



**PUBLIC TRANSPORTATION AS A GENERATOR FOR CHANGE IN
ARCHITECTURAL IDENTITY**

**THE REVITALIZATION OF THE OLD PIETERMARITZBURG RAILWAY
STATION INTO A MAIN TRANSPORT INTERCHANGE**

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Dissertation submitted to the School of Built Environment and Development Studies,
University of KwaZulu-Natal, in partial-fulfilment of the requirements for the degree of Master in
Architecture

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Durban, South Africa

2014

ABSTRACT

South Africa, like most developing countries, has struggled with the effects of economic globalization. This, through apartheid, has caused a reduction in policy barriers to trade and investment amongst other things including limiting the country's ability to keep up with the technologies of the western world. This becomes evident in South Africa's lack of technologically advanced infrastructure in most sectors of the built environment in relation to the west.

This lack of technology has affected the public transportation industry whereby there currently remains a decline in safer modes of public transit to the extent that the 'unsafe', yet popular mini-bus taxi seems to be the most utilized mode of public commuting, especially amongst the non-white population. This is of great concern in that there are many vehicle accidents caused by the mini-bus taxi drivers' recklessness on public roads which has led to an increase in the number of deaths to commuters. The concern for commuter safety is further exacerbated by the high volume of freight trucks occupying the same roads on a daily basis particularly on the N3 national road between the city of Pietermaritzburg and Durban.

The aim of this study is to motivate for the return of a much safer and reliable mode of public transportation being that of rail transit, except that in this modern day period trains are more technologically advanced which will add to an increase in the running cost with a fear that this may be passed on to the commuter. There has to be a concerted effort to re-introduce rail commuting between Pietermaritzburg and Durban as well as to other outlying areas. There is particular interest to revitalize the old Pietermaritzburg railway station, which is currently home to a heritage 'gem' being that of the old train station building, by introducing a new train station building representative of a new period in rail transit architecture.

Theories like Historicism, Phenomenology and Tectonic Expression will be explored along with concepts such as 'change', 'movement' and 'visual connection' in support of an argument to retain the existing train station building in its original form while introducing a new Modern train station building. The decision to keep the old train station building is a way of ensuring a strong connection with Pietermaritzburg's colonial history and remembrance of the effects of apartheid while the introduction of a new train station building represents South Africa's ambition to be a part of this current Modern and technologically advanced era of equal opportunity.

Various precedent and case studies of similar typologies will be explored including the distribution of questionnaires and carrying out of interviews in support this argument.

DECLARATION

I declare that this dissertation is my own, unaided work and carried out exclusively by me under the supervision of Mr Juan Solis. It is being submitted for the degree of Master in Architecture in the University of KwaZulu-Natal. It has not been submitted before for any degree or examination in any other University.

.....

Denzil P R Coetzee

13 March 2015

DEDICATION

To my loving family; my wife Louann and children, Kealyn and Cameron

Thank you for believing in me and for all the love and support through my many years of study

ACKNOWLEDGEMENTS

First and foremost, I thank the Almighty God for His constant love and guidance and for being instrumental in providing me with an opportunity to undertake my Masters work.

My gratitude goes to my Academic Advisor: Mr Juan Solis, for the much appreciated supervision, time, patience and guidance in the development of this dissertation.

I am indebted to my best friend, business partner and mentor, Mthulisi Msimang, for his kind hearted support and guidance throughout my many years of study.

Special thanks to the staff at the Barrie Biermann Library, with special thanks to Mr Tim Reddy and Ms Michelle Jacobs who over the years offered invaluable assistance in support of my studies.

I am also thankful to my mother, Mrs Thora Coetzee, for instilling in me good values and for ensuring that even though we were of a poor background, I at the very least attained a high school education which became the platform for my tertiary career.

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1.0 CHAPTER ONE: INTRODUCTION

1.1 Background Statement

In most western countries, rapid urbanisation sustained by technological improvements has contributed extensively to the built environment over the last century. However in South Africa, due to our current socio-economic position brought about by the apartheid era, advances in technology have become a less important aspect of our slow democratic building process. As South Africa re-entered the international economy in 1994, at a time when globalization was peaking due to technology like the internet, its performance growth was lower than in European countries (Loots, 2002:1-18).

Developing countries have struggled with the effects of economic globalization with issues such as a reduction in policy barriers to trade and investment by the public sector and the speed at which information and technology can be transmitted. It is evident in our lack of technologically advanced infrastructure in most sectors of our built environment, that South Africa had been deprived of the economic and international opportunities presented by globalization. (Loots, 2002:1)

It is imperative that there is an interchange of western ideas, products and both international and inter-cultural resources to enable developing countries like South Africa not only to enjoy economic growth but also social equality on a global scale. The continued use of similar architectural themes, materials and technologies has led to an architecture that is lacking in cultural and regional identity. (Eldemery, 2009:344)

This study aims to unpack the issues surrounding the slow effect that globalization has had on rail transportation and rail infrastructure in a country like South Africa that is currently in its re-building phase after being for many years sanctioned from the technologies of the western world.

1.2 Motivation/Justification of the Study

The motivation for carrying out this study is driven by a few factors namely; a concern for the many vehicle accidents which cause deaths on public roads, highways in particular; an extreme interest in the advancement of an effective, comfortable and safe public transportation system in particular the development of rail commuting in South Africa; and the implementation of a new Modern type of architecture into the existing Pietermaritzburg Colonial context that will promote a unity within our diverse society which has become divided over decades by the effects of apartheid.

Over the last two centuries, an evolution of train stations has developed; from nineteenth century face brick buildings with elaborate details to a modern lightweight structure with huge spans expressing the volume and interplay of structural elements. Train stations acted as gateways between major cities and allowing interaction between people of all walks of life. 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)

It is imperative that there is a revival of train commuting in order to reduce the number of fatalities on our public roads. This is justified by the increasing number of freight trucks in addition to the many cars being driven on our roads, which will further exacerbate the problem.

"But, with more than 70% of South Africa's inland freight still moving by road, it will be many years before the number of trucks on the roads actually declines, if ever". West, E., 2013. Trucks versus tracks. The Witness, 12 Sep. Pg. 1.

It is further justified that in order to revive the use of this fine and productive mode of public transportation being that of rail commuting, which has battled the economic crisis in its quest to exist within the South African environment, then there has to be a revitalization of the existing old railway station in Pietermaritzburg as it not only provides a 'platform' for this much needed industry, but will remain key in the formation of a new technologically minded community.

1.3 PROBLEM STATEMENT, AIMS AND OBJECTIVES

1.3.1 Definition of the Problem

Public transportation has become vital in this ever changing environment and even more so, safe travel or commuting. Freeways are becoming more congested with time and accident prone with the many freight carriers travelling between major cities, in particular between Pietermaritzburg and Durban or even as far as Johannesburg and Cape Town.

Although the transportation of goods by rail is still widely used, it has not managed to keep up with the global economic demand for goods cartage especially in South Africa which has resulted in a huge demand for alternative goods cartage in the form of trucks.

"Transnet's inability to deal with transporting goods by rail has led to an explosion in the numbers of trucks on roads, with ordinary motorists having to deal with damaged roads and congestion" West, E., 2013. Trucks versus tracks. The Witness, 12 Sep. Pg. 1.

This lack of both infrastructure and technology has had a huge affect on commuter transportation by rail in South Africa as a whole but in particular Kwazulu Natal. Although this has lead to the creation of a different type of market and job creation in the form of min-bus taxis as a mode of commuter transportation, the issue of public safety on the roads still remains problematic and of huge concern due to congestion especially on national roads between cities.

Public transportation in particular, rail commuting in South Africa nowadays is seen to be predominantly for the poor, as it is deemed to be a more cost effective mode of transportation both within and between cities. This perception must be altered by the introduction of more efficient and technologically advanced ways of public transportation. Rail commuting in particular should be improved to address a major factor being that of commuter safety, which by its continued use will encourage growth in the economy and produce the least impact on the environmental footprint.

1.3.2 Aims

The aim of the study is to investigate the history of the revolutionised mode of 'rail transit' that has played a pivotal role in successfully industrializing nations globally. Train stations were the prime example of technological advancement of past years; not only in their construction but also in the way they transported goods and people, creating a form of unification amongst nations. (Richards and Mackenzie, 1986:1)

There will also be an investigation into the 'death' of public commuting by rail as a mode of transportation between the cities in South Africa. This investigation will also delve into the depletion of this system as a mode of travel between Pietermaritzburg and Durban considering that there are a number of people who work in one city yet reside in the other. Public commuting will be investigated to establish the source of the problem in particular, commuter safety on public roads.

A concerted effort will be exercised to revitalize this effective and much needed mode of commuting by rail and to use architecture to bridge the gap in society between races and more especially between the poor and the privileged. There will also be a concerted effort to ensure that all people of different social and economic standings are seen as equals within a common space. There will be an exploration of the planning of transportation hubs in particular those that include railway stations.

Modern design techniques both locally and internationally will be employed and allowed to coexist within the existing historical Pietermaritzburg railway station site. Rail commuting must be recognised by all as being that of an alternative safe and affordable means of public commuting as we continue to build our future technologically advanced communities.

1.3.3 Objectives

- To research the present day modes of public transportation by rail and their impact both on an environmental and social scale.
- To research how a modern day type of transport architectural typology can play a positive role in the development of the train as a safe mode of travel.
- To research the impact of colonial architecture on the built environment, Pietermaritzburg public buildings in particular

1.4 SCOPE OF THE STUDY

1.4.1 Hypothesis

Railway stations should be places that respond to our current economic condition where affordable public transportation is vital in a society plagued by lack of economic opportunities, unemployment and poverty. This should not be seen as a replacement to the ever thriving mini-bus taxi industry but as a co-contributor to the enhancement of the public commuter industry. The amalgamation of the old and new railway station typologies at Pietermaritzburg should reinforce this concept of sharing and co-existence which stand as a symbol of unification amongst the citizens of the city, irrespective of race, gender or economic standing.

1.4.2 Delimitation of Research Problem

This research is based on socio-economic issues that have a major impact on the use of public transportation. There are also psychological issues which are associated with this type of development especially if it is seen to be targeting the more financially able. The intention of the research is to uncover the cause of the depletion of rail as a mode of commuting, whether by racial divide which was as a result of apartheid or by poor urban planning or even as a result of migration into the urban community.

There will also be a need to look into transportation planning and pedestrian movement from various transportation nodes within the city. The study will also look at train station building typologies which have been integrated into a predominantly historical building context such as that of Pietermaritzburg, as well as technologically advanced approaches that have been both successfully and unsuccessfully introduced in other cities around the world.

1.4.3 Definition of Key Terms

Socio-economic - *Involving both social and economic factors.*

Public Safety - *Involves the prevention of and from events that could endanger the safety of the general public.*

Public Transportation - *Transportation available to the public which is normally run on set fares.*

Psychological - *Related to mental and emotional state of a person.*

Depletion of Rail Commuting - *The reduction in the use of rail as a mode of commuting.*

Racial Divide - *A community of different races that have become divided.*

Apartheid - *A system of segregation or discrimination on the grounds of race.*

Urban Planning - *Architecture dealing with the design of urban space and activities.*

Migration - *The movement of persons from one country or locality to another.*

Urban Context - *The activities or structures that exist within that urban environment.*

Train Station Typology - *A railway station or terminal where trains load or unload passengers or goods.*

Heritage – *Refers to something inherited from the past e.g. cultural heritage is the legacy of physical artefacts.*

1.4.4 Stating the Assumptions

It is assumed that if more people of different socio-economic standings make use of this mode of public transportation, it will promote a better society which encourages social integration, equality and unity amongst all. The integration between people from various demographics could promote cultural, skills and knowledge exchange which could ultimately improve connectivity and economic opportunities. This will reduce the unemployment and poverty rate which in turn will reduce crime in our country. This is also an opportunity for this country to catch up with the technologies employed by the western world.

1.4.5 Key Questions

The key questions need to address the problems uncovered through this research and with these answers formulate a responsive design.

Main Question:

Can public transportation by train in today's South African society be technologically improved to render itself as a cost effective and safe mode of travel?

Subsidiary Question:

1. Which form of spatial planning and design principles were used in public buildings to enforce racial segregation and how can it be changed?
2. What can be done to promote the importance of 'dwelling' within the city in order to encourage a respect for our environment?
3. What type of architectural typology can act as a unifier and play a key role in healing memories of social injustice brought about by apartheid?

1.5 THEORIES AND CONCEPTS

Various theoretical anthologies from various authors have been included as a basis for this study and are mentioned under the various headings in order to give an unbiased view of the theoretical underpinning of this document.

1.5.1 A Brief Introduction

The theories supporting this argument have been thoroughly researched and have been found to be the most suitable in offering a meaningful explanation for this passionate need to 'revitalize' an old colonial style train station building with a merger of a modern train station architectural typology. All of the theories presented have prevalence over one another which remain critical in ensuring a holistic approach to the development of an iconic building within the framework of this historically rich colonial context.

The order of presentation of the theories commence with that of Historicism, as it is customary to start at the beginning with an interrogation of the existence of the old railway station building, in particular, the architectural style that was employed at the time by the colonial government. Remembered by the oppressed as being a model of segregation prior to democracy, this building is intended to be retained as a reminder of the atrocities of the past whilst sharing a space with a new modern style building. This concept of sharing is supporting the concept of "change" meant to demonstrate the technological change required in our present day South African society.

Following on from Historicism is the theory of Phenomenology, in particular that of Genius Loci or 'place making' and sensory perception, which will act as a re-enforcer of this 'change' referred to in Historicism, by creating unified spaces inhabited by unified societies. The spaces are meant to be welcoming and culturally infused environments within the confines of the train station whilst offering various invigorating sensory experiences throughout the journey. These sensory experiences are supported by the concept of 'movement' within these spaces.

Finally, the theory of Tectonics exploits this sensory experience further by expressing the grand structure and other materialistic elements, both within and outside of the confines of the railway station building, as aesthetic gestures in support of the buildings 'identity', supported by the concept of 'expressive architecture'.

1.5.2 Theory of Historicism

In architecture, 'Historicism' is sometimes used to describe the introduction of stylistic or decorative features that 'quote from' the styles of the past – *Dictionary of Critical Theory* (Enn Ots, 2011. p.122) while Alan Colquhoun defines it as 'the study of society's institutions "*in the context of their historical development*" on the basis of an organic model of growth and change' (Alan Colquhoun as cited in Nesbitt, 1996.p.200).

Historicism is a modern theory of history which emanates from late 18th century German Romanticism. Although Historicism first started with the writings of G B Vico, an Italian philosopher, and the French essayist named Michel de Montaigne, it was developed further in Europe in the 19th century by the German philosopher, George W F Hegel, who defined it as being linked with the 'Zeitgeist' or 'Spirit of Age' (Alan Colquhoun as cited in Nesbitt, 1996.p.200).

Colquhoun explains that Historicism has two other definitions relative to Postmodernism architecture; the first being an attitude of concern for the traditions of the past; the second being the artistic practice of using historical forms (Colquhoun as cited in Nesbitt, 1996.p.42).

This argument will rely on the first definition "*An attitude of concern for the traditions of the past*", as it forms a strong basis for the recognition of the old train station building and the period in which it was built, and its connotation with oppression and apartheid coupled with that of 'Periodization', which deals with the introduction of the new modern train station building.

1.5.3 Concept of a 'Change'

The theory of Historicism and that of Modernism engages with that of the concept of 'change' reflected in the title of this research, '*Generator for Change*', which means 'a time for a new era of architecture to be infused into this old historical site'.

It is of importance that this building be restored and preserved as a part of the merger of the two histories into one, with the new train station building becoming an indicative part of the modern society we live in and as a representative for 'change' in a bid to celebrate South Africa's growing and diverse society.

1.5.4 Theory of Phenomenology

The origins of Phenomenology began in the early 20th century with its founder, Edmund Husserl, a German philosopher, who defined it as being "*a systematic investigation of consciousness and its objects*" (as cited in Nesbitt 1996, p.412). In simple terms, Phenomenology is the manner in which our senses, whether audible or visual, react to or perceives a space or an object.

Husserl's phenomena was further expanded upon by another German philosopher, Martin Heidegger, who became more concerned with man's existence or 'Being' and expresses the relationship between 'building' and 'dwelling' and 'Being'. This concept of dwelling is later interpreted by Christian Norberg-Schulz as "*being at peace in a protected place*" (as cited in Nesbitt 1996, p.29).

This research will primarily focus on the expanded Phenomenological theories of Norberg-Schulz and his concern with the 'concretization of existential space' through place making (Norberg-Schulz, 1980) and that of Pallasmaa and his psychic realm of architecture experienced through perception, dreams, forgotten memories and imagination (Pallasmaa, 1996). Both of these theories will play a pivotal role in the creation of various emotional and physical experiences, by way of simple aesthetical elements or treatment of space within the amalgamated train station.

1.5.5 Concept of 'Movement'

The theory of Phenomenology aligns itself with the concept of 'movement' through that of 'public transportation'. Public transportation has a clear and ordered structure of movement in that there is a departure to and an arrival from a particular destination. It is the journey between the various spaces within the station precinct and the experience within each space within the station building itself, from the time the commuter arrives in the entrance hall up until the departure off the platforms.

1.5.6 Theory of Tectonic Expression

The term 'Tectonic' as defined in the dictionary, meaning *"pertaining to building or construction in general; constructional, constructive used especially in reference to architecture and the kindred arts"* emerged in the middle of the nineteenth century with the writings of Karl Botticher and Gottfried Semper, two of the first theorists in architectural tectonics (Schwarzer, 1993).

We can define 'Tectonic' or as in this case 'Tectonic Expression' as, and according to Frascari cited in Nesbitt (1996), *"the development of detail through the construction process where details are key generators of the design"*.

Annette LeCuyer describes 'Tectonics' as being *"fusion of technique with art and construction with poetry"* (LeCuyer. 2001,p.15). The art of construction combined with the properties of material are used to create architectural expression that has a rich meaning with a purpose. The Tectonic approach to design detailing has a strong reliance on skilled artisans, to ensure an expression of thorough and neat structural joints and details in support of the aesthetic (LeCuyer. 2001).

