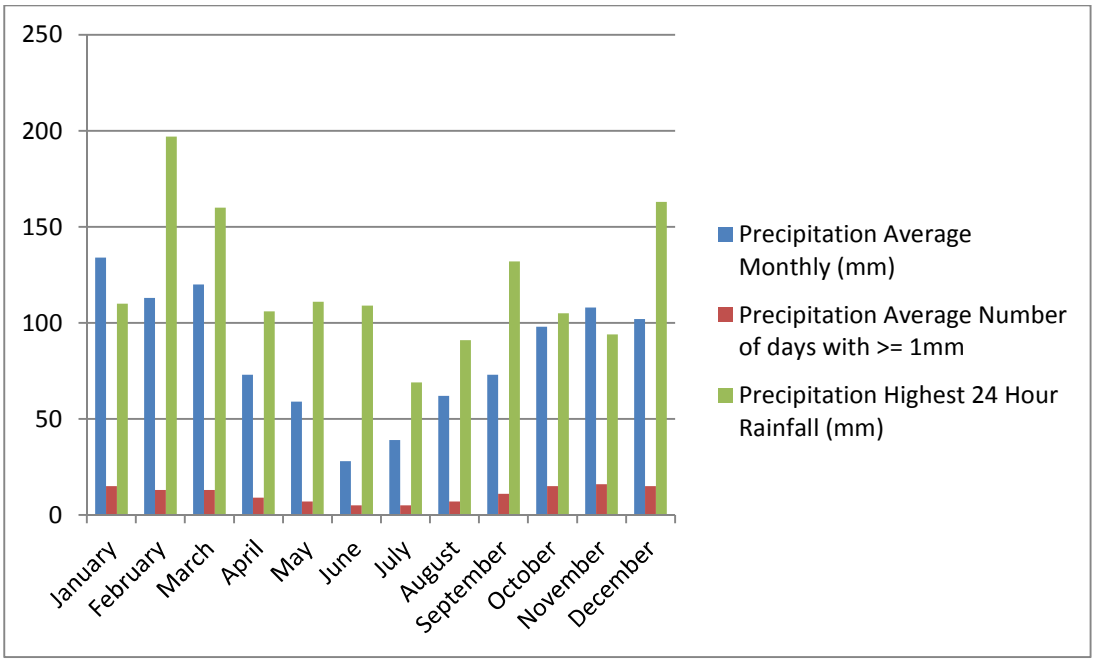


Figure 52: Precipitation information is based on monthly averages for the 30-year period 1961 – 1990

The rate of sea-level rise for Durban and its adjacent coastline is currently gauged to be approximately 2.7mm per year. These results provide a locally measured rate of sea-level rise that can be used for strategic coastal planning, the design of future port infrastructure and marine structures (Mather, 2007).

3.3 DURBAN STATION

3.3.1 Motivation and Background:

Plate 52: Durban Station from Masabalala Yengwa Avenue

Plate 53: Durban Station from Umgeni Road

The original train station (Plate 25) was connected to the Virgin Active shed through platforms (Itafa Amalinde Heritage trust 2010). In order to make way for a new road to connect the freeway system to the beach front, these platforms were demolished (Financial Mail, 1980). Another reason that the Central Station was moved is due to the introduction of electrified rails and the large number of black commuters (Martin, 2005). The combination of these factors lead the apartheid government of the time to design a new station towards the city's outskirts.

Despite these factors there still much excitement at the time of its opening, due to the potential property development further north of the CBD that would be generated as a result of the move (Sunday Tribune, 1980)

Local Architect David Stromberg states that the brutally modern station was designed and built in the 1980, following the typical apartheid trend in building massive reinforced concrete buildings in response to social instability of the time. This station design has been widely used in South Africa since the mid-20th century in an attempt to make publically impressive buildings that would be robust enough to withstand any vandalism from the subjected commuters, instead the totalitarian nature of these buildings contributed to the sense of oppression felt by the black community.(Mtembu, 2008: A5).

Only 5 years after its completion Durban Central Station began to blur the lines of segregation that were still in effect around the rest of the country. First, second and third class were freely available to races and in fact the majority of the station's facilities, except, sadly, the toilets, were free to be used by anyone (Sunday Times, 1980).This proposal seeks to evaluate the 'meaningfulness' of this apartheid building within the Durban context since its refurbishment.

3.3.2 Exploring the Exterior

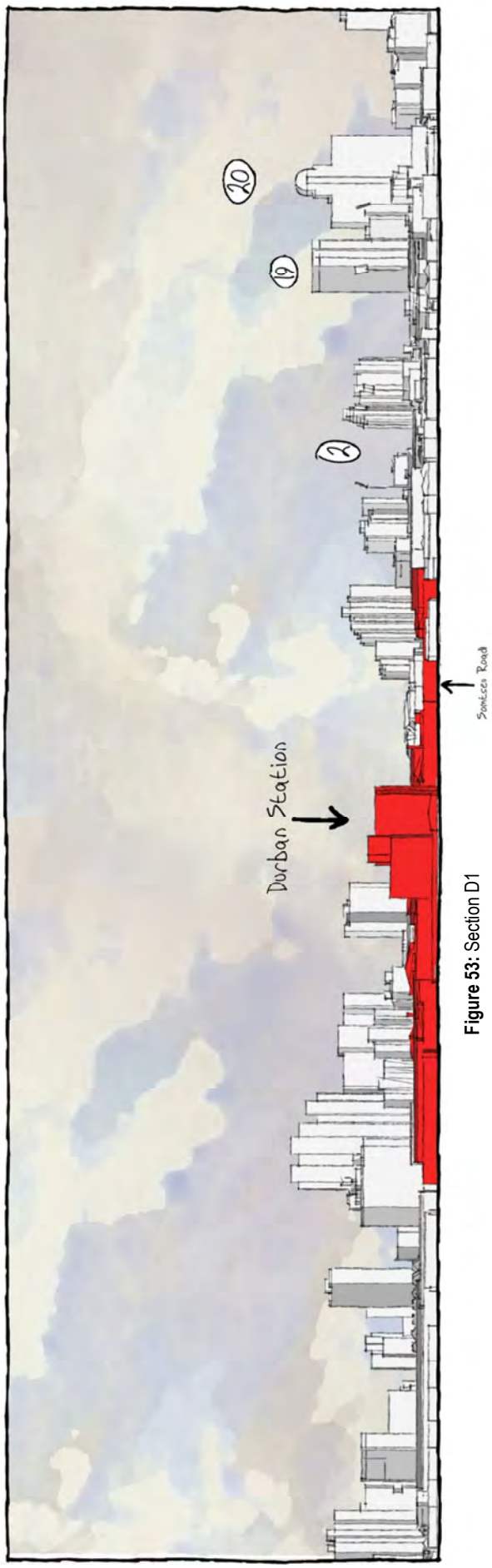


Figure 53: Section D1

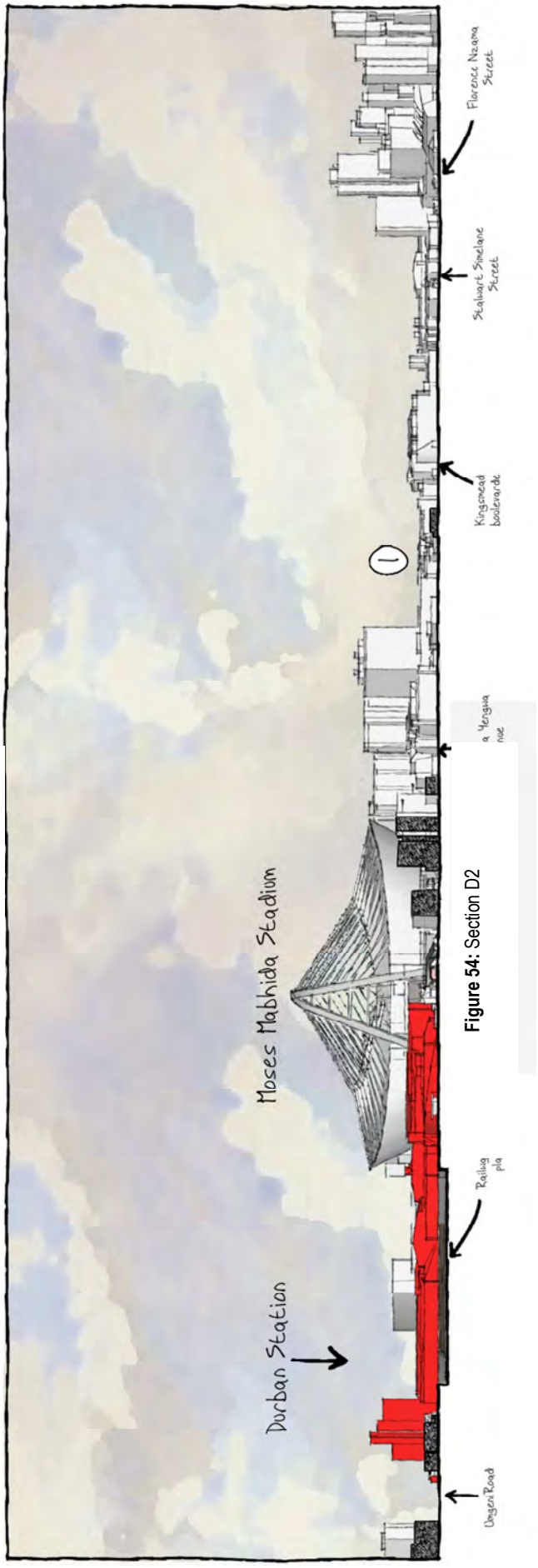


Figure 54: Section D2

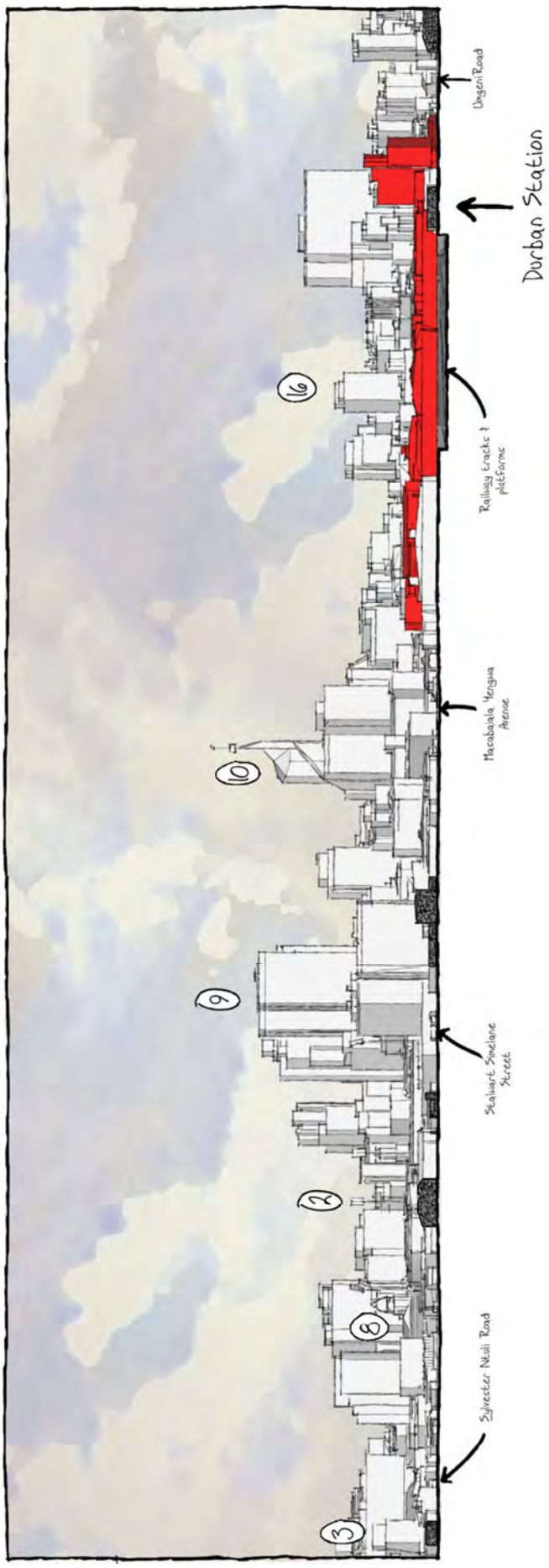


Figure 55: Section D3

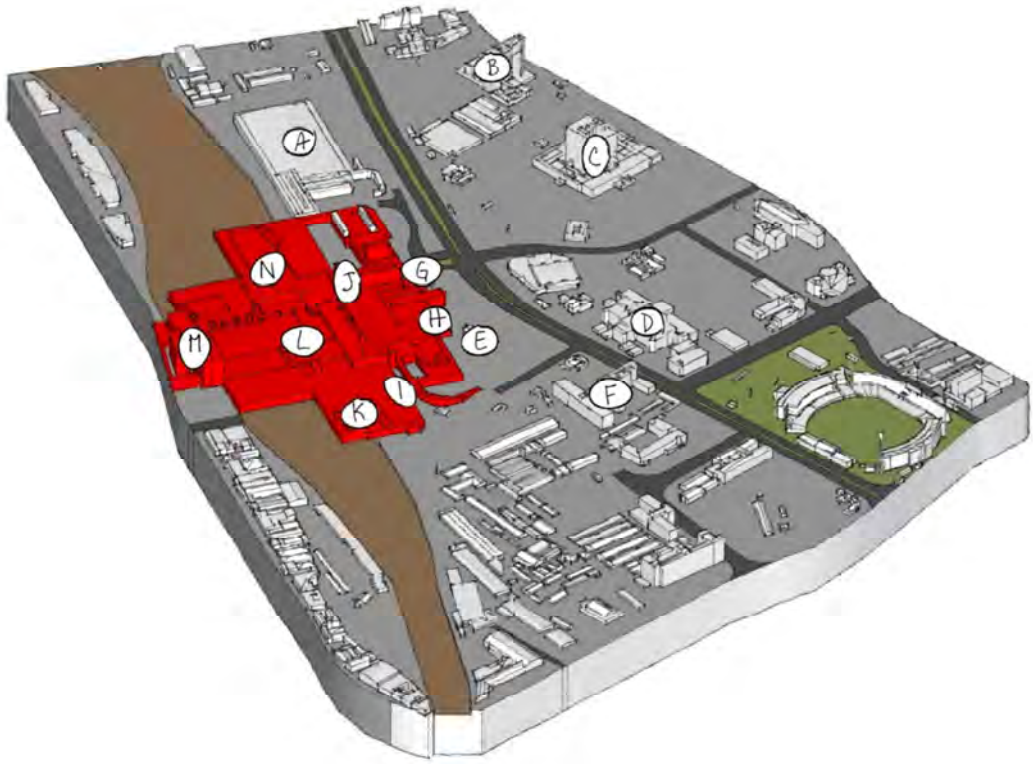


Figure 56: Durban Central Station and Surrounds

A. Dur Mail Warehouse

Plate 54: Dur mail Warehouse

B. Durban Central Police Station

Plate 55: Durban Central Police Station

C. Durban Magistrates Court

Plate 56: Durban Magistrates Court

D. Standard Bank Regional Head Office

Plate 57: Standard Bank Regional Head Office

E. Formula 1 Hotel

Plate 58: Formula 1 Hotel

F. eThekwini Metro Power

Plate 59: Durban Metro Power

G. Station Entrance / Retail

Plate 60: Station Entrance / Retail

H. Station Entrance / Rail

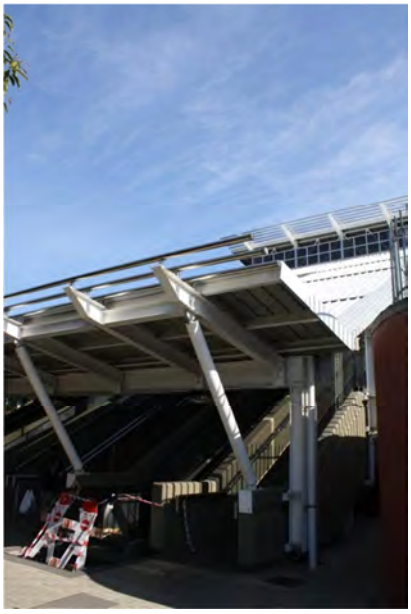


Plate 61: Station Entrance / Rail

I. Bus Terminal

Plate 62: Bus Terminal

J. Retail and Office Space

Plate 63: Retail and Office Space

K. Glenridge Church

Plate 64: Glenridge Church

L. Railway Platforms and Admin

Plate 65: Station Circulation Space

M. Umgeni Road Entrance and Office Block

Plate 66: Umgeni Road Entrance and Office Block

N. Metro Rail Training and Workshops

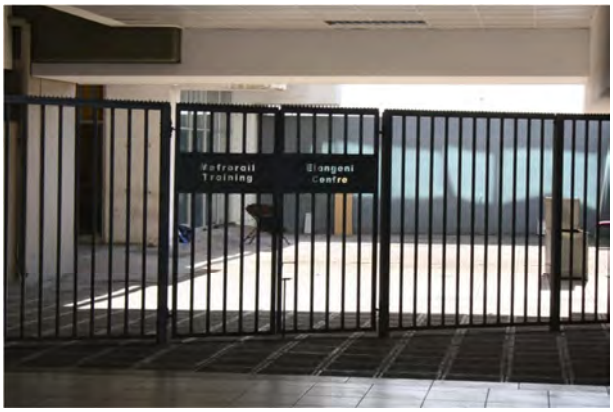


Plate 67: Metro Rail Training and Workshops

The surrounding environment of the train station is primarily municipal and commercial. The building reflects the surrounding urban structure of the municipal buildings (Plate 55. 56 & 59) through its brutal modern design. In the author's opinion, however, this reflection of the surrounding architecture does not achieve the sense of place that Norberg-Schultz (1963-2000) suggested would occur by using a common architectural language. The reason for this is due to the perceived failures of Modern Architecture (Bonta, 1979: 7). While establishing an archetype of urban architecture and reflecting this in any new structure is seen as beneficial, this strategy cannot succeed when the reflected archetype negatively affects the whole.

The Fortress like exterior of the building separates interior of the station form the outside. According to the phenomenological teachings of Norberg-Schultz (1963-2000) and Thiis-Evensen (1989), this break in connection not only creates a protected interior, but essentially separates the railway from city and its people, denying the railway the opportunity to positively influence the local inhabitants. The functional form of the building is not confined to brutal modernism but varies substantially depending on the functions held within.

The Modern Concrete tower (Plate 66) celebrates its own verticality through the articulation of its openings while the ground floors express the horizontal nature of the floor in its arcading, as defined by Thiis-Evensen (1989). These design interventions establish a faint conversation between the interior functions of the building and its surroundings. However the focus of these design choices appears to celebrate the commercial aspects of the building rather than the functional aspects of the railway.

The monolithic structure of the train station and its entrances of (Plate 60) are more reminiscent of Egyptian architecture then the lightweight shed structures of Europe and Northern America and disguise the function of the Building. According to Thiis-Evensen (1989) the vaulted roof forms of the retail and training structures (Plate 63 & 67) roof influence the buildings relationship to the horizontal outside space by directing the motion in and closing it off. These roof structures also reflect the surrounding urban architecture of the Dur Mail sheds (Plate 54) and the Glenridge Church (Plate 64) in a much more positive light.

The use of these forms provides some semiological distinction between the different functions of the building, creating and architectural hierarchy. This hierarchy succeeds in breaking the massive form of the building into its functional aspects but fails to communicate what these functions are, due to the industrial nature associated with them through arbitrary meaning.

3.3.3 Exploring the Interior

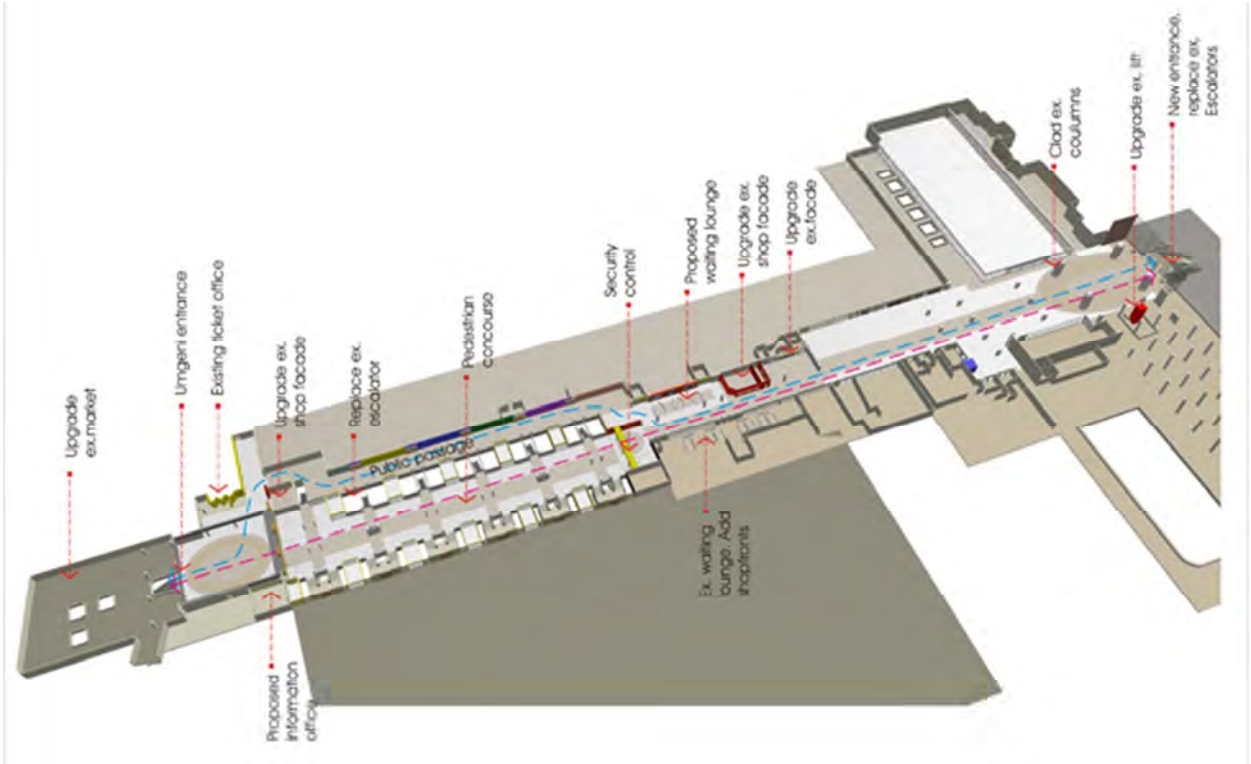


Plate 68: Isometric Plan

The axial form of the station's interior creates a horizontal movement according to both Norberg-Schultz (1963-2000) and Thiis-Evensen (1989) that draws the users to the entrances situated at either end. The design conventions in use at the time of its construction confirm this by attempting to discourage train passengers from gathering in stations and instead promoted the movement of people through the station as quickly as possible (Mtembu, 2008).

The low ceilings of this axial form reinforce theses phenomenological observations by directing the motion of the interior towards the outside while standing in stark contradiction to Christopher Alexander's (1977-1987) suggestion that railway stations should provide large central spaces where people gather.

Very little environmental consideration has been made within the building, beside the inclusion of small atriums that pass through the building's interior, but terminate before exposing the sky above. This lack of environmental consideration implies that the building lacks the perceived phenomenological meaning that occurs when a building engages with the local climate and topography Norberg-Schultz (1963-2000).

Hermeneutic research demonstrated, though the dialectic approach of unstructured interviews, that users of the train station are generally very happy with the new refurbished interior of the station, despite some resentment over the world cups influence on its implementation. Despite this new sense of togetherness established within the stations users, it cannot be denied that the clean stark interior can do little to compensate for the overall form of the original design.

Plate 69: Walkways

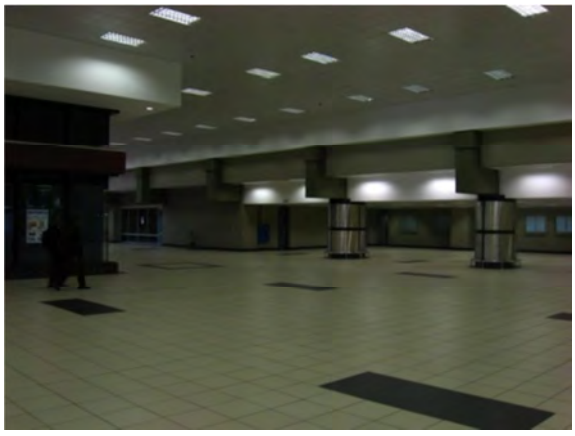


Plate 70: Towards the Platforms

Plate 71: Monolithic Columns

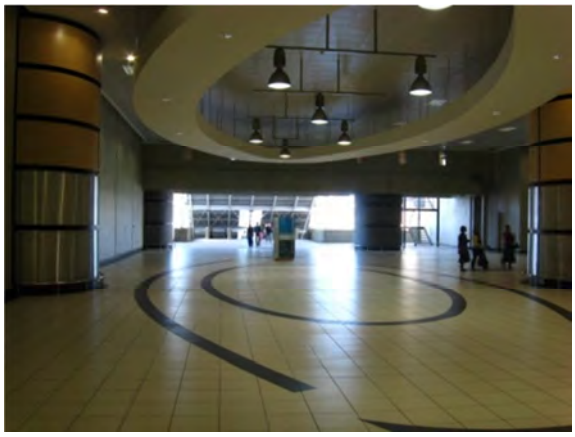


Plate 72: Entrance Looking Out

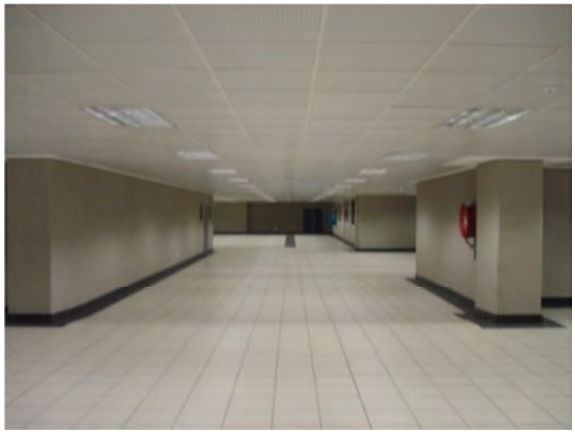


Plate 73: Stark Spaces

Plate 74: Entrance

3.3.4 Conclusion

In the author's opinion, the stark white and chrome interior evokes little sense of comfort and actually continues to enforce the axial plan and original design intention of moving passengers through the building as quickly as possible . The Location of the building outside the CBD provides very little in the way of the supplementary buildings and functions required to create the successful 'transport node' suggested by Christopher Alexander (1977-1987). While the recent construction of a formula one hotel near the station and the refurbishment of retail within the building fulfil some of these requirements, the site still lacks any sense of being a gateway or gathering place.

This peripheral location, fortress like construction, indistinguishable form, and lack of supplementary architecture separates the building from the 'life' of the city and the everyday lives of the citizens. The new raised height of the interior entrances help the building to better establish itself as a gateway but has little effect on the city's inhabit ants that don't use rail.

All in all the newly refurbished station contributes greatly to the positive perception of public transport, but only within the community of people who currently use the railways. Unless non-railway users actually enter the building's protected interior, there is little too no chance of evoking a positive response, that would result in people non-users beginning to use public transport.

3.4 BEREA STATION

3.4.1. Motivation and Background:

Plate 75: Entrance Berea Station from Warwick Place

Plate 76: Berea Station Platforms from Canongate Road

The original Berea Road Station was opened in August 1904 as consequence to the new lines built to free up traffic around market street (Bannister, 1995 and Russell, 1971).

In 1965 the station was closed and relocated to a site immediately north of its former location near the Early Morning Market, at the base of the main road link with Durban's developing inland residential suburbs (Frescura and Rosenberg, 2010).

Plate 77: Old Berea Station form Opposite Platform

The station was designed and constructed as a fully segregated facility on the edge of the 'white only' city centre during apartheid, Berea Station acted as a means of bringing labourers and domestic workers into the city (Veldsman, 2006).

This high level of human traffic led to the development of a number of informal bus ranks, despite the Durban Municipality's own bus sheds being located only a short walk away, in Old Dutch Road (Frescura and Rosenberg, 2010).

Today the Berea Road Station and the collection of auxiliary buildings that developed around it are known as Warwick junction.

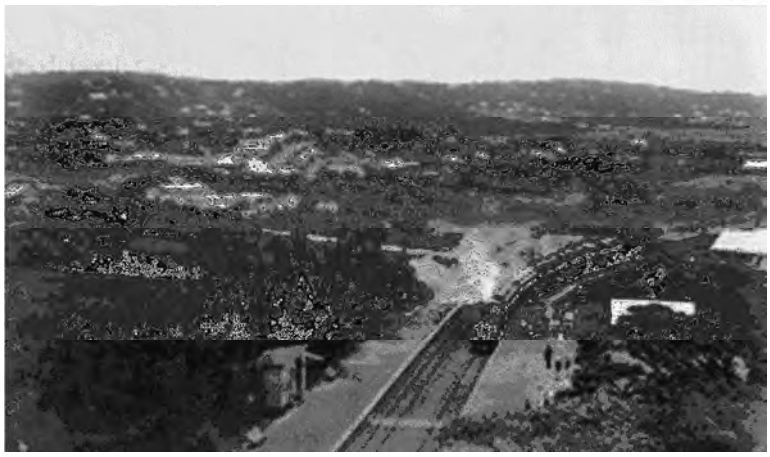


Plate 78: Ariel Photo of Old Berea Station

Warwick Junction is considered to be one of South Africa's busiest transport nodes; its pulsating and energetic atmosphere is hampered only by the crime and unhygienic conditions (Gafoor, Kooblal and Steyn, 2001).

Almost 60% of Durban's inner city traders are accommodated within Warwick Junction and its surrounding markets provide for almost half a million passengers who pass through the area daily, including 130 000 daily taxi departures with 2000 taxis, 140 000 daily departures on train and bus, 8000 market and kerb-side traders 1200 bags of rubbish daily. (Veldsman, 2004: 56)

Plate 79: Berea Road Station

Plate 80: Shacks

Plate 81: Mealie Trader

Plate 82: Taxi ranks

3.4.2. Exploring the exterior

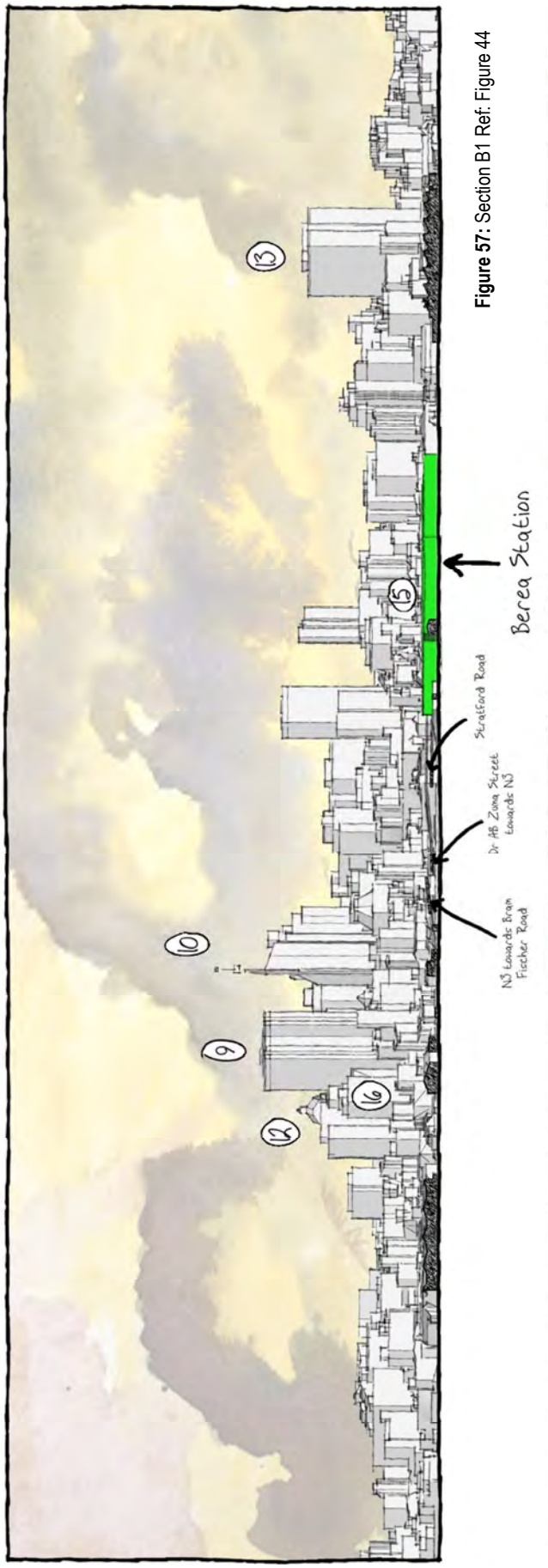


Figure 57: Section B1 Ref: Figure 44

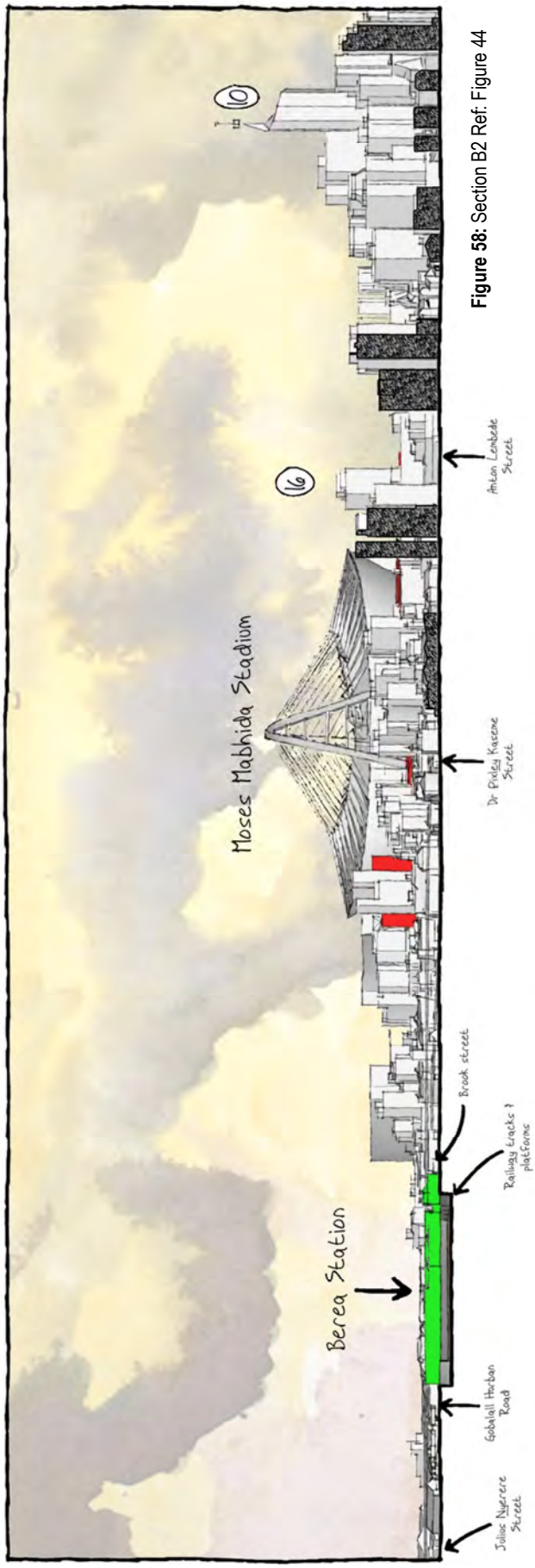


Figure 58: Section B2 Ref: Figure 44

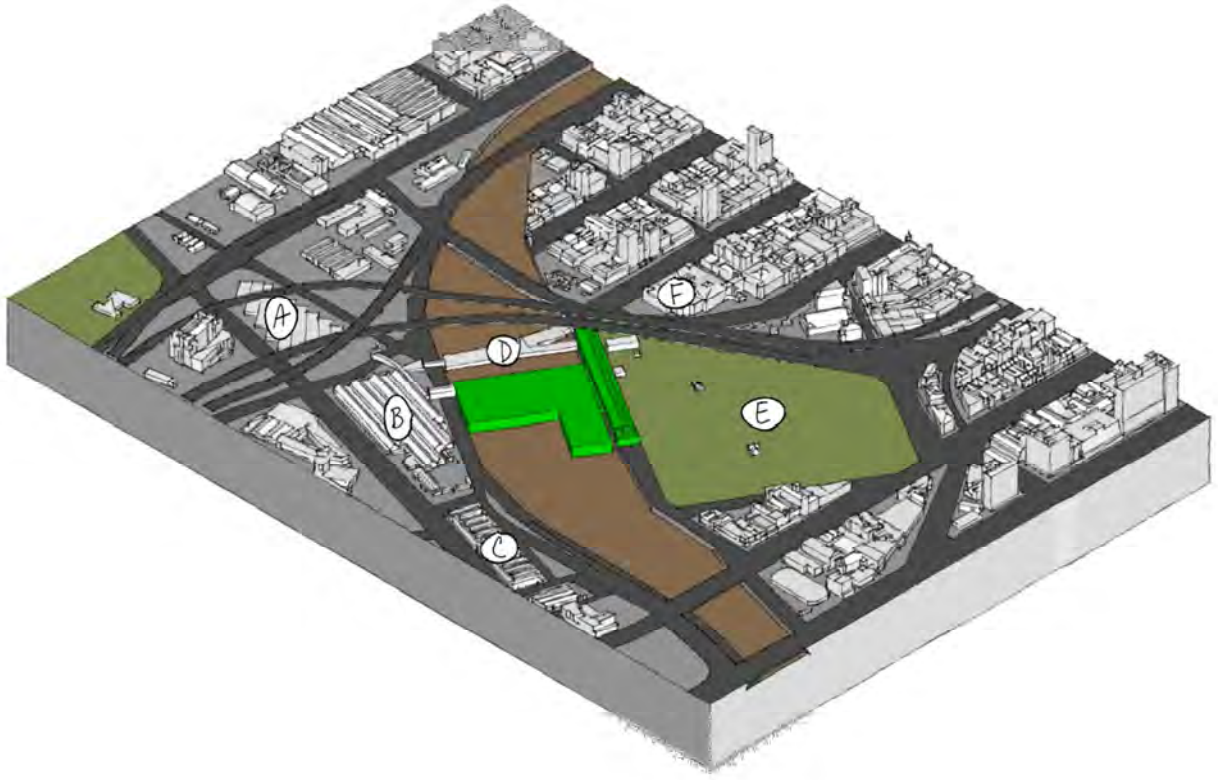


Figure 59: Berea Station and Surrounds

A. Bus Terminal

Plate 83: Bus Terminal

B. Early Morning Market

Plate 84: Early Morning Market

C. Bovine Market:

Plate 85: City Market

D. Muti Market:

Plate 86: Muti Market

E. West Street / Brook Street Cemetery:

Plate 87: West Street Cemetery

F. Victoria Street Market:

Plate 88: Victoria Street Market

The surrounding environment of the Berea Trains Station is zoned as general business, but is primarily surrounded by, markets that vary between informal and formal, and transport nodes for taxis and busses. Like Durban Central Station the building reflects the negative modernism of the cities surrounding 'Macro' context (Plates 21 - 40) and consequently fails to achieve the desired 'meaningful whole' suggested by phenomenology .