The new train station typology at Pietermaritzburg should not rely on the use of mass produced building materials and commonly used construction details which add little value to the buildings aesthetics and at times making them look in some ways somewhat similar in appearance. Buildings become more progressive and complex over time when they are purposefully designed and less repetitive. (Gregotti cited in Nesbitt 1996, p.498)

1.5.7 Concept of 'Visual Connection'

The theory of Tectonic Expression has a deep connection with that of *'Architectural Identity'* which is portrayed through the concept of *'visual connection'* experienced by the commuter at the point of arrival at the train station through architectural detailing.

The building should at all times be true to its identity, being that of a modern rail transportation building within the South African context, committed to change in technology, whilst demonstrating the cultural diversity of its users.

1.5.8 Conclusion

The theory of Historicism will demonstrate one's concern for the architectural styles and memories of the past reflected in the old heritage train station building and the desire to allow this building to remain within its existing context. Historicism is reinforced by the theory of 'Periodization', whereby a post-modernistic approach will be taken when designing buildings that represent our current technologically advanced society. Both theories are reflected by the concept of 'change' with reference to 'generator for change', as indicated in the title, whereby the identity of the old train station building being that of an association with Colonialism and Apartheid will be changed by the implementation and co-existence of the new modern building of similar typology.

The theory of Phenomenology will reinforce this movement by means of an expression of the spatial qualities within the train station precinct. This is meant to invoke various psychological perceptions of space, through the use of one's senses being that of touch, smell and sight amongst others. This approach will allow commuters to 'dwell' or remain for longer periods within the train station precinct in order to encourage an engagement of various societies leading to the formation of a unified community within the city of Pietermaritzburg.

Through the concept of 'movement', one will be allowed to engage with various spaces within the new station building. Movement is not only intended to occur within the new building but within the old as well, ensuring that the commuter is always reminded of past times whilst being encouraged to embrace the future which remains evident in the technologically advanced details employed within the newly developed precinct.

This technological advancement will be portrayed in the use of the theory of Tectonic Expression where the details of the train station buildings structure will be exploited. Details will be used to encourage perception of the space and 'dwelling' as outlined in Phenomenology, whilst invoking memories of both the past and future in line with the theory of Historicism and Periodization. There will be a concerted effort to ensure very limited repetition of details whilst employing a simplistic approach. These details will enhance the commuter's engagement with the building reinforcing the concept of 'visual connection' whereby the 'Being' becomes one with the 'building'.

Buildings that have played a part in racial segregation must have their spatial arrangements redefined to ensure continued current day use and be allowed to remain in today's society and to stand as a testament of the past. This will encourage our diverse society to 'dwell' within the boundaries of the city centre in order to promote a socially active and vibrant community. Public buildings like the train station are buildings that in all certainty will accommodate a societal mix of all kind at any one time.

This is seen to be pivotal in the building of a new society which is able to remain within the same boundaries and be seen as equals irrespective of one's race or socio-economic background. The infusion of each of these theories and concepts will ensure a building design of an iconic nature indicative to that of the struggles South Africa had to endure in its quest for equality, unity and socio-economic freedom. The unification of society will ensure that government takes a stand in offering assistance to the improvement of the public transportation system, in particular that of rail transit, in order for it to remain safe and cost effective.

1.6 RESEARCH METHODS AND MATERIALS

1.6.1 Introduction

A sensitive and qualitative approach will be used to gather information with primary research comprising of two precedent studies and two case studies of transportation hubs in particular railway stations and observing commuter activity and movement. A direct observation and analysis will be undertaken of the design and use of the space both internally and externally and the users perception of the space, this being that of both user and commuter. Research will also be done on the origins and design of colonial buildings including the current day perception that the public have regarding the retaining of these buildings.

1.6.2 Research Materials

Drawings, photographs and maps will be used to describe physical and spatial qualities in terms of proportion, enclosure, continuity, accessibility, aesthetics, identity, comfort and uses and activities and in relation to the key theoretical and conceptual issues.

Secondary research will be information gathered from literature sourced from books, journals and publications. This will include information on public transportation, rail commuting and socio-economic issues related to transportation, the effects of colonialism and apartheid in South Africa with particular reference to the city of Pietermaritzburg and the old Pietermaritzburg train station building.

Only precedent studies that relate to this topic will be analysed to assess their design principles and theoretical and conceptual framework.

1.6.3 Data Collection Methods

The 'Observation' Method

This will involve an evaluation and description of the space and its context and use. Data such as details of movement and activity during certain periods, methodological issues, primary analysis and hypothesis will be recorded in the form of field notes. Photographs and sketches or diagrams will be used to record visual elements.

This will be broken down into:

- physical traces
- environmental behaviour

The space will also be observed for things like sound, smell, light and ventilation, temperature and the way in which it responds to the environment. People's use of the space and their interaction with one another will also be observed.

The 'Questionnaire' Method

This will be carried out in person on site or within the city in a sensitive manner. This will target commuters, station employees and business owners (within the immediate space) and members of the general public. Variables such as age, gender, ethnicity, and social classification will be a key factor in establishing who to hand out questionnaires to. The questions will be structured to establish people's perception of public transportation as a whole with specific focus on safety and security; as well as the public's perception of old colonial public buildings within their city, in particular that of train station buildings.

Everyday commuters will be afforded the opportunity to comment on the spatial qualities, comfort and accessibility of public transportation hubs whilst those who do not make use of this mode of transportation will be required to give their views on why they do not make use of this type of transportation and what plans could be put in place to ensure its continued use.

The questionnaire will comprise of questions that require yes or no ticks for the ease and simplicity of those taking part in the investigation and for ease and simplicity of comparison and analysis.

2.0 CHAPTER TWO: LITERATURE REVIEW

2.1 Historicism: From Colonial to Modernism

2.1.1 Introduction

Building styles are a depiction of the epoch in which we live, and carry with them historic meaning and as such should be approached with sensitivity. The old train station building in Pietermaritzburg should not be destroyed or altered because of its association with apartheid but be restored and retained as a reminder of where South Africa came from. *"Appropriation is an aggressive way of dealing with the past"* (Nesbitt, 1996, p41)

2.1.2 The Colonized from the Colonizer

In attempting to analyse the success of public buildings of the apartheid era in South Africa, and the philosophies used to promote racial segregation, one needs to understand its origin. Racial segregation has its roots deeply embedded in eurocentrist colonial philosophy whereby Europeans wanted to dominate and remain superior to Black people in sub-Saharan Africa and the rest of the Colonial world.

"British colonial authorities adhered to a philosophy of racial segregation while their French counterparts subscribed to one that segregates along socio-economic and cultural lines" (Tunbridge, 1999: 579)

For the sake of this argument, it is important to only look at British colonialism, firstly from a broad perspective and secondly in terms of their influence in South Africa, more specifically to that of the City of Pietermaritzburg.

The British expressed the need to attain a clear distinction between the 'colonized' and the 'colonizer' which meant that they had to implement psychological methods of 'belittling' Black people. This was done in the form of implementing racial laws, one in particular being that of racial segregation. This social objective was successfully achieved by way of racial, physical and spatial separation which as a repercussion contributed to cultural segregation amongst Black people in South Africa who are made up of African, Coloured, Indian and Chinese races.

Spatial separation which contributed to racial segregation on a macro level was effective in racial city spatial planning where Europeans were separated from Blacks within the urban precinct. However, on a micro level, this racial segregation was concentrated within the building itself. Separation within city planning and in terms of topography afforded Whites the privilege of living in the upper plush districts closest to the city whilst Blacks lived in the lower and distant poorer areas.

This upper physical strategic positioning of races within the city enabled Whites to keep surveillance over Black people, specifically so Africans. Whites also used this as a psychological advantage of dominance and intimidation over the oppressed. Racial segregation also made economic sense in that the values of properties in these 'upper' white areas with all their amenities kept them exclusive and affordable to Whites only.

" South Africa, where the population included whites, coloured and blacks, the best areas and amenities went to the whites, whereas the next best went to coloureds, and least preferred went to the blacks" (Tunbridge, 1999: 591). Similarly, in today's Palestine occupied territories the Jewish settlements are built on top of the hills overlooking the Palestine settlements as a means of both racial and physical control. The Jewish state learnt these strategies based on apartheid policies.

The result of racially based segregation in South Africa is not only evident in the population mix within the various cities but between the various societies living in those cities which are differentiated by their socio-economic position; for example, the quality of life of residents living in Sandton in Gauteng is superior to that of residents living in Johannesburg, which happens to be the capital of Gauteng. The same can be said about the economic triumph of the city of Durban over its neighbouring City of Pietermaritzburg, yet 'Maritzburg' is the capital of Kwazulu Natal and should be thriving in economic royalties.

Historicism is portrayed in old British Colonial architecture within the African context with emphasis on Alan Coloquhoun's (Nesbitt, 1996) supporting theory of a 'concern for the traditions of the past', these traditions being those that were employed by the colonial's in the design of their public buildings which promoted racial segregation and spatial separation. British colonial buildings are easily identified through their architecturally decorative style which is linked to the historical period in which they were built which reinforces the theory of 'Periodization' which remains a supporting theory of Historicism.

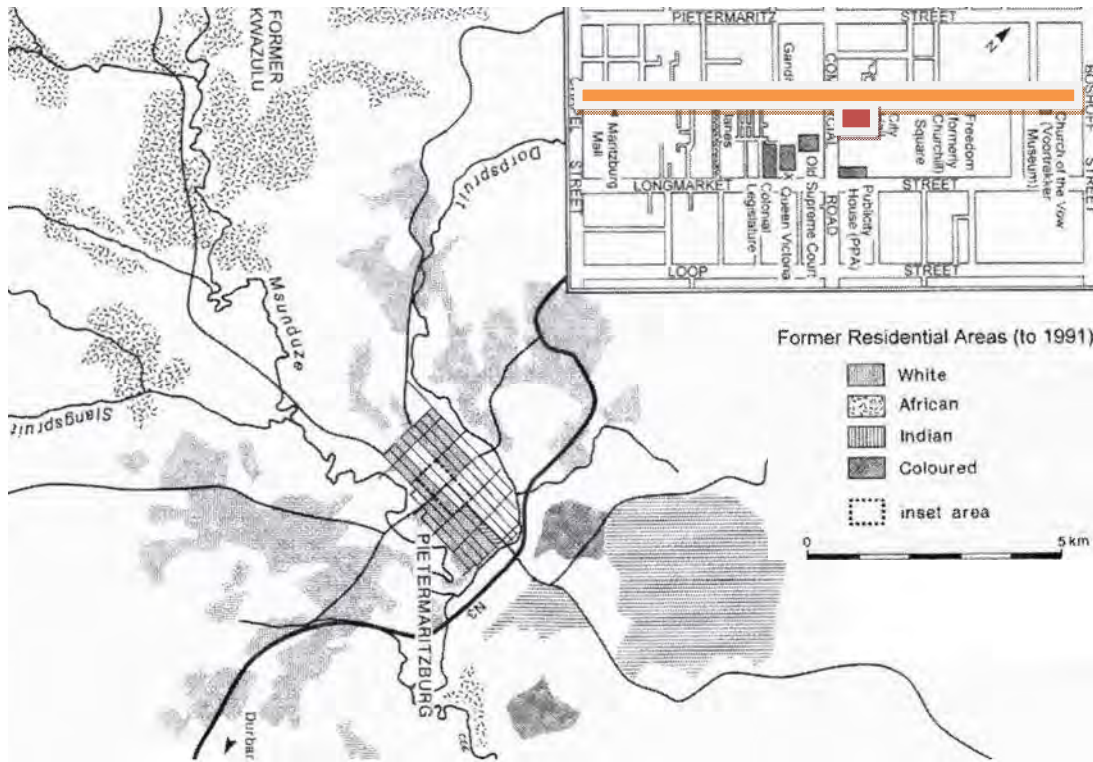


Image 1, Tunbridge, 1999, Pietermaritzburg Former Residential Areas, and City Centre

2.1.3 The 'Sleepy Hollow'

Pietermaritzburg, now commonly known as the 'Sleepy Hollow' was founded in 1838 by colonial settlers and emerged as a dual English Zulu linguistic town (Wills, 1991). This typically 'boer' town or *dorp* has a grid pattern typically to that of Dutch origins as reflected in **Image 1**, where the city hall is centrally situated along the main street within the town. Pietermaritzburg became the capital of the new British colony of Natal after control of the town passed on from the 'Boer' to the British in 1843 (Haswell, 1990).

2.1.4 British Colonial Architecture in Pietermaritzburg

The city's urban landscape developed a distinctly Victorian character indicative of British colonial influence. This architectural imagery emanated from the public buildings within the city centre which are anchored by the impressive town hall and surrounded by early Victorian housing within the previously 'White' residential district along the upper periphery.

"Pietermaritzburg portrays the substantial survival of this exceptional heritage resource, a gem of colonial Victoriana" (Haswell, 1990; Ashworth and Tunbridge, 1990).

Most of these buildings still stand today as testament of Pietermaritzburg's British colonial inheritance, but with the exception of public buildings, not much can be said about the city's protection of privately owned heritage buildings which have in most cases been left to ruins mainly through neglect or occupation by the major influx of foreign urban migration. This is compounded by South Africa's rapid population growth and financial constraints in trying to cope with the socio-economic inequality within our post 1994 democratic society. Historicism remains evident within the Pietermaritzburg context, even today with the many British Colonial buildings found throughout the city's public and private domain.

2.1.5 An Epitome of Colonial Conservation

One of the buildings that over the years have enjoyed the protection of conservation authorities is the Pietermaritzburg railway station. Curtis (1961, p.438) stated that early Victorian railway buildings were a true example of real architecture and by whose standards modern architecture should live by. A product of the 19th century architect, William Street-Wilson, as a second phase of the expansion of the Natal Government Railways, the Pietermaritzburg railway station was built as a 'stop-over' station en route to the main Durban station.

The stations main passenger entry building with its prominent fleche, as seen in **Plate 1**, is centrally located with the adjoining ancillary buildings strung along, aligning the platform. Located near the top of Church Street and following the same angle as the railway line, one can assume that the old station building with its predominant use of the old red 'Maritzburg' face brick and roof tiles is typical of the Queen Anne style or that of 'Free Style', which is also evident in the City Hall building (Radford, 2002).

The Victorian or 'Free Style' architectural approach enjoyed by the old train station building talks to one aspect of the theory of Historicism and the manner in which stylistic qualities give a building its identity. These styles will be preserved in the old heritage train station building as testament of the period in which the train station was built, reinforcing Hegel's theory of 'seeking to express the zeitgeist' or 'spirit of age'.



Plate 1: Radford, 2002, Pietermaritzburg Railway Station, Local History Museum, Durban

One could develop a number of reasons why the old train station building should remain in existence within our modern society, but one stands out that is of political historical significance in the fight for our democracy and in support of this argument which is the time that Mahatma Gandhi, endured one of his many altercations with early South African racism when he was forced to alight on the 6th June 1893 after he had been thrown off a train for daring to occupy a first class compartment. Historicism should not only be seen as a concern for the historical significance of the building only but a concern for the historical event as well, and the period in which it occurred, giving it context in relation to a particular time in history.

Apart from the buildings obvious connotation with racist laws and its continued existence contrary to our forefathers fight for equality, its architecture remains testament to Victorian England's portrayal of architecture being a representational form of art. Theorist J K Colling called the *"wall surface the plain ground to architecture, as the canvas forms the ground to a painting"* (Kaufman, 1987, p31).

In order to gain a more appreciative view on British arts and architecture, in particular the language of the built form, one is drawn to their approach to their churches which were designed with metaphorical intelligence in that *"they were the books in which the community read the Lords Gospel"* with the altar symbolising a book (Kaufman, 1987).

We can in the same way express our own metaphorical reasoning in support of keeping the train station building in that it is representative of previous domination and power by the colonialists and needs to stand in memory of the past and democracies triumph over it. Victorian theorist Ruskin, who likens buildings to sentient beings, demonstrates in 'The Poetry of Architecture', how an owners character can be represented by the building he 'dwells' in and in this case he uses the analogy of the three windows of a dwelling. As illustrated in **Plate 2**, Ruskin mentions that one window portrays the man of imagination; while another portrays a man of intellect; and the last portrays a man of feeling. This is another form of approach in support the stylistic comparison enforced by Historicism.

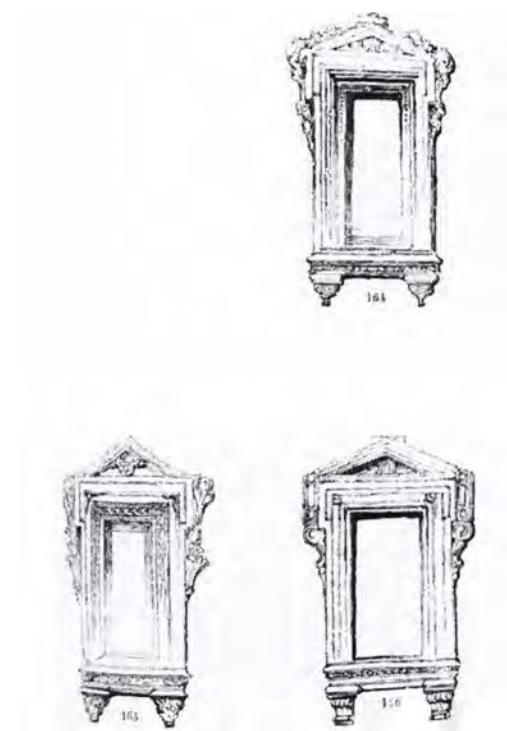


Plate 2, Ruskin, J, 1893, Windows, Poetry of Architecture, Kaufman (1987)

Although colonial buildings are viewed by most as being memorabilia of 'offensive apartheid associations', unlike portraits and statues of notable apartheid leaders which exist as a direct reminder of the atrocities of the past, the buildings spatial confines could be put to a much needed use in providing administrative space for our ever growing society.

"Post modern architects utilise elements of Classical or other past styles in an artistic pastiche of collage" (Colquhoun as stated in Nesbitt, 1996, p.42)

2.1.6 The Juxtaposition of Old and New through Periodization

Historicism indulges the concept of 'Change' through Periodization whereby the identity of the old heritage train station building takes on a new meaning representative of equality when sharing the space with the new train station building.