When it comes to its immediate surrounds however, the building does very little in expressing the 'Micro' context of the markets Victorian sheds, or the arch like structures of the bus and taxi terminals (Plates 83, 84 & 88). Once again demonstrating similarities with the Durban Central Station, Berea Road Station's fortress like exterior of the building separates the inside of the building from its surrounds creating a protected interior.

The horizontal openings of the building seen in (Plate 79) generate a horizontal movement, according to Thiis-Evensen (1989) that does reflect the horizontality of the railway. This horizontality is offset by the verticality of the concrete shuttering, which connects the building with the phenomenological notion of heaven Norberg-Schultz (1963-2000). Despite this, the relatively small size of the openings and large faces of concrete continue to disguise the interior behind an almost meaningless shell.

The only building in the immediate surrounds of the station that is reflected in its design is the strong brutal modernist form of the City or Bovine Market (Plate 85). As previously stated, the shed like structures of the Early Morning Market, Bus Terminals and Taxi Ranks create an architectural language that is separate from that of the train Station. The informal walkways and markets (Plate 86) that developed after the stations construction, act as floors. These floors suggest pathways that (Thiis-Evensen, 1989) connect the opposing architectural elements in a way that the entire Warwick Junction area becomes a perceived 'whole'.

Unlike the Durban Station, The surrounding buildings and structures provide Berea Road Station with many of the functional aspects required to create a successful 'transport node' according to Christopher Alexander (1977-1987) but due to a lack of housing fails as a place where people live.

3.4.3. Exploring the Interior

Plate 89: Victoria Street Market

The station follows the apartheid inspired axial form of the time in order to encourage passengers to move through the station as quickly as possible. Significantly higher than the Durban Central Station, the ceilings of Berea Station help to reduce the directional motion created by the plan Thiis-Evensen (1989) but cannot dispose of it completely.

The interior's relationship to the outside environment is expressed though clearstory lighting that runs along the axial length of the station, extending the motion of the interior space outward Thiis-Evensen (1989) and connecting the building with the local climate. This connection creates an interior space that meaningful according to Norberg-Schultz (1963-2000) with a rich sense of place that is confirmed through the authors own qualitative experiences.

When travelling around Berea Station, the original design intention, of creating a place for people to move through quickly, appears to have had little effect on the passengers who 'dwell' within the station today. Due to the adaptive reuse of unfinished freeways, walkways, buildings and the retail space inside the station, an interior that is rich in atmosphere meaning. This richness is aided further by the original architects utilisation of natural light that connects the building's interior to its location and establishes its genius loci.

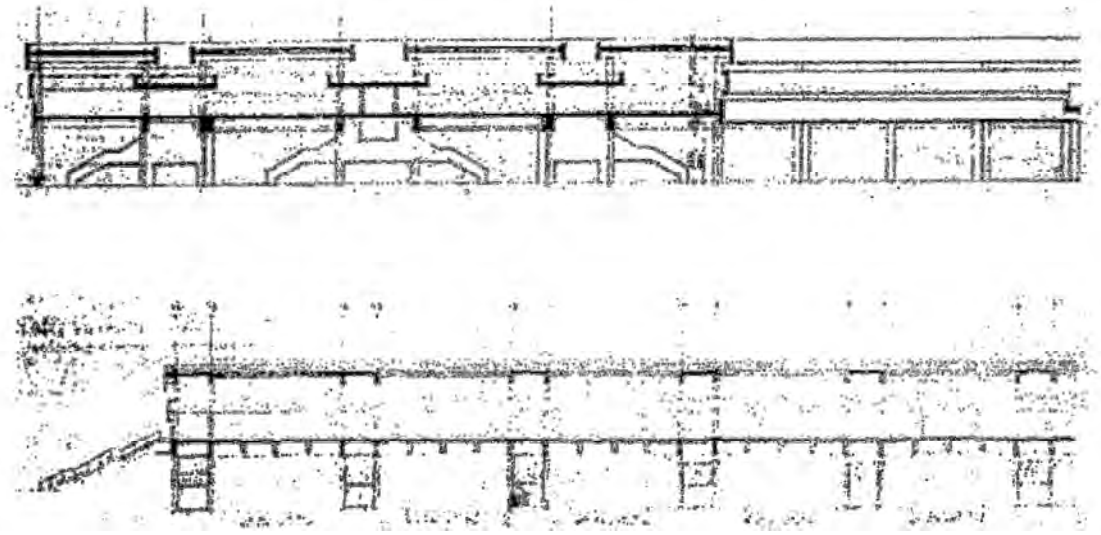


Figure 60: Berea Station Sections

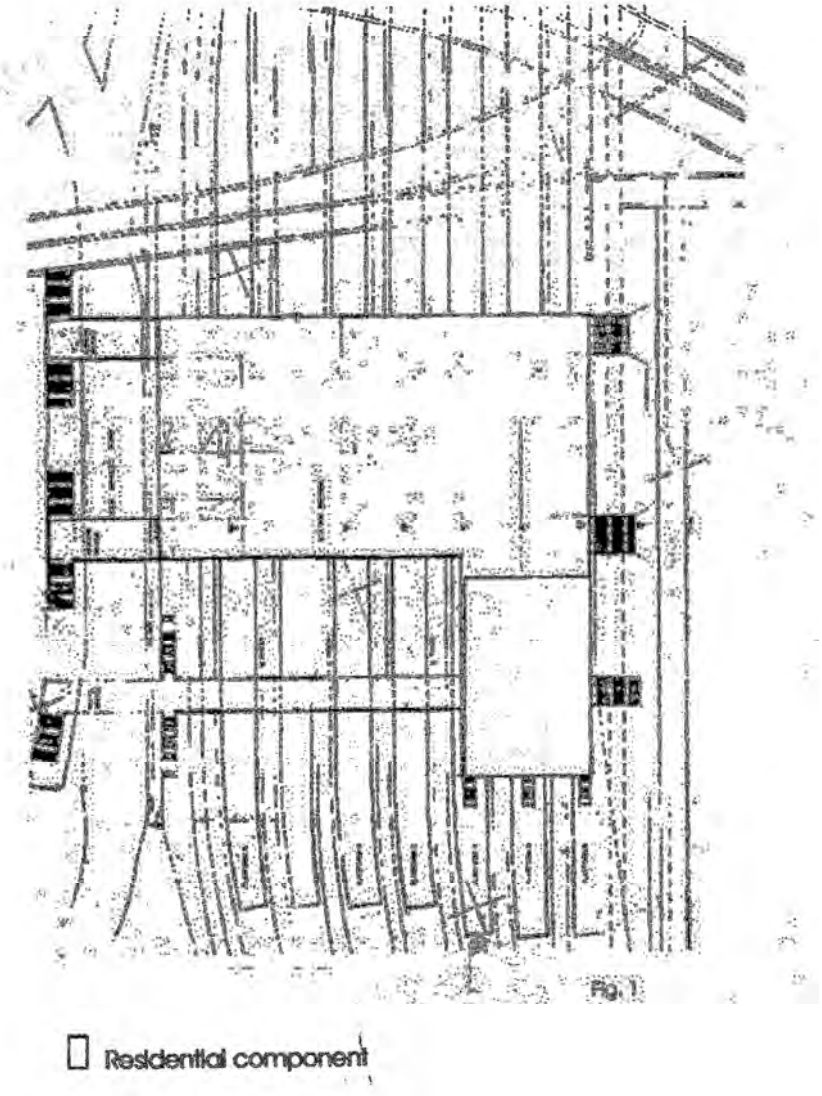


Figure 61: Berea Station Plan

3.4.4. Conclusion

As in the case of Durban Central, the Berea Road Station's, location towards the outskirts of Durban's Central Business District, does little to promote the use of public transport to people who do not use public transport. The massive brutal exterior of the building communicates the function of the building poorly and reflects the meaningless modernist architecture of city.

Unstructured interviews and the previous cultural study suggest many people who do not use public transport are detracted from entering Warwick Junction and Berea Station due to the its dirty streets and a high crime rate These prejudices, combined with the station's location and exterior façade prevent many people from experiencing the vibrant atmosphere within the station and surrounding markets.

Despite these factors, the original intentions of the architect and contractor and any previous prejudices held by the author, Berea Station has revealed itself to be a centre of public life that also acts as a gateway into the city. The interior of the station and its surrounding exterior are constantly buzzing with the movement of people traveling, shopping, eating and socialising.

All in all the Berea Station contributes substantially more to the positive perception of public transport, than the Newly Refurbished Durban Station. But similarly it only affects the community of people who currently use the railways. Unless non-railway users actually enter the building's interior, there is little too no chance of transposing their negative perception.

Plate 90: Berea Station from Market Road

CHAPTER 4 CONCLUSION AND RECOMENDATIONS

This study must now return to the definition of the problem, which asks, how can architecture evoke a positive response in its users?

Hermeneutics suggests that this question can only be answered, when referring to the context of this study and cannot generate a universally applicable solution for creating meaningful architecture. Instead this document demonstrates a process and governing methodology that allows researchers to develop an ethical and accurate understanding of existential aspects of 'place' and the physical artefacts that constitute its language 'place'.

Through the previous investigation it can be deduced that the circumstances that led up to the current perception of public transport are deeply rooted in Durban's broken past. A changing tapestry of leadership, from colonialism, to apartheid and finally today's modern democracy, has led to a city that is split upon multiple lines.

Durban's sense of place, cannot be seen, as the established whole that Norberg-Schulz demonstrated in the historical cities of Europe. Due to the past segregation of the city, the genius loci experience varies between people of different cultures and income earners within the city. This can be seen in the physical makeup of the city, the differences observed between the demographics of people who use public transport and people's perceptions towards it.

The factors that determined how the architecture of the specific buildings studied influenced the negative perception of public transport where unidentified through the work of Norberg-Schultz, Thiis-Evensen, Christopher Alexander and Rumiko Handa.

These factors primarily include the location of the stations and there fortress like structure, which prevents the building from having a positive effect on many cultural groups within the city in regards to their perception of public transport. The stations have removed themselves substantially from the 'life of the city' in a way that, unless an inhabitant uses public transport, they would never experience it and therefore never be able challenge their preconceptions.

The lack of any environmental considerations has also led to a building that is essentially meaningless according to Norberg-Schulz. The supposed success each station has at reflecting the modernist concrete jungle also falls short of achieving a meaningful building. The eclectic mix of architectural styles within the urban fabric means that the city cannot be generalised to a specific archetype. The fact that none of these archetypes are indigenous to South Africa makes the notion of healing the city by reflecting the urban context even more unrealistic.

The success of the Berea Station's informal stalls and markets, at creating a place that conforms to Christopher Alexander's notion that transport nodes act as the centre of public life. Surely then, Berea Station demonstrates how the aesthetics of space can be adapted within a placeless environment to create truly rich genius-loci through the plastic and ever-changing desires of its users. It is this adaptive re-use of existing architecture that is truly indigenous, to Durban and should be seen as the template for any future building whereby the needs movements and desires of the end user are the foremost concern of the design.

The construction methods and building technologies must establish a connection between the outside and the inside through lightweight structures and openings to contrast the monolithic fortresses of the past. By using such contrasting materials and methods the new building could shrug off the negative perception of the past while instead reflect the future through its form and its associated meanings. By maintaining an open and lightweight structure the building's interior will engage with its surroundings and the inhabitants would never have able to previously.

If the above is considered to be true, and the question of how architecture can evoke a positive response in its users cannot be answered directly, a criteria must be established by which the design of a new transport interchange could evoke a positive response in, not only its users, but in the minds of all the cities inhabitants.

Ultimately the proposed transport interchange must draw people to it. The station must be located so as too actively involve itself in the everyday life of the city and act as a gateway into it. The station should incorporate the social aspects of the city into its structure through shopping centres, restaurants, and housing to encourage people to engage with public transport. The building should make better use of light and ventilation by establishing a meaningful relationship with the natural environment.

And finally, due to the lack of any established, indigenous architecture, the building should both authenticate the informal language of architecture demonstrated in the Berea and integrate it into the fabric of the city.

Plate 91: The Fabric of the City

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APPENDICES

CORRESPONDENCE

David T Brett

From: Rumiko Handa [redacted]
Sent: 08 February 2011 11:31 AM
To: David T Brett
Subject: Re: Assistance in regards to Hemeneutics and Architecture

Dear David Brett:

Thank you for your e-mail. You can go to Digital Commons of my university (digitalcommons.unl.edu) and find some of my articles. You might find my earlier ones useful (1998 and 1999) since they spell out my references in Hermeneutics and Linguistics. I have written a couple of articles recently, especially focusing on the notion of distanciation (Ricoeur) and the participatory interpretation. They will be published soon, the former in ZA Magazine and the latter in the AHCC/EAAE conference proceedings.

Good luck to your research and writing. Let me know if I can be of further assistance.
Rumiko Handa

Rumiko Handa, Ph.D.
Professor, Architecture
Room 210 Richards Hall (East)
University of Nebraska-Lincoln
Lincoln, NE 68588-0107
(402) 472-0240; 472-3806 fax

From: "David T Brett" <[redacted]>
To: <[redacted]>
Date: 02/08/2011 02:11 AM
Subject: Assistance in regards to Hemeneutics and Architecture

F.A.O Rumiko Handa

I am currently writing my master's treatise in architecture at the University of KwaZulu- Natal, South Africa and have chosen to engage with one of, what I believe to be the most relevant corollary theories to have resulted from the failure of Post-Modernism, Hermeneutics.
It is my belief that hermeneutic s will allow for a greater understanding of how the people of South Africa interpret the apartheid buildings of the past, while aspiring to create a universally accepted modus for the future of architecture within post-apartheid society. During Theses early stages of conception, I have rather clumsily titled my treatise *(The hermeneutics of architecture as a means for transposing public perception: Towards the design of a transport interchange in the Durban Central Business District.)*
A Brief introduction to the paper:
Stations have always exemplified the sentiments of the sentiments of the times representing technological advancement, civic / national pride, the solidarity of the people and economic advancement. South Africa's train stations have however developed autonomously from the western world where apartheid saw train stations primarily as a form of 'Black' or labour transport. This belief led to drastically reduced budgets and the relocation of train stations to the peripherals of cities where they would be 'out of sight'. Within the black population of the time these buildings became a symbol of white oppression resulting in vandalism and defacement which in turn led to the brutal reinforced concrete stations of today and the current negative perception of public transport experienced within South African society. This proposal seeks to investigate, through the process of Hermeneutics, the current perceptions of public transport and identify an appropriate action for transposing any negative connotations that persist within the public conscious.
Through my initial research I have been made aware that the work undertaken by yourself and only a few others is at the forefront of this exploration into the Hermeneutics of Architecture. I would therefor kindly request any assistance that you might be able to provide. From simple advice to books, papers, contacts and anything else that you might deem to be beneficial to my research would be greatly appreciated.

1

David T Brett

From: Randall F. Teal <[redacted]>
Sent: 16 February 2011 09:41 PM
To: archilogik@gmail.com
Subject: FW: correction

Hi David,
Just wanted to correct my recommendation : Gadamer's Collection of essays is called *Philosophical Hermeneutics* ...not *Philosophical Investigations* (I must have been momentarily overcome by the ghost of Wittgenstein!)
Sorry for the confusion,
rt

From: "Randall F. Teal" <[redacted]>
Date: Thu, 10 Feb 2011 10:56:00 -0800
To: David T Brett <[redacted]>
Subject: Re: Assistance in regards to Hemeneutics and Architecture

happy to help David.
Given what you said about where you are coming from I would start with Gadamer's *Philosophical Investigations* as it is well written and consists of digestible chunks of information that address both his perspective as well as the hermeneutic tradition generally.

Randall Teal Assistant Professor
University of Idaho | College of Art and Architecture | Department of Architecture and Interior Design
PO Box 442451 | Moscow ID 83844-2451 | f: 208.885.9428 | p: 208.885.6149

From: David T Brett <[redacted]>
Date: Thu, 10 Feb 2011 12:51:06 +0200
To: "Randall F. Teal"[redacted]
Subject: RE: Assistance in regards to Hemeneutics and Architecture

Thank you so much for helping me in clarifying an extremely difficult subject for a technically and methodically educated student. I have struggled to find a definitive link between architecture and the linguistically/theologically based approach of hermeneutics. It appears from your information that there is none specifically, or at least not in the sense that I previously sought out, but instead a philosophy or mind-set that must inform the investigation.

The enormous amount of written material that is not directly related to architecture generated a real sense of trepidation and confusion within me. I believe now a greater understanding of the fundamentals in hermeneutics allows the architect/researcher to apply and amend the relevant philosophies in regards to architecture.

I cannot begin to explain how much confidence you have given me to peruse this topic. Your help has given me a direction from which to continue my work and without which I would still be lost. I hope that if, or more likely when, I have a few more questions I am able to be impress with a vastly improved basis of knowledge.

Thanks Again

David Tod Brett *(BArch)*
University of KwaZulu-Natal
Email: [redacted]
Tel:

From: Randall F. Teal [redacted]
Sent: 09 February 2011 08:36 PM
To: David T Brett
Subject: Re: Assistance in regards to Hemeneutics and Architecture

Hi David,
Sounds like an interesting project.
For me hermeneutics is more influential as a way of thinking about and engaging in design. My primary influence here is Martin Heidegger. Perhaps a good example of this process within his writing is in "The Origin of the Work of Art" of the book *What is Called Thinking*. In both he investigates, interrogates, and tries to understand an undefinable topic/phenomenon (art and thinking respectively) by engaging them in a way that I would describe as process of cultivating intimacy. In short, he knows he cannot define or ascribe definitive meaning to either, so deeper understanding must come through other means—namely the hermeneutic circle. That said, Heidegger is really tough if you are not familiar with him. So I recommend him reading his stuff with that qualification.

Certainly Gadamer is like THE source for modern hermeneutics. *Philosophical Investigations* is a good place to start with him and *Truth and Method* is the beast, but also quite good.
Paul Ricoeur is good too.

In architecture Dalibor Vesely's *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production* is good. David Leatherbarrow is good, perhaps his *Architecture Oriented Otherwise* (I haven't read this yet) *or Uncommon Ground* would be helpful. Alberto Perez-Gomez is also inclined toward hermeneutics.

Hopefully that helps. Let me know if I can be of further assistance...and good luck!
Best,

Randall Teal Assistant Professor
University of Idaho | College of Art and Architecture | Department of Architecture and Interior Design
PO Box 442451 | Moscow ID 83844-2451 | f: 208.885.9428 | p: 208.885.6149

From: David T Brett <[redacted]
Date: Tue, 8 Feb 2011 00:16:54 -0800
To: "Randall F. Teal" [redacted]
Subject: Assistance in regards to Hemeneutics and Architecture

F.A.O. Randall Teal

I am currently writing my master's treatise in architecture at the University of KwaZulu- Natal, South Africa and have chosen to engage with one of, what I believe to be the most relevant corollary theories to have resulted from the failure of Post-Modernism, Hermeneutics.

It is my belief that hermeneutic s will allow for a greater understanding of how the people of South Africa interpret the apartheid buildings of the past, while aspiring to create a universally accepted modus for the future of architecture within post-apartheid society. During Theses early stages of conception, I have rather clumsily titled my treatise (The hermeneutics of architecture as a means for transposing public perception: Towards the design of a transport interchange in the Durban Central Business District.)

A Brief introduction to the paper:

Stations have always exemplified the sentiments of the sentiments of the times representing technological advancement, civic / national pride, the solidarity of the people and economic advancement. South Africa's train stations have however developed autonomously from the western world where apartheid saw train stations primarily as a form of 'Black' or labour

transport. This belief led to drastically reduced budgets and the relocation of train stations to the peripherals of cities where they would be 'out of sight'. Within the black population of the time these buildings became a symbol of white oppression resulting in vandalism and defacement which in turn led to the brutal reinforced concrete stations of today and the current negative perception of public transport experienced within South African society. This proposal seeks to investigate, through the process of Hermeneutics, the current perceptions of public transport and identify an appropriate action for transposing any negative connotations that persist within the public conscious.

Through my initial research I have been made aware that the work undertaken by yourself and only a few others is at the forefront of this exploration [illegible] papers, contacts and anything else that you might deem to be beneficial to my research would be greatly appreciated.

Kind Regards

David Tod Brett (BArch)
University of KwaZulu-Natal
Email: [redacted]
Tel: [redacted]

David T Brett

From: William Thompson [redacted]
Sent: 24 February 2008 09:45 PM
To: David T Brett
Subject: Re: Assistance in regards to Hemeneutics and Architecture
Attachments: entelechy desire for knowledge0001.jpg

given that as you noticed the number of persons pursuing this kind of enquiry it is a pleasure to hear from you, glad you found the coyne and snodgrass of interest.

I will give a list of some references that might be useful later.

I am attaching a diagram I am using for my book, it is work in progress, in the hope that you can help on it possibly by making the analysis that architecture can make rather than just words. The point about architecture, imho, is that it is immersive that is that people occupy it. What we do as architects is perform an abstraction and this is the danger for designers of architecture and hence the interest that I believe Perez Gomez shares in immersion and the dangers of the desire to use abstraction as if it is an isomorphic correlation of phenomena from those found in abstraction with those found in immersion. I believe that Heidegger's fourfold of heaven, earth, gods and men can be correlated with my diagram, so if you use it please reference it as from Entelechy, work in progress, Dr Bill Thompson.
The earth is immersion, the abstraction the sky, the gods history and the men prediction. but the basic point is that the character of immersion is different and very architecturally profound in a way that words cannot be although we use them in analysis or as analysis I should say.

What I think you should do is to use drawings to show the way in which behaviour worked in and around the trains based on regulating the phenomena (trains, stations, pavements, roads, etc) with human phenomena that are not understood as one kind. Once you have an idea of the games played and who is playing them it should be possible to use words to point to the various phenomena and the interactions amongst them, however the important point is the understanding that people will have of the phenomenon they make use of - from the sound of it this would be quite starkly one group using trains and another group not using trains, but there will be associated relationships that highlight a lack of interest or activity by one group as opposed to another. It is the understanding by and of the group members that makes it possible to put into play the various phenomena or buildings and equipment.

I am not sure that coyne and snodgrass actually get the people bit. as you suggest they get the bit about refuting the objectivity of phenomena as of equal value to all individuals but I do not see them get to grips with the value systems of members as opposed to individuals. the value system has to come from the value to the individuals, this is true, but the values tend not to be a given so that there are several value systems at work, typically in a capitalist economy one value system would be looking to make money, another would be looking to put bread on the table. In a system of ethnic separations to this would be added the specification of phenomena relative to ethnicity as yet another value system. Value systems work by raising phenomena to iconic levels and relating other phenomena including allowing and refusing them access to the system ending up with what we call a rational relationship of phenomena within a context of all phenomena.

anyway the point you raise is that an analysis of how the values were made to work with phenomena in an abstraction pointing at historic relationships can clearly be contrasted to an abstraction pointing at predictive relationships highlighting the way in which not only the objects occupy a different place in the two contexts but also the ways in which they are associated with other phenomena that happen differently in each of the contexts, historic and predictive (in this instance). this does not mean that the predictive WILL be related to in the way it is given in analysis, which is the difference between immersive relationships and abstracted relationships, but it is way we may DESIRE the relationship to be that may be made possible in one and not the other, that is the point imho.

as to other references,

are these the sort of thing you thought I might suggest?

Anderson J A, 1996, Communication Theory, New York, The Guilford Press Bleicher J, Contemporary Hermeneutics, London and new York, Routledge and Kegan Paul, 1980 Bleicher J, The Hermeneutic Imagination, Routledge, London, 1982 Dilthey W, 1900, The Rise of Hermeneutics, IN Hermeneutics and the Study of History, Makkreel R A Rodi F, tr.by. Jameson F R Makkreel R A, Princeton University Press, Princeton, 1996 Gadamer H G, 1976, Philosophical Hermeneutics, University of California Press, Berkeley, 1977, tr. Linge D E

also you may be interested in this book by Perez-Gomez, I more the stuff in it that he puts in for the career protection!
Perez-Gomez A, Built Upon Love, MIT Press, Cambridge Ma and London, 2006

best,

Bill

On Mon, Feb 14, 2011 at 11:40 AM, David T Brett [redacted] wrote:
> Hi Bill
>
> Sorry too bother you again so soon after my last email but if it is
> not too much of an inconvenience I have two more questions for you to
> answer at your leisure.
> Firstly I am extremely grateful for the PDF of Snodgrass and Coyne's
> "Interpretation in architecture" the information contained was
> extremely coherent, allowing me too finally feel that I am getting too
> grips with the subject. For the purposes of my paper however I need to
> follow stringent guide lines, which does not necessarily collaborate
> with dialogical approach mentioned within the document.
>
> The paper I am writing is essentially split into 4 parts, the first
> part of the paper is meant to give history and background to the
> topic, explaining the importance and the reason for the investigation.
> The second is a literature review which explains the approach,
> basically a summary of the PDF you sent. The third step incorporates
> the lessons of literature review into a design process in relation to
> a real site and the information provided in part one , while the forth
> is an actual design presentation of the resultant building.
>
> The problem lies solely in the first part of the paper as I gather
> background information to support the title and purpose of the treatise.
>
> Would this information be gathered logically as a separate exercise to
> the design process and therefore act as the pre-knowledge necessary
> for understanding, based on the notion that Descartes' ideal of a
> prejudiceless transparency of mind is unattainable? Or would the
> title act as my dialogical counterpart exposing the information
> required in section one through the question answer process?
>
> Secondly I would really appreciate if you had the correlating
> references for the "Interpretation in Architecture" on hand so that I
> might further my reading in regards to my project specifically.
>
> Thank you so much for all your help, it is beyond anything I could of

> expected.
>
> David Tod Brett (BArch)
>
> University of KwaZulu-Natal
> Email: [redacted]
> Tel: [redacted]
>
> ----Original Message----
> From: william thompson [redacted]
> Sent: 10 February 2011 08:49 PM
> To: David T Brett
> Subject: Re: Assistance in regards to Hemeneutics and Architecture
>
> I am attaching a paper written in the Journal I think by some others
> interested in hermeneutics,
>
> at least they add to the architectural group interest.
>
> best,
>
> Bill
>
> On Thu, Feb 10, 2011 at 10:52 AM, David T Brett [redacted]
> wrote:
>> Thank you so much for helping me in clarifying an extremely difficult
>> subject for a technically and methodically educated student. I have
>> struggled to find a definitive link between architecture and the
>> linguistically/theologically based approach of hermeneutics. It
>> appears from your information that there is none specifically, or at
>> least not in the sense that I previously sought out, but instead a
>> philosophy or mind-set that must inform the investigation.
>>
>> The enormous amount of written material that is not directly related
>> to architecture generated a real sense of trepidation and confusion
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> me.
>> I believe now a greater understanding of the fundamentals in
>> hermeneutics allows the architect/researcher to apply and amend the
>> relevant philosophies in regards to architecture.
>>
>> I cannot begin to explain how much confidence you have given me to
>> peruse this topic. Your help has given me a direction from which to
>> continue my work and without which I would still be lost. I hope that
>> if, or more likely when, I have a few more questions I am able to be
>> impress with a vastly improved basis of knowledge.
>>
>> Thanks Again
>>
>> David Tod Brett (BArch)
>> University of KwaZulu-Natal
>> Email: [redacted]
>> Tel: [redacted]
>>
>> ----Original Message----
>> From: william thompson [redacted]

>> Sent: 09 February 2011 07:52 PM
>> To: David T Brett
>> Subject: Re: Assistance in regards to Hemeneutics and Architecture
>>
>> Ah,
>>
>> my wife and I are most impressed that you found my article/paper in
>> the Journal. and pleased.
>>
>> I note that you are writing a 16,000 word paper.
>>
>> I also note that you, correctly in my understanding of this subject,
>> find the subject confusing to read about. the reason for this is I
>> think that we have all been taught to believe that the world is a
>> something, penetrable and understandable, especially since the Greeks
>> (see Nietzsche F W, Philosophy in the tragic age of the Greeks,
>> Chicago, Regnery, 1962 if you
>> like) who, soon after the invention of writing sought to pin it down
>> to meaning and thus condemned certainly the western world to
>> pergatory as they struggled to define how and with what to point at
>> the world in which they lived.
>>
>> The four letter we live in the world. How we live in it is
>> question not just of description but of organisation. How we organise
>> ourselves between us the phenomenon which is, in effect, the
>> playing of games a la Wittgenstein (see the excellent chapter on
>> Wittgenstein in (Scruton R, A Short History of Modern Philosophy,
>> Routledge, 1995) although I do not approve of Scruton himself, his
>> work on this is
>> useful) and if you have the chance and the time see for the
>> application of Wittgenstein to knowledge - Lyotard J F, The Post
>> Modern Condition, Manchester, Manchester University Press, 1994
>> especially the idea of eschewing narrative as a truth whilst
>> accepting
>> narrative as a story.
>>
>> The importance of the effectively of understanding what we do as if
>> game play is to emphasise the constructed nature of our relationship
>> to phenomena as pointing to other relationships that matter. The key
>> is that they matter, these other relationships, rather than not
>> matter. The key attitude is to make the realization that the world is
>> indifferent to humanity and in fact to everything thus contradicting
>> the concept of a world designed FOR us or by us as if we know what we
>> are doing de novo because we have been designed to live in this world.
>> In short the concept of any provenance has to be set aside in favour
>> of a constant making of any understanding and thus a constant
>> challenge to sing from the same song sheet, as they say. Once we give
>> up the idea, the concept, that a song sheet has been written for us
>> or that we know intuitively what song to sing we are forced to learn
>> what matters by paying attention to the human condition.
>>
>> Key issues in the 21st Century are the discovery of the mirror effect
>> by Lacan, emulating Freud but with the addition of semiotics so that
>> what we use to point with, phenomena that are expected to relate in
>> ways that are conceptually and subsequently determinisitically linked
>> to other phenomena as declarations and procedures, are no longer to

>> be thought of as actually linked in that way but in a conditioned way
>> dependent upon individual relationships to a cultural and actual real
> world lived experience.
>>
>> Thus in your example of the trains, as I understand your description,
>> the lived experience of the train as transport for a group that was
>> considered sub standard conditioned procedures and declarations that
>> fixed phenomena as fingers pointing at the concept of apartheid and
>> subsequently the use phenomena that took part in that construct
>> remains related to the beliefs and understandings of that construct
>> unless and until the phenomena are reused in such a way that the
>> construct itself is altered. The thing seems to be the understanding
>> (interpretation) of the original construct, the way in which the
>> phenomena were related, the games played by people and things, so
>> that the phenomena can be abstracted out and considered indifferently
>> and then played back more interchangeably allow the playing of
>> different
> games.
>>
>> Again I note the 16,000 word limit and so I am deliberately trying to
>> be succinct as to what might be of help. There are, as you have
>> already discovered, many books and many approaches most of which in
>> my opinion do not help us architects to get to grips with our work.
>> but I am, as I say, trying not to go into that part of your question,
>> although if you do get to do a PhD then please do let me know!
>>
>> I can say, and you are welcome to keep on emailing, I would
>> appreciate that., but I can say that I find political economics a
>> good clue to the problem with architecture. In brief, again, the
>> problems we have as architects is most often that the games we wish
>> to play with our buildings are so often calculated on the basis of
>> cost of money whereas we should, in my opinion, calculate them in
>> terms of quality of
> life.
>>
>> It seems to me that your question really does suit putting the
>> quality of life before money. thus, and this is difficult for us, we
>> must design as if we believe money to be merely the way in which we
>> speak of work to each other, that when we work we commit money to
>> follow that work rather than the other way around. Thus we make the
>> work we do into the phenomena we live with and play the games that
>> show the relationships between us in the way we live, thus if we
>> believe that all human beings are equal but of course different as
>> individuals then we seek examples of a morphology that provides a
>> quality of life equitably without seeking to fix it so much that
>> individuality is limited to thought (and of course subsequently to
>> problems of thought police and so on). this kind of relationship
>> between individuals is difficult because it relies upon education and
>> that is not something that can be given in a quick and speedy form
>> nor is it something that comes with our designs for buildings. we do
>> not educate the users of our buildings by inviting them in by this or
>> that door, and yet I believe we must design for an educated humanity.
>> (for example in Belfast where I taught, students would often avoid
>> certain kinds of space because some one thought that they invited
>> vandalism, however I encouraged the students to design as if
>> vandalism was not a problem since in Belfast it was but the cause of

\>> vandalism was in all probability an anger about the past repression
\>> and the lack of ability to participate in society because of poverty
\>> and a failed
\>> education) this is not by the way a society educated to use our
\>> buildings but a society educated to respect other human beings!
\>>
\>> maybe now I should stop and see if you have any questions, if you
\>> want books on hermeneutics I can give you many references but a limit
\>> on words is usually associated with a limit on useful effort, but if
\>> you do go on to do more......
\>>
\>> Bill
\>>
\>>
\>>
\>> On Wed, Feb 9, 2011 at 1:32 PM, David T Brett [redacted]
\> wrote:
\>>> Thankyou so much for your prompt reply it is greatly appreciated
\>>> [illegible]
\>>> 4 years study and 1 year of practical architecture work behind me,
\>>> which has not, it seems, put me in great stead for the study of
\>>> hermeneutics in architecture however intrigued I find the subject.
\>>>
\>>> I first became aware of the subject when coming across "PEREZ-GOMEZ,
\>>> A
\>>> (2000) Hermeneutics as Architectural" . I became intrigued by its
\>>> contrasting views on traditional architectural discourse, something
\>>> i had always felt fell short or even (I dare say) seemed a futile
\>>> when really taking the entirety of architecture into account.
\>>>
\>>> "Indeed, after two hundred frustrating years dedicated to
\>>> testing the possibilities of Instrumental discourses in
\>>> architecture, following the mode of theorizing introduced by Durand,
\>>> it is not difficult to come to the conclusion that a radical
\>> alternative must be contemplated"
\>>> (Perez-Gomez, 2000: 9).
\>>>
\>>> Further attempts to educate myself however have mostly involved
\>>> fruitless endeavour of scouring the theology faculty for books that
\>>> even when understood seemed to contradict one another. I therefore
\>>> turned to the internet where I found your article "Hermeneutics for
\>>> architects" at the
\>>> site:
\>>> http://www.informaworld.com/smpp/content~content=a778760504~db=all~o
\>>> r d er=pag e. The article seemed to be exactly what I was looking
\>>> for but unfortunately cost $34, quite a large amount of money for a
\>>> South African student. Luckily however I was able to source the
\>>> relevant architectural Journal at my architectural library.
\>>>
\>>> Well I still struggled with many aspects of the article I seem to
\>>> have gained a greater understanding for the subject even though this
\>>> has confused me more. Please correct me if I am completely off track
\>>> as the whole subject has tested the very limits of my limited
\>>> understanding of the social psychology discussed.
\>>>
\>>> Simply I propose that Hermeneutics states that we need to understand

> what"
>>> meaning" (ever-changing in individually observed) is in order to
>>> understand fallacy of what architecture "means". It almost seems to
>>> contradict itself saying to create universally accepted and timeless
>>> meaning within architecture is pointless... But knowing so enables to
>>> gain greater understanding or a near "truth" .
>>>
>>> I ask then if it is this understanding of the temporary and highly
>>> individual nature of memory the secret (while claiming there can be
>>> now
>>> secret) to creating an architecture that is more permanent and
>>> universally suggestive within a society.
>>>
>>> If the above is to be considered true how I would go about creating
>>> a methodology that would be accepted by a rigidly forward university
>>> structure when the very basis of hermeneutics seems to preclude such
>>> scientific discourse. Would I simply try accommodate the ideals
>>> behind the theory such as ethically understanding my own bias and
>>> performing blanket survey's upon a large demographic of society to
>>> gain greater insight into an overall public perception or include
>>> precedents of architecture that's meaning has evolved within a
>>> similar society in-order
>> to predict the future of our own.
>>>
>>> I would sincerely hope that you forgive my ignorance on the subject,
>>> however please don't hold back if I am completely missing the plot,
>>> while also taking into account this will only be a small 16,000 word
>>> document and not a PHD proposal.
>>>
>>> I apologise for the length of this email but as you can see the more
>>> I understand the less I seem too.
>>>
>>> Thanks again
>>>
>>> David Tod Brett (BArch)
>>> University of KwaZulu-Natal
>>> Email: [redacted]
>>> Tel: [redacted]
>>>
>>>
>>>
>>>
>>> -----Original Message-----
>>> From: William Thompson [redacted]
>>> Sent: 09 February 2011 02:06 PM
>>> To: David T Brett
>>> Subject: Re: Assistance in regards to Hemeneutics and Architecture
>>>
>>> I am pleased to hear from you and your working title at least
>>> explains clearly what you intend to do!
>>>
>>> I would be very interested in dialogue and at this stage register my
>>> keen interest in what you choose to do.
>>>
>>> As you say the "field" is sparsely populated.
>>>

>>> I do not know the origin of your finding me and it would be helpful
>>> if you could give me a brief indication of where my name came from
>>> and what you already know.
>>>
>>> I hope this is ok, but as I say I am very keen to hear from you,
>>>
>>> best,
>>>
>>> Bill
>>>
>>> On Wed, Feb 9, 2011 at 9:47 AM, David T Brett [redacted]
>> wrote:
>>>> F.A.O. Bill Thompson
>>>>
>>>>
>>>>
>>>> I am currently writing my master's treatise in architecture at the
>>>> University of KwaZulu- Natal, South Africa and have chosen to
>>>> engage with one of, what I believe to be the most relevant
>>>> corollary theories to have resulted from the failure of
>>>> Post-Modernism,
>> Hermeneutics.
>>>>
>>>> It is my belief that hermeneutic s will allow for a greater
>>>> understanding of how the people of South Africa interpret the
>>>> apartheid buildings of the past, while aspiring to create a
>>>> universally accepted modus for the future of architecture within
>>>> post-apartheid society. During Theses early stages of conception,
>>>> I have rather clumsily titled my treatise (The hermeneutics of
>>>> architecture as a means for transposing public perception: Towards
>>>> the design of a transport interchange in the Durban Central
>>>> Business
>>>> District.)
>>>>
>>>> A Brief introduction to the paper:
>>>>
>>>> Stations have always exemplified the sentiments of the times
>>>> representing technological advancement, civic / national pride, the
>>>> solidarity of the people and economic advancement. South Africa's
>>>> train stations have however developed autonomously from the western
>>>> world where apartheid saw train stations primarily as a form of
>>>> 'Black' or labour transport. This belief led to drastically reduced
>>>> budgets and the relocation of train stations to the peripherals of
>>>> cities where they would be 'out of sight'. Within the black
>>>> population of the time these buildings became a symbol of white
>>>> oppression resulting in vandalism and defacement which in turn led
>>>> to the brutal reinforced concrete stations of today and the current
>>>> negative perception of public transport experienced within South
>>>> African society. This proposal seeks to investigate, through the
>>>> process of Hermeneutics, the current perceptions of public
>>>> transport and identify an appropriate action for transposing any
>>>> negative connotations that
>>> persist within the public conscious.
>>>>
>>>> Through my initial research I have been made aware that the work
>>>> undertaken by yourself and only a few others is at the forefront of

>>>> this exploration into the Hermeneutics of Architecture. I would
>>>> therefor kindly request any assistance that you might be able to
>>>> provide. From simple advice to books, papers, contacts and anything
>>>> else that you might deem to be beneficial to my research would be
>>>> greatly
>>>> appreciated.
>>>>
>>>>
>>>>
>>>> Kind Regards
>>>>
>>>>
>>>>
>>>> David Tod Brett (BArch)
>>>> University of KwaZulu-Natal
>>>> Email: [redacted]
>>>> Tel: [redacted]
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STATISTICS

Table 3.1.1: Workers by Mode of Travel - Province

	1995			1997			1999		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Non-urban	Total
Western Cape									
Bus	90 958	2 683	93 833	91 409	2 252	93 661	74 264	1 010	75 275
Minibus taxi	188 780	4 396	193 176	178 528	3 880	182 408	177 612	8 013	185 625
Metered taxi	2 769	-	2 769	3 222	419	3 641	3 590	-	3 590
Train	204 772	4 499	209 271	201 700	5 069	206 769	192 699	723	193 422
Bicycle	25 227	1 418	26 645	16 819	244	17 583	20 665	1 750	22 415
Car	447 010	7 787	454 797	427 155	16 280	443 395	471 299	6 925	478 223
Motorbike	4 033	-	4 033	4 369	-	4 369	4 681	-	4 681
Truck/lorry	33 746	6 820	40 566	73 293	17 079	90 371	68 205	13 893	82 198
Donkey cart / horseback / animal transport	750	-	750	596	624	1 220	1 186	1 281	2 469
On foot	168 476	139 323	307 799	162 986	121 086	284 072	149 711	123 521	273 232
Not applicable	27 049	22 969	50 018	54 265	5 515	59 780	83 215	2 426	85 640
Other (specify)	963	1 520	2 483	3 159	1 503	4 662	3 006	1 433	4 439
Missing value	1 322 330	96 029	1 418 359	1 358 152	105 309	1 464 461	1 430 598	82 176	1 512 774
Total	2 514 699	287 834	2 802 733	2 575 571	291 079	2 861 650	2 630 638	241 482	2 872 120
Eastern Cape									
Bus	43 482	20 255	[illegible]	32 380	6 317	38 700	26 580	10 604	[illegible]
Minibus taxi	197 369	77 415	274 884	148 844	38 302	187 146	120 229	51 736	171 965
Metered taxi	3 290	3 331	7 022	8 802	6 884	15 686	7 487	4 524	12 010
Train	7 610	1 627	9 237	5 956	1 394	7 450	12 989	595	13 587
Bicycle	4 761	-	4 761	2 037	572	2 609	2 325	1 125	3 450
Car	223 592	16 345	239 907	173 271	14 358	187 629	196 816	18 980	215 797
Motorbike	1 569	-	1 569	1 754	-	1 754	733	-	733
Truck/lorry	11 459	5 999	17 454	5 479	10 636	16 512	9 462	[illegible]	[illegible]
Donkey cart / horseback / animal transport	-	-	-	253	1 758	1 880	737	-	742
On foot	104 677	132 880	237 557	109 496	129 985	239 481	113 890	145 954	259 844
Not applicable	12 737	10 111	22 848	16 870	12 099	29 109	32 995	24 762	57 727
Other	2 083	3 268	5 351	1 002	-	1 002	890	1 657	2 917
Missing value	1 016 931	1 970 753	2 987 684	1 082 674	2 073 585	3 156 259	1 044 832	2 113 942	3 158 174
Total	1 670 011	2 242 131	3 912 142	1 586 051	2 316 842	3 900 693	1 568 510	2 380 088	3 948 598
Northern Cape									
Bus	14 273	1 918	16 192	8 896	4 728	13 624	5 263	4 697	10 660
Minibus taxi	19 257	819	20 076	20 078	452	20 531	15 610	2 296	[illegible]
Metered taxi	3 257	-	3 257	1 093	197	1 290	323	-	323
Train	757	-	757	-	-	-	-	-	-
Bicycle	4 129	1 825	5 954	9 014	326	9 340	4 260	1 084	5 344
Car	32 814	7 374	40 188	47 294	8 498	55 792	56 785	11 414	68 199
Motorbike	-	-	-	893	-	893	349	-	349
Truck/lorry	7 946	4 245	12 192	4 552	3 051	7 603	3 199	3 628	6 827
Donkey cart / horseback / animal transport	-	1 217	1 217	336	268	604	354	-	354
On foot	51 189	48 708	102 887	58 661	31 319	89 979	45 905	66 011	112 616
Not applicable	2 402	4 031	6 433	2 486	3 626	6 112	5 543	1 759	7 112
Other	-	-	-	326	201	530	309	-	309
Missing value	260 313	83 302	343 615	286 248	68 285	354 533	263 123	81 638	344 761
Total	397 375	163 402	560 778	444 416	129 310	573 726	399 924	173 976	573 900
Free State									
Bus	41 592	7 570	49 162	38 196	18 698	56 894	36 376	12 636	49 012
Minibus taxi	124 542	11 608	136 150	118 827	7 918	126 745	105 827	10 965	119 692
Metered taxi	8 698	1 936	10 634	24 379	8 977	33 356	14 505	7 291	21 796
Train	2 085	359	2 444	212	750	962	2 136	-	2 136
Bicycle	3 483	-	3 483	7 363	779	8 142	5 162	827	5 989
Car	145 115	10 352	155 478	157 692	9 616	167 308	140 325	25 534	165 859
Motorbike	693	-	693	331	811	1 142	635	991	1 626
Truck/lorry	7 938	16 166	24 098	9 121	7 164	16 285	3 164	5 033	8 197
Donkey cart / horseback / animal transport	2 843	-	2 843	224	1 113	1 337	870	795	1 665
On foot	96 364	185 384	281 748	111 422	138 533	249 955	115 539	211 834	327 372
Not applicable	19 207	10 783	29 990	22 103	2 314	24 417	12 141	6 841	18 983
Other	975	2 955	3 930	185	183	368	414	4 360	4 774
Missing value	798 198	319 707	1 117 905	893 669	268 977	1 162 646	852 771	286 641	1 139 411
Total	1 257 131	548 823	1 805 954	1 383 824	465 736	1 849 560	1 292 717	574 739	1 867 456

Table 3.1.1: Workers by Mode of Travel – Province (Continued)

	[illegible]			[illegible]			[illegible]		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Nonurban	Total
[illegible]									
Bus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Minibus/taxi	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Metered taxi	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Train	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bicycle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Car	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Motorbike	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]
Truck/lorry	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Donkey cart/horse/animal transport	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
On foot	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Not applicable	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Missing value	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]									
Bus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Minibus/taxi	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Metered taxi	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Train	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bicycle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Car	[illegible]	23 772	[illegible]	[illegible]	33 589	[illegible]	[illegible]	27 105	[illegible]
Motorbike	[illegible]	2 504	[illegible]	1 375	709	[illegible]	2 028	-	2 028
Truck/lorry	799	[illegible]	[illegible]	2 353	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Donkey cart/horse/animal transport	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
On foot	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Not applicable	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	-	-	-	-	[illegible]	[illegible]	-	357	357
Missing value	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]									
Bus	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]
Minibus/taxi	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Metered taxi	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	-	[illegible]
Train	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]
Bicycle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]
Car	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Motorbike	[illegible]	-	[illegible]	[illegible]	-	[illegible]	[illegible]	-	[illegible]
Truck/lorry	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]
Donkey cart/horse/animal transport	-	-	-	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]
On foot	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Not applicable	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Missing value	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]									
Bus	59 639	79 424	139 063	55 728	78 382	134 109	51 156	65 305	116 561
Minibus/taxi	75 038	136 697	211 735	53 385	224 836	276 224	67 865	127 705	195 570
Metered taxi	15 397	3 724	19 121	16 796	7 269	24 065	8 446	4 808	13 253
Train	1 119	2 365	3 484	661	193	854	-	929	929
Bicycle	852	6 315	7 179	4 060	1 979	6 039	4 030	9 218	13 247
Car	109 660	28 180	137 840	105 189	21 637	126 826	108 385	41 684	150 069
Motorbike	925	1 625	2 550	2 432	1 617	4 049	1 969	654	2 623
Truck/lorry	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Donkey cart/horse/animal transport	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
On foot	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Not applicable	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Missing value	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Table 3.1.1: Workers by Mode of Travel - Province (Continued)

	1996			1997			1998		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Non-urban	Total
Northern Province									
Bus	25 528	59 491	85 019	22 404	88 466	110 870	23 100	70 203	93 303
Minibus taxi	24 510	48 972	73 482	34 316	67 071	101 387	28 234	60 548	88 782
Metered taxi	716	9 937	10 653	3 887	5 928	9 815	4 880	4 260	6 921
Train	438	2 626	3 063	747	864	1 611	555	900	1 455
Bicycle	1 918	1 797	3 715	2 017	8 602	10 619	3 500	5 717	9 217
Car	47 513	39 074	86 587	44 083	67 434	111 517	60 652	50 527	111 179
Motorbike	2 051	1 831	3 882	493	747	1 240	2 927	2 654	5 581
Truck/lorry	1 266	15 285	16 551	763	20 159	20 922	3 876	13 222	17 098
Donkey cart / horseback / animal transport	-	-	-	393	1 644	2 037	-	2 171	2 171
On foot	27 291	142 430	169 721	36 767	169 306	206 073	28 298	213 721	242 020
Not applicable	3 418	15 844	19 262	6 166	19 256	25 422	2 801	28 039	30 840
Other	-	-	-	356	579	935	-	1 174	1 174
Missing value	219 619	2 133 699	2 353 418	197 682	2 075 541	2 273 223	231 136	2 114 239	2 345 377
Total	365 468	2 459 885	2 826 353	350 071	2 525 600	2 875 671	367 949	2 587 177	2 955 127
RSA Total									
Bus	675 655	376 504	1 052 159	592 463	395 748	988 211	620 567	362 446	983 013
Minibus taxi	1 537 209	341 862	1 879 071	1 578 909	353 096	1 932 005	1 409 323	358 289	1 767 609
Metered taxi	167 569	36 491	194 060	110 075	35 605	145 680	123 208	57 995	165 896
Train	470 926	39 478	510 404	484 127	45 892	528 919	471 320	20 752	459 062
Bicycle	70 795	22 307	93 102	60 654	23 292	84 176	66 200	27 288	93 488
Car	2 423 007	220 234	2 643 241	2 398 859	229 522	2 629 380	2 480 259	253 075	2 731 334
Motorbike	43 716	7 921	51 637	26 392	6 516	32 907	44 534	4 296	49 833
Truck/lorry	100 232	93 419	193 651	126 644	107 556	234 194	114 123	95 171	209 294
Donkey cart / horseback / animal transport	5 430	5 076	10 406	8 666	6 692	15 358	7 952	7 688	15 639
On foot	863 140	1 111 726	1 974 865	951 261	1 084 070	2 035 331	1 001 801	1 424 757	2 426 557
Not applicable	177 549	94 657	272 206	271 161	107 992	379 143	363 217	125 906	479 123
Other	9 798	8 931	18 729	13 609	10 663	24 272	20 520	18 936	39 456
Missing value	9 003 914	8 812 495	17 816 409	9 481 920	8 750 492	18 232 412	9 599 801	8 610 968	18 210 769
Total	15 494 789	11 191 101	26 685 890	16 102 934	11 186 398	27 289 352	16 264 721	11 323 487	27 586 209

Source: StatsSA October Household Surveys, 1996, 1997 and 1998

Figure 3.1: Workers by Travelling Time to Place of Work - RSA Totals

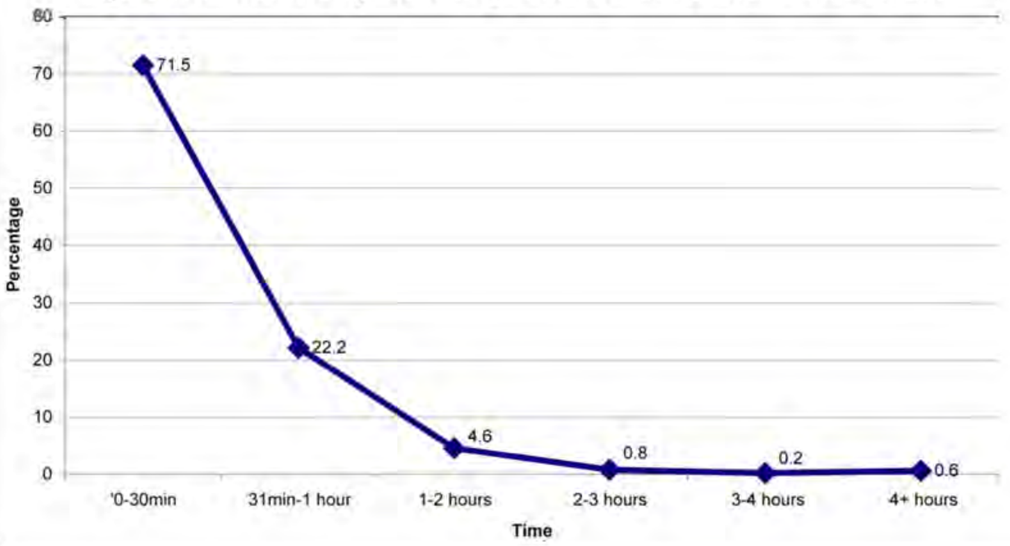


Table 3.1.2: Workers by Travelling Time to Place of Work (2001)[1]

	Socio-economic categories						
	Rural subsistence (Tribal)	Informal (Squatters)	Hostels	Low cost housing areas	Suburban residential areas	Commercial farms	Total
	%	%	%	%	%	%	%
Western Cape							
0-30min	-	31.8	27.8	67.7	77.2	95.3	72.0
31min-1hour	-	22.7	72.2	22.6	17.3	4.7	20.3
1-2 hours	-	10.5	-	7.1	2.1	-	5.5
2-3 hours	-	-	-	2.0	1.3	-	1.5
3-4 hours	-	-	-	1.1	-	-	0.6
4+ hours	-	-	-	-	1.1	-	0.3
Total	0.0	100.0	100.0	100.0	100.0	100.0	100.0
Northern Cape							
0-30min	-	-	61.7	93.2	80.3	94.4	88.2
31min-1hour	-	-		6.8	16.6	4.4	7.7
1-2 hours	-	-	38.3	-	3.1	1.2	3.1
2-3 hours	-	-	-	-	-	-	-
3-4 hours	-	-	-	-	-	-	-
4+ hours	-	-	-	-	-	-	-
Total	0.0	0.0	100.0	100.0	100.0	100.0	100.0
Eastern Cape							
0-30min	57.3	56.5	70.0	75.7	96.2	87.8	74.1
31min-1hour	33.6	43.5	30.0	22.7	-	12.2	24.7
1-2 hours	6.0	-	-	1.3	3.8	-	0.7
2-3 hours	-	-	-	0.3	-	-	0.3
3-4 hours	-	-	-	-	-	-	-
4+ hours	0.7	-	-	-	-	-	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Free State							
0-30min	76.9	78.1	-	87.1	85.8	82.7	83.0
31min-1hour	20.7	12.6	-	13.6	12.2	8.7	10.0
1-2 hours	-	9.5	100.0	-	4.0	4.3	4.3
2-3 hours	-	-	-	-	1.7	2.3	1.4
3-4 hours	-	-	-	-	1.7	0.3	0.4
4+ hours	-	-	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
KwaZulu-Natal							
0-30min	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
31min-1hour	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1-2 hours	[illegible]	-	[illegible]	0.5	0.2	-	[illegible]
2-3 hours	-	-	-	-	3.6	-	0.8
3-4 hours	-	-	-	-	-	-	-
4+ hours	-	0.9	-	0.1	-	-	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mpumalanga							
0-30min	63.0	76.8	100.0	52.3	83.9	75.0	69.0
31min-1hour	29.3		-	39.2	3.9	18.4	21.7
1-2 hours	7.8	23.2	-	8.5	12.2	6.6	9.2
2-3 hours	-	-	-	-	-	-	-
3-4 hours	-	-	-	-	-	-	-
4+ hours	-	-	-	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Northern Province							
0-30min	72.9	-	-	100.0	83.4	69.4	76.3
31min-1hour	25.8	-	-	-	16.6	15.5	21.0
1-2 hours	1.3	-	-	-	-	12.3	2.4
2-3 hours	-	-	-	-	-	-	-
3-4 hours	-	-	-	-	-	-	-
4+ hours	-	-	-	-	-	2.6	0.3
Total	100.0	0.0	0.0	100.0	100.0	100.0	100.0
Gauteng							
0-30min	-	57.2	91.6	71.3	60.7	73.8	66.3
31min-1hour	-	30.1	8.4	19.6	28.4	-	23.7
1-2 hours	-	12.7	-	6.3	5.6	26.2	6.6
2-3 hours	-	-	-	0.6	2.3	-	1.4
3-4 hours	-	-	-	-	0.7	-	0.4
4+ hours	-	-	-	1.9	2.1	-	1.7
Total	0.0	100.0	100.0	100.0	100.0	100.0	100.0
North West							
0-30min	64.6	72.8	92.5	71.9	90.5	90.3	75.8
31min-1hour	22.7	27.2	-	19.8	3.2	5.8	13.0
1-2 hours	1.3	-	7.5	4.0	-	3.7	3.1
2-3 hours	3.8	-	-	-	-	0.1	5.8
3-4 hours	-	-	-	2.3	3.6	-	0.8
4+ hours	7.5	-	-	1.0	2.8	-	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
South Africa							
0-30min	63.0	68.9	55.6	71.8	71.6	83.9	71.8
31min-1hour	[illegible]	27.5	34.4	22.4	20.9	10.9	22.2
1-2 hours	5.5	5.8	8.0	4.6	3.2	4.9	4.3
2-3 hours	0.4	-	-	0.6	1.7	3.7	0.8
3-4 hours	-	-	-	0.9	0.5	0.1	0.3
4+ hours	1.1	0.3	-	0.6	1.3	0.1	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Markdata Omnibus

[1] For further information on the methodology employed in the *Markdata* Omnibus, refer to Appendix A

Table 3.1.3: Type of Transport Mode Preferred - Other Than Main Mode[1]

Preference	Socio-economic categories						Total
	Rural subsistence (Tribal)	Informal (Squatters)	Hostels	Low cost housing areas	Suburban residential areas	Commercial farms	
	%	%	%	%	%	%	%
Yes	50.1	30.4	39.9	35.7	26.9	31.0	36.0
No	49.9	69.6	60.1	64.3	73.1	69.0	64.0
Type of mode preferred							
Walking	2.2	3.8	1.5	5.5	6.7	9.4	3.9
Bicycle	0.9		1.6	3.3	3.5	7.0	2.9
Taxi	34.0	26.7	23.4	20.7	7.7	39.6	29.2
Train	5.3	11.5	14.3	11.5	8.1	1.8	9.1
Bus	45.2	27.5	37.4	25.9	30.3	35.6	34.5
Car	10.7	23.7	21.8	31.7	41.4	12.6	23.3
Other modes	0.5	-	-	0.9	3.0	-	1.0
Reason for preference							
Easier, more convenient	11.7	9.2	2.4	16.2	27.3	21.7	17.0
Cheaper	36.4	35.4	45.5	19.2	12.6	8.5	24.2
Faster	19.1	26.3	13.4	12.5	4.1	28.2	15.9
Safer	5.7	4.7	9.2	12.9	12.9	5.7	9.1
Reliable	2.5	0.8	1.9	1.9		3.8	1.9
Comfortable	3.6	1.9	11.7	9.4	2.2	2.2	5.2
Concern about violence in other modes	2.0	-	-	0.9	-	-	0.9
Health reasons, exercise	0.3	-	1.5	0.5	2.5	1.4	0.9
Other modes - drivers are rude	-	2.1	1.5	1.8	-	-	0.7
Only mode available, no public transport	14.0	2.5	-	3.2	2.3	27.7	9.3
Prefer own car	2.9	7.0	12.9	10.2	19.3	-	8.1
Delays - waiting for taxis	-	1.9	-	1.9	4.5	0.8	1.3
Other[2]	1.8	8.9	-	8.4	12.2	3.9	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Markdata Omnibus

[1] For further information on the methodology employed in the *Markdata* Omnibus, refer to Appendix A

[2] For example aeroplane, boat, tractor, donkeycart etc

Table 3.1.4: Regular Taxi Users' Main Reason for Not Using Bus or Train[3]

	Recoded socio-economic categories						
	Rural subsistance (Tribal)	Informal (Squatters)	Hostels	Low cost housing areas	Suburban residential areas	Commercial farms	Total
Main Reason	%	%	%	%	%	%	%
Convenience	11.2	23.2	41.8	20.4	27.5	8.8	19.1
Public transport takes longer, late for work	21.1	20.3	18.7	17.4	17.9	14.8	18.8
Expensive, not cost-effective	4.5	6.7	1.5	8.8		4.0	3.6
High risk, unsafe	3.5	3.6		5.7	2.4		3.3
Unreliable	2.4	4.3		3.2	-	[illegible]	2.3
Company car	0.8	1.4	1.1		-		0.3
Public transport not available	51.3	13.7	18.8	36.9	39.5	45.3	40.4
Need car for work	1.1	0.4	-	0.3	-	-	0.5
Prefer own transport	6.1	2.3	8.8	3.1	8.9	2.5	2.4
Disability/Health		-	-	0.8	-	4.3	0.5
Don't know	0.4	-	-	2.1	2.4	13.8	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Markdata Omnibus

[3]For further information on the methodology employed in the Markdata Omnibus, refer to Appendix A

Table 3.1.5: Regular Car and Bakkie Users' Main Reason for Not Using Public Transport[4]

	Recorded socio-economic categories						
	Rural subsistance (Tribal)	Informal (Squatters)	Hostels	Low cost housing areas	Suburban residential areas	Commercial farms	Total
Main Reason	%	%	%	%	%	%	%
Convenience	15.2	35.7	0.0	37.0	21.4	6.5	22.4
Public transport takes longer, late for work	2.1	-	-	4.5	4.2	[illegible]	
Expensive, not cost-effective	[illegible]	[illegible]	-	8.8	5.9	[illegible]	[illegible]
High risk, unsafe		[illegible]	[illegible]	19.8	19.3	1.0	[illegible]
Unreliable	16.3			2.0	1.4	0.2	2.2
Company car		30.0		7.9	1.2	2.0	3.0
Public transport not available	[illegible]		62.1	5.5	23.9	52.7	25.5
Need car for work	-	[illegible]	-	1.4	[illegible]	[illegible]	[illegible]
Prefer own transport	[illegible]	[illegible]	-	22.3	[illegible]	4.5	10.7
Disability/Health	-	-	-	1.2	2.1		1.2
Don't know	-	[illegible]	-	-	1.0	2.1	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[illegible]

[4][illegible]

POST-DWELLING REPORTS

GOOGLE IT

The first task of the qualitative study was to acquire a table of the train times available between Avoca Station and Durban Central station. I began my search over the internet as I am fortunate enough to have a home connection available to myself. Using Google.co.za as my search engine and "Durban Train Time Table" as the search criteria I began. The first page to be listed was http://www.durbantransport.com/traintimetable.htm which unfortunately turned out to be a dead end as I was met with a blank table. After returning to the alternative search results offered I realised that my search criteria, no matter how logical, was inadequate for the task at hand. Using my pre-knowledge, I entered a new search criteria of "Metrorail Timetable" which produced the goods on the fifth result http://www.metrorail.co.za/Timetables.html. The link took me to a list of excel spread sheet timetables with what I would assume to be the one most relevant to me placed first under the route name KwaMashu - Durban - Umlazi. After a little confusion I was able to navigate through the work spaces to my desired route. The whole experience has lead me to believe that while the process was relatively easy for myself, someone with less computer skills may have had less luck, let alone someone without PC or internet access... so let's pretend we don't.

MAN - 0 VS MACHINE - 1

At 9:30 on a Friday morning I decided it was time to go down too my local station and request a hard copy of the applicable time table, but first I would need to find out its location. Using the internet as a quick an easy substitute for "asking around" I established the location through Google earth before setting out. After seeing the station I still managed to drive a short distance past due to my confusion over where to gain access, exemplified by the surrounding construction. Driving around the rear of North Coast Road's shops and factories, adjacent to what appeared to be an abandoned stable like building but was in fact a small metal working shed, I arrived. Despite the fairly derelict surrounds the station appeared to be undergoing a transformation, looking fresh and new if somewhat unfinished. The revamping of the station reminded me of the smaller European stations of my travels and instantly filled me with a sense of progress and safety. Busy workers pushing wheelbarrows enhanced this sense of progress with big smiles and friendly greetings. The regular commuters on the other hand met me with unwavering stares and blank expressions. I instantly began to feel that maybe I was somewhere I was not meant to be, an alien in this world, and everyone knew it.