This change becomes evident in evolution through the theory of Periodization which promotes an architectural style unique to the society it is serving, enabling an appreciation by all and standing as a promise of the intentions of a new society moving forward and not dwelling in the past. Robertson (1930) stated that evolution moves forward by way of continuous leaps whereby the architect develops an expression according to the period of governance. This commonality of evolution and style exposes the relationship between Historicism and Tectonic Expression. Architecture must be allowed to evolve and transform itself in line with the contemporary ideas of a free and modern society. *"In consequence, the expression of architecture becomes subject to fresh change"* (Robertson, 1930, p707).

Alan Colquhoun notes, that *"In the architectural avant-garde this meant the continual creation of new forms under the impulse of social and technological development and the symbolic representation of society through these forms"* (Nesbitt, 1996, p.41)

Architectural periods can also invoke multiple styles which could promote a building of little or no identity. The designer must be required to be of strong personality and to remain true to his own moral beliefs in order to ensure the purity of his intention which is to design a building representational of a modernistic era and that of a democratic society *"The world is subject to fashions, waves of feeling and emotion, licence and freedom, or puritanical restriction, phases of vulgarity, periods of eclecticism"* (Robertson, 1930, p708).

Robertson (1930) stated that future generations will be concerned with an architecture that is conscious of perfect function and service rather than with archaeology or style which unfortunately seems to be a modernist premise in our contemporary world. Modernism however, has been allowed to add archaeology and style through detail and local identity. Historicism does not encourage a replication of old styles but instead encourages sensitivity to their existence.

Historicism through 'Periodization' from old classical or colonial architecture to post modernism, has at some point strong links to both Phenomenology and Tectonics in that the architectural design of any period has three governing factors; the first being the buildings function or purpose; the second being the practical realization of the structure; and the third being design and decoration of material, with the latter referring to Phenomenology. Sir Henry Wootton in Robertson (1930) termed the last point 'delight' relating it to pleasure to the human senses and emotions.

The old railway station building which represents a rich historical past evident in its British colonial architectural style, typically to that of urban Pietermaritzburg and which was used as a tool of the apartheid regime in carrying out their racial segregational policies, must be made to stand as a memorial of the past. The introduction of the new railway station building typology will display a new era in South African architecture to be that of a period striving to be a unified and equal society. *"Periodization is typical of a historical view of architecture, defined as 'seeking to express the zeitgeist' or 'spirit of age', understood to be unique to the present time and requiring the development of a unique style". (Nesbitt, 1996.p41)*

2.2 A 'New Era' in Democratic South Africa

It is of importance that this building be restored and preserved as a part of the merger of the two periods into one with the new train station building becoming a vital part of the modern society we live in whilst remaining a representative of the 'generator for change', as a means to celebrate South Africa's rich and diverse society. Colquhoun reinforces this approach with two types of Historicism, one being that of 'attitude' which is *"sympathy towards culture and customs of the past"* and the other being that of 'artistic practice', which is *"sampling forms and imagery freely from the various historic styles"*; all styles conceived as being equally valid (Colquhoun as cited in Nesbitt, 1996, p.200).

Although the two train station building typologies will be vastly different in their architectural style, their union within the same site will represent our cultural diversity within South Africa. This unity will be transposed through to the people who make use of this building, even if only for a brief moment within the confines of the main hall of the train station, portraying a sense of 'symbiosis between building and person' which speaks to that of the theory of Phenomenology where man should form a relationship with the building. Apart from our cultural and social differences we will be made to congregate within a unified space and acknowledge one another as equals.

2.3 Phenomenology – Separated City Spatial Planning

2.3.1 Introduction

Norberg-Schulz's theory on Phenomenology and his concept of 'dwelling' being interpreted as '*being at peace in a protected place*' is illustrated in **Photo 1**, where one sees some women and children at a housing complex in Bombay, India, congregating within an enclosed courtyard surrounded by their homes, depicting a sense of 'safeness' within their environment. As mentioned in an earlier section, this approach to the theory of Phenomenology is strongly linked to that of Colonialism when looking at the psychological rationale of the European colonials and their introduction of spatial separation.



Photo 1: Correa, C., 1984, Housing Belapur: Bombay: India, Ghirardo, 1996

These colonial authorities were extremely insecure by the fact that they had to exist or 'dwell' in a space commonly shared with Africans, to the extent that they implemented laws and policies that spatially divided the two races. This socio-psychological insecurity on the part of the Europeans was due to a fear for their safety and that of their women which resulted in a form of sexual inferiority as well.

"fear of sexual inferiority, so common in the literature on racism,... this was translated into laws passed to protect the virtue of white women from the lust of black men, almost all of whom were believed to be desirous of white women as to put these women in jeopardy"

(Khapoya (1998) as cited in Njoh 2008, p594)

Laws of spatial segregation not only gave them psychological peace of mind but economic superiority in that the desirable land in the higher parts of the city where services like electricity, water and tarred streets were limited to, were exclusively for Whites. As Kim Dovey (1990) theorized, *"Segregation tends to create 'privileged enclaves of access, amenity and community'"* (Njoh, 2008, p595).

This could be viewed as one of the key contributors to the introduction of White Exclusivism in colonial public buildings, which will be discussed further in a later paragraph, as these were designed as 'enclaves' for privileged use by the colonizer and wherein the colonized did not belong. The theory of Phenomenology is strongly emphasised in this paragraph in that the Whites created their own environments in which to 'dwell' and where they retained superiority.

This spatial segregation or 'place making' by the Europeans not only created a divide between African and Europeans, but was critical in the racial and cultural divide amongst the so called 'Black' South Africans which as mentioned before, after researching the apartheid policies of South Africa, were made up of Africans, Coloureds, Indians and Chinese. Tunbridge (1999) stated that in Pietermaritzburg, Coloureds and Indians were marginalized and displaced to the lower parts of the city whilst Africans were located in small townships on the outskirts of the city.

Each race had to be content with their 'forced upon' surroundings and learn to make it their 'home'. There remained a Phenomenological relationship between 'man' and his 'city', where he became familiar and comfortable with his surroundings even if he was forced to 'dwell' there.

"Every citizen has had long associations with some part of his city and his image is soaked in memories and meanings" (Lynch, 1960, p.1)

This dissertation affords the writer an opportunity of providing a first-hand attestation of the affects of racial spatial separation. As a child growing up in the CBD of Pietermaritzburg, and being a member of the Coloured community living in the so called 'downtown' residential end of the city, venturing into the 'upper most' White residential part of the city always presented a social challenge for fear of victimization with one always requiring to have a 'good reason' for being in that area which at most times would have only been because of having to work there. A Phenomenological relationship could not occur in this instance as one felt uneasy and unwelcome within this environment resulting in there being any need to 'dwell' or remain for too long within that space.

“Community, at-homeness and sense of place – these themes can be considered through a Phenomenological perspective, which explores the underlying, taken for granted pattern of human experience and behavior” (Seamon and Mugeraur, 1985, p.227).

The division of Black from Black in a cultural sense and in particular, Coloured and Indian races, gave rise to various forms of racial identity, one of which was also instigated by wealth. There remained a division between the more ‘financially better off’ Coloured and Indians who lived in the nicer parts of the ‘downtown’ city precinct with the same rationale being applied to the suburbs. This socio-economic division generated a crisis that gave rise to a type of cultural practice of one being more superior to the other in a similar way to that of Whites over Blacks. ‘Place making’ has become devoid within this environment as there was no societal connection between one another which is key towards satisfying the theory of Phenomenology.



Photo 2: Pillay, K R., 1908, Sri Siva Soobramaniam Temple, Traditional Hindu Temple

Njoh (2008) stated that cultural segregation was as a result, if not the same as racial segregation in Africa and that this culture extended to include values, practices and institutions. Most of the cultural practices were aligned to religion which gave rise to where religious institutions could be located in relation to the community it served. **Photo 2**, Illustrates the Sri Siva Soobramoniam Temple for the Indian community situated in the ‘downtown’ residential area of the city which was occupied by predominantly Coloured and Indian races, demonstrating the cultural diversity within a community (Radford, 2002).

There is a need in our modern democratic society to not only learn to 'dwell' in an environment that is seen as Black and White trying to tolerate each other, but to create multi-cultural harmony between all races. There should be a Phenomenological perception to this shared space, where people dream of socio-economic equality. As cited in Turnbridge (1978) both Kong (1993) and Yeoh (1996) wrote of post colonial Singapore attempting to create a unique multicultural society. The main source that allows multi-cultural societies to live in tolerance is through redistribution of education and job opportunities that, in turn, generate wealth.

2.3.2 Spatial Segregation in Buildings

Up until this point much has been said about racial segregation within the city community, but what about the effects of racial segregation within the building form as a result of spatial interference. There are two key aspects which contribute towards this apartheid architectural triumph; namely 'isolation' and 'partitioning'.

"Architectural isolation represented the enterprise of constructing and maintaining places that kept Whites and Blacks apart, isolated from one another, whilst architectural partitioning represented the effort to segregate within the facilities that were shared with the races" (Weyeneth, 2005, p13).

The Phenomenological approach to spatial perception within these buildings were successfully carried out in a way that Blacks were psychologically made to feel inferior to Whites, resulting in Blacks not wanting to remain or 'dwell' within the space.

The design of buildings that promoted racial segregation shaped human behaviour in the same way that the city's spatial planning ordinances did by keeping Whites and Blacks apart with one constantly invoking superiority over the other. In reviewing 'isolation' as the first of the two proponents of architectural segregation, it can be deduced that its objective was to minimize contact within the building by keeping the daily occupation by Blacks within a space separate to that of Whites. *"The core idea of architectural isolation was that racial contact should be minimized"* (Weyeneth, 2005, p13). This is contrary to the ideals of 'space sharing' as supported by the proponents of Phenomenology but speaks strongly to a psychological approach of spatial separation.

Partitioning through architectural design induced total separation between races which was paramount in the degradation of Blacks, where Black people had to enter a building through a separate entrance. Black people were never afforded any form of rights in public buildings or spaces and had to accept their racial inferiority.

"Man 'dwells' when he can orientate himself with and identify himself with an environment" (Norberg Schulz, 1980, p.5)

This architectural partitioning was depicted in the train station in Lenoir, North Carolina, USA (**Fig 1**) where state law required there be two separate passenger waiting rooms for White and Coloureds, which led through separate entrances onto the station platform (Weyeneth, 2005). The Phenomenological perception that Black people had of the space would remain in their memories forever. However, 'dwelling' was only for a short period after which one experienced a different type of feeling being that of transition which speaks to the theory of 'movement' which is a strong reinforcer of 'public transportation'.

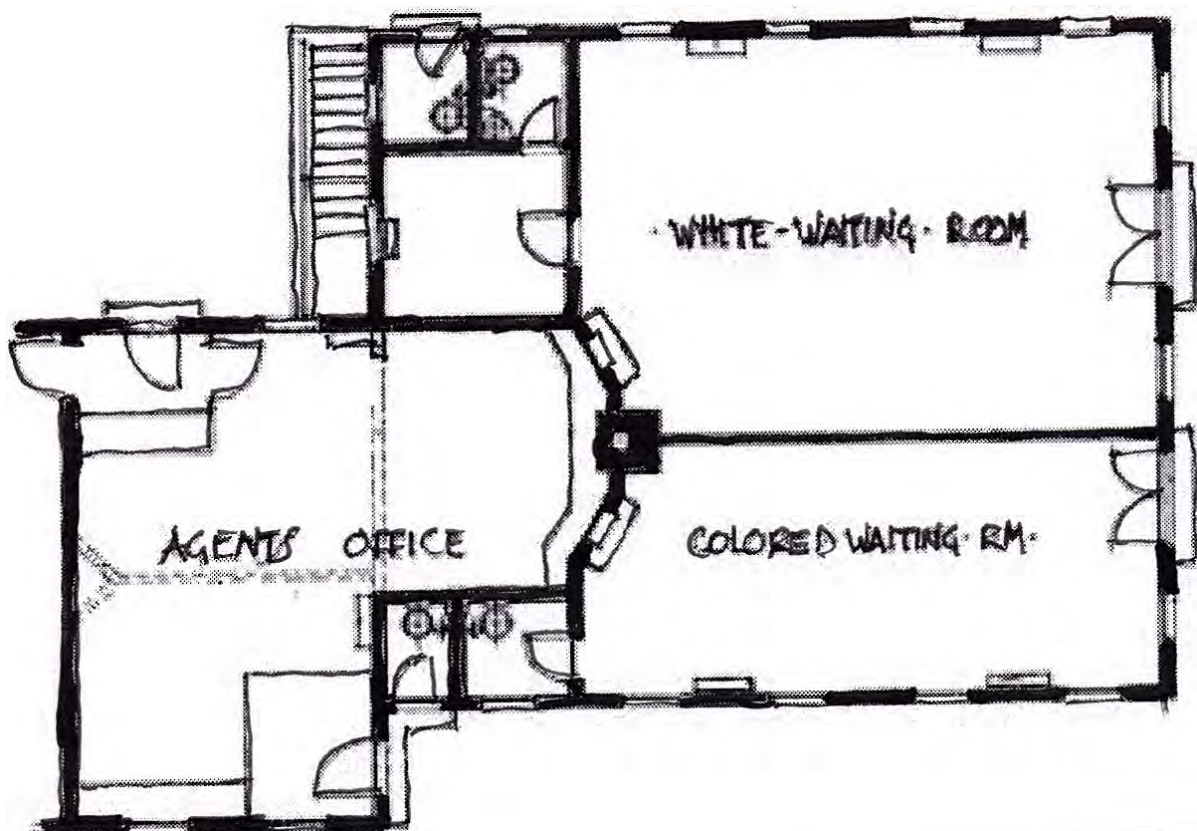


Figure 1: Weyeneth, 2005, Plan of Railway Station at Lenoir, North Carolina (1912)

Although segregation was prominent in the architectural arrangement of train stations of colonialist and segregationalist countries, one could also associate train stations to a metaphorical sense in that by default their railway tracks divorced the trains from the disorder of road transport and commuting, which could be viewed in a positive light. It can be further said that this segregation is symbolized by the Doric portico at Euston *"A gateway through which you entered the railway system on your way out of London after the journey from Birmingham"* (Curtis, 1961)

Currently in South Africa, the increased urban population is causing road traffic congestion which is commonly due to our infrastructure not being able to keep up with the growing commuter demand. This country does not have a competitive and dependable rail industry as opposed to Europe, Japan and most recently, China where there is continuous competition amongst railway companies rendering it a successful support system to public commuting.

Pietermaritzburg is a prime example of road infrastructure not being able to support urban growth whilst the failure of a dependable rail system amongst other things has forced a thriving but unsafe mini-bus taxi industry. This industry is only able to thrive with the influx of mainly non-white commuters travelling into the city. As cited in Tunbridge (1978), *"The African presence in the inner city has grown enormously. Much of the housing in the inner city grid is now in African occupancy"* (Wills et al., 1987).

Minibus taxi's better known as '*kombi*' in South African culture have dug their roots in our exclusively lower income, non-white society and established their own 'sense of place' aligning it to the theory of Phenomenology. Their presence however comes with many challenges; one being that this industry has conquered inner city space with particular reference to Pietermaritzburg, where its location in the city centre is an 'eye-sore'. This occupation of prime public space, which would be better suited as a more pedestrianized precinct, brings with it crime; rubbish infested streets; and mutilation of public facilities.

"The relationship between 'dwelling' and 'journey' is dialectical and identifies the need for both stability and change in peoples dealings with places and environments" (Seamon, 1985, p.227).

The mini-bus taxi industries location within the city centre is a major contributor towards the alienation, from this area, by middle to upper class Blacks as well as Coloureds, Indians, and Whites in general. Tunbridge and Ashworth (1996) state that other population groups, especially Whites, are supporting the outlying shopping centres rather than those within the CBD.

At the risk of being accused of repetition, Norberg-Schulz's concept of *'being at peace in a protected place'* (as cited in Nesbitt 1996, p.29) holds weight in that the city centre has to be given back to all the citizens of the entire city and in order to achieve this, mini-bus taxis must be relocated to the periphery. This will reinforce the concept of 'movement' strongly associated with public transportation. This relocation will ease the influx of the criminal element into this central environment, as criminals will now be forced to apply their activities in a newly proposed taxi rank relocated at the old railway station precinct. This area will remain under stricter police control therefore contributing to a much safer community, primarily inhabited by pedestrians within a precinct that is rich in conservation heritage indicative of Pietermaritzburg.

This relocation of the mini-bus taxi rank would be best suited within or around the confines of the old train station precinct situated in the upper part of the city centre. When going back to colonial racial spatial planning and the city grid, this approach could be seen as a psychological advantage in that there is now a reversal of the colonial rationale of the upper most parts of the city being exclusively for the Whites and their stance on domination and reign over the lower mortals (Winters, 1982, as cited in Njoh, 2008, p596). This relocation of the existing mini-bus taxi rank will enforce the Phenomenological approach of 'place making' within a new environment.

"European colonial authorities used topography to symbolize the unequal distribution of power and wealth and to separate the ruler from the ruled". This move begins to set the tone of 'all being equal in the eyes of the Beholder', whereby all races, Whites included, should be welcome to 'dwell' in any part of the city. It is within this environment that racial, socio-economic and cultural differences can be celebrated. *"The generation of men and woman who leave one place to find another, pass through a set of experiences that later generations born in that place can never know"* (Seamon, 1985, p.239) This creates a form of 'concretization of existential space' whereby all are allowed to exist within a common space as theorized by Norberg-Schulz (1980).

Although the predominantly colonial administrative buildings dominate this modern city enclave, some encouragement can be drawn from an inference of the statue of Gandhi (**Photo 3**) erected in 1993 as a symbol of his non-violent resistance to racism.

"He is depicted walking away from the distant train station, and looking away from the immediately adjacent colonial building in which racist policy has been formulated and justice dispensed" (Haswell, 1990 as cited in Tunbridge, 1999).



Photo 3: Tunbridge, 1993, Statue of Gandhi in Pietermaritzburg

Gandhi's statue reaffirms this concept of 'movement' in that he is depicted on the move, although ironically in this case he is walking away from the connotations of apartheid, being that of the old train station. Movement within the city can be associated with Pallasmaa's, concept of 'movement between spaces'. The space being the various parts of the city in particular that of the heritage part of the city centre, the experiences endured along the way in terms of 'memory of past atrocities' and the arrival at the new Pietermaritzburg station which is representative of the 'new iconic image of the city'. There should be no restriction of movement within the confines of this beautiful city.