By masking my fear under a shroud of friendly confidence I moved forward happily distracted by the surprisingly beautiful river that snaked alongside the tracks and felt the effect of my presence on the commuters lessen. This calm was short lived as the strangely familiar sound of an approaching train shattered the silence without so much as a rumbling warning. Spinning around my first impression was the apparent modernity of the train, triggered by the digital display on its front. However the approach of more, probably only curious, eyes began to make me feel like Dave the extra-terrestrial again. The dark unlit interiors of the train appeared unwelcoming and confined, causing me to turn away as the train began to pull off and ask myself, "what am I doing!" I then made my way to the centre of the platform where a small building, surrounded by commuters, seemed to me my best bet for finding some sort of administration. And there she was, my sisi, my time table provider in an orange jacket, smiling I asked if she knew where I could get a time table, to which she responded that she had no idea

MACHINE WINS

Surprised at the difficulties so far in obtaining a hard copy of the time table, I decided that the next step was to take my search to the Durban Central Station; I mean where else should you be able to get a time table then from the main station. Due to my own trepidation I made this trip on a Saturday morning in order to avoid the weekly crowds and arrived around 11am. Access from the street was simple as the large white, vaulted structure loomed over my left as I approached. Pulling into the parking I realised the building appeared more like a shopping centre than a transport interchange due to the large array of advertising boards. Winding my way through the ground floor, I was basically

ignored by the awaiting families and passers-by, allowing me to blend in quite naturally. After finding myself lost in an area marked as staff only, I decided the trains must be upstairs. So I jumped on the escalators and headed up, only to find myself in a large covered parking. After a few trips up and down and a short discussion with a fellow lost soul, I figured out that the station lay on the second floor. Upon my arrival I was greeted by what can only be described as a clinical shopping mall that's ceiling had slipped too low and instead of retail stores the shop fronts contained an array of travel companies. Besides the old steam train these travel companies are the only signs that this shopping centre was in fact a transport interchange. Following the ticket sales directives hung from the ceiling. I arrived at the least welcoming of the sales desks, Metrorail, where I preceded to yell into a small empty room hoping for some attention. Thankfully help arrived in no time at all, optimism washed over me as I asked for a time table. The attendant looked at me and responded with a shrug as he solemnly explained that there weren't any assuring me that everyone just read the daily information boards.

TYPICAL TRAIN JOURNEY

Arriving at 10:00 am on a Saturday morning, my sense of alienation was slowly replaced by good humour as the surprised an quizzical responses from staff resulted in some light hearted teasing as Zulu announcements were quickly followed by ones giggled in English. At a one way price of five Rand to get from Avoca to Durban central it is hard to see that expense is a major problem, but as always this is very subjective. Once aboard, the passengers also warmed up by opening doors and offering seats. Safety therefore seemed didn't seem to be to be a problem, however through dialectic discussions with these passengers crime was still a small problem but had been vastly improved in the run up to the world cup. (most people interviewed seemed happy about the changes but resentful because of the reason)While these changes directly affected the safety and visual appeal of both trains and stations.

UNUSED FORMAL QUESTIONNAIRE

The following questionnaire was never actually used except as a reference for unstructured interviews. The reason for this was due to the large amount of statistical information recovered and the bias that predetermined questions place on the dialectic process.

INFORMATION GIVEN TO PARTICIPANTS: For Questionnaire, Interview and Focus Group Respondents

Study Title: The hermeneutics of architecture as a means for transposing public perception: Towards the design of a transport interchange in the Durban Central Business District.

Study to investigate Public perception of public transport

(Ethics Reference Number : TBA)

Good Morning

Introduction:

I am a Masters student from the University of KwaZulu-Natal and I am doing research on Public Transport. Research is just a process to attain answers to a number of questions, and you may have information that would help me to get to such answers. In this study I want to learn about public perception of public transport.

I am requesting that you participate in this research study so that I can find out more about the perception of public transport.

What is involved in the study: I have a questionnaire and I will ask you questions in order to complete the questionnaire. There are no risks to being involved, and no one is forced to take part. There will be no negative consequences either, if you decide not to take part. If you agree to take part, we hope that the information that we obtain will be used to improve our current understanding of public transport in South Africa. You can choose not to answer a particular question, and are free to withdraw from the enquiry at any stage.

Confidentiality: No personal information will be gathered for the questionnaire and therefore all information provided by such will remain confidential.

Contact details of researcher/s – for further information please contact:

David Brett - Tel: 031 5634182 Cell: 083 3821757 Email: archilogik@gmail.com

Philippe Yavo - Email: yavo@ukzn.ac.za

Please sign below to indicate that you understand what I have explained to you and that you are willing to participate and provide me with the information I need.

Thank you.

Signature of participant

QUESTIONAIRE

PART A

1. Age: 0-16 ☐ 16-25 ☐ 25-35 ☐ 35-45 ☐ 45-65 ☐ 65+ ☐

2. Nationality: _____

3. Ethnicity: Black ☐ White ☐ Coloured ☐ Indian ☐ Other (Please specify) _____

4. Place Birth: _____

5. Country of residency: _____

6. Occupation: _____

PART B

1. How often do you use public transport: Never ☐ Seldom ☐ Often ☐ Always ☐
(only applies to public transport within South Africa) *(skip to part E)*

2. What types of transport have you used: Train ☐ Bus ☐ Minibus ☐ Meter Taxi ☐
(only applies to public transport within South Africa)

3. Which type of transport do you use most: Train ☐ Bus ☐ Minibus ☐ Meter Taxi ☐
(only applies to public transport within South Africa)

PART C

1. How would you rate each specific form of public transport in terms of safety:
(only answer for those forms of transport ticked in question 2 part B)

i) Train	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
ii) Bus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iii) Minibus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iv) Meter Taxi	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐

2. How would you rate each specific form of public transport in terms of comfort:
(only answer for those forms of transport ticked in question 2 part B)

i) Train	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
ii) Bus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iii) Minibus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iv) Meter Taxi	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐

3. How would you rate each specific form of public transport in terms of quality:
(only answer for those forms of transport ticked in question 2 part B)

i) Train	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
ii) Bus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iii) Minibus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iv) Meter Taxi	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐

4. How would you rate each specific form of public transport in terms of accessibility:
(only answer for those forms of transport ticked in question 2 part B)

i) Train	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
ii) Bus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iii) Minibus	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐
iv) Meter Taxi	Appalling ☐	Poor ☐	Average ☐	Good ☐	Brilliant ☐

PART D

What changes if any do you believe would benefit you as a passenger:
(Please be as honest as possible all forms are confidential)

_____
_____
_____
_____
_____
_____

PART E (only answer this if you ticked never for question no. 1 part B)

Why do you not use public transport, please explain if there is one more than one reason:
(Please be as honest as possible all forms are confidential)

_____
_____
_____
_____
_____
_____

THE HERMENEUTICS OF ARCHITECTURE AS A MEANS FOR TRANSPOSING PUBLIC PERCEPTION

TOWARDS THE DESIGN OF A TRANSPORT INTERCHANGE IN THE

DURBAN CENTRAL BUSINESS DISTRICT

DESIGN REPORT

DAVID BRETT

A dissertation submitted to the Faculty of Humanities, Development of Social Sciences, University of KwaZulu-Natal, in partial-fulfilment of the requirements for the degree of Master in Architecture

Durban, 2011

DECLARATION

I hereby declare that this dissertation is my own original work. It is being submitted to the School of Architecture, Housing and Town Planning, University of KwaZulu-Natal, Durban, for the Master of Architecture degree, and has not been submitted before for any degree or examination at any other University.

Signed by David Tod Brett

On the 07 December 2011

ACKNOWLEDGEMENTS

My Heartfelt thanks goes out too all those at the University of KwaZulu-Natal who supported me throughout my studies from my inspirational first year lecturer Derrick van Heerden, too the students and staff who shared in the journey of my architectural education. While every lecturer played some part in my development, special mention must be made of, Kevin Bingham, Dumisani Mhlaba, Yashaen Luckan, and Walter Peters.

In regard to the following dissertation, additional gratitude must be given to the following people:

- Dr. Bill Thompson, a Lecturer in Architectural Theory at University of Ulster with a PhD in environmental psychology for not only responding to the emails of a foreign student but for the overwhelming interest and advice that he provided, without which this dissertation would not have been possible.
- Dr. Rumiko Handa, Professor of Architecture University of Nebraska-Lincoln and assistant professor of Architecture and Interior Design, University of Idaho, Randall Teal for their responses and suggestions which undeniably influenced the direction of this paper.
- Majahamahle Mthethwa, for his calming presence and compassion, when it was needed most.
- Philippe Yavo of the School of Architecture, Planning and Housing, for their guidance and encouragement.
- The Barry Biermann library staff, for their support, interest and ability to locate the un-locatable.
- My parents, Jane Elizabeth Brett and Peter Dallas Brett for their unrelenting support and patience.

TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION

1.1 BACKGROUND

Train stations of the world developed as a symbol of the industrial revolution. They epitomised technological advancement both in the literal sense of their construction and the allegorical sense that the stations represented the future of humankind by monumentalising the new method of transporting people and goods while unifying nations (Richards and MacKenzie, 1986: 1).

While many people saw the railway in an optimistic light, believing it to be a symbol of humankind's technological advancement, ultimately uniting all of humankind in a spirit of universal Brotherhood, many others opposed it, believing the large powerful machines and scores of railway tracks to be unnatural and in some cases indicative of an apocalypse. Regardless of these differences it cannot be denied that the emergence of the railway served to annihilate space and time (Brantlinger, 2002: 137).

Train stations themselves become icons of a nation's wealth, technological prowess and cultural identity. They acted as gateways to major city's welcoming travellers through awe and uniting its inhabitants through pride. The French traveller, poet and author, Theophile Gautier is quoted as saying:

> *"These cathedrals of the new humanity are the meeting points of nations, the centre where all converges, the nucleus of the huge stars whose iron rays stretch out to the ends of the earth"*
> (Richards and MacKenzie, 1986: 3).

In South Africa today, railways, along with other forms of public transport have lost or in fact never had this sense of sanguine appreciation. Instead South African public transport systems, especially the railway networks are perceived negatively by a large portion of the population and the vast majority of visitors to the country (Donaldson and Ferreira, 2008).

South Africa's public transport still bears the scars of its apartheid past. During the early years of apartheid railway commuters were used almost exclusively by black labourers (ITP, 2010). Due to this the white population of the time began to see rail transport as a "poor man's" or a "low class' form of transportation. However sad it might be, the underutilisation of rail indicates that this perception still rings true today, (ITP 2010) albeit under the added influence of the neglect that resulted.

According to local architect Derek Van Heerden, this new focus meant that budgets for stations where drastically reduced and relocated to the edges of the city centre.

> *"Since South African stations were designed primarily for the black workers at the time of apartheid, their planning was based on people getting through the station only with no attempt to create a place with an inviting character"* (Mtembu, 2008).

Plate 1: Injured Train Surfer (www.lightstalkers.org, 2012)

> *"The system of Apartheid was in the verge of breaking down in the late 1980's, and as a result in 1990, railway commuters became uncontrollable and this era saw evasion of fees and vandalism of the stations which were seen as symbols of white domination"* (Stromberg, 2008: A5).

The Government responded by commissioning new train stations that where brutally constructed out of robust materials, so as to prevent or at least reduce the damage incurred from rioting. The architects showed no regard for experiential or gathering spaces but instead train station where defined simply as a point of interchange. These new stations supported this concept by actively encouraging the through movement of commuters.

The decline in public transport usage within the white community was already apparent in 1966 while at the same time Busses and trains had become the primary form of travel for non-whites. By 1999 the Low income travellers were hardly using trains, opting instead to use minibus taxis and buses. The high income earners of 1999 had begun to use all forms of transport more equally, but still travelled primarily by personal vehicle. (ITP 2010)

By 2010 the overall population were using rail transport even less in favour of busses, taxis and private vehicles, of which the large majority now had access too.

Plate 2: Abandoned Ugie Train Station Coffee Bay (http://blog.travelpod.com, 2012)

1.2 THEORETICAL FOUNDATION

As discussed in the previous research document hermeneutics suggests the study of architecture must no longer be considered as a discipline for the accumulation of anaesthetized information, but be actively applied towards the service of life and form (Perez-Gomez, 2000: 8-9).

Any quantitative research in regards to the history and culture of a particular study area must also include a qualitative approach of 'being in the world' in order to truly understand the contributing factors that give architecture its meaning. Through this process the researcher will have be able to abstract the parts in order to confirm their own assumptions and identify the problem areas (Snodgrass and Coyne, 2006)

The parts and the relationships between them can then be quantified through the theoretical work of Norberg-Schultz, Thiis-Evensen, Christopher Alexander, Rumiko Handa, Charles Jencks and Kevin Lynch.

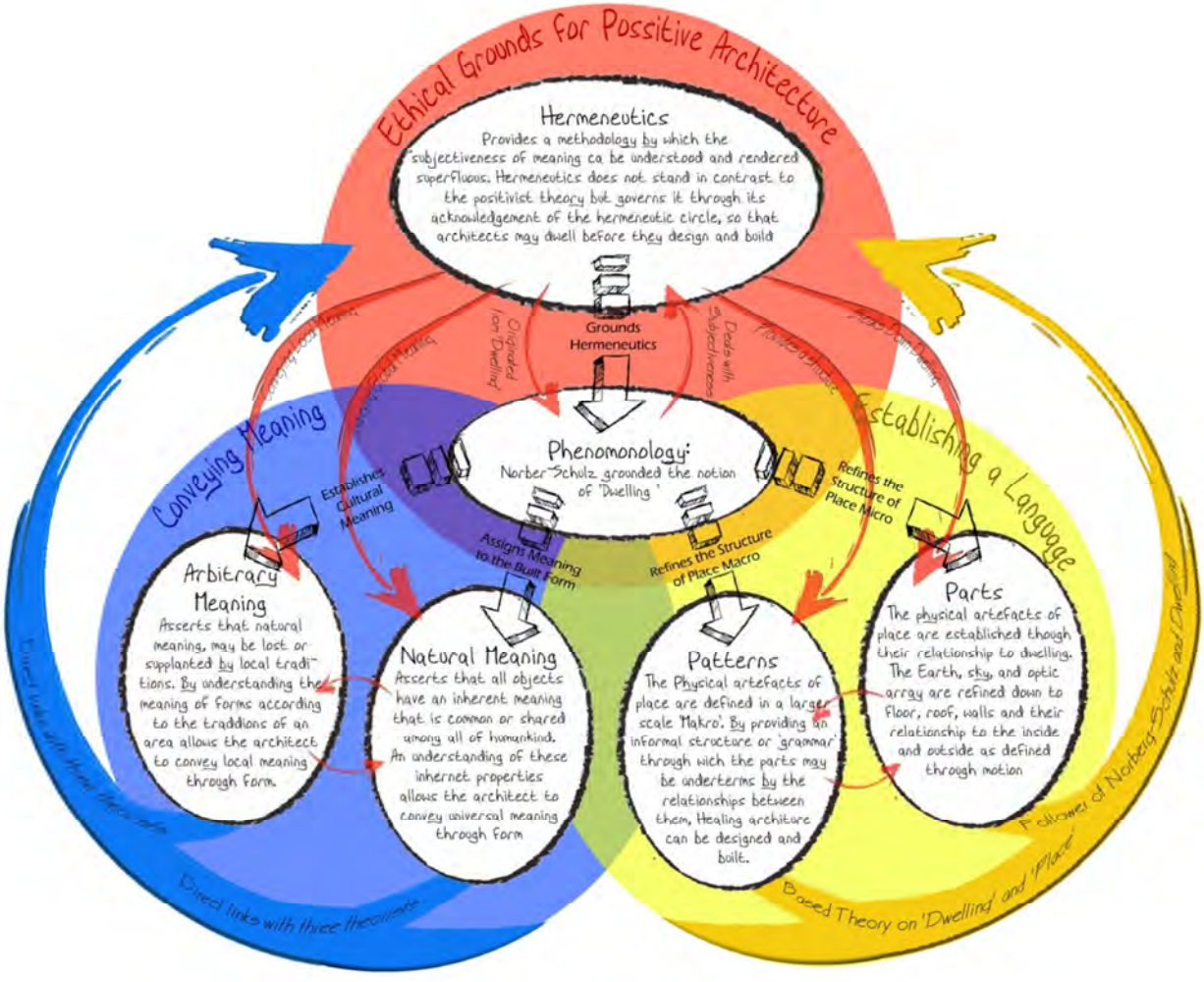


Figure 1: Breakdown of Theoretical Process (Author 2011)

1.3 CONCEPT

To change a perception that has existed for nearly a century requires a great deal more than the simple redesign of a few stations. In order to truly bring about an all-encompassing change in reference to the poor perception of public transport these problems need to be resolved, not only through the superficial “facelifts” of individual stations but the amalgamation of all forms of public transport into one singular entity over time. In order for this amalgamation to begin to effect a change within the public’s perception, administrative and organisational changes would need to be realised in the physical form of a central transport interchange. This interchange would then act as a tangible catalyst/beacon for the future of inner-city transport within the minds of the people and the realities of future development.

In order for this to occur a criteria must be established by which the design of a new transport interchange could evoke a positive response in, not only its users, but in the minds of all the cities inhabitants.

Ultimately the proposed transport interchange must draw people to it. The station must be located so as too actively involve itself in the everyday life of the city and act as a gateway into it. The station should incorporate the social aspects of the city into its structure through shopping centres, restaurants, and housing to encourage people to engage with public transport. The building should make better use of light and ventilation by establishing a meaningful relationship with the natural environment.

Plate 3: The Fabric of the City (Author 2011)

Finally, due to the lack of any established, indigenous architecture, the building should both authenticate the informal language of architecture demonstrated in the Berea and integrate it into the fabric of the city.

By designing architecture in accordance to its relationship to the environmental, urban and cultural context that surrounds it, the designer can help to heal the surrounding built environment. By creating a continuous structure between the new architecture and the 'parts' around it, in accordance with the meaningful 'whole', an architect of any background can create meaningful architecture in any context.

The basic act of architecture is therefore to understand the "vocation" of the place. In this way we protect the earth and become ourselves part of a comprehensive totality. Man is an integral part of the environment, and that it can only lead to human alienation and environmental disruption if he forgets that.

"*To belong to a place means to have an existential foothold, in a concrete everyday sense"* (Norberg-Shultz, 1976).

Plate 4: The Street (Author 2011)

CHAPTER 2 SUPPORT INFORMATION

2.1 INTEGRATED TRANSPORT PLAN

The goals set out in the (ITP report for 2010) are set out below:

Main Goals	Secondary Goals
Effective Transport	To Provide more services for passengers
Efficient Transport	To ensure a more reliable service
Sustainable Transport	To eliminate the uncertainty
Safe and Secure Transport	To increase the use of rail services
Black Enpowerment	To reduce traffic on the road network

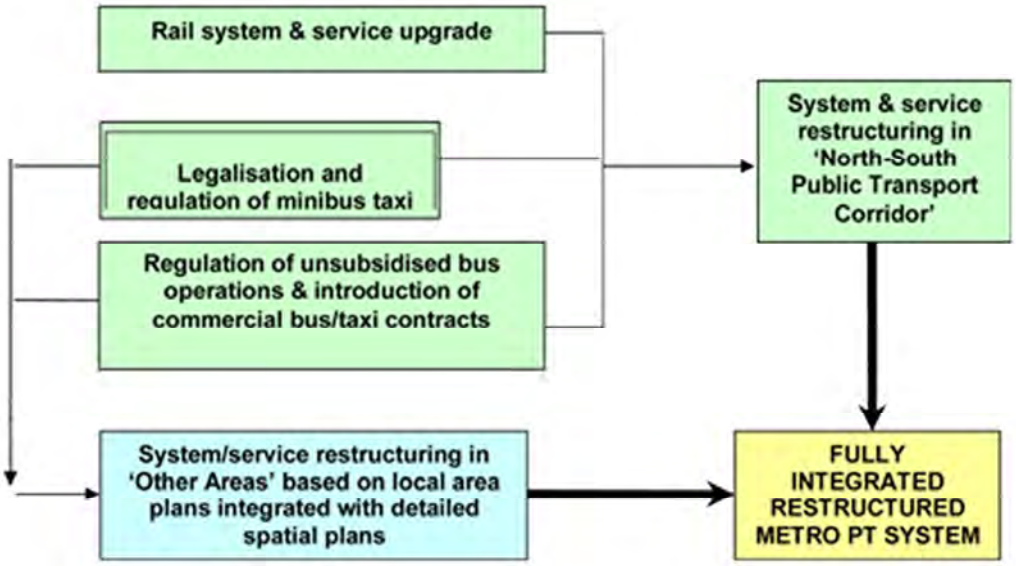


Figure 2: eThekwini Roll Out Strategy (ITP 2010)

2.2 THE ROLE OF THE RAILWAY

Stations are one of the most important modern building types; they perform a variety of functions, besides giving access to trains: they are shopping malls, meeting places and urban landmarks like airports, stations are distinctive and complex places - helping to shape and define the cities they serve by their social, cultural and functional interactions.

Stations are also where the architecture of space and the engineering of structures meet. The nature of this meeting is the essence of railway architecture (Edwards, 1997)

Major Stations are great economic magnets, drawing investment to their surroundings and promoting the regeneration of town centres not city edges. Road and railway systems work most efficiently when they are physically integrated.

In order to help investment new stations can be offset by integrating it with commercial development, as with London's Liverpool Street Station. Rail-based transport can reduce the greenhouse gas emissions per passenger mile by up to 20% of car use. (Edwards, 1997)

The apparent failure of Durban's rail system and its lack of influence on the city centre, suggests a need for integration whereby trains can connect with the city and its inhabitants in both a physical and abstract sense. In the past few years light rail has become the preferred option for suburban railway investment in many European cities, this is because:

- LRT is bout 15-20% cheaper than of more orthodox rail investment
- It utilizes wasteland and obsolete railway track.
- The visual impact of light rail is fairly small.
- LRT's ease urban congestion and reduce air pollution
- The system continues to operate cost - effectively at off-peak times
- It is less environmentally destructive
- It is widely considered to project a better perception of urban life
- Elevated LRT's are powerful engineering statements (Edwards, 1997).

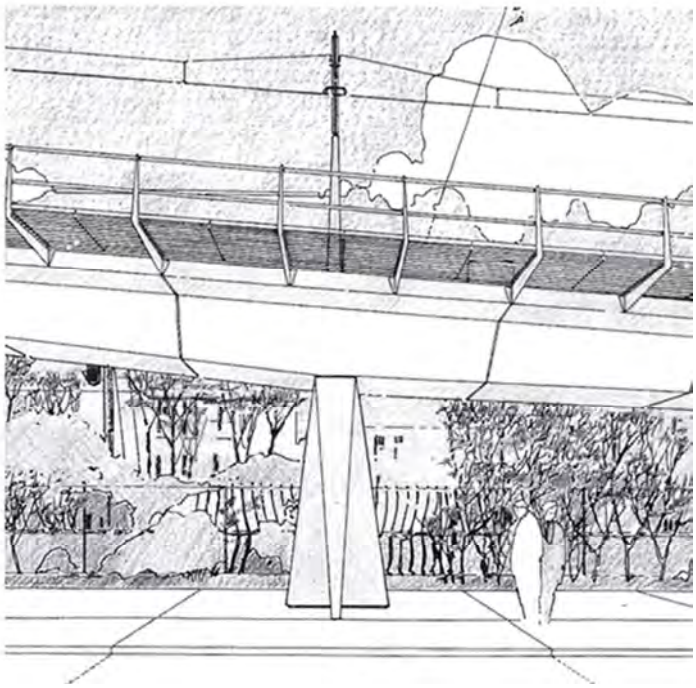


Plate 4: Raised LRT (Edwards 1997)

2.3 POSSIBLE SITES

The three sites below where identified as having the most potential for this project due to their central location and need for refurbishment, however the idea of refurbishing an existing station was ultimately rejected as it would only affect current railway passengers.

BEREA ROAD STATION

POINT NEW STATION

SOLDIERS WAY NEW STATION

Plate 5,6 &7: Possible Sites (Google Earth, 2010)

Project Description	Cost	Programme expenditure (R mill)		
		2009/10	2010-2015	Post 2005
Moses Mabhida Rail Station (PTI 1)	140	30.0		
Bridge City Rail line extension (PTI 2)	382.0		382.0	
Warwick Junction Bus Ranks (PTI 3)	186.2	50.0	136.2	
Nkosi Albert Luthuli Hospital Rank (PTI 4)	9.0			9.0
Durban University of Technology Rank (PTI 5)	5.0			5.0
Cartwright Flats North Rank (PTI 6)	5.0			5.0
Isipingo Ranks (PTI 7)	5.0			5.0
Merebank Station Rank (PTI 7)	4.0			4.0
Amanzimtoti CBD Rank (PTI 7)	4.0			4.0
Phoenix CBD Rank (PTI 7)	4.0			4.0
Umhalanga New Town Centre Taxi Rank (PTI 11)	5.0			5.0
Tongaat Rank (PTI 12)	5.0			5.0
Verulam CBD Rank (PTI 13)	5.0			5.0
KwaMnyandu Taxi Rank (PTI 14)	4.0			4.0
Mangosuthu Highway/Taxi Rank (PTI 15)	5.0			5.0
Clermont (Zazi Road) Taxi Rank (PTI 16)	4.0			4.0
Newtown (Mzinyathi Road) Taxi Rank (PTI 17)	4.0			4.0
Wyebank Taxi Rank (PTI 18)	4.0			4.0
Embo (Fischer Road) Taxi Rank (PTI 19)	4.0			4.0
Georgedale Taxi Rank (PTI 20)	3.5			3.5
Mpumulanga (Sankontshe) Taxi Rank (PTI 21)	4.0			4.0
Umzinyathi (M33/P100) Taxi Rank (PTI 22)	3.5			3.5
Umgeni/Churchill Road Holding Area (PTI 23)	5.3		5.3	
Canberra/Williams Road Holding Area (PTI 24)	5.3		5.3	
Western Holding Area at Westridge (PTI 25)	5.3		5.3	
PROGRAMME TOTALS	*811.1*	*80.0*	*534.1*	*87.0*

Figure 3: Stations Marked for Refurbishment (ITP 2010)

2.4 OPERATIONAL REQUIREMENTS

Standard Metro Trains are 9 coaches long and carry 1080 passengers; LRT trains only have capacity for 296 people. Due to the trains high level of autonomy, different trains can travel much closer together, that coupled with the low number of passengers that would need to disembark, allows a greater frequency in train arrivals.

Element	Unit	Value
Main Circulation Area	M^2/Person	1.4
Average Speed of Passenger	Meters/Minute	69
Flow Rate	People/Meter/Minute	33
Ticket Window Capacity	People Served/15 Minutes	143

Figure 3: Stations Marked for Refurbishment (ITP 2010)

CHAPTER 3 CASE STUDIES

3.1 AREAS OF STUDY

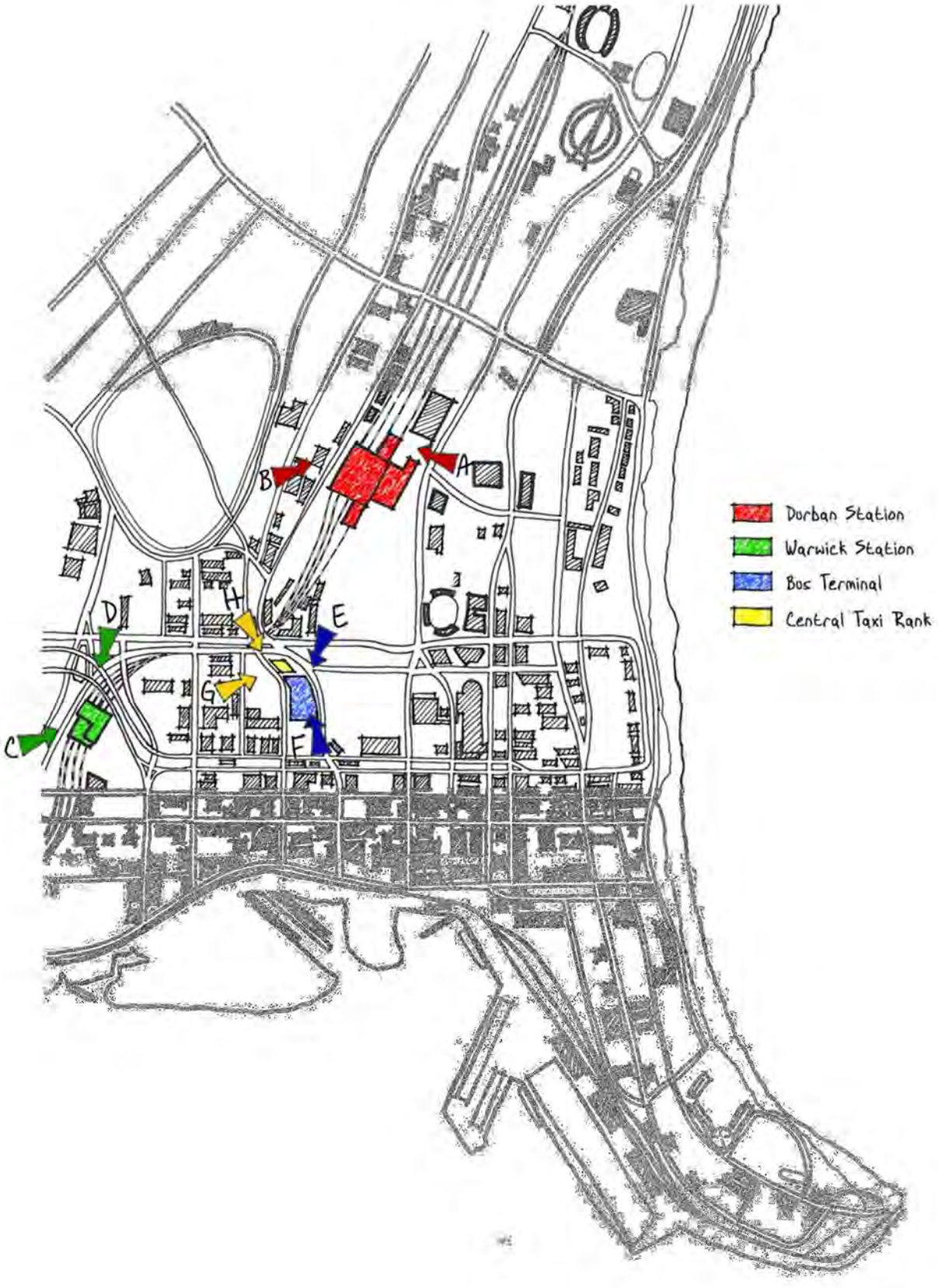


Figure 4: Durban and Surrounds (Author, 2010)

Plate 8: Image A, Durban Station - NMR (Google Earth, 2010)

Plate 9: Image B, Durban Station - Umgeni Road (Google Earth, 2010)

Plate 10: Image C, Warwick Station – Warwick Place (Google Earth, 2010)

Plate 11: Image D, Warwick Station – Canongate Road (Google Earth, 2010)

Plate 12: Image E, Durban Bus Terminal – Soldiers Way (Google Earth, 2010)

Plate 13: Image F, Durban Bus Terminal – Victoria Street (Google Earth, 2010)

Plate 14: Image G, Durban Central Taxi Rank – Field Street (Google Earth, 2010)

Plate 15: Image H, Durban Central Taxi Rank – Leopold Street (Google Earth, 2010)

3.2 BEREA WARWICK JUNCTION

Warwick Junction is considered to be one of South Africa's busiest transport nodes, its pulsating and energetic atmosphere is hampered only by the crime and unhygienic conditions. The transport interchange includes Berea Rail Station, the Victoria Street Bus Terminus, taxi ranks and multiple surrounding formal and informal markets.

Originally designed as a transport interchange on the edge of the 'white only' city centre during apartheid, Warwick Junction acted as a means of bringing labourers and domestic workers into the city. The site is situated between the West Street Cemetery and the Indian fruit and vegetable market and is split by the N3 Eilat Viaduct overhead.

Both Queen Street on-ramp and Victoria Street off-ramp were left uncompleted and later developed into sheltered walkways for trader stalls by connecting the ramps with pedestrian bridges. This also created a physical connection for pedestrians between the Victoria Street Bus Terminus and taxi ranks.

While this achievement has remained somewhat controversial the elegant simplicity and subsequent success of the new 'Ramp Markets' cannot be disputed. The ramps are shaded using lightweight structures of shade cloth and wattle branch creating an ephemeral quality which enhances the temporary feeling of the markets.

Plate 16: Pedestrian Bridges (Dobson, 2001)

Plate 17: Taxi ranks (Dobson 2001)

Plate 18: Mealie Trader (Dobson, 2001)

Plate 19: Shacks (Dobson, 2001)

Almost 60% of Durban's inner city traders are accommodated within Warwick Junction and its surrounding markets providing for almost half a million passengers who pass through the area daily.

Warwick Junction Daily Allowances:

130 000 daily taxi departures with 2000 taxis,

140 000 daily departures on train and bus

8000 market and kerb-side traders

1200 bags of rubbish daily

(Veldsman, 2004: 56)

Plate 20: Market Ramps (Veldsman, 2006)

Plate 21: Market Ramps (Veldsman, 2006)

Plate 22: Herb Traders (Dobson, 2001)

Plate 23: Markets (Dobson, 2001)

23 000 customers come through a 70m2 formal sector every week, generating a yearly turnover of approximatelyR1 billion only 15% less than that of the Pavilion's. The Herb Traders Market has 500 stall keepers with approximately 14 000 periphery employees outside the Market and an annual turnover of R200 million. With these huge amounts of turnover being conducted every day it must be stated that the current conditions at the station cannot be the only reason that investors have stayed away but rather something much more profound.

3.3 DURBAN STATION

Durban Main Station is the most centralised of the cities stations, however it still remains towards the outskirts of what was considered to be the white's only area. The station is the archetype for railway stations constructed in response to social instability of the time.

This monolithic structure of reinforced concrete and trabeated beams is more reminiscent of Egyptian architecture then the lightweight shed structures of Europe and Northern America. This format of station design has been widely used in South Africa since the mid-20th century in an attempt to make publically impressive buildings that would be robust enough to withstand any vandalism from the subjected commuters, instead the totalitarian nature of these buildings contributed to the sense of oppression felt by the black community.

In recent years an attempt to revitalise the stations has resulted in what can only be described as a commercial facelift. This left the interior of the building dark and uninviting while the 'shopping mall' like finishes have only succeeded and creating a 'clean' space that remains clinical and barren.

Plate 24: Walkways
(Author &Dobrev, 2010)

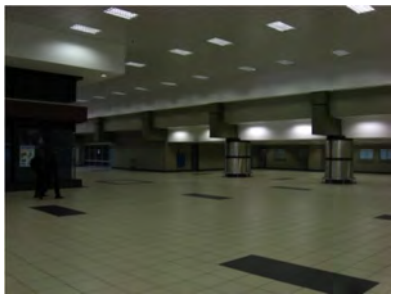


Plate 24: Interior gathering space
(Author &Dobrev, 2010)

Plate 24: Monolithic Columns
(Author &Dobrev, 2010)

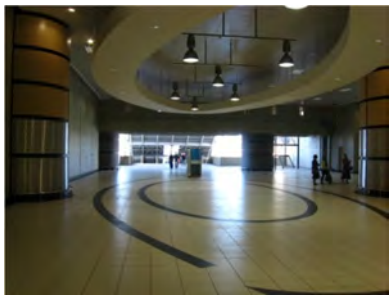


Plate 25: Entrance Out
(Author &Dobrev, 2010)

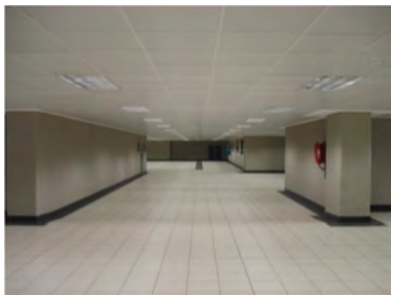


Plate 26: Stark Spaces
(Author &Dobrev, 2010)

Plate 27: Entrance
(Author &Dobrev, 2010)

3.4 MOSES MABHIDA STATION

Costing almost 150 Million Rand the Moses Mabhida Station is the newest addition to Durban's railways and makes a palpable attempt to move away from the South African archetypal station discussed previously.