Njoh (2008) stated that Colonial authorities imposed laws of 'restriction of movement' in order to prevent crime by African people. We are today all considered Africans; people of Africa, Whites included, and should be able to exercise our rights of movement within all sectors of our city, notwithstanding the fact that crime is a real issue, but this can be controlled and reduced by visible and active policing which will reinforce the Phenomenological theory of 'being at peace in a protected place'.

"A person moves away from their stable home base outward along a path toward confrontation with place, experience or ideas" (Seamon, 1985, p.228)

Njoh's (2008) use of the 'concept of space' differs from that of other theorists in that whilst the others associate space with the make-up of physical buildings and walls, he views buildings as only being one aspect of that space whilst people within the space make up the other. This again ties with Palasmaa's concept of 'moving through space' where the 'Being' has a presence within his 'environment' and his presence is never static. The train station precinct is that 'environment' or 'dwelling' and the commuters are the 'Beings' residing within that space.

The precinct in this case deals with the space surrounding the train station site, with the commuters constantly moving throughout this space. 'Dwelling' does not necessarily have to be within the confines of a building but within the spatial confines of the precinct as well, giving rise to the importance of circulation from exterior to interior and vice-versa.

"space could be delimited with other physical markers such as streets, railway tracks, vegetation, and topography" (Njoh, 2008, p596).

The spatial circulation inside the new train station building will play a pivotal role in terms of reinforcing the concept of the 'flow of unrestricted movement'. *"Movement is associated with newness, unfamiliarity, exploration and courage – it extends awareness of distance, place and experience"* (Seamon, 1985, p.227). Care must be exercised not to fall foul of subconsciously repeating colonial philosophies in the form of restriction or segregation which could easily be the case with gender inequality or a person's physical ability, making strong reference to disabled people.

It is imperative that any individual entering the confines of the new train station building experiences a level of belonging which will contribute to the commuters level of comfortability and ultimately result in a feeling of 'being safe' reinforcing once again the concept of '*being at peace in a protected place*'. Building on this level of 'comfortability' is the ability for humans to acknowledge their 'existence' as 'Beings' within an 'environment' that has some impact on their daily lives, which will develop into a 'relationship' between 'man' and 'building'. Seamon (1985) compares an individual person or group of people's existence within a space to that of a pendulum swinging; between the need for centre; at 'homeness' and 'continuity' on the one hand; and the need for change, variety and reach on the other (Seamon, 1985).

This 'relationship' between 'man' and 'building' as proposed by Heidegger in his theoretical approach to Phenomenology, does not happen in a vacuum but within a space occupied by others which leads to the introduction of another important issue being that of 'space sharing' and the harmonious relationship with your fellow 'Beings'. **Photo 4**, taken during the Olympic Games at the Munich Stadium in Munich, depicts people of various races and cultural beliefs congregating within a common space in unity with one another because of their love for sport.

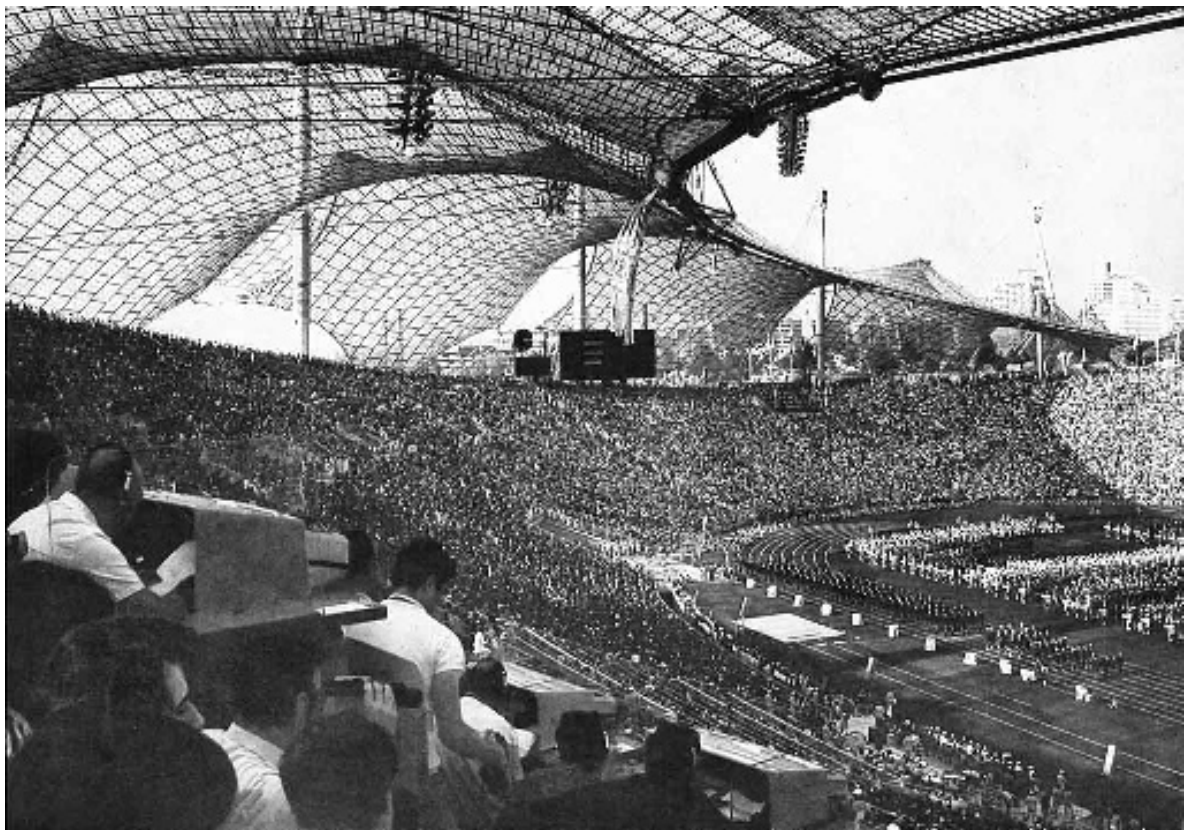


Photo 4, Behnisch, Olympic Stadium: Munich: Germany, Gunter Behnisch (1972), Frampton 2007

With reference to perception as proposed by Phenomenology, it is expected that once a person enters the spatial realm of the new train station building at Pietermaritzburg, one should forget all the bad memories experienced outside its confines, in particular that of past atrocities brought about by the visual link of the old train station building. The commuter must be overwhelmed by sentiments of a new era in society, demonstrating that this is a community of 'forward thinkers' and not 'past dwellers'.

One can infer, as proposed by Heidegger, that a relationship between 'man' and 'building' can develop if there remains a constant interest between the 'Being' and his immediate 'dwelling'. This 'relationship' does not have to be one of a physical nature, although the concept of 'touch' is used in this argument to demonstrate one of many forms of sensory perception, but within the psychic realm of being conscious and respectful of his environment.

"Architecture exists in another reality from our everyday life and pursuits, the emotional force seduces our imagination to wander away from the world of everyday realities" (Pallasmaa as cited in Nesbitt, 1996).

Heidegger's approach to Phenomenology suggested that architects must become aware of the experience a human being endures within a space or the built environment as a whole. The key to creating a 'sense of place' is 'letting things be' which includes the way we see, think, understand and build. (Heidegger as cited by David Seamon 1998)

The train station should be a 'home away from home' allowing the commuter or user to experience a sense of security, familiarity and belonging, almost like being a part of a family or community, whilst simultaneously experiencing a new level of imagination and the need to explore further. This feeling should be in contrast to the feeling of segregation experienced in public buildings of the apartheid era. As a reinforcer to this statement, one should combine Schulz's interpretation of Phenomenology and that of 'dwelling' or *"being at peace in a protected place"* with that of Pallasmaa's theory that *"The artistic dimension of a work of art does not lie in the actual physical thing; it exists only in the consciousness of the person experiencing it"* (as cited in Nesbitt 1996,p.30).

2.4 Public Transportation Exemplifying the Concept of Movement

Public transportation should enable a freedom of movement without restriction. The commuter should enjoy the perception of safety which includes no robberies or attacks on commuters whilst indulging in a comfortable environment such as that of a train station. This will promote continued use through daily interaction within the various spaces making up this typology which is psychically driven by the use of senses such as sight, touch and smell.

This Phenomenological attachment by means of sensory perception is in the way the commuter experience's the synergy of emotions as he transcends through the various spaces of the train station building. There cannot be any form of disconnection between 'movement' and 'space' as the two are key contributors to a socially viable environment where people from different socio-economic backgrounds are constantly moving in and out of a particular space.

This spatial connection assisted by freedom of movement could be enjoyed through technologically supported visual images or simply mural art that has been supplied by the local community members within the city. The latter will certainly promote a unification of communities within this transitional environment of the train station precinct.

2.5 Tectonic Expression: Its Beauty is in its Details

2.5.1 Introduction

Before delving into the theory of Tectonic Expression and the Modernistic approach used in this argument, in support of the architectural style to be employed in the new train station building. We should appreciate the fact that Tectonics has been around since early times inferring that there is a strong association with early Historicism. This is evident in the architectural style of the old train station building and its spatial planning. It was during these early times that theorists like Botticher argued that art had to take reference from function and nature; and in order for there to be a harmonious relationship between 'man' and 'building', there had to be a compromise between the buildings use and its detail.

"A harmony between building and human culture brought about through the mediation of artistic ornament". (Botticher as cited in Schwarzer, 1993, p.267)

2.5.2 The Early Approach

Reference to colonial architectural style is critical in understanding that these buildings, although seen by the colonized as being symbols of oppression, did express architectural merit in their ability to perform well within the artistic and architectural platform. British colonial architecture developed a concern with architectural representation and communication which followed through in their buildings built in the then colonized South Africa.

"Architecture was conceived to be a representational form of art" (Kaufman, 1987, p.30)

Botticher's approach is seen as an amalgamation of Historicism, Phenomenology and Tectonics in that the period and style in which the building was designed had its association with Historicism; then you have the spatial make-up of the building in terms of its functional performance tied to that of Phenomenology with particular focus on the approach to 'space'; and lastly the approach to the buildings ornamental detail and structure which lends itself to Tectonic Expression.

Botticher recommended in Schwarzer (1993), that when architects design a building, they should undertake an analysis of social and physical forces that would ultimately influence that design. This is paramount in our everyday approach to architectural design whereby social and cultural issues play an important role in the formulation of space, which has a direct influence on form. *"the needs that instigate its plan, its roof covering, and its vertical supports, that together result in the creation of architectural form and space"* (Botticher as cited in Schwarzer, 1993, p.267).

Period style through architectural evolution over time has been rejected and substituted with a concern for space and form resonating from basic design principles like geometrical proportioning and rhythm, amongst others, in order to produce buildings of a unique style that are relevant to their socio-economic and cultural conditions. There also has to be a real drive towards employing technologically advanced materials and technologies similar to that of Central Europe and Asia, to name a few, which creates an 'eye catching' aesthetical appeal.

2.5.3 The Modern Tectonic

This concern with aesthetical appeal and technological advancement leads this discussion towards the implementation of a modernistic approach to building design, as expressed by various theorists one of which was Karl Friedrich, who strove to create buildings of their time unique to the societies they resided in (Schwarzer, 1993).

Modernism allows the designer to implement a radical Tectonic theoretical approach in order to exploit the buildings ability and showcase its uniqueness in comparison to other buildings of a similar typology especially when expressing the various structural elements, choice of materials and arrangement of space. Carlo Scarpa's work is chosen as exemplary because *"each detail tells us the story of its making, of its placing, of its dimensioning"* (Nesbitt, 1996. p.498). Innovation and invention is only possible through detail which results in harmonious spaces (Fascari cited in Nesbitt, 1996).

There are however, some critics in particular theorists like Kenneth Frampton who opposed the modernistic tectonic theoretical approach and believe in a much more direct approach to that of the excessive complexity of detail found in modern buildings. Schwarzer (1993) states that some of today's theory of tectonics is a compilation that seems in total contradiction to postmodernism.

Again in returning to the purpose of colonialism and the psychological effect of colonial public buildings on the colonized, one can argue that apart from the segregation policies within the building footprint itself which was pivotal in ensuring that White racist domination remained effective from a psychological perspective, there was also the issue of intimidation by the over-scaled buildings.

"The size and scale of structures such as buildings cannot be divorced from the discourses of domination and intimidation" (Dovey, 1999 as cited in Njoh, 2008).

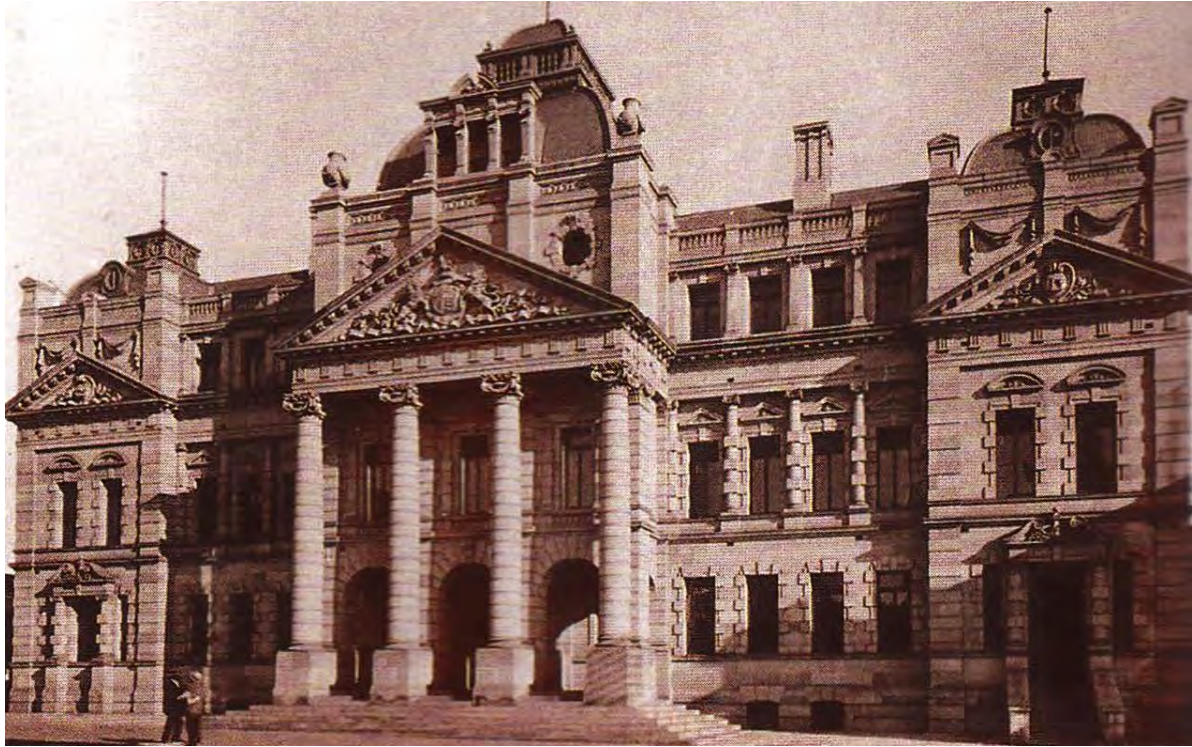


Plate 3, Radford, 2002, Pietermaritzburg Colonial Building, Local History Museums Collection, Durban

Dovey explains that this exaggerated physical scale belittles its human subject (Dovey, 1999 as cited in Njoh, 2008). Public buildings of the modernistic movement have dealt with the issue of grandeur and scale in a more sensitive manner so as not to be seen as enforcing the ideologies of the regime. Contrary to what was stated about public buildings being of a grand nature, which is true in most instances, the old Pietermaritzburg train station public building is miniature in scale when comparing it to the rest of the city's grand public buildings (**Plate 3**), resulting in its size offering no form of intimidation in relation to human scale.

Train station buildings should be centre's of distinction, balancing the constraints of scale in order not to appear domineering and monstrous but to be representational of the vast scale associated with the public transport industry. **Photo 5** is an illustration of the large scale building by Thomas Herzog, at the Hanover Trade Fair, which has been scaled down with the incorporation of simple 'boxed' protrusions. The tectonic theoretical approach should not only be carried through in the detailing of the train stations structure or its enormous facade but in its spatial planning as well, from the main entrance hall through to the platforms. The structure is being manifested or expressed in a poetic manner (Frampton cited in Nesbitt, 1996, p.520).



Photo 5, Herzog, 1996, Hanover Trade Fair: Germany-Thomas Herzog, Frampton, 2007

The new train station should feed off a Tectonic theoretical approach which commences with the basic principles of designing a typology of this nature whilst at the same time ensuring that the architectural language is that of a modernistic approach. In the fifties and sixties, architects like Franco Albini and Carlo Scarpa to name a few, used a Tectonic theoretical approach in the use of materials and details as the principle support in their designs. However, this has been simmered down over the years and only used today as a guiding concept (Gregotti cited in Nesbitt, 1996, p.498).

2.6 'Architectural Identity' Through 'Visual Connection'

The theory of Tectonic Expression has a deep connection with the concept of 'Visual Connection' which should be evident in the 'architectural identity' which is appreciated by the commuter through the architectural detailing, at the point of arrival at the train station.

Train station typologies are grand in nature which should be portrayed in this building ensuring its dominance and prominence but without making it seem like it has been imposed on the site. The train station should be iconic in nature by not conforming only to the norms of basic design but by applying a poetic yet drastic architectural approach in pushing the boundaries. The architect should journey into a realm of opportunities through the use of 'visual connection' allowing an exploration of the extremities of the design of a typology of this nature in both construction methods and material use and its impact on the users thus generating a sense of 'architectural identity'.

"The perception of the architectural space achieved in this way is the result of the association of the visual images of details gained through the phenomenon of indirect vision, with the geometrical proposition embodied in forms, dimensions and location developed by touching and by walking through buildings" (Nesbitt, 1996, p.506).

2.7 Summation

This dissertation aims to support the need to revitalize old colonial buildings in South Africa through the theory of Historicism which is supported by the concept of 'Periodization', to the extent that newer modern buildings must be built around the old ones taking careful consideration not to detract from them and run the risk of a loss in heritage conservation. British colonial buildings are merely tools used by colonizers to affect their segregation policies and cannot be held accountable or put on the same pedestal as the people who carried out the evil atrocities of the past.