The building however has not attempted to revitalise or in fact reinvent the grandeur of industrial aged stations. Instead the building appears subdued within its setting as a reaction to the monumental Moses Mabhida Stadium or perhaps even as a riposte to the oppressive buildings of the past.

Whatever the reason maybe, it must be said that the design of the Moses Mabhida Station is a huge step forward in regards to how station design can be adapted to the needs of its people, something which has been missing from this country for way too long.

Plate 28: Platform Stairs
(Author & Marsh, 2010)

Plate 29: Platform
(Author & Marsh, 2010)

Plate 30: Umgeni View
(Author & Marsh, 2010)

Plate 31: View too Stadium
(Author & Marsh, 2010)

Plate 32: Entrance
(Author & Marsh, 2010)

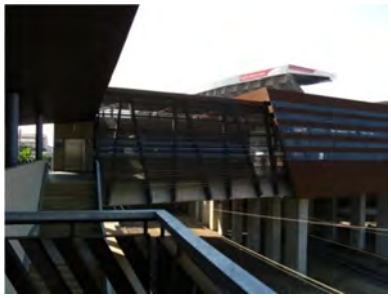


Plate 33: Walkways
(Author & Marsh, 2010)

CHAPTER 4 PRECEDENT STUDIES

4.1 STRATFORD JUBILEE LINE EXTENSION

MOTIVATION OF STUDY: The Stratford Jubilee line station includes multi-transport connections, sustainable design interventions, an interesting interpretation of Victorian shed structures and acts as a catalyst for revitalization within the dilapidated east end of London.

The Intention of the jubilee line at Stratford was to create a transport interchange that would act as a catalyst for vitalizing an area of London. The station extension in Stratford integrates function, structure and climate control considered by the architects to follow the organic and symbiotic qualities of a tree within its environment.

Upon winning the tender the Architects were faced with a very complicated problem of making a station that would link several separate rail systems including three underground lines, part of the national rail system running approximately parallel to it and act as a terminus for the Jubilee Line Extension. To further complicate the design a portion of the channels river runs under part of the site and no interruptions to normal rail services could occur.

Wilkinson's response was to design a rectangular shed like structure parallel to the embankment of the Central Line. The shed Structure is contained within a glass wall facade, with sun protection provide by large roof overhang along the south eastern facade.

Plate 34: Stratford at Night (McKnight, 1999)

Plate 35: Stratford During the Day (McKnight,1999)

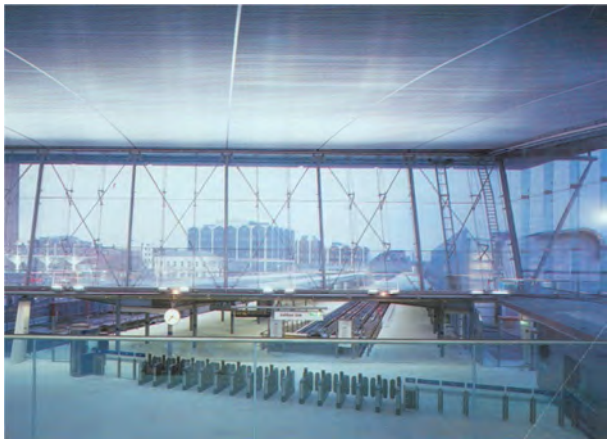


Plate 36: (McKnight, 1999:)

Plate 37: External Facade (McKnight, 1999)

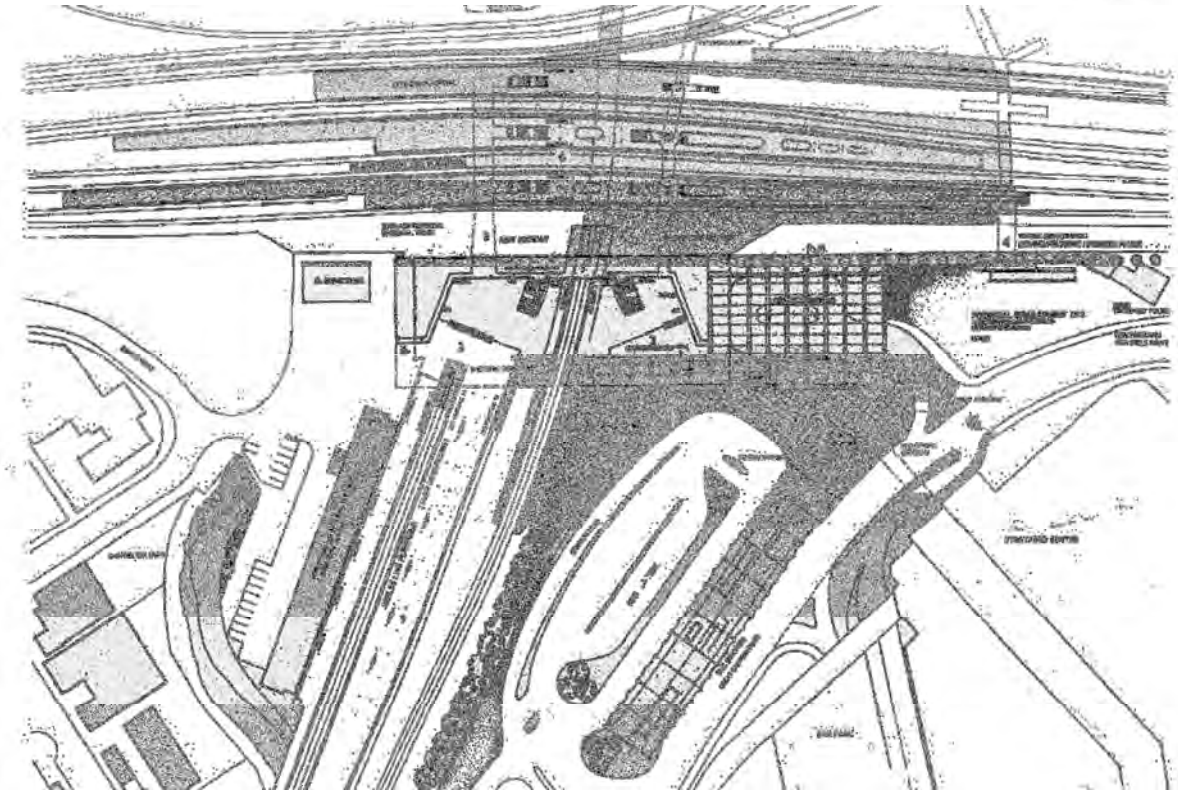


Figure 5: Ground Level Plan (Davey, 1999)

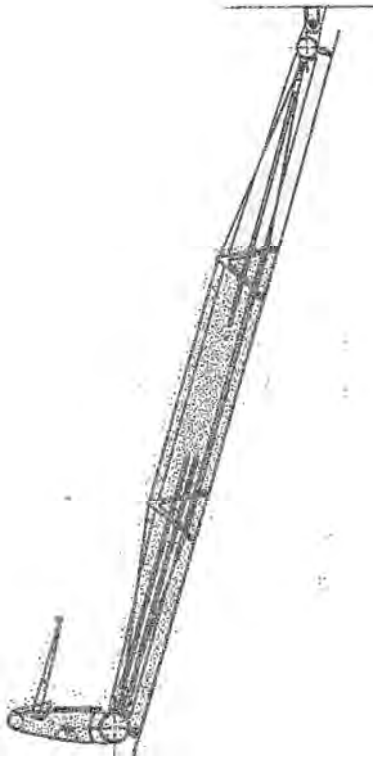


Figure 6: Glass Wall Detail (Davey, 1999)

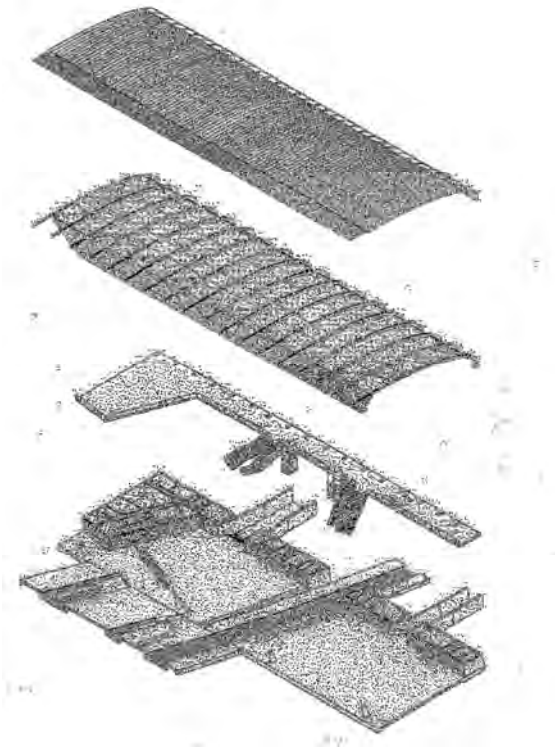


Figure 7: Dissected axonometric (Davey,1999)

The space within the newly designed glass shed is bisected by the North London Line under the lines up on the embankment where an east and a west concourse on each side of tracks has been provided. These concourses have been linked by an overhead walkway which is reached by the stairs escalators and lifts for maximum accessibility lifts. While connections to the platforms on the embankment are linked by pedestrian subways of precast box sections and lifts.

While the description provided might only be understandable upon consultation with the plans, reports claim that the station well designed and sign posted allowing users to navigate the sight with ease. Upon personal inspection, this claim was confirmed, as with no previous knowledge of the stations design and planning, orientation was simple and instantaneous.

Orientating within the city of Stratford has been made much clearer thanks to the buildings form and alignment to the tracks. A series of curved plate girder ribs which taper in cross-section along their length in both depth and width emerge from the back of the concrete upper level walkway against the embankment. Each of which is attached to inclined steel posts that taper at both ends, linked by horizontal members and diagonal bracing to form a sort of Vierendeel truss that runs along the main facade of the building and supports the glass facade. The entire load of the structure is then supported by four massive piers designed to withstand the impact of an train accident and positioned to avoid both the rail tracks and river.

The station is bathed in indirect daylight during through the glass wall on the south east and the curved glazed cladding that adorn the girders at the upper level walkway. During the evening, floodlights that run along the bottom of the main glass, illuminating the beautiful silver ceiling from the inside and create a glowing beacon from the when view from the exterior. This effect is aided further by the use of down lighters to illuminate the shops and cafe on ground level.

Ventilation within the new structure is achieved using grilles which admit air to the spaces between the plate-girder ribs at the outer edge and inner edges of the roof, allowing for natural cross ventilation. The roof itself contributes to the stations sustainability by acting as a convection mechanism drawing air through the ventilation grilles. This essentially means that the hotter the day the more efficient the ventilation becomes creating a remarkable example of a passively controlled internal climate.

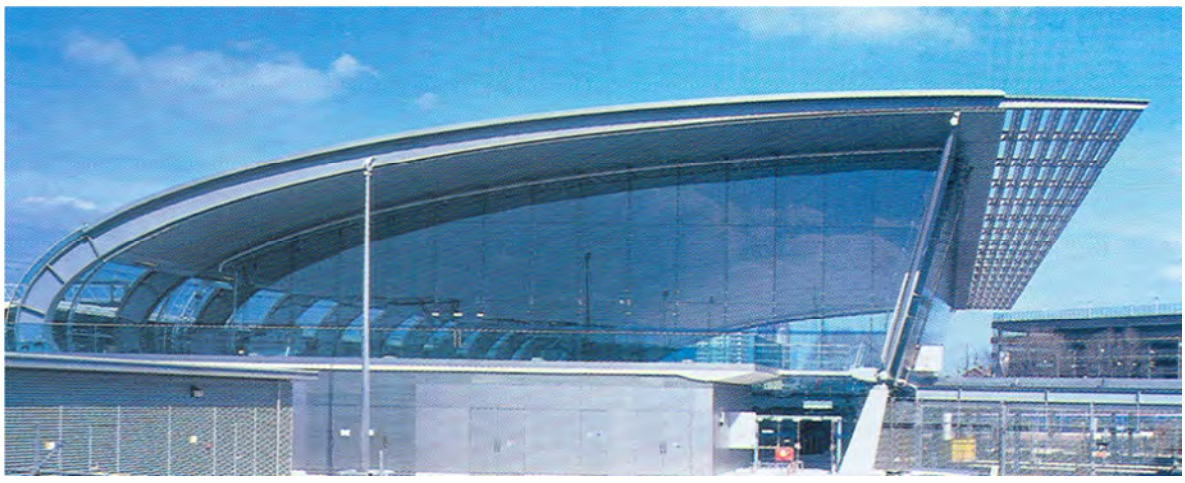


Plate 38: Eastern Face (McKnight, 1999)

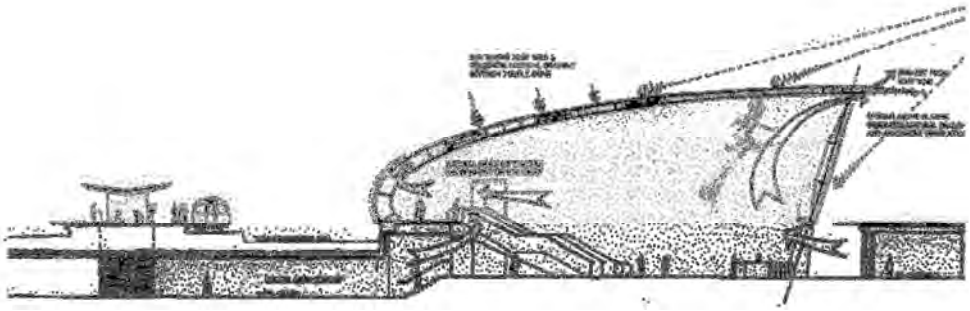


Figure 8: Principles of Convection Cooling (Davey, 1999:)

Figure 9: Principles of Artificial Illumination (Davey,1999: 58)

4.2 LYONS AIRPORT RAILWAY STATION

MOTIVATION OF STUDY: The Lyons Airport Railway Station of Santiago Calatrava has been primarily included due its expressive design and image as a public building. However the station does include multi-transport connections, sustainable design interventions, an interesting interpretation of Victorian shed structures and acts as a catalyst for revitalization within the dilapidated east end of London

The Lyons Airport Railway Station was built across an existing TGV (high-speed train) in order to provide a TGV station for the airport and act as a connection point for both TGV and airplanes into the regional road and rail system.

Plate 39: Main Arch Photograph (Glynn, 2004)

Plate 40: Interior Photograph (Glynn, 2004)

The building is constructed using two mirrored converging steel arches 120 meters long and 40 meters wide, creating an obvious visual allegory of a bird in flight similar to that of Saarinen's TWA terminal in New York. Despite this obvious and presumably suitable interpretation, Calatrava insists he had no intention to imply this imagery,

"I never thought of a bird, but more of the research that I am sometimes pretentious enough to call sculpture - which is inspired more by the shape of the human eye" (Glynn, 2004)

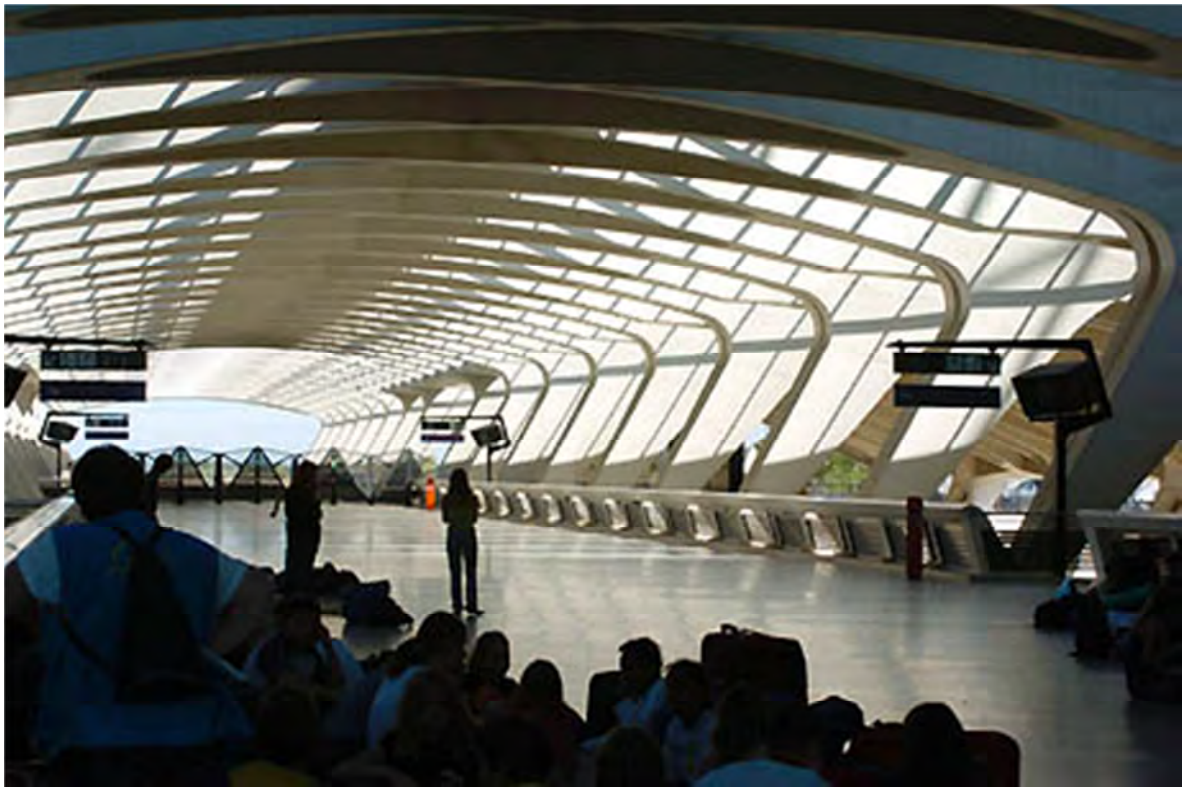


Plate 41: Interior Photograph (Glynn, 2004)

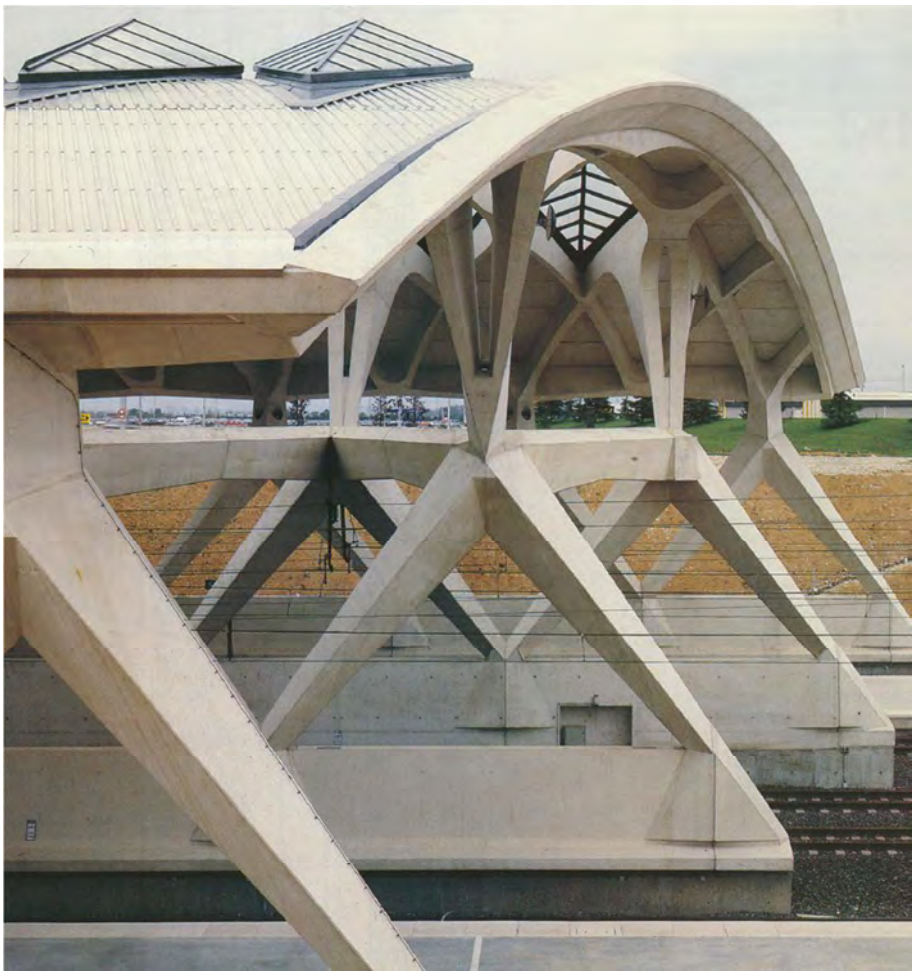


Plate 42: Platforms (un-referenced)

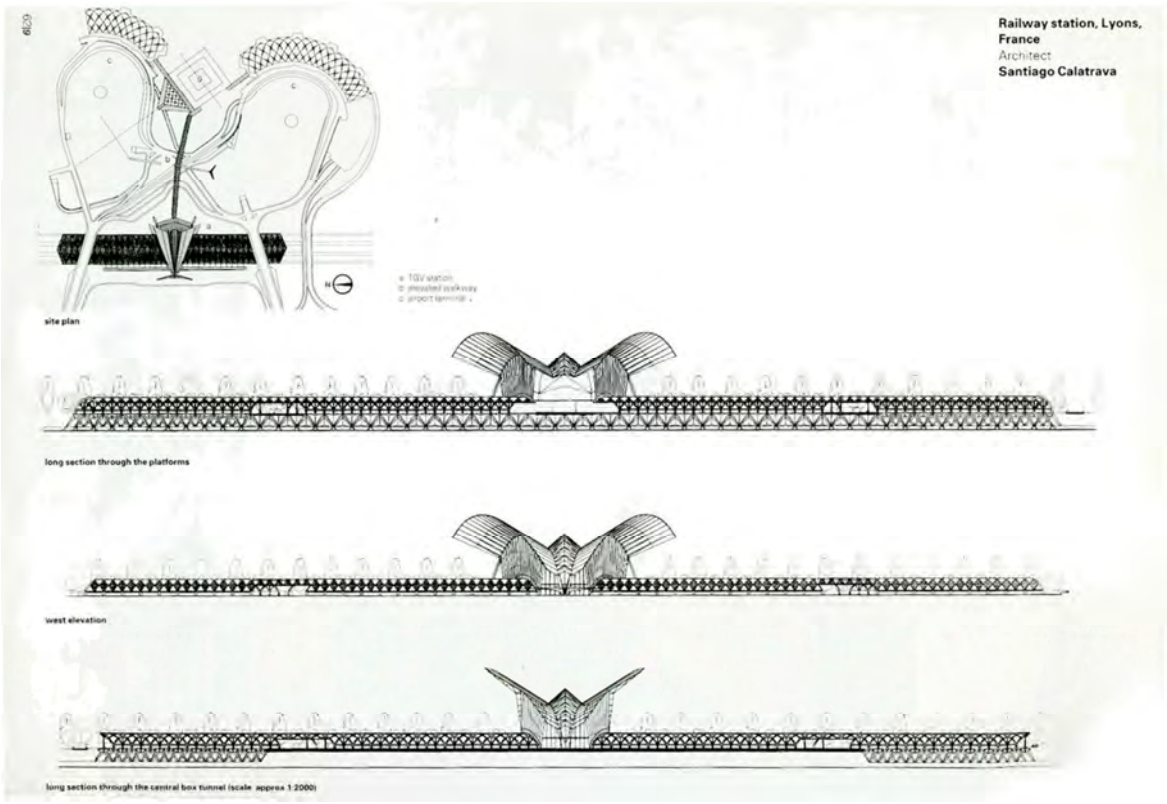


Figure 10: Drawings from bottom: Central Section, West Elevation, Platform Section and Plans levels (un-referenced)

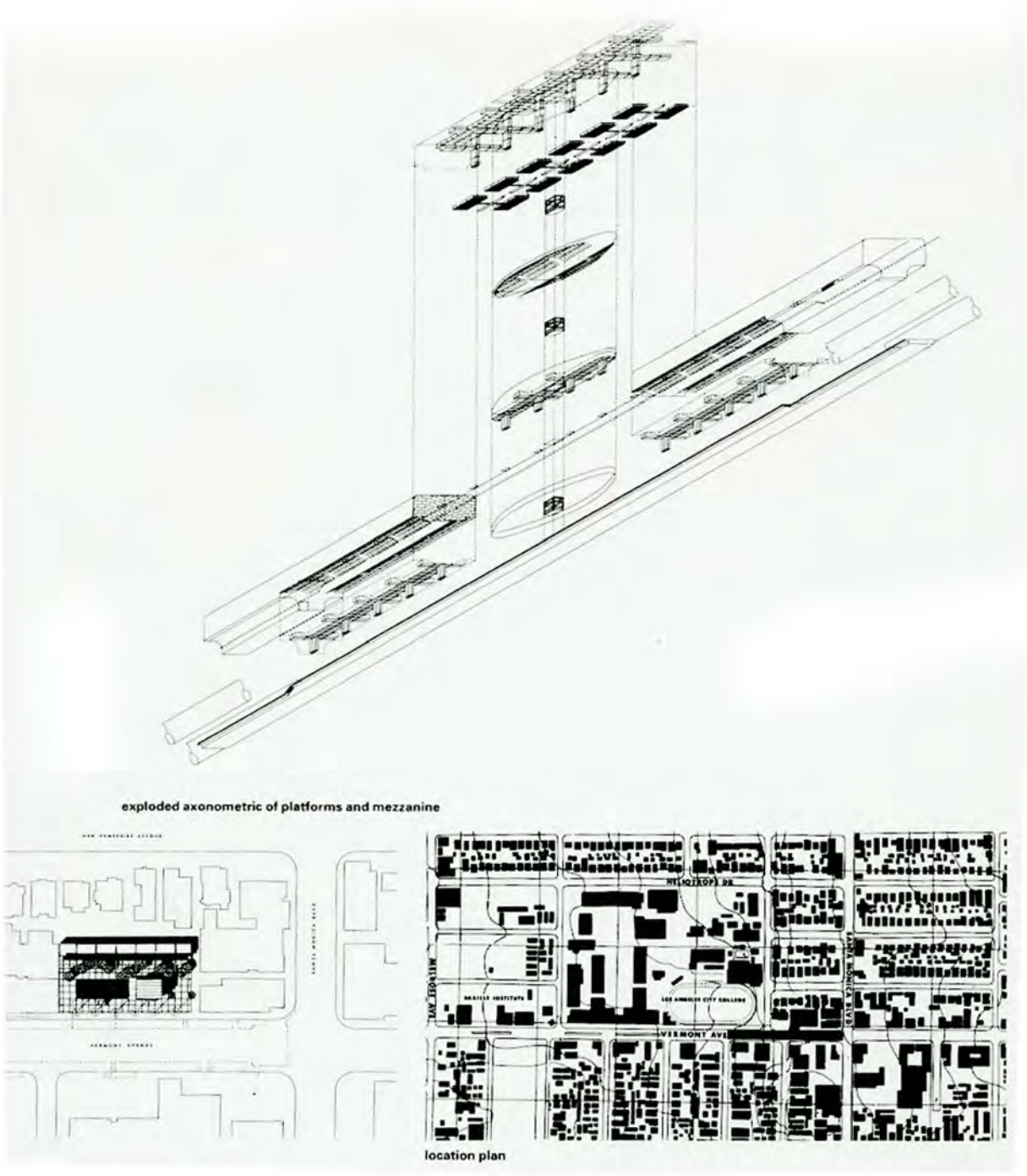


Figure 11: Drawings from bottom: location plan, Exploded Axonometric (un-referenced)

Plate 43: Interior Platform Photograph (un-referenced)

Plate 44: Interior Platform Photograph (un-referenced)

Plate 45: Interior Platform Photograph (un-referenced)

4.3 CANNING TOWN STATION

MOTIVATION OF STUDY: Like Stratford Canning Town line station includes multi-transport connections. Canning Town Station, however, must also deal with transport that is below ground, at ground level and above within the confined and Historic City of London.

Canning Town Station is situated within London's East End and incorporates a very complicated interchange; however the station size, site restraints and raised light rail link are essential to this design proposal. The station accommodates five transport systems including the British Rail, Jubilee Line, North London Line, City Airport' and London Transport buses, and most importantly the Docklands Light Railway.

The site for the new station was heavily restricted due to its situation between a major city road and the tidal inlet of Bow Creek. This is further complicated by 4000 Watt transmission lines that act as major power arteries within the city and run directly above the site. It was also dictated that the Docklands Light Rail should be placed over the Jubilee Line Extension and British Rail lines at ground level.

Plate 46: Jubilee and Docklands Platforms (Davey, 1999)

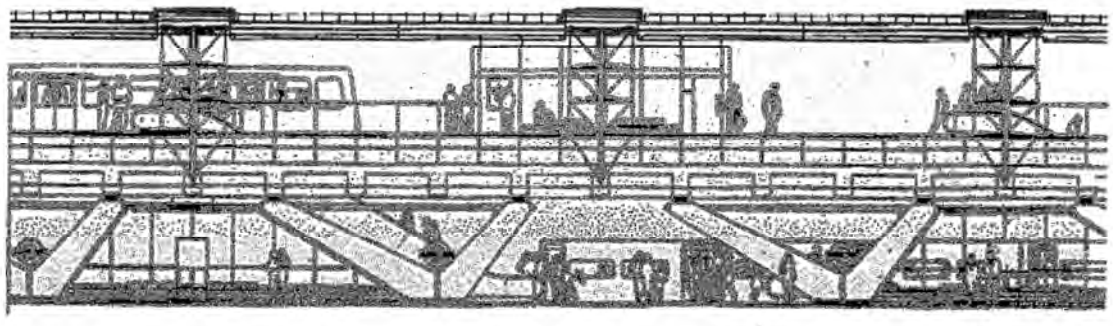


Figure 12: Detailed Jubilee and Docklands Elevation (Davey, 1999)

The Docklands Light Rail is supported using Y-shaped precast concrete struts that originate from the Jubilee Line platforms below. These struts support a large deck constructed from post-tensioned elements, creating a glued segmental structure that allows for the assembly to take place without the need for large cranes, which would have become tangled up with the overhead power lines. Each of the individual platforms is visually related to the others and to the building as a whole by a family of aerofoils, Glass and aluminium finishes, canopies and roofs.

Plate 47: Detailed Jubilee and Docklands Elevation (Davey, 1999)

Figure 13: Detailed Jubilee and Docklands Elevation (Davey, 1999)

The entrance to the building is located at the centre of a traffic island, from which pedestrians can either walk along to the bus station or descend stairs, escalators or a lift that lead towards the subway and railway ticket hall below,. This in turn links the ticket hall with an underground concourse and the platforms above.

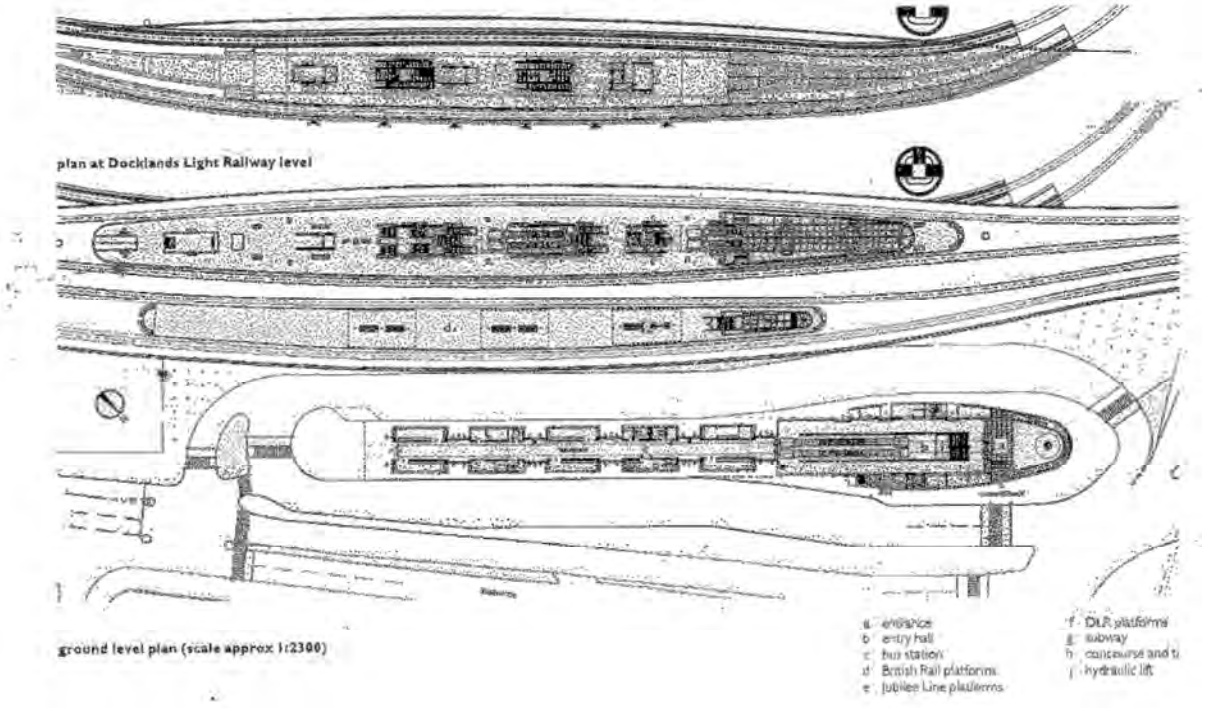


Figure 14: All Plans (Davey, 1999)

Both The ticket hall and the concourse are illuminated using skylights made of large glass sheets hung from Central beams in cast stainless-steel brackets. These lights provide dramatic views through the roof of the ticket hall and the DLR viaduct overhead while bringing natural daylight into the lowest levels of the building.

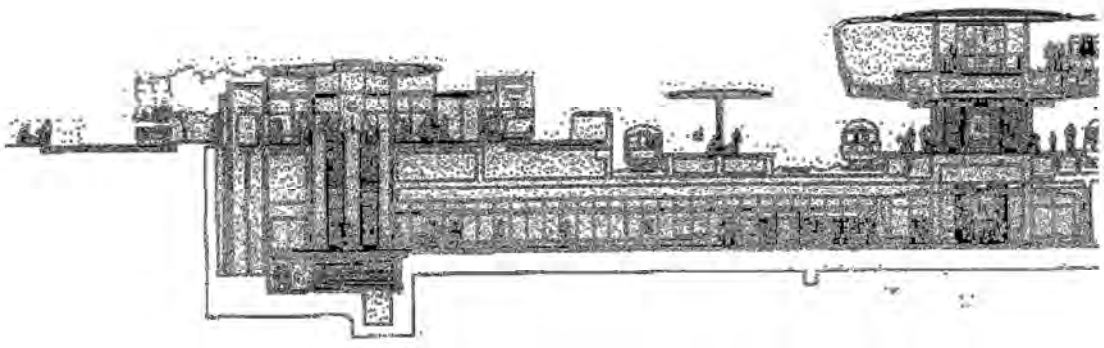


Figure 15: Cross Section (Davey, 1999)

4.4 YOKOHAMA INTERNATIONAL PORT TERMINAL

MOTIVATION OF STUDY: The Foreign Office Architect's Yokohama International Port Terminal articulates its role beautifully within its setting.

The building also provides a combination of civic facilities for public use within the same structure, acting as a central expedient of the public spaces that run all the way along the water front.

Due to its importance as a public building and as a public space the roof of the structure acts as an open plaza, continuing with the surface used in the surrounding Yamashita and Akaranega Parks.

The design of the building was simply generated using a circulation diagram that aspires to eliminate piers and allows for the directionality of the circulation.

Plate 48: Aerial Photograph (Frère, 2002)

Plate 49: Ocean View Photograph (Frère, 2002)

Plate 50: Street View Photograph (Frère, 2002)

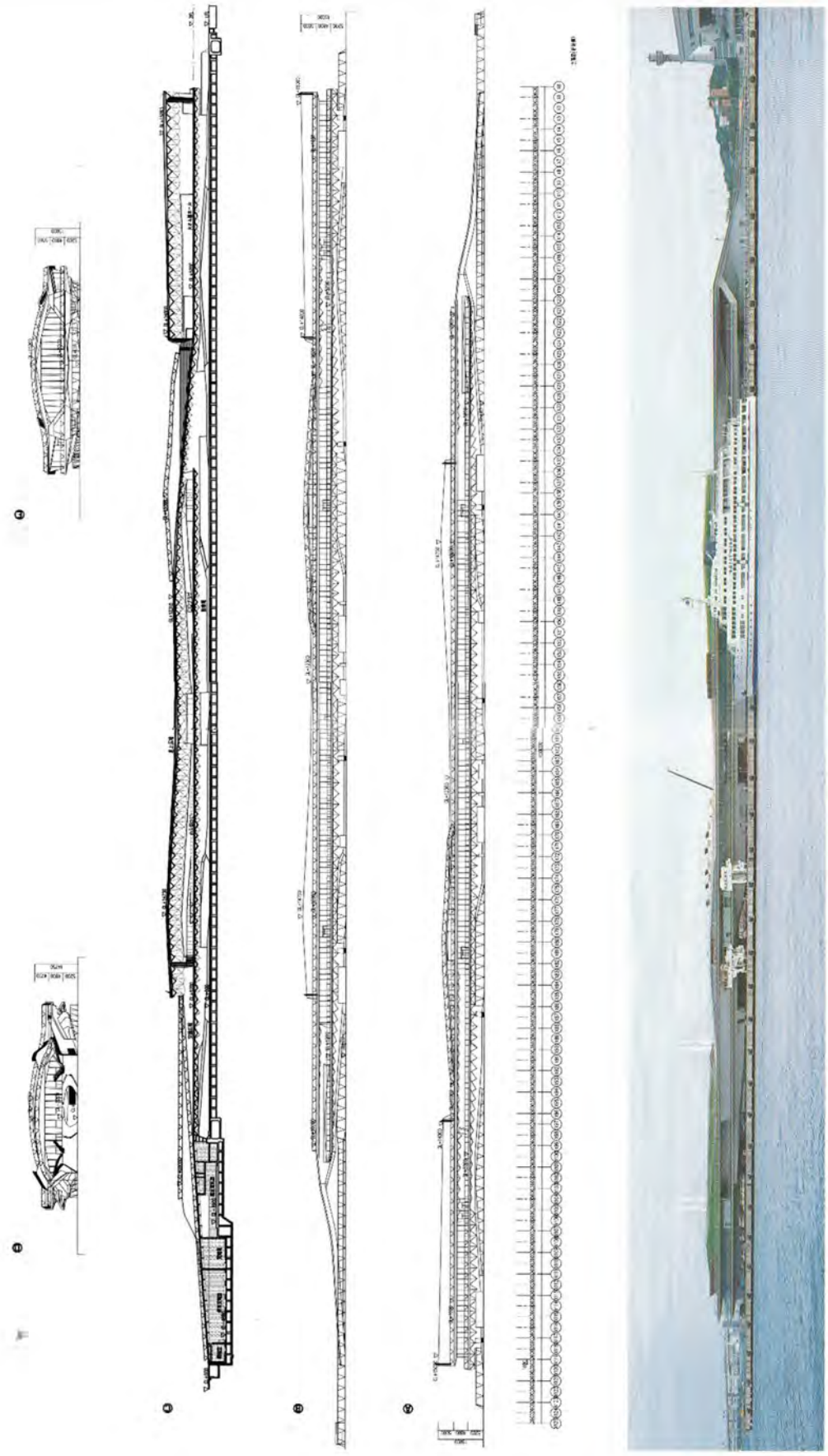


Figure 16: Elevations and Sections (Frère, 2002:)

4.5 WATERLOO INTERNATIONAL TERMINAL

MOTIVATION OF STUDY: Designed by Nicholas Grimshaw and Partners, the extension of Waterloo Station serves as an international terminal for the Eurostar trains services through the Channel Tunnel to Paris and Brussels.

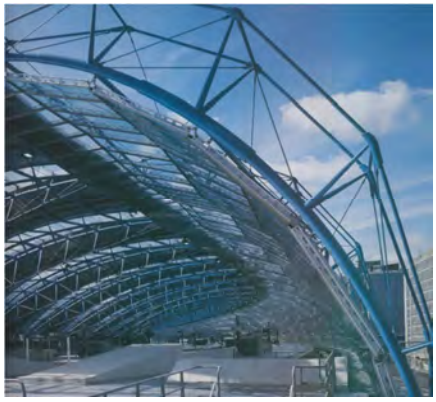


Plate 50: Interior Photograph (un-referenced)

The addition has been encased by a long curved glass roof structure of about 400 metres in length and was determined by the length of the trains and the curve of the five new tracks of the Eurostar service and accounted for 10% of the total cost.

The international terminal at Waterloo incorporates multi-transport connections and multiple levels. While the station is much larger than that which has been proposed, its interpretation of Victorian shed structures, and symbiotic relationship with the historic station of waterloo make it a very valuable reference in regards to this proposal.

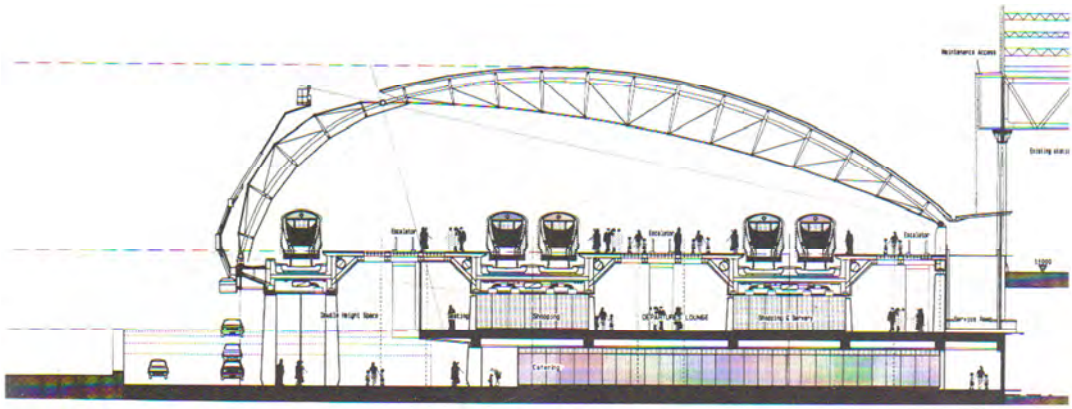


Figure 17: Conceptual Section (Wilkinson, 1991:)

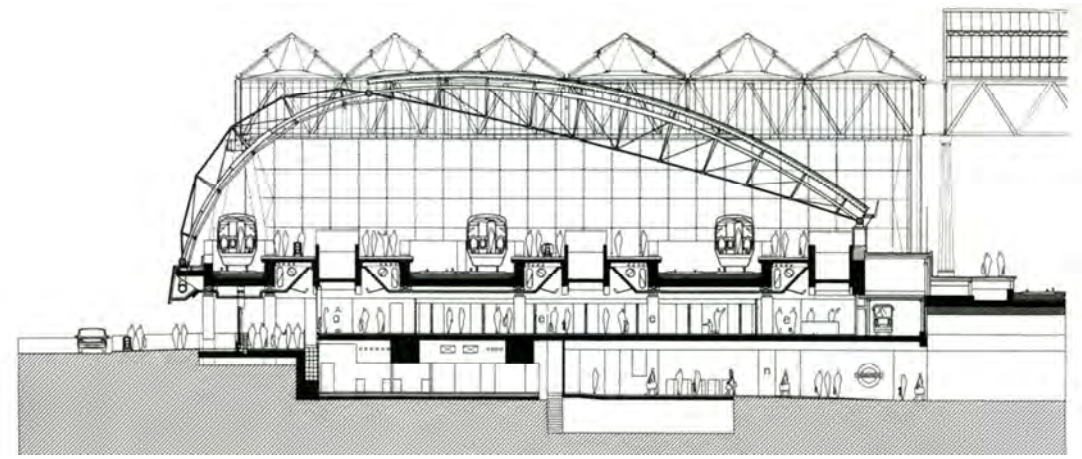


Figure 18: Section through ticket office (un-referenced)

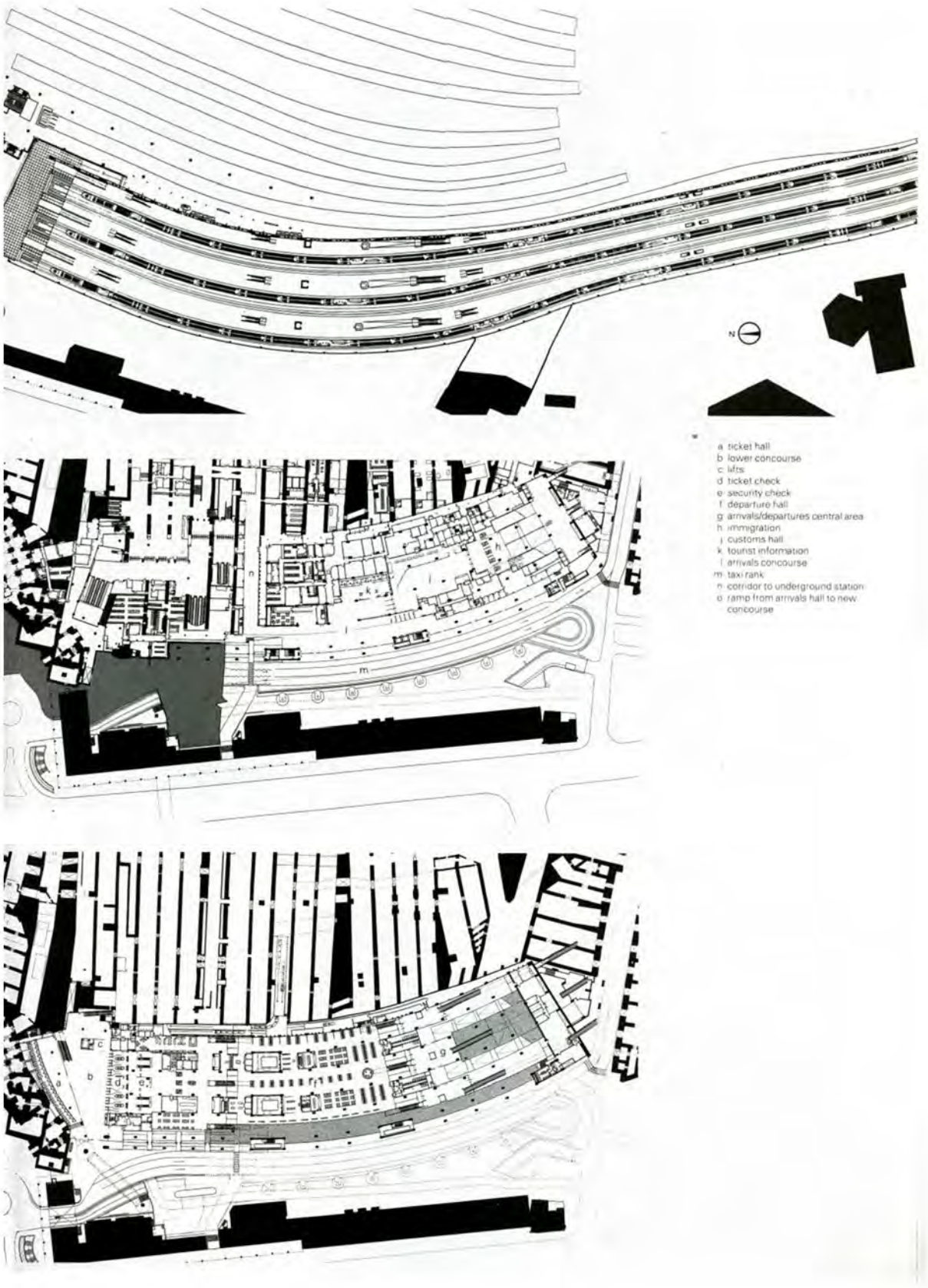


Figure 19: Plans from bottom left: Arrival Departures and Platform levels (un-referenced)

4.6 PAST PRESTIGE PICTORIAL

As this design project deals with the aspects of interpretation in regards to architecture, an investigation into the different forms and technologies must be conducted in order to gain insight into the assigned meaning that has evolved within shed architecture.

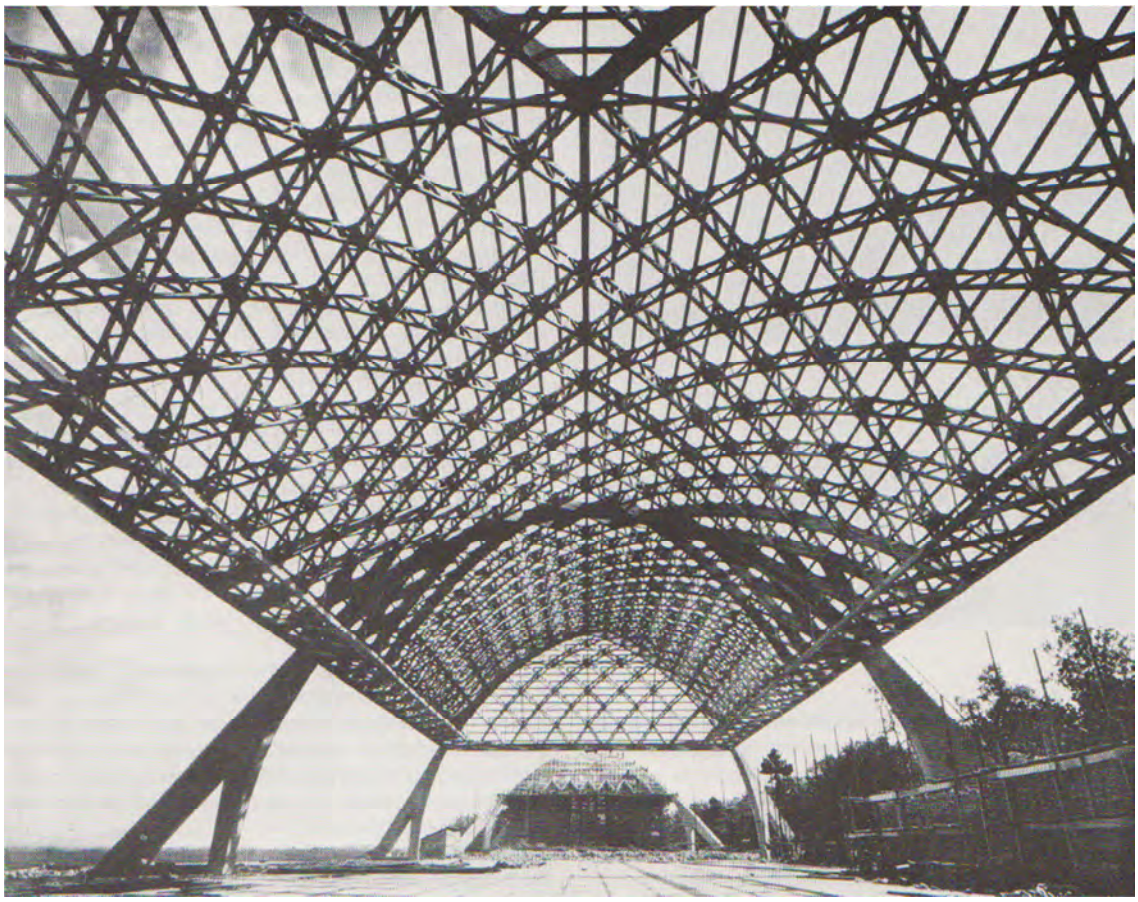


Plate 51: Air force Orveito Hanger (Wilkinson 1991)

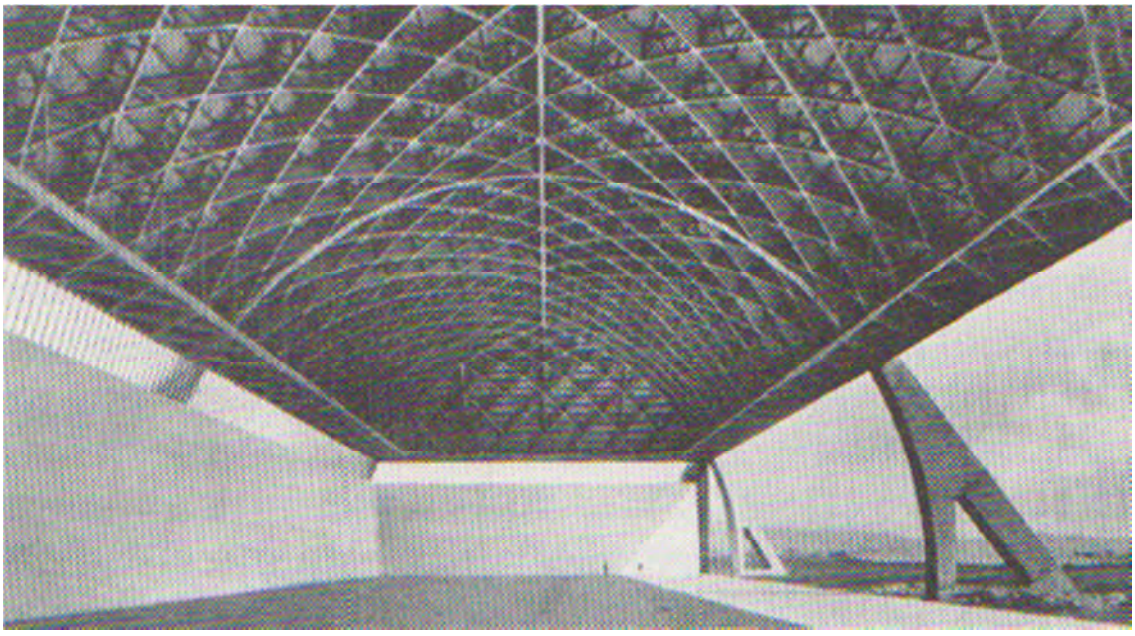


Plate 52: Air force Orveito Hanger (Wilkinson 1991)

Plate 53: Brighton Station (Hamm 1984)

Plate 54: Brighton Station (Hamm 1984)

Plate 55: Euston Station (Binney 1979)

Plate 56: Leipzig Station (Hamm 1984)

Plate 57: Milan Station (Hamm 1984: 78-79)

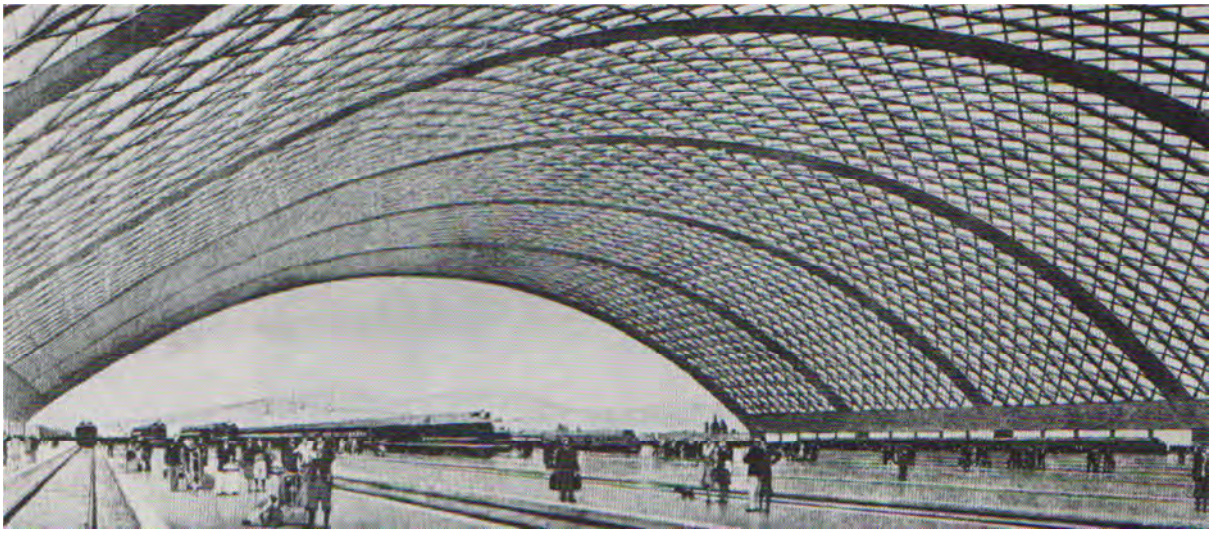


Plate 58: Pier Luigi Nervi (Wilkinson 1991)

Plate 59: St Pancras Station (Binney 1979)

Plate 60: York Station (Hamm 1984)

CHAPTER 5 BRIEF AND ACCOMMODATION SCHEDULE

5.1 DOGMA

In order to promote train travel, the negative preconception of the non-using public must be overcome. This cannot be achieved through a simple re-dressing of older stations, were past mistakes still echo through the winds of Durban's population.

Following on from the success of the Gau Train, a new form of people mover would create the opportunity for public transport to be more available to all the cities inhabitants as a true product of the New South Africa free of any historical faults and ultimately becoming an icon for the city of Durban.

The design of a new transport Interchange that connects this new mode of transport to those already in operation will establish a dialog between the two, helping to abolish the negative perceptions of the past while introducing a greater demographic to the benefits of public transport.

5.2 URBAN DESIGN OVERVIEW

The introduction of a people mover to the city of Durban creates a great opportunity for urban regeneration. By establishing stronger gateways, increasing free spaces, pedestrian linkages and the connections between the previously segregated parts of the city, the urban design scheme HEART OF THE CITY aims to reverse the decline of Durban's CBD. The scheme incorporates the design of a new city centre connected by strengthened linkages and the inclusion of a monorail system suggested in the (ETA 2005).

The idea of bringing heavy rail back into the city centre has been replaced by an LRT due to its ability to utilize the existing railway network, its comparatively low cost, Its ability to climb steep inclines and low impact on existing transport infrastructure, through the utilization of elevated tracks.

5.3 MOTIVATION OF URBAN DESIGN

In no other country does architecture and urban planning bear such vivid witness to history, to politics and to social division, and these deeply embedded traces of apartheid remain ubiquitous in South Africa today. The core of economic opportunity was surrounded by residential ring of whites, who had access to the best benefits of city life. The Semi peripheral area (majority Indians and coloureds) moderately well located areas, surrounded by buffer zones to create barriers, primarily railway tracks. The Blacks where even worse off, located in high density townships that lacked basic infrastructure and commercial activity originally built as temporary settlements to transition blacks to an entirely rural existence. After apartheid whites were too scared to stay in the city and non-whites couldn’t afford the land which resulted in a dead city (Dewar, 2004).

5.4 URBAN DESIGN BRIEF

Achieving urban transformation and property in South Africa was always going to be difficult, unlike the political transformation symbolized by the day that all South Africans went to the polls; the legacy of apartheid is deeply embedded in the urban form and structure of the city. This cannot be wished away or easily re-formed. The spatial structure of the apartheid city remains largely intact and the social and economic basis of society inevitably suffers from inertia.

However what makes a city distinguishable is its core, its heart, its CBD, bringing people together, instead of pushing them apart. The Life force of the city which unites from all social, cultural, racial, economic, political backgrounds to showcase the new South Africa. By Redeveloping the primary routes of the city and further establishing its centre a heart is created that connects and binds the city becoming a single entity as opposed to the fragmented city it currently is. It becomes a catalyst for future democratic development, not segregate but integrate.

Figure 20: Boundaries (Author, 2011)

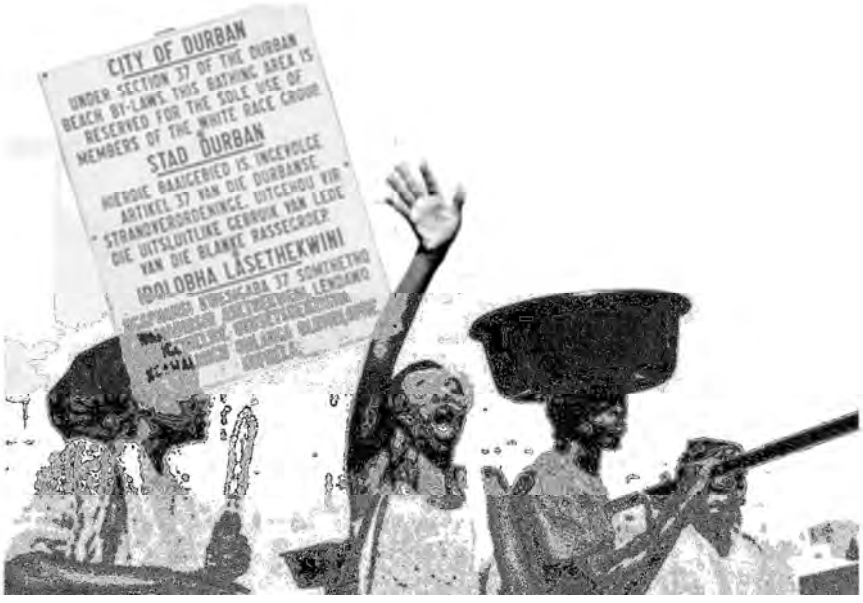


Plate 61: Protesters of Apartheid (Nightscales, 2010)

5.5 TRANSPORT INTERCHANGE BRIEF

MACRO

- Facilitate the goals set out by the ITP through the stations design.
- The station must function as the primary gateway and icon of the city centre.
- Coordinate the stations development with the Urban Design scheme and future planning efforts.
- Locate the station so as to encourage population growth and the future development of public transport.
- The station should contribute to an enhanced the city's pedestrian environment.
- Act as a catalyst for civic and landscaping improvements within the CBD.

MICRO

- The station must support inter-modal connections between trains, taxis, busses, cars and pedestrian linkages In accordance with the ITP 2010.
- The station should Integrate with and enhance the context and scale of the surrounding buildings.
- Address local material and building forms but avoid any historical lampooning.
- The station must relate to Durban's climate in accordance with the phenomenological aspirations set out in the dissertation.
- Connect with and offer visible and straight forward pedestrian connections and amenities.
- Provide weather protection for pedestrians at both platform and street levels.
- Place entries that activate and enhance the existing pedestrian environment.
- Provide retail, community, or similar displays at stations' street level.
- Provide safe crossings from adjacent streets.
- Minimize the station intrusion into existing public and private outdoor spaces, through the integration of activity nodes.
- Anticipate increased parking demand near stations, and provide for easy access drop-off areas.
- Design for bicycle compatibility, including both train access and at-station parking.
- Engage with the problem of noise pollution through architectural considerations.

Plate 62: Metro Rail Cape (Wikipedia.org, 2006)

5.6 PRELIM ACCOMMODATION SCHEDULE

Accommodation	Additional Information
Main Hall	Gathering space and circulation area
Ticket Sales	Sales cubicles, office, strong room, information kiosk, strong room, ticket management and turnstiles
First aid Room	Equipment storage and office.
Public Ablutions	Male, female, staff and disabled
Retail	Retail will be integrated into the surrounds and circulation space of the station, including formal retail space and more informal market stalls.
Bar	Possibility for more than one bar or even a nightclub in order to maintain a lively atmosphere at night.
Food Court	Restaurants and fast food outlets for shoppers, tourists and commuters
Satellite Police Office	An elevated observation point will provide security for the station and all its incorporated spaces including the market.
Administration	General Managers office, Maintenance Mangers office, Rail Technical Managers office, receptionist, and a records room
Platforms	The station will only consist of two platforms, traveling in two directions as is typical for LRT.
Commercial Office Space	In order to recoup some of the station costs and generate additional income let-able office space will be include in the design.
Parking	20 bays of staff parking, 200 bays public parking, 30 bays motorcycle parking
Taxis	The replacement taxi rank is markedly smaller than the original due to the regulations imposed by the ITP, the inclusion of the RB and LRT having significantly reducing the need for this mode of transport, two double width lanes allowing for multiple pickup points has been provided parallel to the bus lanes. A taxi waiting/wash-up area has also been provided been close to the pickup points yet out of the way.
RBS	As part of the new RAPID BUS SYSTEM the existing bus station on Soldiers way will be replaced by a smaller station area including 3 lanes with 10 individual bus stops and a waiting area.

Figure 21: Preliminary Accommodation Schedule (Author, 2011)

5.7 RELATIONSHIP DIAGRAM

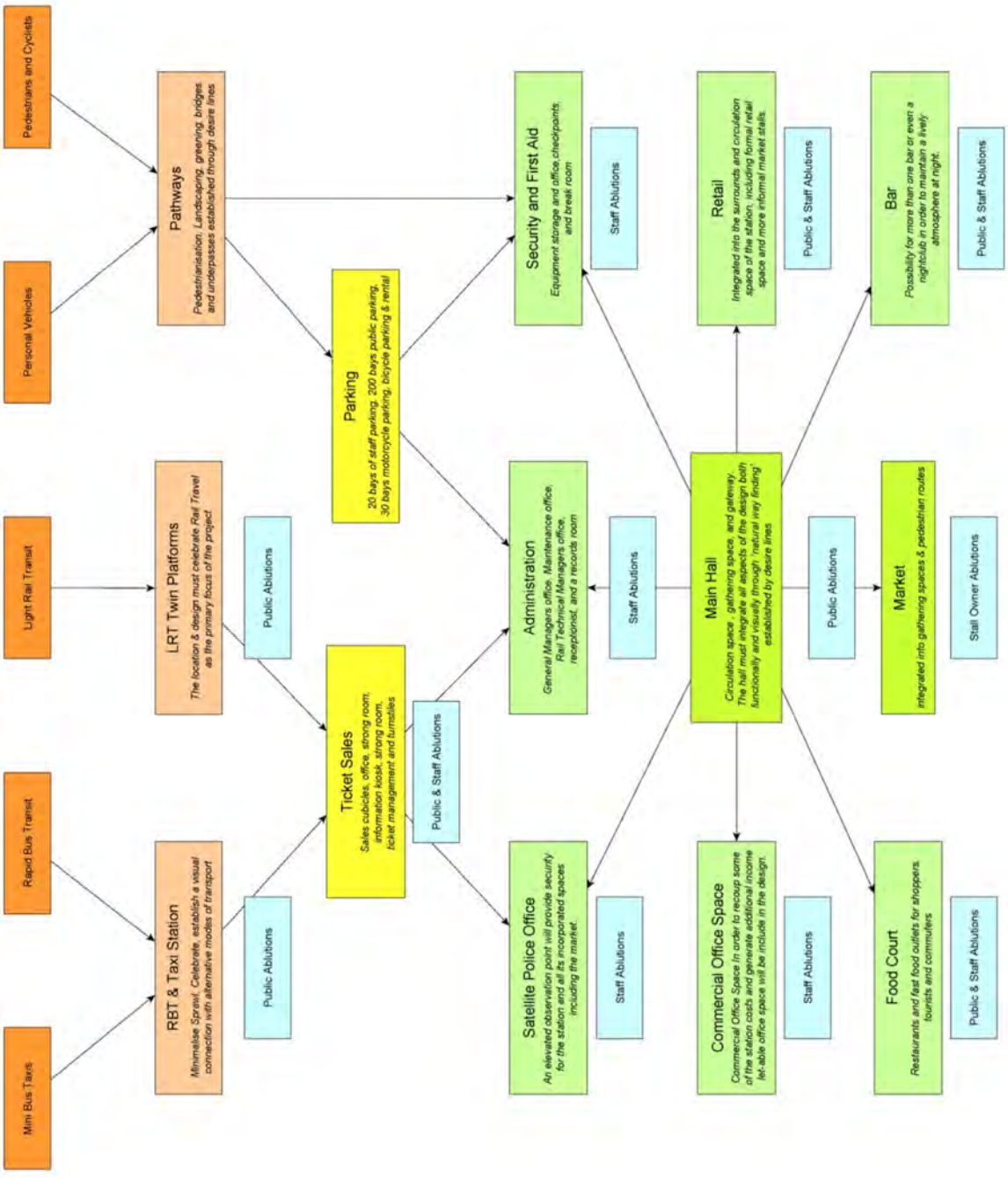


Figure 22: Accommodation Relationships (Author, 2011)

5.8 ACCOMMODATION SCHEDULE

Basements

The Basements will act as the main point of arrival for Park n' Ride users, while also providing parking for staff and the associated buildings.

- The Parking - was secondary in the initial planning of the building as pedestrians took priority. However the position of the parking's were subject to multiple column grids which provides for both the transport inter-change and auxiliary buildings with concessions made for staff parking and park n' ride facilities.
- The Train Station is designed with the existing railway network in mind to allow for easy and cost effective integration.
- Lower Basement: 124 Parking's
- Upper Basement: 96 Parking's, 20 staff parking's, 10 Motorcycle parking's.

Market

Cut into the ground to the level of the upper basement, the market places sits in an amphitheatre that celebrates the LRT platforms above and creates a soft boundary between the market place and the surrounding areas. The market place includes a community centre to deal with the bureaucratic aspects and the licenses of the traders as well as providing a meeting room for the community gatherings.