Through the theory of Historicism and that of a 'concern for the traditions of the past', it is of vital importance that the architecture of these racially dominated buildings be preserved even though some of those who have lived through the oppression of apartheid may disagree. There will also be those who will argue that these buildings present 'double victimization' through their very existence as Black people would have to remember and relive these shameful atrocities.

"Existence in and of itself makes a prescriptive statement of how things should be"
(Weyeneth, 2005,p.37)

No matter how insensitive it may seem, it still remains important that people are able to one day use these symbols of racism to educate their grandchildren about their own heritage. The preservation of buildings that were used for racial segregation will encourage public education and tolerance amongst races and promote a better understanding of dealing with modern day social issues (Weyeneth , 2005) which speaks to the concept of 'change' and forgiveness for past atrocities.

It can be deduced, apart from many other reasons, that the British colonial psychological fear of being vulnerable played a major role in their implementation of racial segregation which led to them invoking spatial separation. This presented the British with the power of intimidation and oppression over Black people in Africa, and for this argument, the City of Pietermaritzburg. This perception of space through psychological fear speaks to Pallasmaa's theory of space perception occurring within the psychological realm or in the mind.

Heritage buildings like trains stations although being past institutions of domination and intimidation were also merely used as gateways for travel and should remain as part of our historical past. Their spaces, mainly occupied by commuters, were that of a transitional nature and although Black commuters felt their effect of racial partition, it was only for a brief period. In the case of early government parliament buildings and court houses, these were life affecting institutions where decisions of racial and spatial segregation were taken and implemented. There remains a strong Phenomenological approach in the spatial design of these buildings whereby they successfully ensured that Black people did not 'dwell' within the confines of their walls by making them feel unwelcome.

However in saying this, it is still of historical importance to preserve these buildings and perhaps change their use to reduce the affects of the painful memories of the past. Colquhoun believes that in order to understand our present built environment one needs to have some historical knowledge.

"Acceptance of tradition is the necessary condition for the production of architectural meaning"
(Colquhoun as cited in Nesbitt, 1996, p.201)

The old heritage train station building along with the new modern building of similar typology have glaring historical differences that make them unique in their own right. These differences become the catalyst in getting them to co-exist within a common space through 'Periodization', which will be a reflection of the co-existence of societies and cultures in our quest for the transformation of South Africa and Modern architecture. There is potential for co-existence of any two dissimilar forms with a tendency of transformation of geometries (Eisenman as cited in Nesbitt 1996, p.83)

It is of vital importance to aid in nation building for the development of a new culture that is made up of all races and people of all socio-economic backgrounds in order to rid our society of all forms of inequalities. This will go a long way in growing a pure society willing to move forward in an ever changing political and economic climate. The critical focus of this research is to invoke ways of making this life journey interesting in terms of one's constant engagement with elements within our built environment.

These elements should keep the sub-conscious mind constantly intrigued with thoughts of what is next to come. Society's willingness to progress to new socio-economic heights is supported by the concept of 'movement' which has a strong link with that of 'public transportation. The journey of 'experience' as proposed by the concept of 'movement' is expected to be that of a roller coaster ride of emotions starting with that of 'memory', remembering the past invoked by the old train station building; then moving on to that of 'existence' and the point where we are at currently in South Africa in terms of democracy; then moving onto 'experience' and what the space does to our psychic being; and lastly 'movement' and the journey of progressing forward in our lives. In life's journey, there is a point of departure and that of arrival and we are responsible for what happens in between. We could either choose to 'alight' at some point through the journey or see it through until the end.

Both the new and old railway station buildings should be representative of a 'truce' between architectural periods indicative of the supporting theory of 'Periodization', whilst at the same time representing forgiveness of the atrocities of the past and a reflection of the various societies being able to come together and exist peacefully within a common space. This truce can be in the form of subtle elements taken from the old building into the new, using a modernistic approach representative of the technologically advanced and much superior time period that we reside in, which in this case speaks to that of the theory of Tectonic Expression.

"Post modern historicist architects utilize elements in classical or other past styles in an artistic practice of collage, pastiche, or authentic reconstruction, clearly demonstrating that they feel these forms are superior to contemporary ones because of the associations and meanings they carry" (Nesbitt, 1996.p200).

The building should not be viewed as just merely walls and roofs enclosing a space for shelter and protection. Robertson (1930) stated that the building has become a living machine which is dynamic instead of static. A building is expected to be a catalyst of its own culture which indicates a strong Tectonic approach to the buildings identity. This culture can only exist by way of a mutual understanding and respect between the people that inhabit the building and its environment.

This promotes a 'visual connection' between man and his environment and more importantly, with the building itself, whereby a perception of the buildings spatial qualities is developed. This results in a form of recognition with certain elements of the building that remains in ones memory forever. It is with this recognition of what the building represents and stands for that gives the building its identity.

In summing up an informed response to the research questions, one can categorically state that through the theory of Historicism and period style architecture of the old Victorian era, British colonial style public buildings were designed to assist, as well as played a key role, in racial spatial separation within buildings. There is a rich connotation between colonial buildings of the apartheid regime and the atrocious acts on humanity in pre-democratic South Africa. However in saying this, one has to re-iterate the historical importance of keeping these buildings within our society to serve as a reminder of where we as liberated South Africans come from.

As suggested in an earlier paragraph, these buildings should be subject to a 'change in use', depending on the buildings emotional effect based on its previous use, and utilized in a constructive manner to address societies growing need for administrative space within both government and private sectors and more importantly in Pietermaritzburg because of its capital status. However, this capital status brings with it hordes of people of various races from different cities, who by way of their work association with the various government departments, may have to reside in the city.

This provides a strong argument for the promotion of an inner city lifestyle, where through a Phenomenological approach, there is an insurgence of our mixed race community, inclusive of Whites, back into the city centre. The goal will be to create an environment wherein all races feel a sense of belonging and 'comfortability' whilst enjoying a high level of safety. The city centre must be transformed into a predominantly pedestrianized precinct in order for people to interact and 'dwell' with one another on a social scale.

This 'dwelling' within the city should not only be experienced on a macro level in terms of city scale, but on a micro level as well, within the confines of the train station precinct, where unity and safety will remain the order of the day. The Tectonic approach towards the various structural elements within the new train station building, coupled with a Phenomenological spatial response whereby there is a constant 'invigoration of the senses' with the unification of the memories of the old train station building with the new modern building, will represent our intention as a united nation to move forward positively during this healing process.

All three theories are designed to work in unison with each other to ensure a building of high technological advancement in keeping with current modern day rail commuting trends whilst still remaining within the realm of our socio-economic climate, with strong emphasis on commuter safety. The case and precedent studies that will be focused on in support of this argument, will have to demonstrate their corroboration to all three theories in both form and spatial planning.

Particular emphasis will be on train stations that have undergone a transition in period architecture from historical to modern, more importantly those that have been successful in creating a juxtaposition of unity between these buildings. The introduction of technology in all aspects of the building will be crucial in demonstrating a post-modern approach to cost effective and safe commuting by rail.

3.0 CHAPTER THREE: PRECEDENT STUDIES

3.1 Introduction

The two precedent studies chosen in support of this argument have been carefully selected for their strong theoretical and conceptual underpinning which is relates to this argument; and many other supporting factors in addressing the key questions of this dissertation topic.

3.2 Kings Cross Railway Station, London

The Kings Cross railway station in London is seen as an ideal precedent in support of this argument for various reasons, with the most obvious being it's similarity to this dissertation topic in that it comprises of a merger of an old railway station building with that of a new railway station building forming a harmonious union between two periods in architecture and the fact that Kings Cross is situated within a country that was never devoid of racial tension.

During the 1950's, more immigrants started moving into London, only this time they were more black skinned from the Caribbean Islands, and later Hindu, Muslim and Pakistani, amongst others. Their presence contributed to the city's economical growth with the sprawling of their many restaurants and retail outlets. Over the years, due to poverty amongst White Britons, this social wealth led to societal racism and discrimination. Although this still remains a problem amongst today's British society, cases of racial discrimination have declined considerably (History of England, Jaycee, 2014).

London today is said by some to be a safe, cosmopolitan and fashionable city, although others may beg to differ. Planners have re-created certain areas into more socially vibrant and pedestrian dominated precincts. However, in doing this they have created an increase in traffic congestion which has already over the years been a major problem. This problem is currently being addressed with much consideration for an increase in rail tracks to the already overcrowded underground rail system. This has led to the major revitalization of the existing Kings Cross railway station in London (History of England, Jaycee, 2014).

The new regeneration of the Kings Cross station building was designed by architects John McAslan and Partners (JMP) who stated that this project could be an opportunity to make London a 'European Gateway', except that it is highly unlikely for this to be the case as unlike its neighbouring St Pancras station, Kings Cross station only served the city of London and its immediate surrounding areas. *"this incredible project has the potential to create and re-define Civic Identity and Celebrate London"* (Mc Aslan, 2012)

McAslan also stated that the original construction of railway stations with their road and railway infrastructure within urban London, which were typical to that of an industrial nature, were ironically seen as an unsympathetic imposition to the English historical cityscape. Lewis Cubitt's Kings Cross railway station, which stood in the heart of the city along with that of neighbouring St Pancras station, inadvertently stood at the forefront of this urban desecration (Mc Aslan, 2012).

The original 1852 two platform Kings Cross station building (**Image 2**), with its elegantly simple but somewhat modest yellow brick facade, underwent many ad hoc maintenance challenges over the years to preserve the integrity of the original structure.



Image 2, Williams J&J: London News, 1852, Original 1852 Kings Cross Railway Station

Kings Cross Railway Station has created a major improvement in public transportation of all sectors through its aesthetic and spatial transformation with faster interchange connections between the London Underground, taxis and buses, earning Kings Cross the recognition of being a public transportation super-hub (McAslan, 2012). According to McAslan (2012), to aid in the successful parity of these two architectural iconic structures at Kings Cross, they employed three different styles of architecture being that of re-use, restoration and re-build.

"The train shed and range buildings have been adapted and re-used, the station's previously obscured Grade I listed façade is being precisely restored, and a new, highly expressive Western Concourse has been designed as a centerpiece and the 'beating heart' of the project" (McAslan, 2012).

At Kings Cross, the new western concourse with its striking semi-circular form and vaulted roof structure (**Image 3**), made up of aluminium and glass panels, abuts the western side of the existing station building and boasts a new 5.5m entrance at its south end with another entrance at mezzanine level on the northern side. The structure rises approximately 20m at its highest point along the periphery of the existing train station building with a span of 150m creating plenty of space to accommodate the ever increasing passenger volumes.

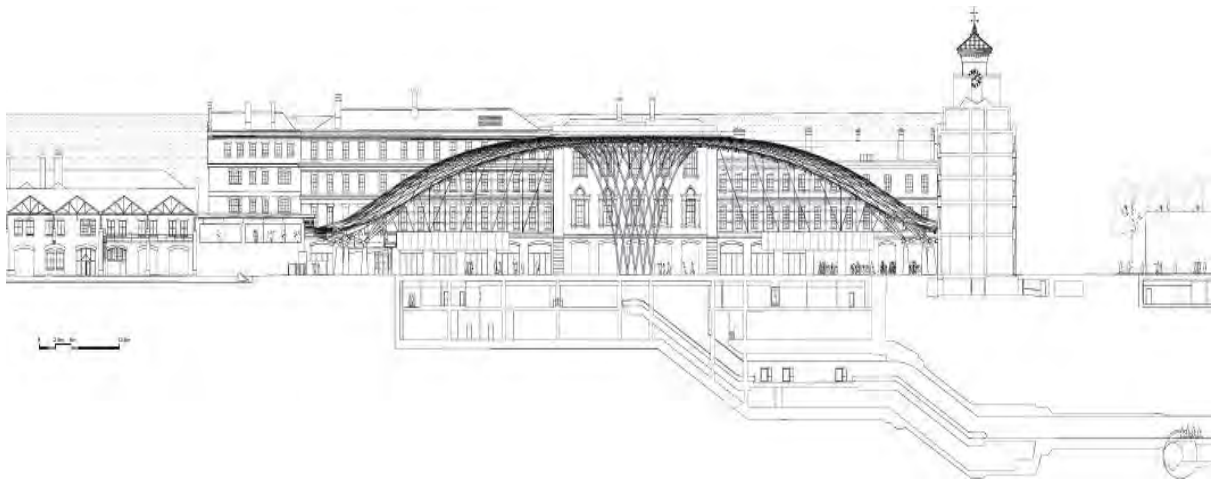


Image 3, McAslan, 2012, Typical Section thro the New Concourse at Kings Cross Station

This 7500m² concourse (**Image 4**), whose semi-circular form echoes that of the neighbouring Great Northern Hotel and sits adjacent to the original stations Western Range facade within the plaza, comprises of steel 'tree' form columns supporting one of Europe's largest single- span station structures which emanates in a radial fashion from an expressive, tapered central funnel.

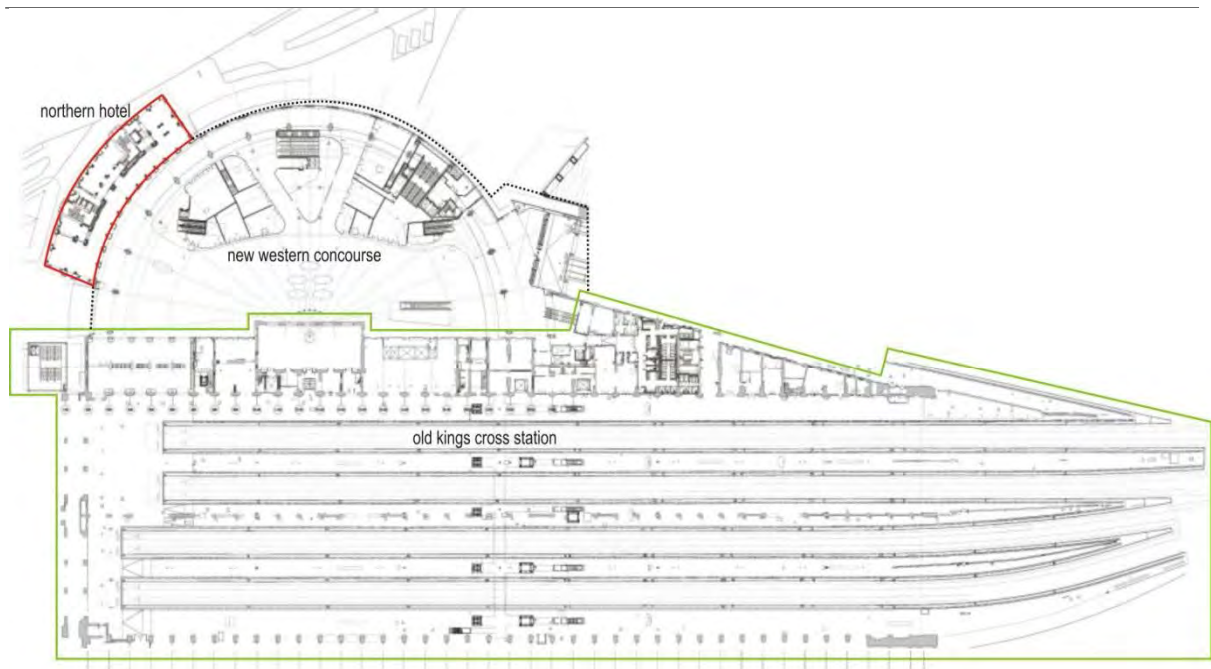


Image 4, McAslan, 2012, Ground Floor Layout of the Revitalized Kings Cross Station

Passengers access platforms of this dramatic and volumous interior space either on ground floor or by way of the mezzanine level above, through the use of lifts and escalators which also carry passengers from the footbridge across the lines down onto the platforms. These bridge elements have been made slender with glass balustrades to minimize the visual impact on the old station building.

The concourse is pivotal in the transformation of commuter facilities en-route to the various enhanced external transport links with the introduction of retail elements at mezzanine level. The concourse also, in the same fashion as the station building itself, becomes an architectural gateway to the Kings Cross central mixed-use developments and the St Pancras International Station whilst acting as an extension to the Kings Cross plaza and square.

Keeping the focus on Kings Cross's elaborate form, the new 'diagrid' roof (**Photo 6**), which seems to pay homage to British architecture as is seen atop the British Museums Great Court, comprises of a structural span without any visible bolts and without the need for central structural supports. The introduction of a wide area of natural light forming a naturally bright space within the funnel is indicative of the head of a matchstick (**Photo 7**) (Mc Aslan, 2012).



Photo 6, McAslan, 2012, Aerial View of New 'Diagrid' Roof Over the New Concourse

"It leaps, it's glorious, organic - a very bold expression of the overlay of new and old. We could have been a bit more apologetic, or subordinate, but this is an absolutely amazing structure." (Architect Hilro Aso, JMP, 2012).



Photo 7, McAslan, 2012, Concourse - Interior View

Hilro Aso (2012) goes further to say that passengers will have a chance to relax within the larger free formed flowing central space with the introduction of cafes and shops within the concourses second storey which is divorced from the commuter frenzy.

One of the stations biggest historic components is the Western Range comprising of five buildings that have been readapted for a range of uses being that for housing station staff, train operating companies and rail management teams. Restoration has also been concentrated on the stations Main Train Shed with the refurbishment of the platforms and re-glazing the north and south gables culminating in an expression of the bold architecture of the south facade.

After an interrogation of the old and new building facades (**Image 5**) next to each other at Kings Cross, one can see and appreciate the architect's sensitivity in ensuring that with the introduction of the new domed roof with its gentle curvature, there always remains a clear visibility of the old building from both the outside and in. The use of the domed roof and its lowered eaves at the abutment against the hotel still enables light and visibility through the hotel windows. However, the ground level of the hotel now remains enclosed within the train station concourse which may not be ideal in terms of access and privacy.

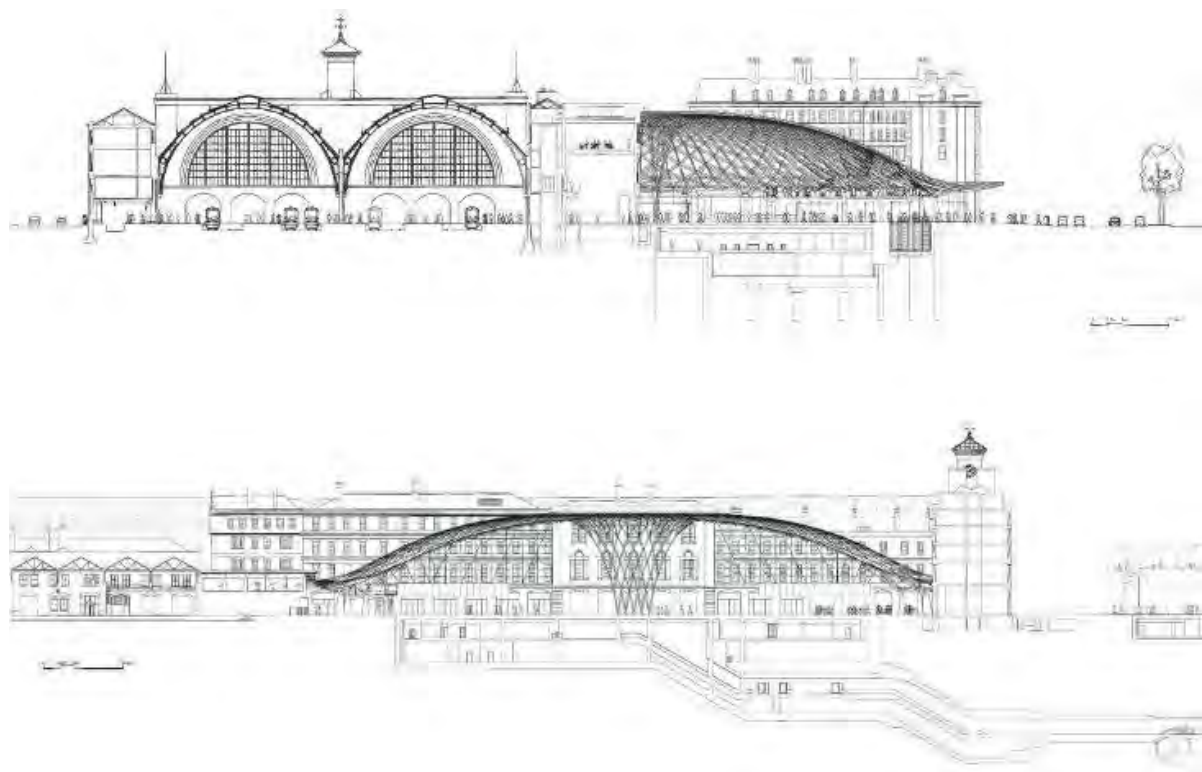
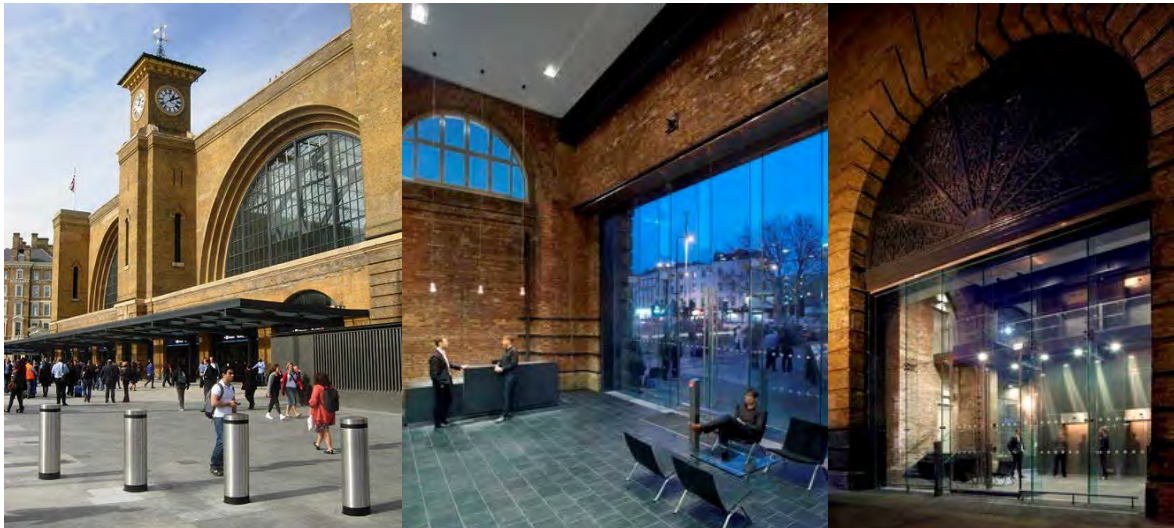


Image 5, McAslan, 2012, Typical Sections

Looking further at the design of the new additions to the Kings Cross station, one has to admit that what really stands out is the inter penetration of two pure forms being that of a rectangular old station building with an inter-penetration of a new semi-circular form. Again there is careful consideration for the context in that the concourses semi-circular arrangement is generated from that of the semi-circular form of the existing hotel within the western square.

Both the old and new buildings main facade has been celebrated with the old facade being fully glazed, with frameless glass, to allow a fully transparent view of the preserved old structure within the old station building. The new glazed entrance and canopy on the Western side of the new station building representing the new gateway to the future of train travel.



Images 6, Hufton and Crow, 2012, (1) Old Station Main Façade, (2) Old Station Foyer, (3) Old Station Glass Entrance

The old Kings Cross station entrance has been reduced in its length by the introduction of lifts and stairs and converted into a reception area (**Image 6/2**). Another indication of preserving the historical integrity of the building is allowing the buildings fabric to remain intact and to only introduce subtle new elements so as not to detract from what was there before, as shown in **Image 6/1**. The building should still be recognized as an old train station building and not be 'dressed up' to depict a false sense of identity. The use of glass (**Image 6/3**) is important in that it allows transparency which in today's society is indicative of honesty and being truthful.

The large outdoor Kings Cross Square between Kings Cross station and the nearby St Pancras station (**Photo 8**) offers an enjoyable public social environment enhanced by its southern orientation. Trees have been planted within the space to not only soften the space but to also offer both commuters and pedestrians some form of protection against the elements. The contrasting texture and colour of paving against tarred road creates a clear separation between vehicle and pedestrian movement.



Photo 8, McAslan, 2012, Main Entrance Square at Kings Cross Railway Station

At Kings Cross, another striking feature within the concourse is the 'tree like' structural form (**Photo 9**) towering up to create the voluminous domes internal space, with the volume allowing for the introduction of another floor at the higher level. This intermediate level gives a sense of human scale to the building making it more people friendlier towards commuters. The expressive 'diagrid' roof offers an aesthetic appeal to the ceiling whilst allowing natural light through in strategic areas, especially at the point of interface between new building and old facade. Dramatic light penetration at the 'trunk' of the tree encourages a concentrated focus towards the old building.



Photo 9, Hufton and Crow, 2012, Structural 'Tree' like Form

The cohesion of old and new shops within the concourse (**Photo 10**) of the Kings Cross station building promotes a spatial sense of unity between old and new. One experiences the history of the old train station whilst travelling through the new concourse which is almost 'like walking through a part of history'. History is in the process of being shared and depending on which side of the concourse one is, you could move across almost like moving between two time periods. There is a sense of place-making in that the old building still remains prominent in our modern society.

The penetration of natural light within the station (**Image 7**) makes for an easy transition when passengers move during the daytime within an internal environment towards the outside. At night however, the building comes alive with a clever approach to artificial lighting which is concentrated onto the old building in some areas and quite subtle in other areas so as not to create a conflict with what is intentionally meant to be expressed.



Photo 10, Hufton and Crow, 2012, Kings Cross Concourse

Image 7, McAslan, 2012, Kings Cross Platform

The increase in floor area on the ground floor of the new concourse contributes to a spacious environment within the station which is a key attributer to the enjoyment of the spatial qualities allowing commuters to at times stop and appreciate the buildings architecture, concreting the relationship between 'man' and 'building'. The organic form within the new train station space promotes a softer environment as oppose to the formal rectilinear arrangement within the old train station.

This organic form is repeated on the mezzanine level (**Photo 10**) whilst further space is gained by the semi-circular alignment of the eating outlets creating a food court, which allows passengers to have a meal in the level above the main concourse whilst visually participating in the movement of commuters below, creating one community. The sensitive location of the food courts, away from direct commuter frenzy affords the commuter some 'peace' and a point of rest during transition.

3.2.1 Conclusion

Some may see the irony of this old English Kings Cross railway station being used as a precedent study in support of this argument, given the fact that it was mostly British colonialism to blame for the horrendous acts of apartheid experienced in South Africa, but it goes beyond that and towards the fact that like South Africa, England and this case London, was also plagued by acts of racism and violence.

Although this racism did not result in the design of buildings which encouraged racial separation, there still remained some form of spatial segregation within the city where Indians amongst other races formed their own communities in which they lived in order to feel safe and develop a sense of belonging within a comfortable environment. This became the product of social segregation which was also rife amongst non-whites themselves, where even religious association played an integral part in this social divide.

3.2.2 Historicism: From England to Africa

Segregation also followed through into the built environment in some way or the other where train stations were seen as desecrating London's Victorian cityscape because of their mega-industrial type architectural forms. However, trains were and are still a much needed mode of public transportation to ease the congestion of road traffic within the city of London which resulted in the construction and later revitalization of the Kings Cross railway station. Historicism is portrayed in a stylistic approach towards the design of train stations during the late 1800's in Britain, being that of industrial type buildings, which did not compliment the Victorian architecture of the city of London and which at the time were approached in a more decorative sense.

The acknowledgement of 'Periodization' through the theory of Historicism triggers a dialogue between Cubitt's 1852 station and 21st century architecture, where the old building is revered and left to remain in its original form demonstrating a 'concern for the traditions of the past', as defined through the theory of Historicism, whilst the new building which is representative of a new modern era, interconnects with it forming a multi-cultural parity. This is indicative of a marriage of peace and unity amongst the diverse society living within the city of London.

Unlike Kings Cross where both old and new structure are similar in scale, this co-existence will have to be carefully considered in the hierarchy of the design at Pietermaritzburg with the presence of the old single storey train station building offering a challenge in terms of its incorporation within a proposed voluminous new structure. However even in saying this, the union of old and new should equally share an importance of presence whereby the resultant should culminate in the production of a modern and technologically advanced iconic structure representative of South Africa's commitment to public transportation.

This approach of buildings representing two different periods in architecture sharing a common space is indicative of 'Periodization' but also reinforces the concept of 'change', whereby both buildings are offered equal respect as being an important part of the architectural period they represent. Just like in the case of Kings Cross, three architectural approaches will be used in the renovation of the old train station building at Pietermaritzburg with that of restoration, re-use and new build, except that in this case and in terms of public engagement, the old train station building will play no part as an active station but be restored and used partly as a museum and as offices for the stations administrative department.

Architectural stylistic elements will be taken from this old building and incorporated into the new building in a more creative and modernistic manner portraying ones sensitivity to the 'styles of the past' and reflecting a continuous link to the theory of Historicism. The London historical architecture played an important role in the contextual approach of the form of the new domed roof at Kings Cross Station which is vital in terms keeping the connection between the two periods in architecture, although in the case of the new roof it was not a direct replication.

This was elegantly achieved to ensure there still remained a contrast between the old and new buildings. This is representative of an 'expression of the zeitgeist' or 'spirit of age' as defined by Martin Hegel, whereby one should respect the period in which that building was constructed. Although Historicism proposes a 'concern for the styles of the past', care must be taken not to replicate the old styles but to use these styles in the creation of a new current contemporary style unique to a modern society.

3.2.3 Phenomenology: Place Making in London

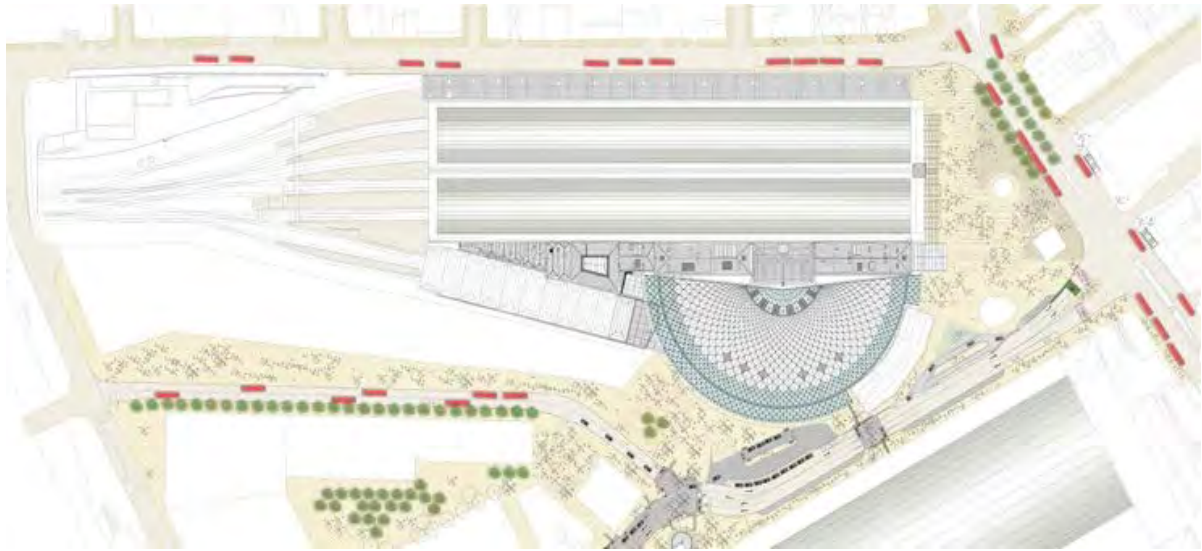


Image 8, McAlsan, 2012, Kings Cross Site Layout

The urban renewal programme around the Kings Cross precinct and with particular reference to the Kings Cross Station, is indicative of that of a sense of 'place making' within the London precinct. The pleasant and socially vibrant main entrance square (**Image 8**) is an invitation to the community of London as a whole, irrespective of race, colour of socio-economic standing.

This creates a sense of 'belonging', considered through a Phenomenological theoretical perspective. Cultures are being invited to 'dwell' within the same environment where they are to be seen as equals. As Lynch (1960) mentioned, every citizen has had some form of association with his city that invokes some form of memory and perception, which whether good or bad, will be succumbed by the special feeling felt within this space.

The volumous internal spatial arrangement at Kings Cross, with its expressive 'tree' like structural roof support, is a marvel in terms of both a Phenomenological and Tectonic theoretical approach. Phenomenology is expressed in the spatial intrigue it presents by the welcoming of natural light through its funnel and into the space, giving it a warm and friendlier feeling. The commuter makes a connection with the building while moving through the space forming a relationship between 'dwelling' and 'journey' whilst experiencing a sense of heightened perception.

Spatial appreciation and enjoyment, along with uninterrupted accessibility within the Kings Cross station concourse plays a vital role in promoting freedom of 'movement', in line with the concept of movement between inside and outside. As stated by Norberg-Schulz (1980) man is allowed to 'dwell' and 'identify' with the environment while he orientates himself within the confines of the building. Another contributing factor is the mezzanine level within this volumous environment that enables multi-level commuter involvement within a common space. This in turn promotes social and racial integration which should enhance the unification of society with the intention to 'dwell' within the confines of a safe place. To 'dwell' and 'remain at peace in a protected place', promotes the concept of unity and change in our society which is representative of a nation that wants to remain devoid of crime.

3.2.4 Tectonic Expression: Expressive Architecture

The architectural attention to detail, especially with the expressive steel funnel, encapsulates the commuter into forming a visual connection that will allow man and building to interconnect. This interconnection is repeated with the buildings old and new architecture within the precinct. This creates a sense of uniqueness with this building in comparison to other buildings of similar typology which is indicative of a Tectonic theoretical approach.

Another approach employed by this modern Tectonic Expressionist is that of the 'contextual borrowing' of the dome roof form of the old British Museums Great Court, and using it as the roof form of the new concourse but in a modern and functional way; where natural light is let through in abundance. The use of the domed form also allows for the old Kings Cross station building remaining visible when the roof descends in elevation ensuring it remains unobtrusive and sensitive to the history of the London cityscape.

When comparing the various Tectonic theoretical approaches taken at Kings Cross station, with special reference to the elaborate 'tree' like structural form and expressive roof, one can only aspire to ensure that the new structural composition of the old Pietermaritzburg railway station building will remain grand in its formation with complex elements of steel and glass incorporated in an array of details. This Tectonic theoretical approach is to be infused with that of a Phenomenological one, whereby structure will be used to invoke psychological experiences through the treatment of materials as well as an intelligent use of both natural and artificial light.

Like in the case of Kings Cross where Tectonic and Phenomenological theoretical treatment of the old facades and the buildings structure are celebrated by the extensive use of glass to promote transparency, so will the same practice be employed in the old Pietermaritzburg station building as it is of vital importance in South Africa that buildings display a sense of honesty and transparency in a bid to invoke the same within our society.

3.3 Stadelhofen Railway Station, Zurich

The original Stadelhofen station in Zurich (**Photo 11**) built in 1894 and which still remains today as part of the new upgraded station, is located at the end of the main street leading towards Lake Zurich. This neoclassical style, Italianate building, sits on the edge of the city centre on the one side whilst being flanked by a hillside on the other.



Photo 11, Roland ZH, 2009, Original Stadelhofen Train Station Building (right) with New Station Glass Canopy (left)

The City of Zurich in their attempt to deal with the increase in local rail commuter traffic, and the need to bring more people from the suburbs into the city, embarked on a project to increase the size of the original Stadelhofen station, which included the addition of another train track. The winning entry resulting from a competition, was submitted by Spanish architect and engineer Santiago Calatrava and comprised of a tripartite concept which consisted of a shopping area situated below ground level and cut into the 'park like' hillside; three tracks on street level, two of which were existing; and a pergola shaded promenade above the tracks which linked to the upper street.