Ground Floor

The Ground Floor of the building serves as a natural convergence area between every aspect of the design; pedestrians to vehicles, trains to taxi's, inside to the outside, Heaven to earth, people with people, shops, buildings, the marketplace and the entire urban fabric are woven together at this point of human interaction. Access to the station is gained via wheel chair ramps, lifts and escalators.

- The bus and taxi Station - has replaced the existing bus and taxi station on Soldiers way, (a part of a ring of roads comprising, Braam Fisher, Ordinance Rd, Commercial Rd and Samora Machel street) providing maximum access to the public. The bus and taxi stations have both been greatly reduced in size due to the fact that the LRT system will essentially be taking most of the passengers. The bus and taxi station includes; four rapid transport stops for the buses and three double width lanes allowing for multiple pickup points parallel to the bus lanes. A taxi wash-up and bus waiting area as well as SANTACO offices are situated on the new road island formed by Soldiers way. These have been left conceptual at this stage however, due to the scale of the project
- Bus and LRT ticket sales A – The bus and ticket sales are situated near the main west entrance in order to provide for both the rapid bus stops and the LRT. The ticket sales area is a double volume space, accommodating six tellers, a manager's office, a safe room and public toilets.

- The Craft Market – Is situated between the marketplace and the bus and taxi station, and allows the craft market to make maximum use of any passing pedestrians. The craft market includes a manager's office, two trader toilets and security.
- Trading Stalls – Trading stores have been placed under both the West and East ramps in order to reclaim lost space and provide optimum placement for pedestrians to walk buy and purchase goods.
- Satellite police station - A small satellite police station provides security for both the station and the surrounding urban development. The station includes an interview room, an inspectors office, a chief's office, administration office, records room, public toilets, sergeants offices, equipment room, staff toilets and lockers rooms, dispatch/reception room, an armoury, evidence room, break room, a holding cell, two male cells, one female cell, booking office and a sallyport for one large police vehicle or multiple small vehicles ie: quad bikes, for patrolling the surrounding areas.
- Commercial office reception – The commercial office entrance is placed in a primary position near the western entrance to provide easy access while the actual offices are on the floor above, to reduce noise and to increase privacy.
- Loading zones - are provided in conjunction with two easily accessible service cores, off of Bram Fischer road, between the parking down ramps. All retail units can have direct access to the loading zones through a service passage that runs along the East of the building and is bounded by a large grass embankment which creates a buffer between the adjacent Shemba site and the service areas of the building. Additional access to this service passage can also be gained through the cultural zone entrance to the East of the station.
- Retail Units - The retail units follow the existing desire lines of pedestrians within the urban development. Merging the outdoors with the indoors, helping to create a bustling centre where people may shop for convenience when commuting or for a shopping and cultural experience, while all the time engaging with the transport interchange itself. The ground floor includes 4 medium retail units, two large retail spaces, public toilets, staff toilets, maintenance rooms, a manager's office, administrations offices, a records room and a break room. All retail units have direct access to the service passages.

First Floor

The First Floor houses the LRT ticket control and facilitates circulation providing a safe passage over the market place to both platforms of the LRT.

- The LRT ticket office B – Has four tellers and is situated close to the Eastern platform entrance for ease of use and overlooks both the market place and tax/bus ranks.
- The LRT ticket office C – Has six tellers and is situated close to the Western platform entrance for ease of use.
- The Newsagents – Situated within the LRT ticket complex, the newsagents provides both reading material and refreshments for travellers.
- Transportation administration – Is situated to provide the best views of both the LRT platform and the bus/taxi rank. It includes a reception area, strong room, records room, staff toilets, staff offices, managers office, rail technician office, maintenance office, cleaners room, staff room and kitchen.

- Recreational Retail Centre – can be found in the Eastern block of the development, overlooking the market place and Shemba site, which is protected by a large grass bank on the ground floor but still allows views of the activities. The space includes two retail units at its centre, two large restaurants and bars which overlook the Shemba site, a gift shop is placed at the north and a tourist information centre is placed at the South of the complex to cater for passing pedestrians entering or leaving the city heart. Next to both the gift shop is a take away and next to the tourist centre is a coffee shop, Both of which have seating areas at the centre of two major pedestrian pathways for people watching.
- Rentable commercial space - A large block of commercial space is available for rent on the South of the Eastern block towards the commercial zone of the urban development. The block remains largely undeveloped at this stage, but will include access to roof gardens that will overlook all aspects of the interchange.

CHAPTER 6 PRELIMINARY STUDIES

6.1 ENVIRONMENTAL STUDY

In order to establish whether both buildings being studied have taken into account Thiis-Evensen's and Norberg-Schulz's notion of 'heaven' whereby architecture identifies with the surrounding climate, a pre-understanding must be established through the following environmental study

Durban's following point of location means there are an average of 2343 hours of sunlight per year with an average of 6.4 hours of sunlight per day. Average sunlight hours in Durban range between 5.2 hours per day in October and 7.4 hours per day in May (gaisma.com, 2010).

Latitude: 29°52'12"S

Latitude: 29°52'12"S

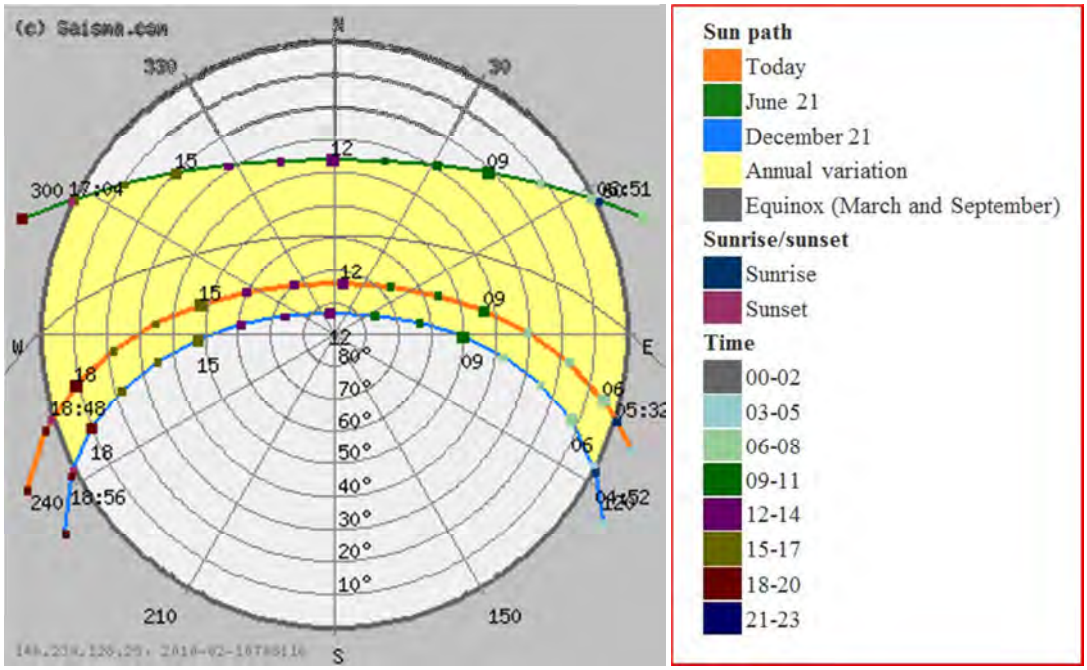


Figure 23: Basic Solar Chart for Durban on the 10th of February (gaisma.com, 2010

The wind speeds in Durban are conserved to be relatively moderate, peaking in strength over the month of November and bottoming out over the Months of May, June and July. More importantly the direction of this wind remains extremely stable between the, warm weather bringing, North Easterly to the, cold weather Bringing, South Westerly (windfinder.com, 2011).

Durban Airport (DURBAN)
Statistics based on observations taken between 9/2001 - 4/2011 daily from 7am to 7pm local time.

Month of year	Jan 01	Feb 02	Mar 03	Apr 04	May 05	Jun 06	Jul 07	Aug 08	Sep 09	Oct 10	Nov 11	Dec 12	SUM 1-12
Dominant Wind dir.	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗	↗
Wind probability > = 4 Beaufort (%)	48	42	41	37	26	25	23	45	48	49	54	46	**40**
Average Wind speed (Knots)	11	10	10	10	8	8	8	10	11	11	12	11	**10**
Average air temp. (°C)	26	27	26	24	23	20	20	21	22	22	23	25	**23**
Select month (Help)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year

Wind dir. distribution Durban Airport all year

Figure 24: Wind Directions throughout the Year

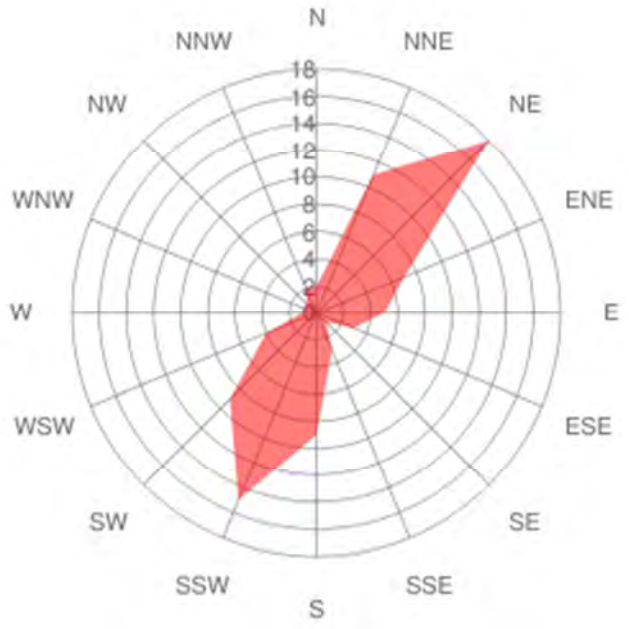


Figure 25: Overall Predominant Wind Directions (windfinder.com, 2011)

The average temperature in Durban is a mild 20.5°C with an average high of 28°C and an average low of 11°C. During the winter months the temperature can get as low as 3°C and during the summer months as high as 40°C. During the summer months of January to march relative humidity levels rise from the average annual level of 79.1% to 83% in March. This high overall humidity not only means that Durban is mild all year round but also that the period of summer can feel substantially hotter than the actual temperature (old.weathersa.co.za, 2001).

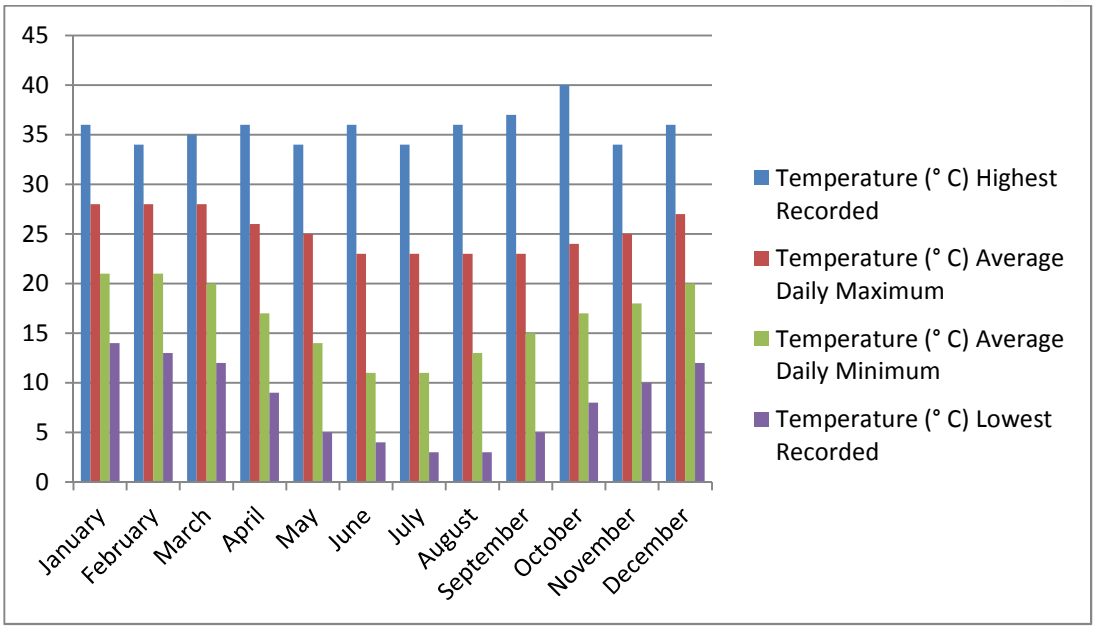


Figure 26: Temperature information is based on monthly averages for the 30-year period 1961 – 1990 (old.weathersa.co.za, 2011)

Durban's climate receives an average of 1003 mm of rainfall / year, or 84 mm / month. The majority of rainfall occurs during the summer months, with the highest rainfall in documented history occurring in February (old.weathersa.co.za, 2001).

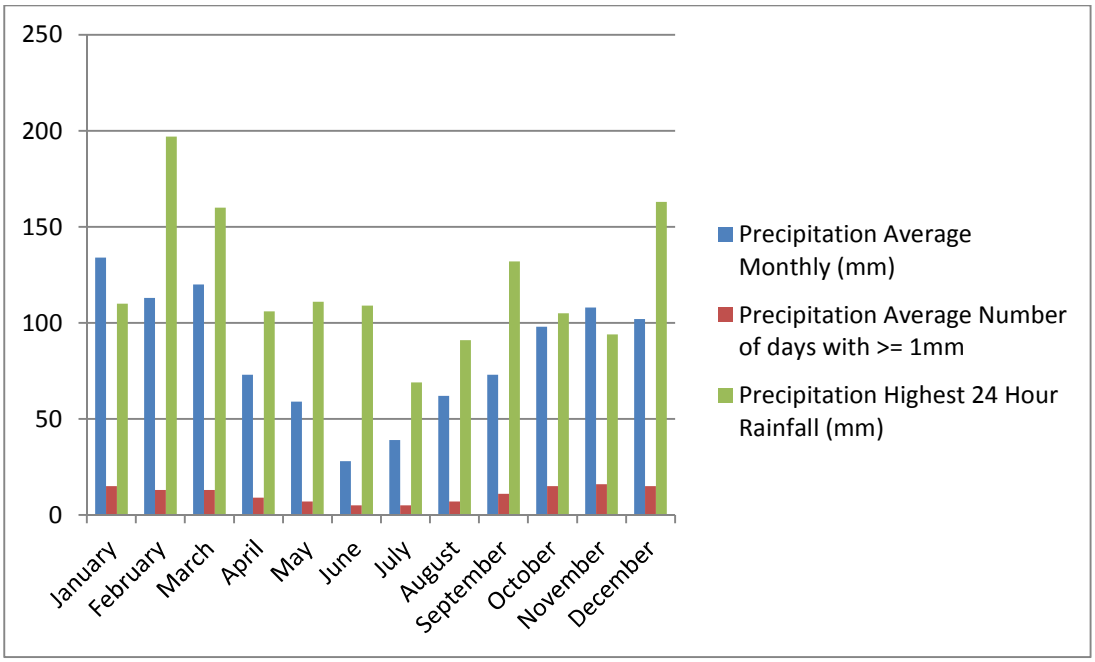


Figure 27: Precipitation information is based on monthly averages for the 30-year period 1961 – 1990 (old.weathersa.co.za, 2011)

The rate of sea-level rise for Durban and its adjacent coastline is currently gauged to be approximately 2.7mm per year. These results provide a locally measured rate of sea-level rise that can be used for strategic coastal planning, the design of future port infrastructure and marine structures (Mather, 2007).

6.2 SITE ANALYSIS

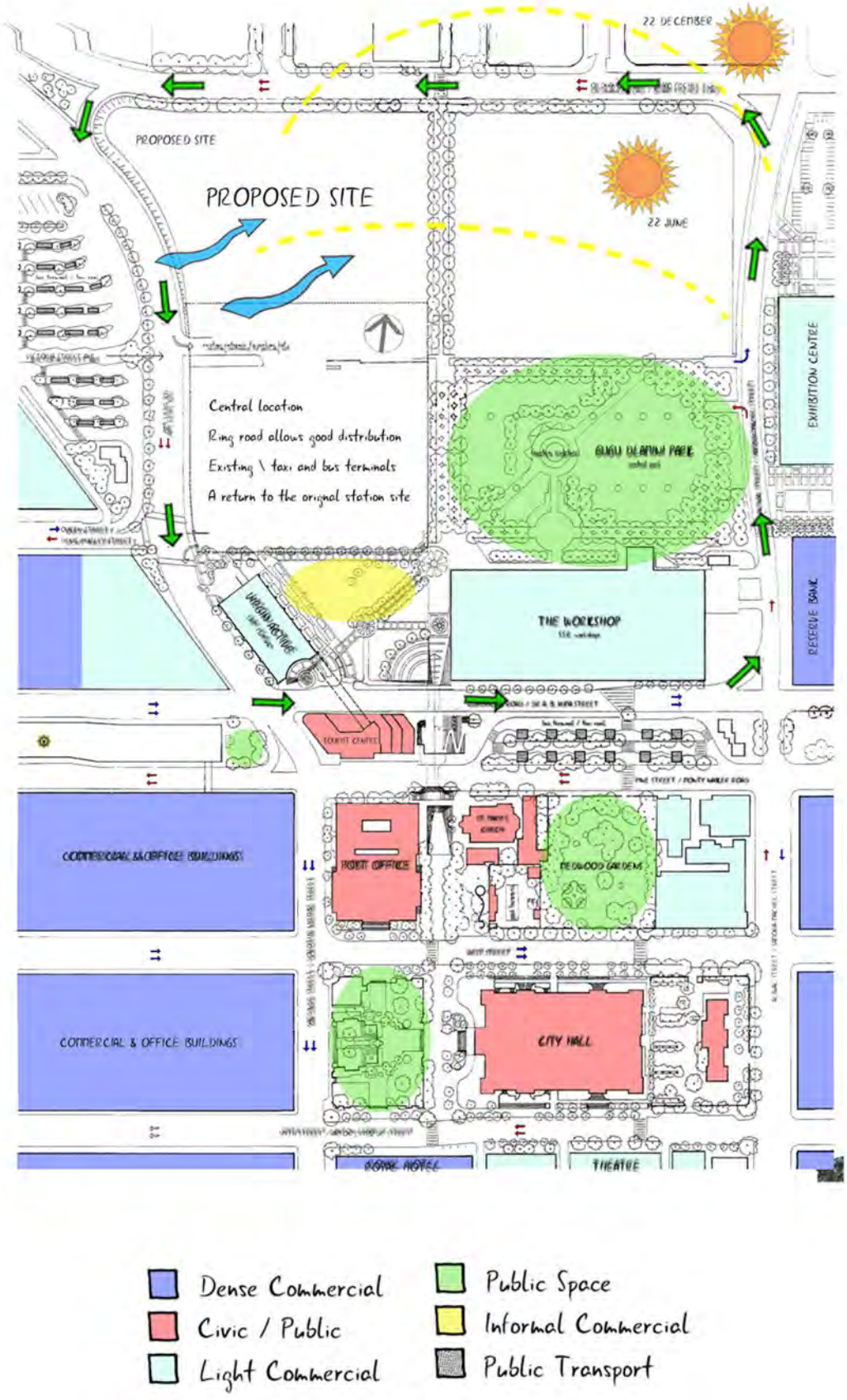


Figure 28: Existing Site Analysis (Author, 2011)

Figure 29: Conceptual Site Analysis (Author: 2011)

6.3 CONCEPTUAL WORK

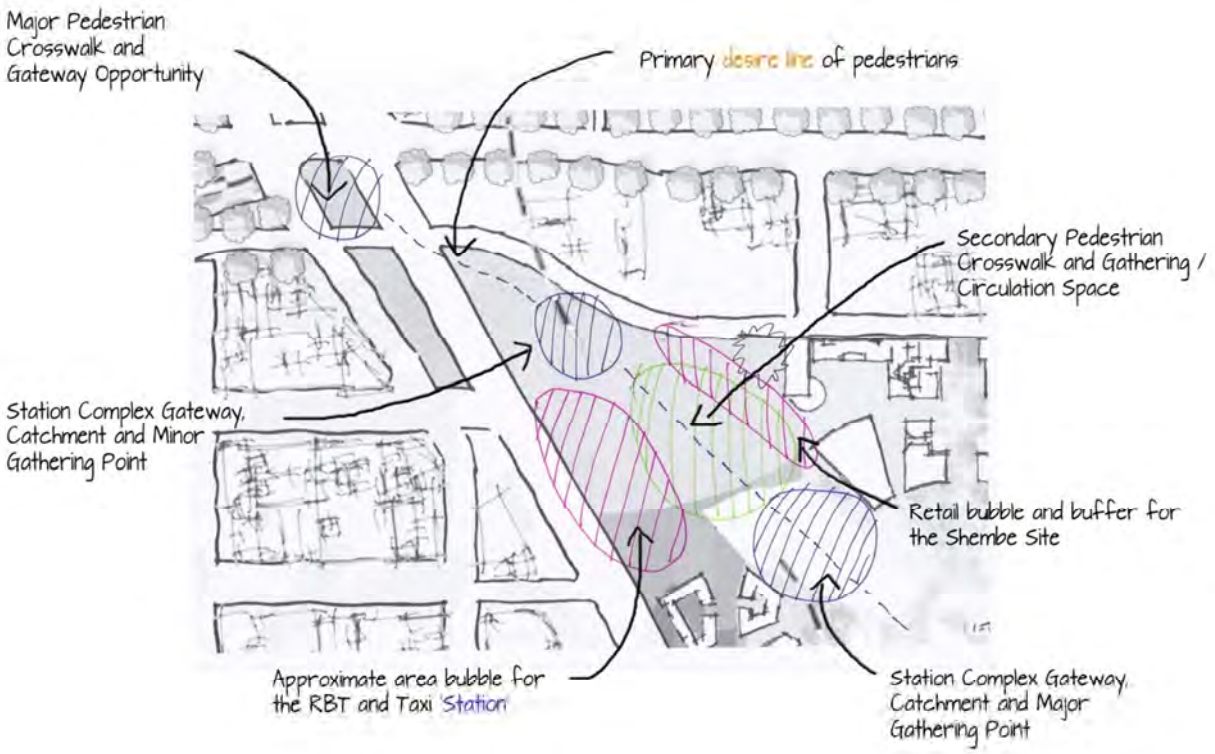


Figure 30: Conceptual Work (Author, 2011)

Figure 31: Conceptual Work (Author, 2011)

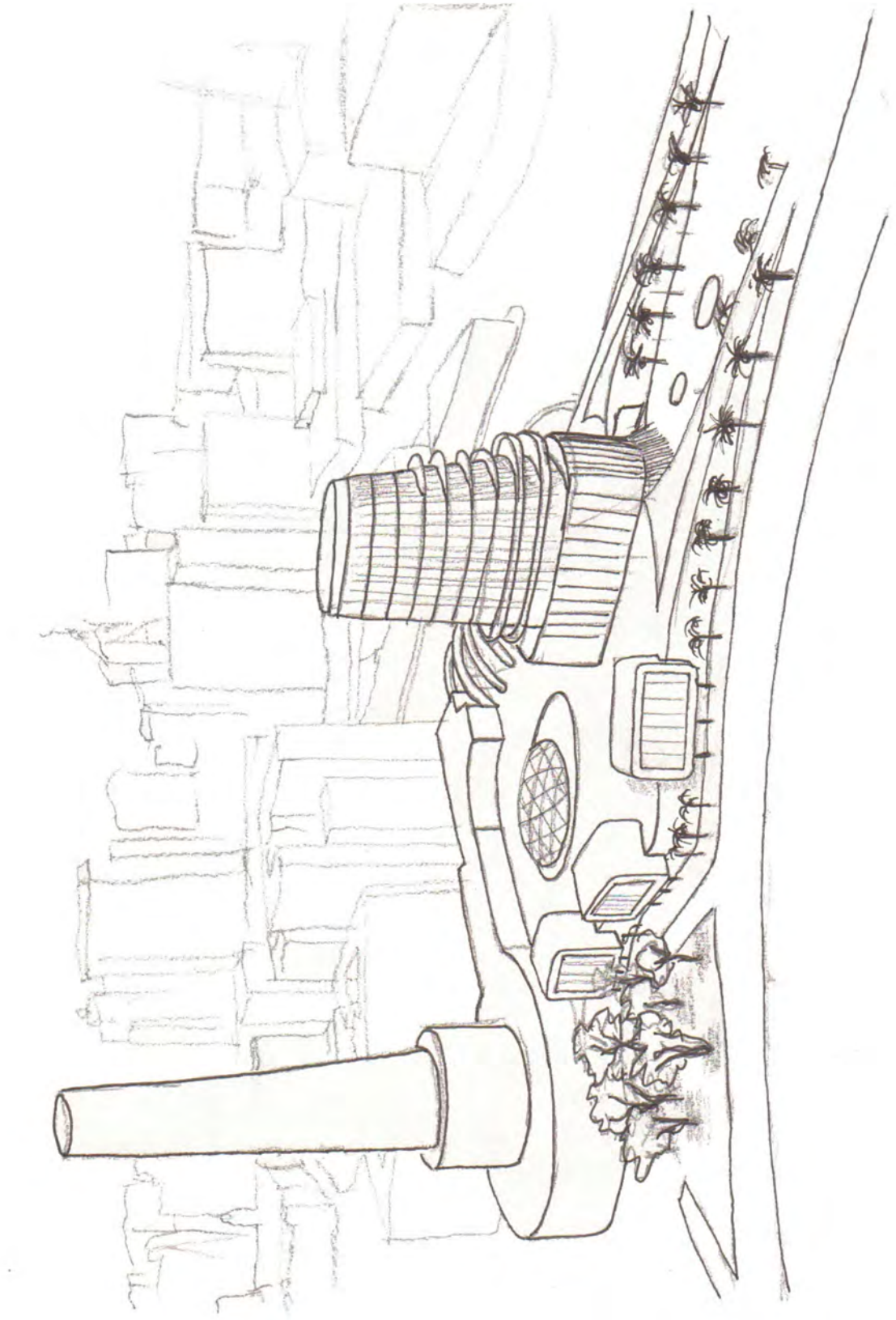


Figure 32: Abandoned Initial Design (Author: 2011)

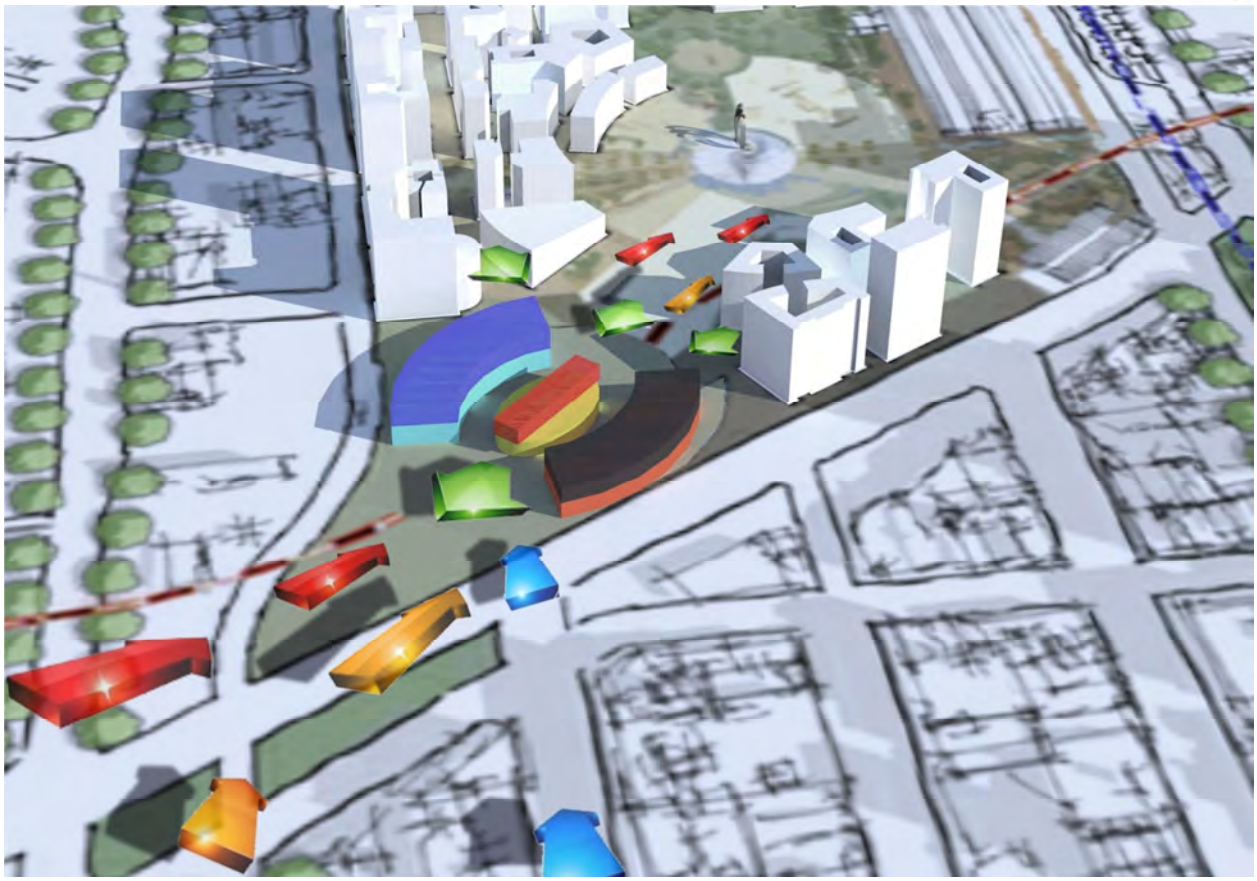


Figure 33: Approved Concept (Author, 2011)

6.4 ENVIRONMENTAL CONSIDERATIONS

Unlike the transport interchanges and train stations of Europe, Durban is lucky enough to enjoy a tropical climate. This climate allows for the rethinking of buildings structure and allows for a greater connection between the building and its surrounding environment, in accordance with the phenomenology motivations behind this design.

Large expanses of glass have been used throughout the building in an effort to maintain visual connections between the different functional parts of the station and establish a connection between the building's interior and the public space that surrounds it. This transparency creates problems in regards to the interior heat of the building, which has been dealt with in the following four ways:

- Doubled Glazed 60% UV Resistance Glass is utilised on all exposed facades.
- In addition to this, large over hangs are used to protect the interior spaces for the sun during the hottest parts of the day while still allowing for the visual connections required.
- On facades with no overhangs a timber sunscreen provides additional protection.
- An opportunity also came about for the addition of a geothermal cooling unit, due to the large excavation work that is needed for the inclusion of the double volume super basement.

Figure 34: Geothermal System
(www.generalgeothermal.com, 2010)

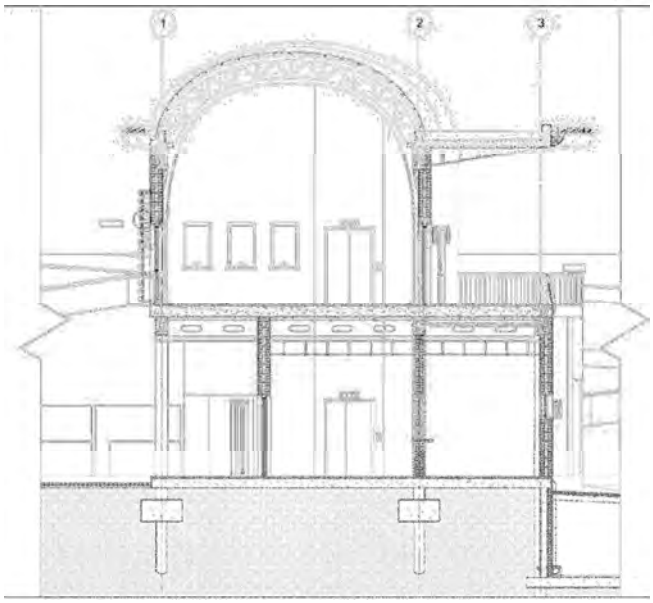


Figure 35: Geothermal System
(Author, 2011)

CHAPTER 7 TECHNICAL RESOLUTIONS

Due to the complex structural nature of the design the bridges of Santiago Calatrava and Oris Degenkolb have been researched heavily. For simplicity, the two major aspects utilised within this project can be seen in the Felipe 2 Bridge by Calatrava and the rail road bridges of Degenkolb.

Plate 62: Felipe 2 Bridge (eng.archinform.net, 2011)

Plate 63: Felipe 2 Bridge (eng.archinform.net, 2011)

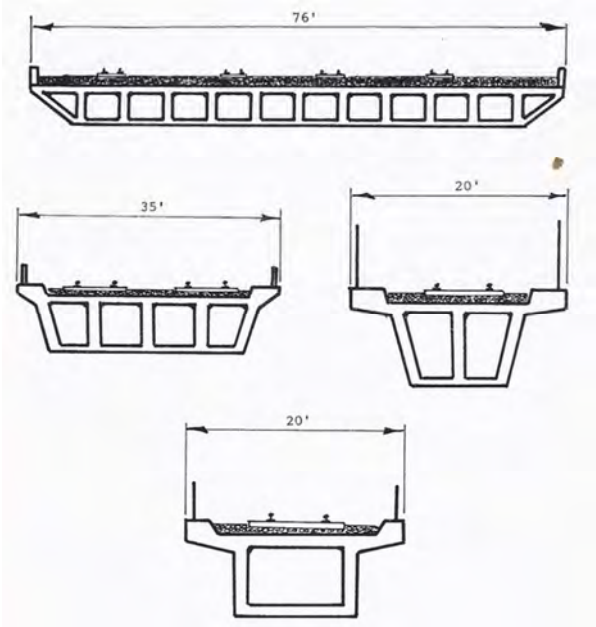


Figure 36: Railway Girder Systems (Degenkolb, 1977)

1

2

3

44.5mm x 44.5mm cold rolled square galvanized steel tube purlin bolted to bowstring truss as per structural engineers specifications

BIRDAIR tensile membrane fitted as per specialists instructions

Custom made prefabricated galvanized steel bowstring truss and columns bolted to the floor slab via a steel plate as per structural engineers specifications

THERMOBRITE UT insulation laid by specialist

SIKA CEMFLEX waterproofing applied in two coats to up-stand and slab

Cement screed laid to fall 1:80

170mm thick pre-cast / pre-stressed concrete slab with upstands to engineers details

Fullflow outlet

Rolled aluminium coping

Rolled seamless aluminium box gutter (150mm girth) with with flashing attached to slab using the pike and ferrule method

100mm Ø pvc r.w.p. engaged in wall

Steel re-inforced concrete flanged primary beam with service holes 330mm x 650mm x 5050mm supported by structural column - to engineers specifications

Steel re-inforced concrete flanged primary beam with service holes 330mm x 650mm x 5050mm supported by structural column - to engineers specifications

550mm x 200mm x 3520mm g.m.s cantilever support with support flanges at 400 c.t.c see engineers details

22mm moisture resistant RHINO board attached to cantilever support as per manufacturers instructions

100mm Ø pvc r.w.p. engaged in wall

rolled seamless flower box (350mm girth) with flashing attached to slab using the pike and ferrule method

200mm x 100mm butterfly Wall Tie and drip, laid every 3 courses

Double cavity wall of non- face brick, stretcher bounded

75mm x 340 mm x 750mm precast, reinforced concrete lintel

DETAIL 2

15mm plaster primed and painted to schedule

Custom made prefabricated steel column and arch welded to 660mm x 550mm solid g.m.s base plate

200mm x 100mm butterfly Wall Tie and drip, laid every 3 courses

210mm x 340 mm x 750mm precast, reinforced concrete lintel

SF27

SF12

DETAIL 1

30mm polished cement screed as per engineers specifications

660mm x 550mm solid g.m.s base plate bolted to slab with 4 expansion bolts as per engineers specifications

280mm thick pre-cast / pre-stressed concrete slab to engineers details

15mm plaster primed and painted to schedule

660mm x 550mm solid g.m.s base plate bolted to slab with 4 expansion bolts as per engineers specifications

Fullflow outlet

100mm Ø pvc r.w.p. engaged in wall

Steel re-inforced concrete flanged secondary beam 330mm x 500mm x 5000mm laid on primary beams haunch above column - to engineers specifications

Steel re-inforced concrete flanged primary beam with service holes 330mm x 650mm x 7185mm supported by structural column - to engineers specifications

"SOUNDLITE" Coral Fiberglass ceiling tile on a "DONN® T38"exposed grid, 9/T37 3600mm main tees at 1200mm x 600mm centers and 1200mm cross tees with capping of pre-painted aluminum.