"When I first came to Zurich from Valencia I was struck by how green the city is. The topography of Switzerland makes interventions like those at Stadelhofen necessary. But as time passes these retaining walls are re-conquered by waterfalls of vegetation: nature pours over and across the urban interventions back into the city" Calatrava as cited in Sokratis, 1990

Calatrava's approach to the design at Stadelhofen was not only to add a new track to the station, but to integrate the new amenities of his new design into the old station precinct by creating new public spaces; which comprised of an elevated promenade with a small garden located above it; the station square; and the underground shopping area (**Image 9**). There are four stairs, which lead down to the shops within the underpass that are closed off by gates after midnight. These stairs are complimented by a series of lightweight steel bridges that run across the tracks linking the station to a pedestrian cityscape

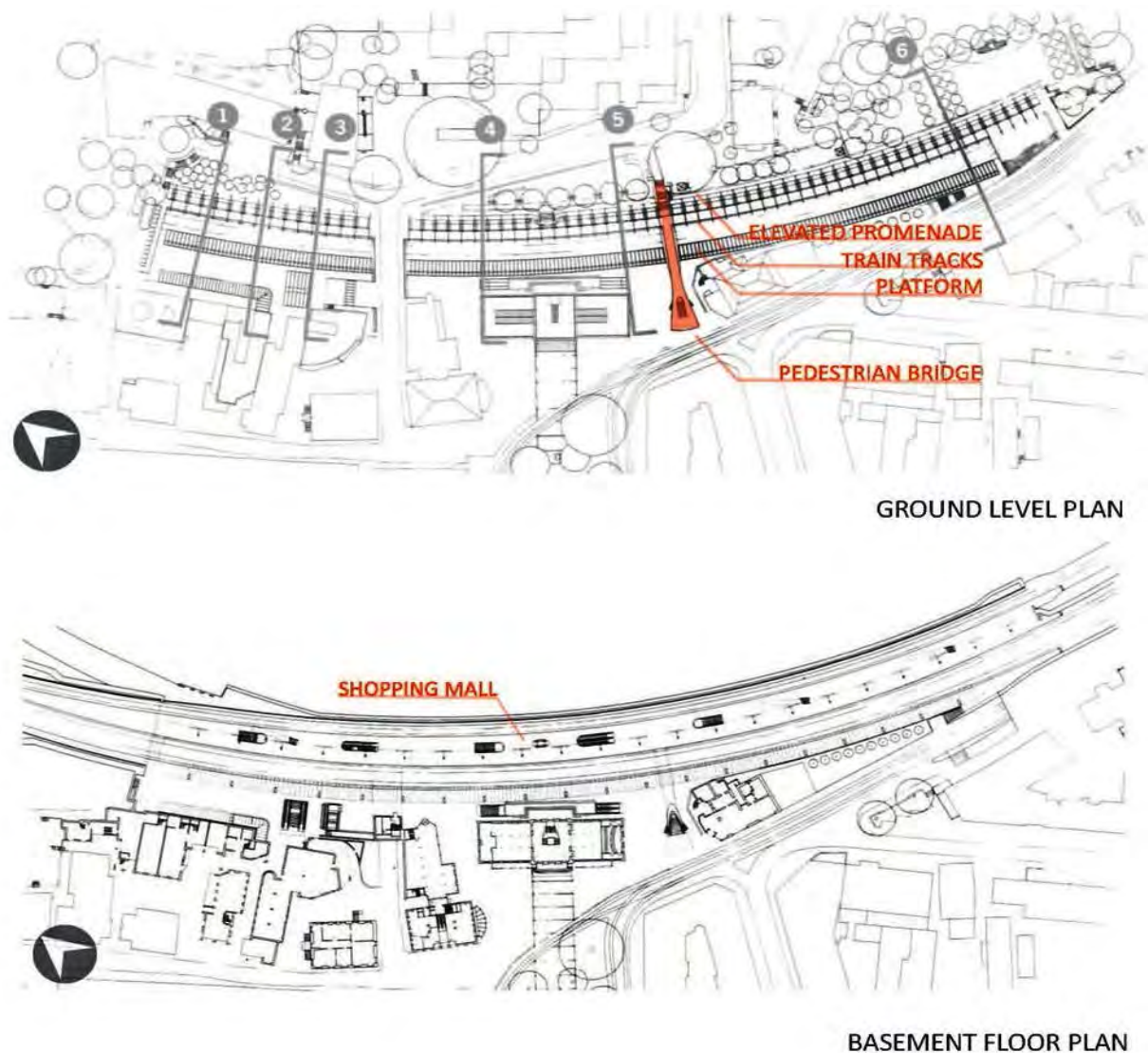


Image 9, Fernandez A, 2009, New Stadelhofen Train Station - Basement and Ground Floor Plans

According to Sokratis (1991), the three bridges express Calatrava's admiration for the works of Antoni Gaudi and Philippe Starck, whilst the underpass is reminiscent of Eero Saarinen's airborne

Expressionism, which is somewhat in contrast to the city's character of medieval guilds. Calatrava remains minimalistic in his choice of materials being that of glass, steel and concrete while construction and detailing are still an elementary part of the buildings architecture.

Apart from the old station building, which remains restored in its original form, Calatrava also retained the two tracks from the old station but with an added third track that was constructed by gouging out the earth from the hillside and replacing it with a combination of concrete retaining and arches forming a promenade that becomes a replacement for the lost green hillside space. It is meant that in time the pergola which drapes over the platform will have its trellis of bare steel wires covered with creeping greenery.

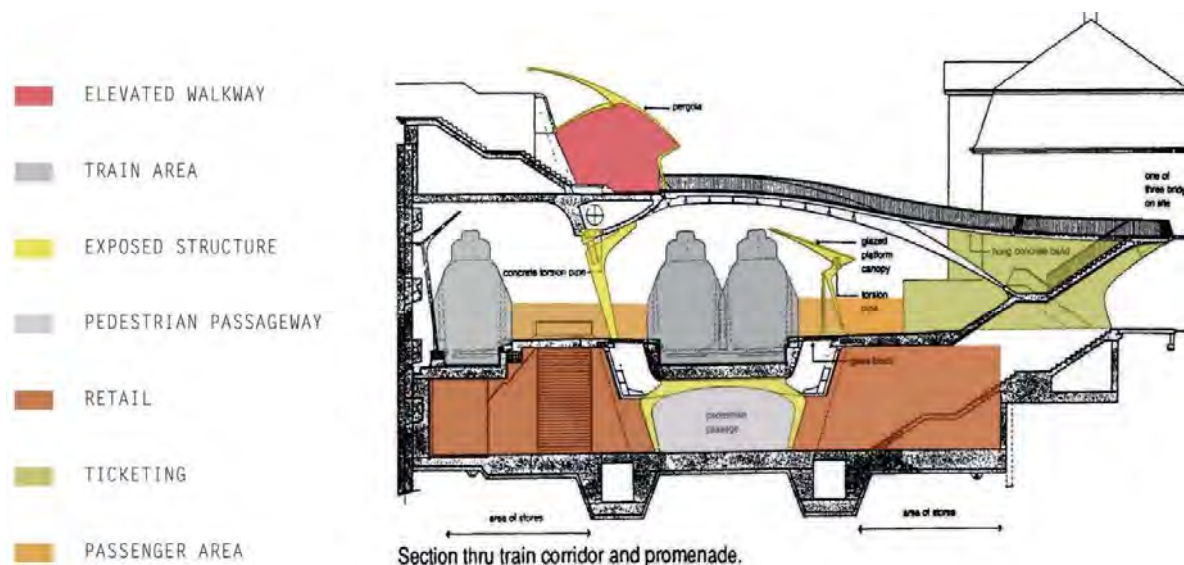


Image 10, Fernandez A, 2009, New Stadelhofen Train Station – Section thru Train Corridor and Promenade

Although the underground shopping centre is mainly artificially lit, it still enjoys penetrations of natural light through the grids of grass block paving along the platforms above. The shopfronts within this space are set back into the hillside and divided by sculptured concrete arches, creating a personal relationship between the shop and the passerby and what Calatrava calls *"an exercise in creating the illusion of space where there is none"*.

Rhythm and uniformity is introduced into the space to affect some form of control which is evident in the repetitive rows of slanted steel pillars (**Image 10**). Although their core function is that of supports to the promenade, they are also used to emphasize the soft curve and length of the space. These ribbed columns along with other more intricately designed elements are Calatrava's usual approach to forming a cohesive whole of engineering language which speaks out to its users.

The public pass freely through the station whilst making much use of this internal space (as shown in **Photo 12**) on their way between the central and outer platforms which are accessed by means of three flights of stairs at regular intervals including escalators and lifts that go all the way to the upper promenade. This ease of access to all parts of the station as well as the promenade's connection to the local streets allows the station to become permeable to pedestrians. Judging from an urban perspective and if one is to appreciate Calatrava's work, one can say that the heart of Calatrava's design approach being that of 'urban integration' is the stations magnificently sculptural cross section.



Photo 12, Aalam I, 2007, New Stadelhofen Train Station Building – Basement Shopping Centre

3.3.1 Historicism: Integrating the New into the Old

The retaining of the old 'Italianate' Stadelhofen station building is a reflection of not only the City of Zurich's 'concern for the traditions of the past' but that of Calatrava as well whereby the old building is allowed to 'show off' its history and that of the period in which it was built. Through 'Periodization', which acts as a supporting concept to the theory of Historicism, both the new and old train station buildings at Stadelhofen (**Photo 13**) are representative of period architecture, with the new representing Calatrava's modernistic approach of a building reflective of the 21st century. Both buildings stand side by side in relation to each other with one not in any way attempting to 'outclass' the other which is also made easier by their separate functions within the train station precinct.



Photo 13, Wiedenmeier R, 2007, New Stadelhofen Train Station Glazed Platform in Front of old Station Building

Martin Heidegger's definition of the 'expression of the zeitgeist' or 'spirit of age' which conforms to the theory of Historicism is evident in the style of the old building being that of a historical age whilst the new buildings represent the current contemporary style of our modern era. The theory of Historicism also promotes a stylistic replication of the buildings elements which in Calatrava's case is never an option as his design style is unique to his own modern interpretation.

This arrangement of old station building standing in juxtaposition with the new glazed train platforms, promenade and lower ground shopping centre, without any form of interpenetration will suit the design approach at the Pietermaritzburg station in that there remains a similar scenario where the old station building's single storey Victorian design favours it being left to stand freely without any connections of any sort whilst the new building stands by its side in a complimentary manner.

3.3.2 Phenomenology: Place Making in Zurich

The new additions to the Stadelhofen train station in the heart Zurich is a firm representation of the theory of 'Genius Loci' or 'spirit of place' whereby the new additions reinforce the old station's merger with the city. It becomes a special place where 'man' is at peace within the confines of the basement shopping space away from the city life above and only surfaces when exiting to board a train or proceed into the city or up into the residential district along the hillside.

One can deduce a similarity between the locations of the Stadelhofen train station with that of the old Pietermaritzburg railway station in that at Stadelhofen the station is located on the upper part of the city near a hillside, which is common to Pietermaritzburg where the station is also located in the upper part of the city almost along the periphery. This 'place making' relates strongly to the theory of Phenomenology whereby the old Pietermaritzburg station precinct will in time be seen as a 'special place' that encourages 'dwelling' and is to become a catalyst in the unification of the city's diverse socio-economic communities through public transportation.



Photo 14, Toni V, 2006, New Stadelhofen Train Station – Repetitive Structural Elements

Looking at the theory of Phenomenology, commuters engage with the buildings sculptural form and repetitive design whilst moving between shops situated within these vertical protrusions. The merge of different structural elements (**Photo 14**) from within the station's shopping concourse, all the way to the upper promenade is indicative of a Tectonic approach which is coupled with Pallasmaa's psychic experience of 'visual connection' that encourages the imagination and stimulates the senses, invoking touch and appreciation.

Both internal and outdoor spaces at the Pietermaritzburg station should be utilized to their maximum potential in terms of spatial allocation and usage so as to avoid unwanted or wasted space. In keeping true to a Phenomenological approach, the main and secondary concourses of the new Pietermaritzburg station should enjoy the infusion of retail and food outlets to offer continual activity and vibrancy to the space. A more compact and vibrant space will contribute to 'place making' within the new Pietermaritzburg station complex and afford one the experience of 'being at peace in a protected place'.

The new train station building at the old Pietermaritzburg Railway Station precinct should not only be dependent on an expression of its overall structure to invoke emotional experiences, as proposed by Pallasmaa, but should display an assortment of aesthetic treatment to the various elements and features within the smaller spaces as well whilst en route to the station's platforms. This treatment could simply be in the use of lighting technology, sound and visual images displayed in a bid to keep the commuter captivated.

At the Stadelhofen station, natural light is in abundance on the upper levels through open and glazed platform canopies but allowed to penetrate into the lower level by virtue of openings in the grass block paving the promenade above (**Photo 15**). These openings are situated between the 'ribcage' like repetitive columns holding up the structure. This intentional penetration of natural light coupled with the replicated 'ribcage' like structure contributes to a fluidity of emotional movement along the railway corridors as one is engulfed in shadow pattern changes influenced by the change in the position of the sun.

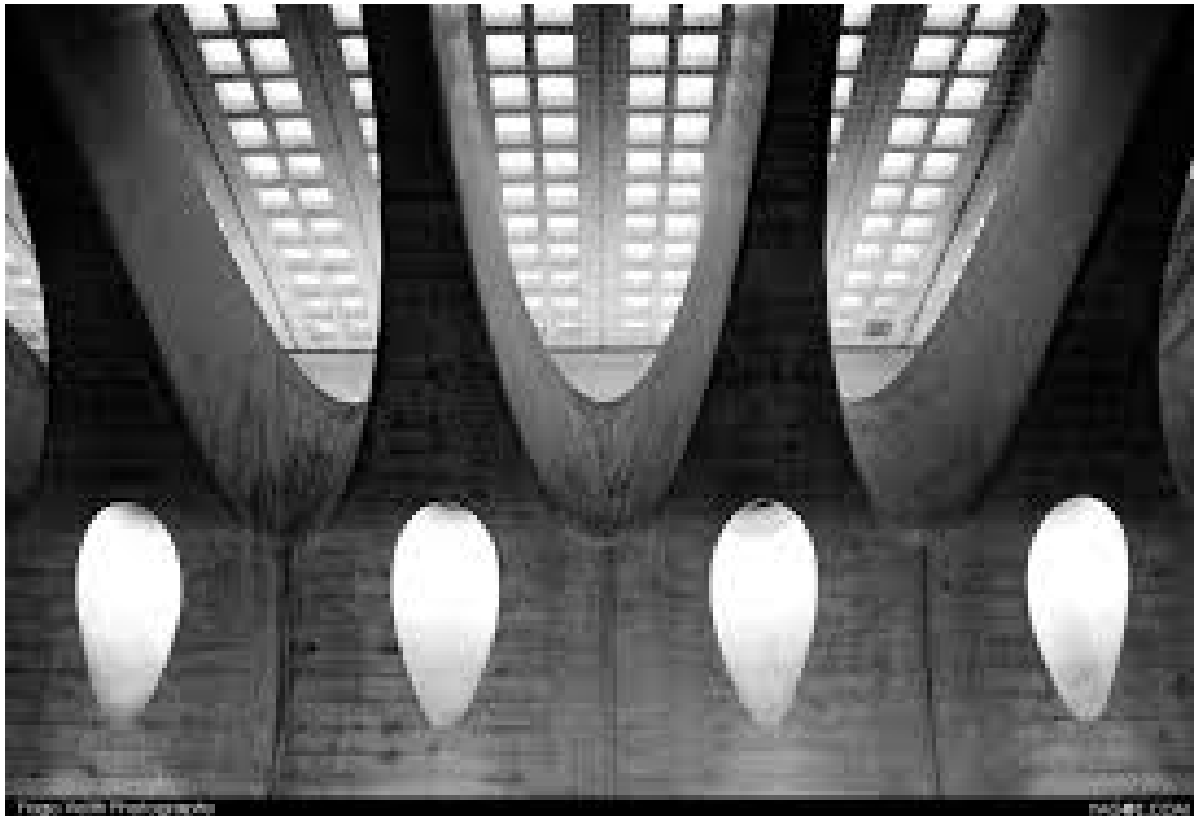


Photo 15, Yago V, 2008, New Stadelhofen Train Station – Natural Light Penetration Through Glass Blocks

Through Phenomenology, spatial enjoyment and sensual invigoration is not only amplified by a visual connection of physical elements but can be enhanced by that of natural elements as well as is the case with the sensual effect of sunlight penetration. The control of natural light within the train station coupled with that of sound and the aesthetic treatment, all in line with a strong Phenomenological approach to various elements, promotes spaces of intrigue which remains vital in capturing the commuter's imagination.

Natural lighting will be in abundance at the Pietermaritzburg station as it relates strongly to the design of the upper track level & promenade at Stadelhofen whereby the existing station currently remains at ground level. However, if the need arises and as demonstrated by Calatrava, one should always ensure that there remains an effective design and control of artificial light as well, although our current society expects energy usage to be extremely limited. At night the Stadelhofen station remains well lit ensuring a high degree of visibility and transparency, but at the same time not being too intense, which allows for a visual connection of the station at night affording it a celebratory role of an iconic building on the hillside.

3.3.3 Tectonic Expression: An Elementary Expression of Architecture

Calatrava's approach to detailing each element becomes an integral part of the buildings overall composition and which at most times is derived from the concept. The Tectonic Expression of the structure both within the shopping centre below ground level and along the platform and promenade, are purposefully elaborated on to provide a connection between 'man' and 'building'. As a supporter of the theory of modern Tectonics one should always endeavour to enhance man's senses with visual links to the buildings details in an effort to encourage the bond between 'man' and 'building' and ultimately entice movement from one space to another. Reflected in **Photos 16 and 17** are Calatrava's intricate approach to steel post details and the entrance gate details to the stairs which acts as a canopy during the day. It is through Calatrava's passion for expressing the detail that ensures commuter captivation.



Photo 16, Iyadurai N, 2006, Steel Post Detail

Photo 17, Choe J, 2012, Entrance Canopies to Stairs also Act as Gates

The main focus at the Pietermaritzburg station is to introduce a new building of an iconic nature, representative South Africa's willingness to change and support new technological ideas within which there 'dwells' an equal and socially responsive society. This will be further enhanced by the buildings uniqueness within the Pietermaritzburg context, where its robust structure represents longevity of form and presence whilst its large glazed panels, that of transparency and a willingness to be identified. The structural form and details of the new building at the Pietermaritzburg station will be expressed for all to see and gaze upon to encourage a visual connection between man and building.

The key conceptual driver will be that of purity of form and expression of detail so as to lure the commuter into a space where senses will be heightened by architectural features. In terms of commuter access points, and in the case of the old Pietermaritzburg Railway Station precinct, design constraints may force the introduction of limited access points. One should make an exhaustive effort to introduce a vast array of soft and hard open public spaces which would play an effective role in promoting social interaction.