330mm R.C. column to engineers detail. Primed and painted to schedule.

15mm plaster primed and painted to schedule

330mm R.C. column to engineers detail. Primed and painted to schedule.

Double cavity wall of non- face brick, stretcher bounded

200mm x 100mm butterfly Wall Tie and drip, laid every 3 courses

Double wall of Red Satin face brick stretcher bounded with key joints

Double cavity wall of non- face brick, stretcher bounded

75mm x 340 mm x 750mm precast, reinforced concrete lintel

75mm x 340 mm x 750mm precast, reinforced concrete lintel

75mm x 110 mm x 1000mm precast, reinforced concrete lintel

W6

SF2

75mm x 350 mm x 750mm precast, concrete sill

SANDSTONE G-BLOCK PAVERS Laid to manufacturers specifications

D8

30mm x 850mm x 570mm timber service desk

200mm x 100mm butterfly Wall Tie and drip, laid every 3 courses

30mm polished cement screed as per engineers specifications

330mm R.C. column to engineers detail. Primed and painted to schedule.

280mm thick pre-cast / pre-stressed concrete slab to engineers details

15mm plaster primed and painted to schedule

DIAMONDEK 400 PROFILE aluminum roof sheeting laid by specialist

BUBBLEFOIL insulation membrane laid by specialist

Cement screed base laid to falls specified by civil engineer

38mm x 38mm timber batton

150mm x 480mm 75mm timber rafter set in wall

MASTERPREN 450 Polyurethane waterproofing applied in two coats - to manufactures spec.

100mm Ø pvc r.w.p.

Steel reinforced concrete pile cap 1150mm x 600mm - to engineers specification

Steel reinforced concrete pile cap 1150mm x 600mm - to engineers specification

Precast steel reinforced concrete wall 200mm - to engineers specifications

200mm wide x 100mm deep cement drainage channel connected rainwater storage tank & sump

Red Satin face brick stretcher bounded with key joints

30mm polished cement screed as per engineers specifications

280mm thick pre-cast / pre-stressed concrete slab to engineers details

Weep hole

Cast in-situ steel reinforced concrete pile 300mmØ - to engineers specification

Cast in-situ steel reinforced concrete pile 300mmØ - to engineers specification

16590 LEVEL 2

11795 LEVEL 1

7000 FFL

4250 Level B1

4795

4795

2750

GENERAL NOTES:
1. All work to comply with SABS 0400 and Local Municipal By-Laws.
2. Boundary beacons to be exposed and checked, prior to the commencement of work.
3. All dimensions, angles and levels to be checked on site before work is put to hand. Architect to be notified of discepancies prior to the undertaking any work.
4. Drawings are not to be scaled; Figured dimensions to be used only. All dimensions are, unless otherwise specified, in milimeters.
5. Drawings are to be read in conjunction with Structural. Civil drawings.
6. All glazing thickness to comply with Part NN2 of SABS 0400.
7. All safety glazing in accordance with NN3 of SABS 0400.
8. All balustrading to be minimum one meter high and to comply with the requirements of DD2 of SABS 0400.
9. All stairs to comply with Part M. of of SABS 0400.
10. Soil Poisoning in to be in accordance with SABS 0124.
11. Earthworks: Gradient of cut banks to be 34 degrees; fill banks to be 26 degrees

STRUCTURAL NOTES:
1. The following to Professional Structural Engineer's Detail:
-Soil Excavation and Filling.
-Foundations, RC Floor Slabs, Beams and Columns.
-Structural steel.
Note: Certificate of Stability to be issued on completion.
2. Note: Foundations are not to encroach Servitudes and or Boundaries.

SEWER NOTES:
1. All pipes below structure to be encased in concrete.
2. Anchor blocks to be provided for falls less than 1:5
3. Inspection Eyes to be provided at all bends and junctions

Archilogik
6 Ilex Place, Glen Hills, 4001
Tel: (031) 5634182
Cell:: (083) 3827197
ARCHITECT'S REG No.: N/A
ARCHITECT'S SIGNATURE:

project description
ETHEKWINI CENTRAL TRANSPORT INTERCHANGE

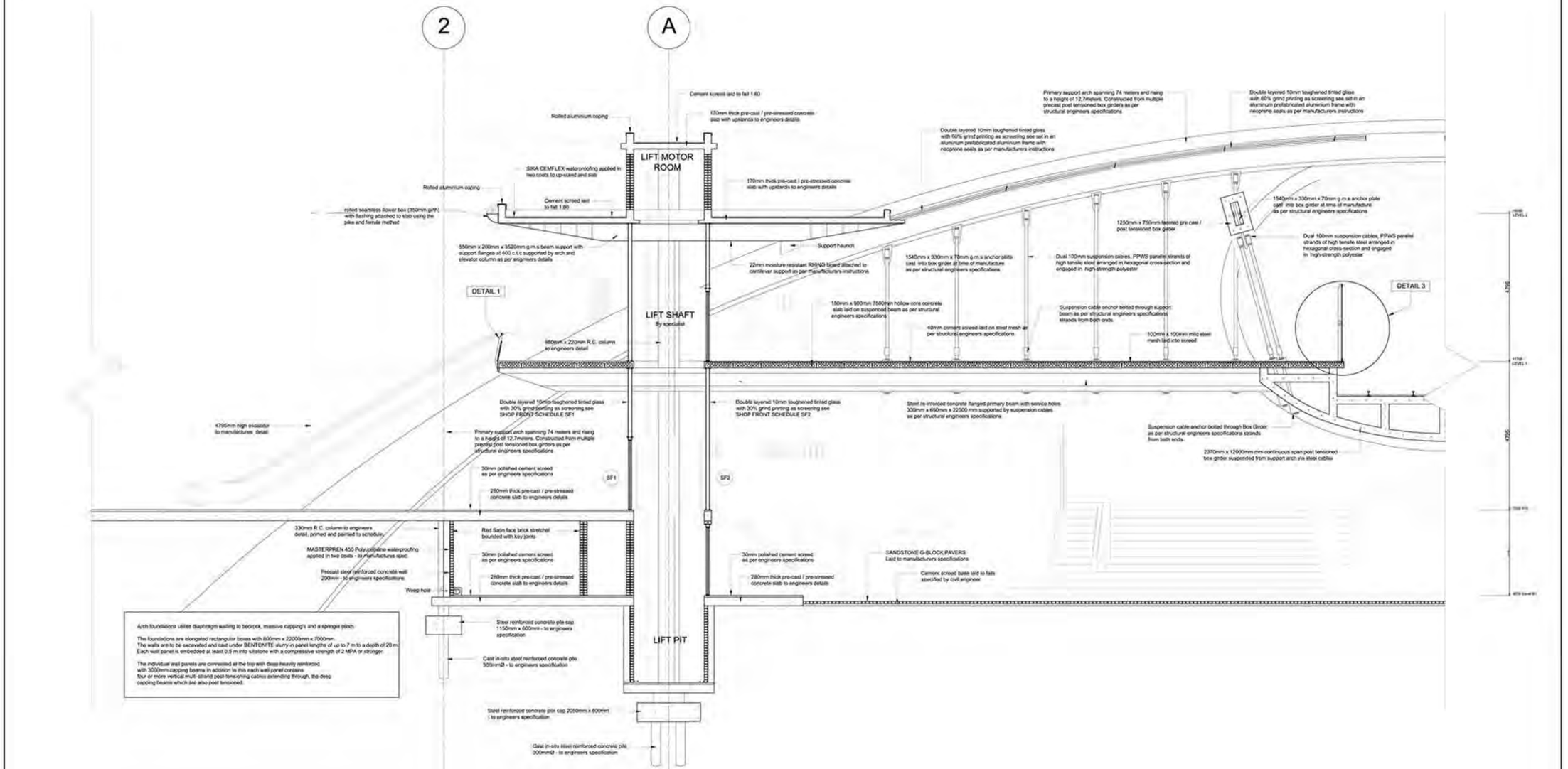
client
Durban Metro

drawing title
Section CC

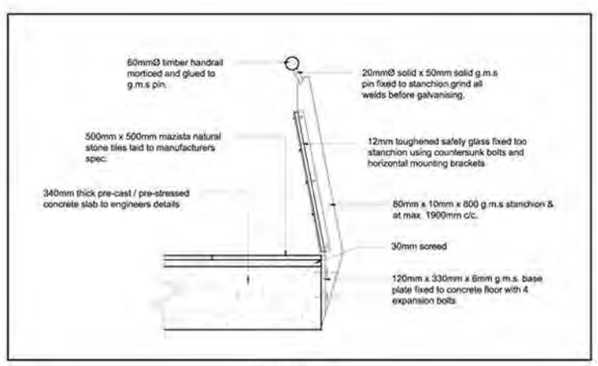
designed	David Tod Brett
drawn	David Tod Brett
checked	David Tod Brett
date	Dec 2011
scale	1:20
sheet	A0

PROJECT NO.		ENQ. No.
01-2011		
DRWG. NO.	STATUS	REV.
TT-01	C	-

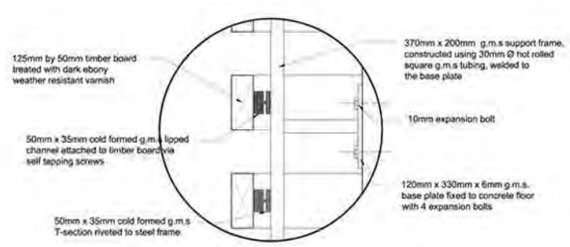
C = CONSTRUCTION
MS = MUNICIPAL SUBMISSION
T = TENDER P = PRELIMINARY
D = DESIGN AB = AS BUILT



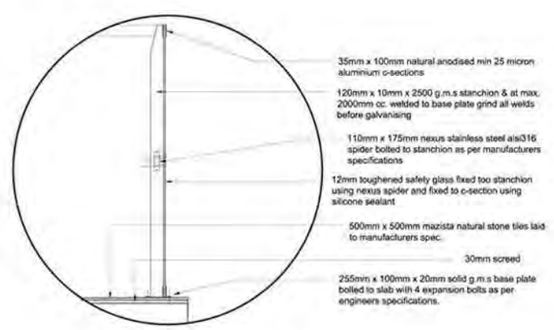
SECTION DD
SCALE 1:50



DETAIL 1
SCALE 1:10



DETAIL 2
SCALE 1:5



DETAIL 3
SCALE 1:20

GENERAL NOTES:
1. All work to comply with SABS 0400 and Local Municipal By-Laws.
2. Boundary beacons to be exposed and checked, prior to the commencement of work.
3. All dimensions, angles and levels to be checked on site before work is put to hand. Architect to be notified of discepancies prior to the undertaking any work.
4. Drawings are not to be scaled; Figured dimensions to be used only. All dimensions are, unless otherwise specified, in milimeters.
5. Drawings are to be read in conjunction with Structural, Civil drawings.
6. All glazing thickness to comply with Part NN2 of SABS 0400.
7. All safety glazing in accordance with NN3 of SABS 0400.
8. All balustrading to be minimum one meter high and to comply with the requirements of DD2 of SABS 0400.
9. All stairs to comply with Part M. of of SABS 0400.
10. Soil Poisoning in to be in accordance with SABS 0124.
11. Earthworks: Gradient of cut banks to be 34 degrees; fill banks to be 26 degrees

STRUCTURAL NOTES:
1. The following to Professional Structural Engineer's Detail:
-Soil Excavation and Filling.
-Foundations, RC Floor Slabs, Beams and Columns.
-Structural steel.
Note: Certificate of Stability to be issued on completion.
2. Note: Foundations are not to encroach Servitudes and or Boundaries.

SEWER NOTES:
1. All pipes below structure to be encased in concrete.
2. Anchor blocks to be provided for falls less than 1:5
3. Inspection Eyes to be provided at all bends and junctions

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6 Ilex Place, Glen Hills, 4001
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ARCHITECT'S REG No.: N/A
ARCHITECT'S SIGNATURE:

project description
ETHEKWINI CENTRAL TRANSPORT INTERCHANGE

client
Durban Metro

drawing title
Mixed Technical

designed	David Tod Brett
drawn	David Tod Brett
checked	David Tod Brett
date	Dec 2011
scale	As Per Drawing
sheet	A0

PROJECT NO.		ENQ. No.
01-2011		
DRWG. NO.	STATUS	REV.
TT-02	C	-

C = CONSTRUCTION
MS = MUNICIPAL SUBMISSION
T = TENDER P = PRELIMINARY
D = DESIGN AB = AS BUILT

SANTACO OFFICES

TRANSPORT INTERCHANGE

MUSEUM

RARE ART

MEDIA CENTRE

MIXED USE RETAIL AND RESIDENTIAL

HOTEL

EXHIBITION

HEALTH CENTRE

MIXED USE RETAIL AND RESIDENTIAL

MIXED USE RETAIL AND RESIDENTIAL

RETAIL

NUCLEAR CIVIC SPACE

RETAIL

SCULPTURE

AIDS SCULPTURE

COMMERCIAL ZONE / OFFICE PARK

LIBRARY

PLAYGROUND / SKATEPARK

GUGULETAMINI PARK

WORKSHOPS

VIRGIN ACTIVE

WORKSHOP SHOPPING CENTRE

URBAN DESIGN

SCALE 1:1000

David Brett annotated by Laila Tickley and Margie Biggs

The Heart of The City

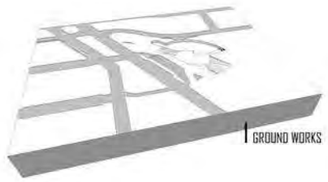
Urban Design Scheme Scale 1: 1000

N

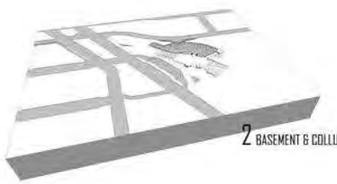
Interpreting Change

ROOF PLAN SCALE 1:500

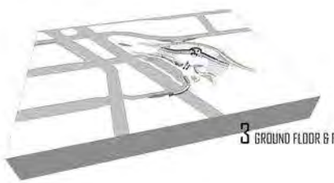
Interpreting Change



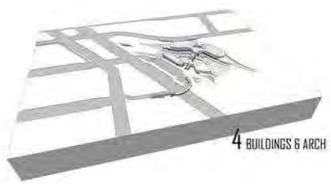
1 GROUND WORKS



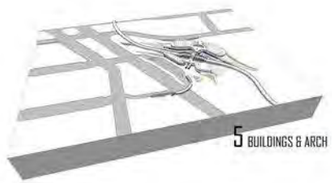
2 BASEMENT & COLLUMNS



3 GROUND FLOOR & RAMPS



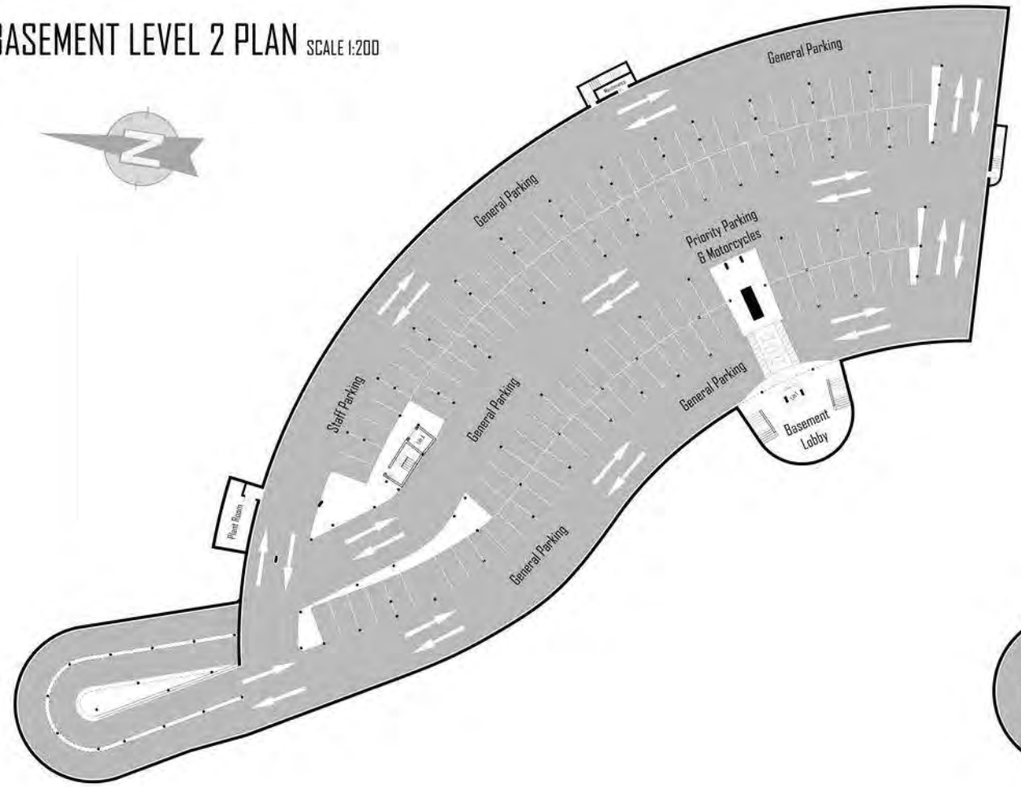
4 BUILDINGS & ARCH



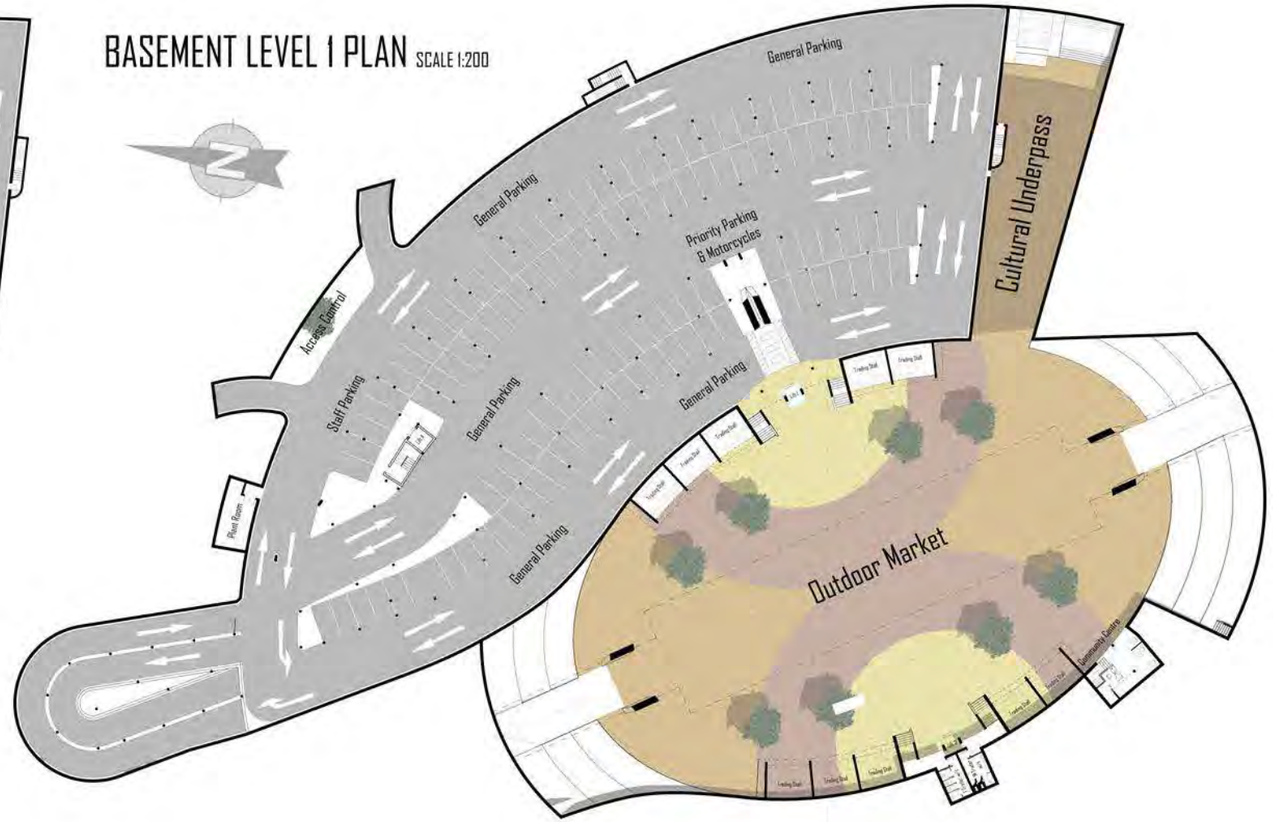
5 BUILDINGS & ARCH

6 CONTEXT

BASEMENT LEVEL 2 PLAN SCALE 1:200

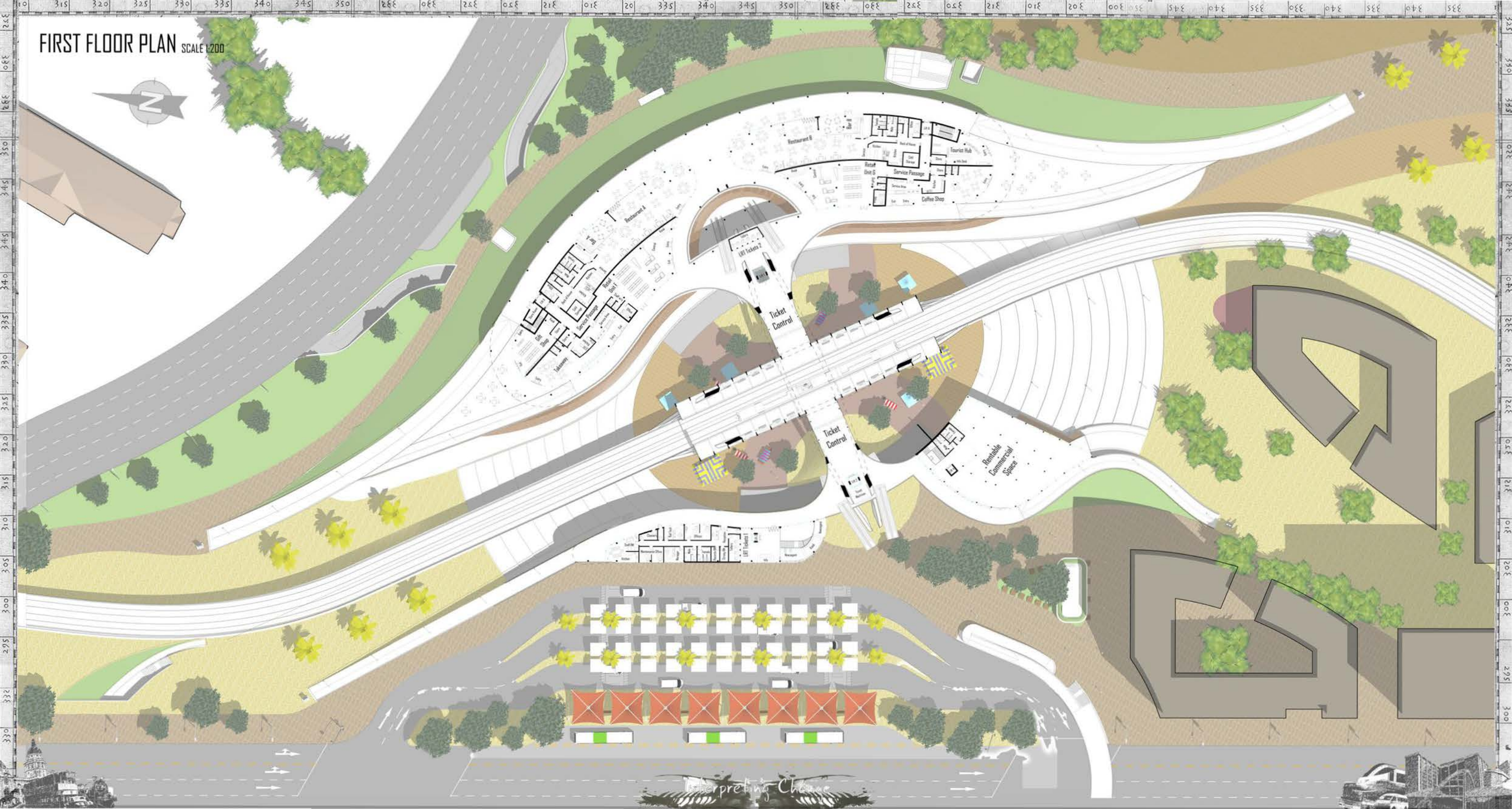


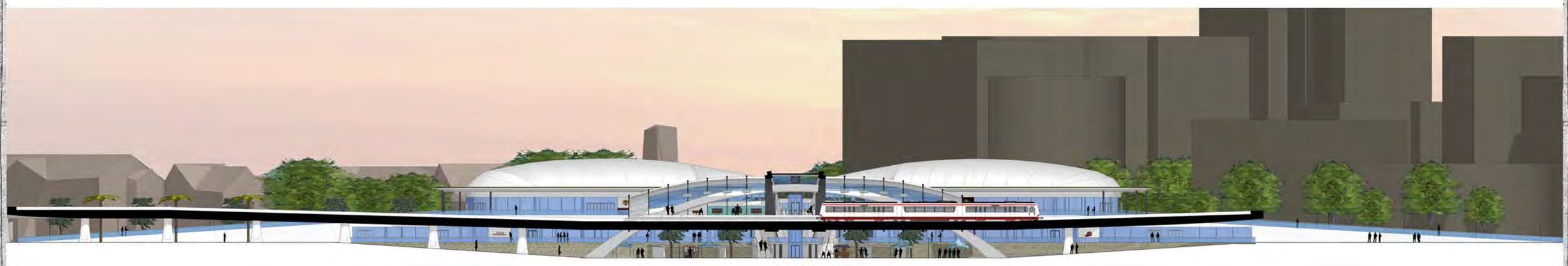
BASEMENT LEVEL 1 PLAN SCALE 1:200



GROUND FLOOR PLAN SCALE 1:200

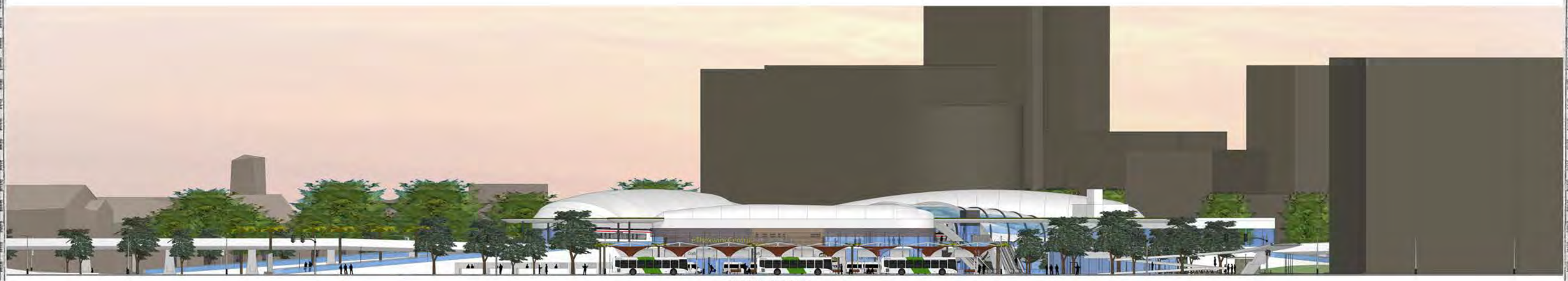
FIRST FLOOR PLAN SCALE 1:200



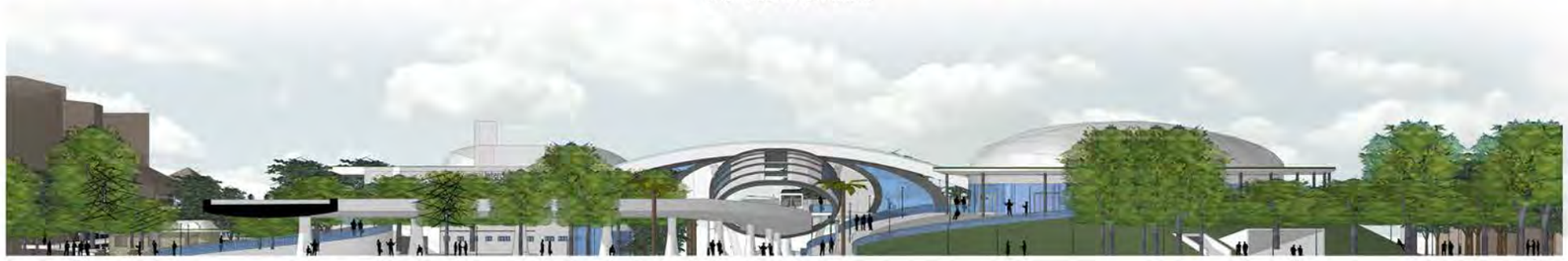


SECTION AA
SCALE 1:100

SECTION BB
SCALE 1:100



EAST ELEVATION SCALE 1:100



SOUTH ELEVATION SCALE 1:100

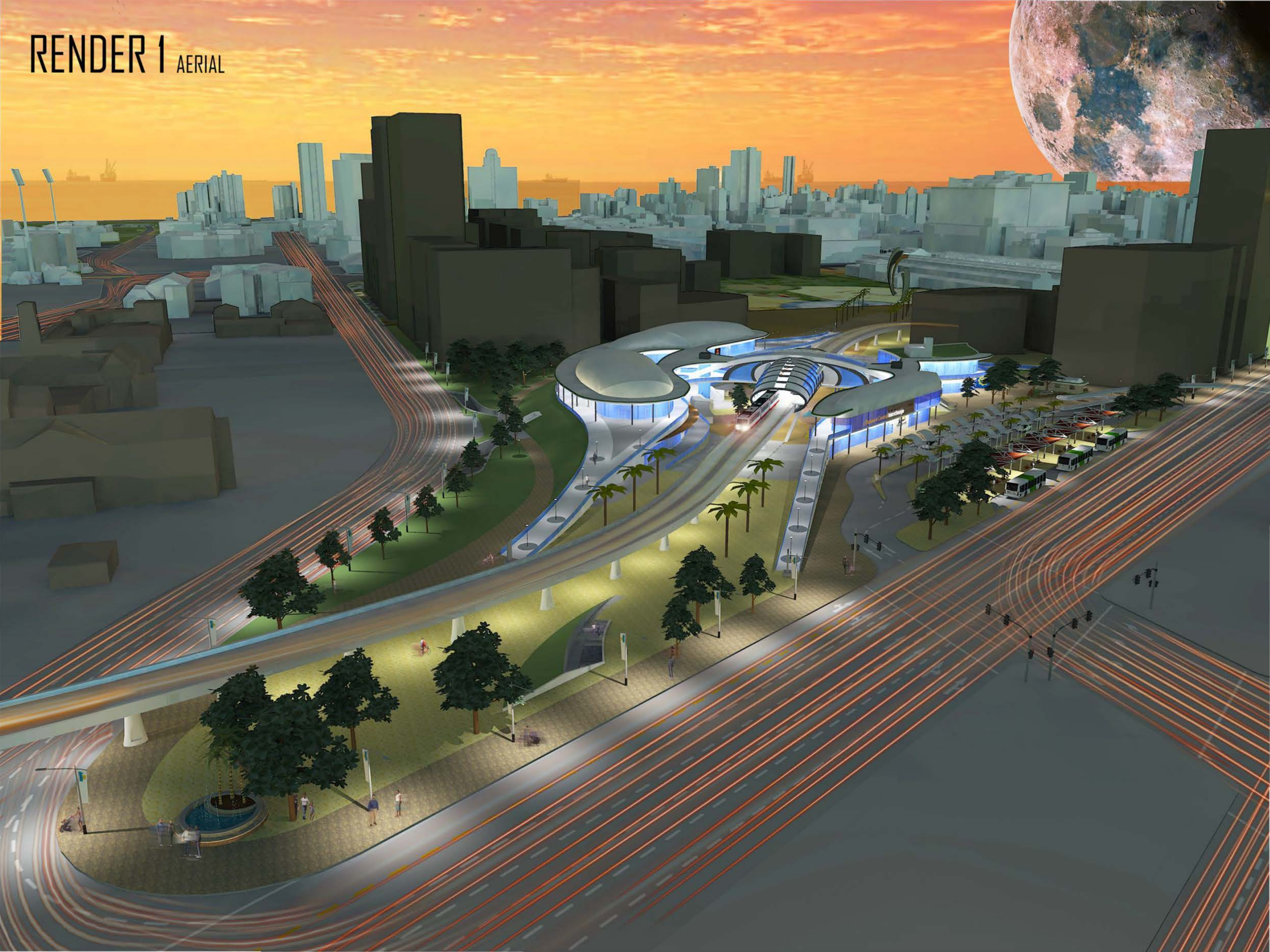
Interpreting Change

NORTH ELEVATION SCALE 1:100

WESTELEVATION SCALE 1:100

Interpreting Change

RENDER 1 AERIAL



RENDER 2 TAXI RANK

RENDER 3 MARKET NODE

RENDER 4 URBAN CONTEXT (GOOGLE EARTH 2010)

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