In summary, the Stadelhofen train station in Zurich stands in many ways as a meaningful and contributory precedent in support of this dissertation in that it addresses all the theoretical issues of Historicism, Phenomenology and Tectonics in both the spatial and physical realm whereby there is a new urban intervention into a historically old precinct in the same way as with the Pietermaritzburg station precinct in relation to its city.

The concept of movement and visual connection is adequately catered for in the sculptural spaces and intricate details of the buildings structure whilst the building as a whole basks in the concept of change as would be associated with the retaining of the old building whilst welcoming the new. The Stadelhofen train station is a true reflection of public transportation being a technological leader and a pioneer of our modern society.

4.0 CHAPTER FOUR: CASE STUDIES

4.1 Introduction

Before entering into a discussion on the case studies in support of the argument of this dissertation, it is of vital importance to briefly look at public transportation as a whole and how various types of public transportation support each other in ensuring a workable solution to South Africa's quest to alleviate our roads of the ever increasing problem of traffic congestion and road accidents, which will ultimately contribute positively to a much a greener environment.

In order for one to champion the use of public transportation, it is imperative for one to have has first-hand experience of how this mode of transportation actually works for it to be rendered an effective method of travel both within and between cities. Once again privilege has been afforded to the writer for this first-hand experience of the combined effect of a workable public transportation system. The journey begins with the writer disembarking from a domestic flight which has landed at the O R Tambo International Airport from Pietermaritzburg. The intention is to be completely reliant on public transportation which had been implemented in Gauteng since before the soccer World Cup in 2010, for the full duration of the stay.



Image 11, Gautrain, 2010, Route Map



Photo 18 (above), Gautrain, 2010. Gautrain Station

Photo 19 (below), Railway Gazette, 2008, View Inside Train

As one moves through the airport, there is ample signage directing one to the Gautrain station located within the confines of the airport and which serves as a high speed rail system for passengers traveling to limited destinations within the Gauteng and Pretoria region (**Image 11**). The O R Tambo Gautrain station, like all the Gautrain stations (**Photo 18**), guarantees the commuter a short waiting period before boarding a train to a particular destination. The trains (**Photo 19**) are in pristine condition due to the stringent rules enforced by the operators and also because one spends very little time on the train due to the speedy nature of the trips. The visibility of security personnel both inside and outside of the train station building as well as on the train itself offers a sense of security and peace of mind to the traveler.

As mentioned before, the high speed Gautrain does service many train stations en route to and from the airport and in this case with a stopover at Sandton station to change trains in order to reach the final destination at Gautrain Park station in central Johannesburg. As one disembarks at Gautrain Park station, one proceeds on a journey from the platforms in the lower ground level up to street level where immediately outside the station building, there remains the Gautrain Park Bus Terminal. Commuters are able to board a bus, after a short waiting period, for a trip around the city, traveling within dedicated bus lanes and making stops along the way with a final return to the same station from which one departed.

After a test trip to Constitution Hill within the CBD, the writer returned to Gautrain Park station to board the high speed train through to the Gautrain Pretoria central station with various short stops along the way. The Gautrain Pretoria station is situated on the periphery of Pretoria CBD adjacent to the old Pretoria Main Railway station and enjoys a similar public bus transportation system for travel within and around the city as is the case with Johannesburg.

With a few hotels located within walking distance from the station, one could choose to rely solely on public transportation. Upon return to this station, one is easily able to board a train from Gautrain Pretoria station back to the O R Tambo Airport with a quick changeover of trains at Gautrain Marlboro station which concludes an enjoyable and stress free trip where one remained entirely reliant on public transportation and which in this case proves to be a positive approach to today's mode of public commuting within cities and between cities.

4.2 Gautrain Parkstation, Johannesburg

The new Gautrain Park station in central Johannesburg, completed in 2012, was designed by the Gautrain Architects Joint Venture (GAJV), a consortium appointed to prepare the guidelines and conceptual designs for each of the Gautrain Railway stations.

According to Tom Steer, lead design architect for GAJV, the design concept of each station was based on a macro and micro influence with the macro concept being the same for all stations of that of a 'wavy roof' representative of the Acacia tree within the Gauteng region, and the micro concept being unique to each station. In the case of Gautrain Parkstation, the micro concept was that of the people, mining and gold synonymous to the city of Johannesburg. (Hermanson, 2010) Steer further alluded to the fact that they could not find any suitable case studies throughout South Africa to use in support of the design.

"SA has a bad history related to rail transport architecture and there were no precedents in the country that we could use. We wanted to achieve a modern look, but using African colours, art and sculptures based on what would normally happen under Acacia trees" (Marsh, 2012)

Due to the location of the Gautrain Park station within the Johannesburg CBD, it becomes obvious that the train's platforms would be housed deep below ground level to avoid the obstruction of road infrastructure, basement level parking and massive foundations to the surrounding high rise buildings. Upon arrival into the train station, one can't help but have the feeling of what it is like to 'dwell' within a subway system with its cold and unwelcoming space.

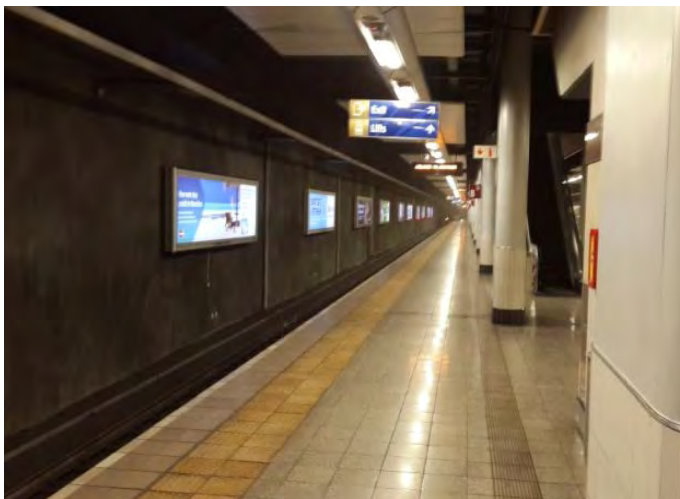


Photo 20, Author, 2014, Gautrain Parktown Station Platform



Figure 2, Author, 2014, Stainless Steel Seat

The aesthetic approach within the space is very simple with some warmth provided by the low level tiling to the walls, although in this case it may also be as a means of reducing maintenance to painted surfaces. Even the seating with its uncomfortable robust stainless steel design, as demonstrated in **Figure 2**, bears testament to this unwelcome and cold feeling. The lighting (**Photo 21**) within the platform appears to be at an adequate level with no other feature lighting except that within the advertising light boxes.



Photo 21, Author, 2014, Gautrain Parktown Station Corridor

The floor to soffit height within the station platform space is one and a half times which is indicative of that of a subway where volume has to be curtailed to limit costs. However the volume increases as one moves up into the higher levels en-route to the street level, where one experiences a double volume space immediately within the main entrance space off the street. The designers approach can be viewed as in keeping with spatial norms in that entrances should be grand and voluminous on approach whilst secondary spaces such as platforms need only be sufficient to afford the commuter some comfort within the space (**Photo 22**).



Photo 22, 2014, Gautrain Corridor Leading to Entrance Stairs

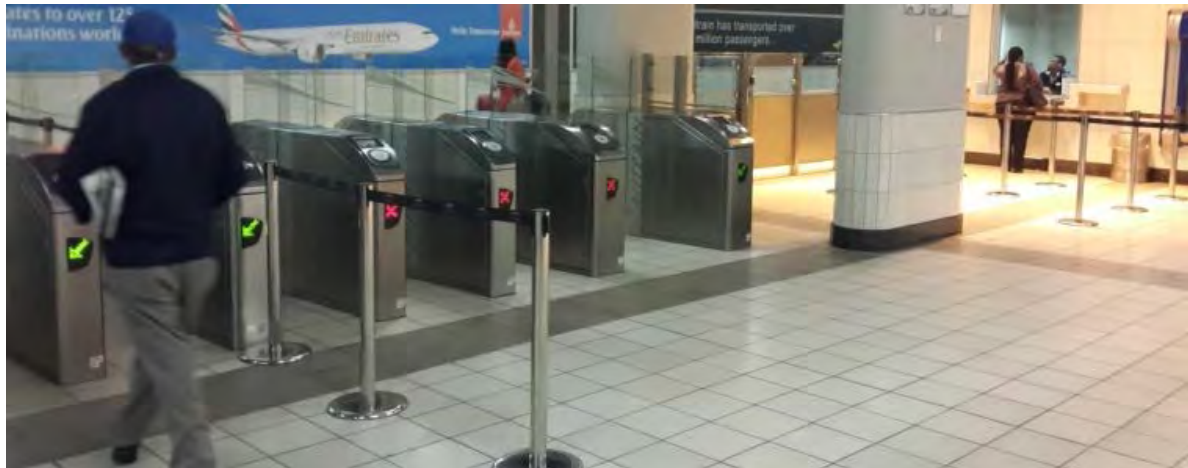


Photo 23, 2014, Gautrain Turnstile Access Point

Way finding signage is strategically positioned to ensure that the commuter has no problem in finding his way around when proceeding to the upper levels to either board a connecting train or exit at street level. The generous width of the concourse enables freedom of commuter movement through the various spaces within the train station. Although movement is freely enjoyed within the public space of the station, it is policed through access turnstiles (**Photo 23**) just beyond the main entrance, leading towards the platforms. This ensures that only commuters with valid entry cards that have been loaded with sufficient funds to board a train to a particular destination may move beyond this point.

There has been much focus in ensuring that the materials used in the public realm are robust and vandal proof, although not much has been done in the form of elaborate detail. Although public ablutions are present within this space at various levels, there seems to be very little use, probably due to there being not much commuter activity within the space.



Photo 24, Author, 2014, Gautrain Main (ticket) Hall

Commuter movement (**Photo 24**) within the Gautrain Park station fluctuates depending on the time of day, with increased volumes in the morning and afternoon, obviously attributed to the added impact of commuters going to and from work. There is no sign of many scholars making use of the Gautrain which could be attributed to the high ticket price in comparison to that of the Metro Rail trains. The absence of food outlets or retail stores within the train station building can be attributed to quick commuter movement as there remains nothing within the space that will cause one to stop. These food outlets do however occur within the adjacent old Park station which contributes to a much more pleasant and vibrant outdoor environment.

The Gautrain station buildings internal structural composition is that of a simple concrete slab and column design with the architecture of the outer façade design associated with that of a modernistic approach given its elaborate and expressive angled entrance canopy towering upwards to a point within the public square side, as reflected in **Photo 25**. Concrete base columns with steel 'tree' like posts offer support to this elaborate roof in a simplistic but effective manner rendering this building less intrusive within the confines of this simple square. The details employed in the merger between concrete, steel and glass is that of a more 'played down' tectonic approach rather than an over the top statement of domination and presence.



Photo 25, Author, 2014, Gautrain Station Building – View to Main Entrance and Connecting Link

The Gautrain station building's presence remains muted with the use of subtle colours used in the treatment of various elements which is seen as a more respectful approach to the domineering towers surrounding this transportation precinct, and which is similar to that of a pavilion within a park setting. The building is sensitive to human scale with the only suggestion of importance being its high flying roof and double volume pivotal corner suggesting the entrance.

This unobtrusive approach allows the building to 'dwell' within this diverse environment which has in the past only catered for middle to lower class public transportation, not only within the city boundaries but to the rest of the country as well. The buildings present position strategically places it in close proximity to the Park Station Rea Vaya bus stop (**Photo 26**) which is part of the Johannesburg Bus Rapid Transport System (BRT) and mini bus and metered taxi ranks (**Photo 27**).



Photo's 26 and 27, Author, 2014, BRT Stop and Mini Bus and Metered Taxi Ranks

Another complimentary attribute to the warm presence of the Gautrain station building is the new contemporary entrance façade clipped onto the old Park station building where the Metro Rail trains and private buses are housed. This conscious approach to the much needed 'facelift' to the old Park station building entrance, as shown in **Photo 28**, enforces a dialogue between the two buildings which share a common use of both being that of public transportation hubs.

The expressive modern approach in style and material employed in the architecture of both buildings is evidence of 'Periodization' whereby the buildings are reminiscent of the modern times that we currently live in. The Gautrain Parkstation boasts along its base, a stone plinth, which pays homage to the adjacent stone built heritage building along Viljoen Street reinforcing the designers sensitivity and 'concern with the traditions of the past' and that of the theory of historicism.

The dialogue between the two buildings is further reinforced by a covered link connecting the two, which is of similar architectural language. The link however, can be criticized for its obstructive central columns which force pedestrian separation to either side causing one to walk along the edge with it eventually offering no protection against the elements. Luckily this design approach is not repeated for other canopies located at bus and taxi stops. The architects can be applauded for their attempt at keeping to the modern tectonic approach of limiting repetition of details except between the various stations, but this is warranted in keeping with the architectural language common to the overall scheme.



Photo 28, Author, 2014, View Towards New Entrance to Old Parkton Station

A further observation of the covered link is that it dissects the square, creating on the one side an asymmetrical green space flanked by a curved concrete balustrade wall which tapers off in height at both ends. The green space is flanked by free standing concrete seating (**Photo 29**), in keeping with the theme of muted yet robust concrete surfaces. These appear to be well utilized by the public as it appears to be quite a warm and pleasant space which could be attributed to the control of direct sun by the adjacent Gautrain Station building.



Photo 29, Author, 2014, Concrete Seating

Freedom of movement within the square (**Photo 30**) surrounding the Gautrain station building is encouraged by its simple but effective spatial arrangement up to the point of entering the Gautrain station itself where it becomes restricted to only commuters advancing on a journey aboard the high speed train. Although security within the immediate area of the square itself is prominent and effective in giving one the impression of feeling safe, one cannot help but still be conscious of the high crime rate within South African cities.



Photo 30, Author, 2014, View Overlooking a Portion of the Gautrain Precinct

Although the space was not observed at night, the presence of lamp post lighting (**Photo 31**), lighting along the covered walkways and borrowed lighting penetrating through the vastly glazed station building is sure to promote a secure environment. Apart from feeling secure within the Gautrain Park Station precinct, one also enjoys the privilege of 'dwelling' in a clean environment (**Photo 32**) which could be attributed to the incorporation of rubbish bins as permanent fixtures strategically placed to compliment the spatial arrangement, as well as good management of the facility.



Photo 31, Author, 2014, View towards Gautrain Bus Station



Photo 32, Author, 2014, View of Alternate Entrance into the Gautrain Station

Security should also be maximized to ensure that society at large feels safe within this public orientated space where although criminals have the right to roam freely, they should be made to feel unwelcome. Cleanliness within the space should remain a top priority along with that of security as it positively contributes not only to the spatial aesthetics but to that of the building as well which will ultimately guarantee usage by the public at large.

4.2.1 Conclusion

Although it does not portray the architecture synonymous with Historicism, Johannesburg's Parkstation could be regarded as being amongst the oldest railway stations within South Africa. The new Gautrain Park station building resides within the same precinct as this old station building which today remains very active.

4.2.2 Historicism: Paying Homage to the Past

The approach with the Gautrain Parkstation in terms of the theory of Historicism is that of 'Periodization' whereby there has been a new entrance façade clipped onto the old Park station building promoting a dialogue between the old building and the new Gautrain Parkstation building. This dialogue is that of a new post-modern approach indicative of the current modern period that we live in.

Stone cladding has been used as a plinth along the base of the new Gautrain building demonstrating some homage being paid to the adjacent old stone heritage building along Viljoen Street. This approach reflects the designers sensitivity and 'concern with the traditions of the past' and that of Historicism.

4.2.3 Phenomenology: To Roam Freely in the City of Gold

The cold feeling that one gets when remaining in the spatial confines of the Gautrain Park station platform space, can be interpreted in both the psychological and physical sense of being a space of transition requiring a speedy exit. There has been very little done to create a cheerful and warm ambience to the space causing one to associate this environment with the basement of hospital corridors or passages leading towards a mortuary. This type of approach is not conducive to 'dwelling' as commuters have no attachment or connection to the space.

When comparing the Gautrain Parktown station site to the old Pietermaritzburg railway station site, one major difference is that the latter's railway tracks are on ground level negating any need for a subway type of design for the proposed new building. This will certainly improve the psychological perception of the space in that there will be an opportunity to invite an abundance of natural light encouraging warmth and vibrancy within this transitional environment.

The spatial perception would continually change by the effective use of both natural and artificial lighting, always giving the commuter a variety of psychological experiences, indicative of a Phenomenological stance towards spatial arrangement. Advertising which was deemed to aid the artificial lighting within the Gautrain Parkstation building, could be used in a similar manner except that advertising should be incorporated into the design and become a part of the fabric of a building and not be seen as obtrusive and could be seen as a Tectonic approach.

The Gautrain station building platform floor to ceiling heights demonstrates the type of approach that should be taken in ensuring that within these along with ancillary areas, heights should be reduced whilst other public orientated spaces and spaces requiring expression, in the case of entrance foyers, should be above normal heights but within the boundaries of a balance in scale and proportion. Scale and proportion are an effective way of generating a perception of space, like in the case where a grand space at the entrance of a building is most likely to be perceived as the entrance.

The wide corridors within the Gautrain Park station building allow adequate freedom of movement, which include adequate access to lifts and stairs. This should be at all times a key factor in the spatial arrangement of the public domain in a building of this nature, with the exception of the point of access to the train platform area. Due to the requirement of payment in order to board a train, freedom should be controlled by means of turnstiles and visible security personnel.

It remains evident that the signage within the Park station building, which is a similar design in terms of the Gautrain concept to other stations, is limited but effective in terms of guiding the commuter to various destinations within the station. It is of utmost importance that way finding signage be effective in guiding the commuter, however it is just as important for a building to be designed in such a manner that the commuters route to any destination should remain clear at all times. If indeed signage may be required, it should be unobtrusive.

It is unfortunate that the Park station building does not have any retail outlets of any kind on route to the entrance doors as this could have contributed to a more vibrant space with constant activity as oppose to intermittent activity only when a train arrived or departed. Food court and retail outlets should be located within the public realm of the main station hall in order to promote social interaction reinforcing the concept of 'dwelling' which promotes a sense of 'place making' where man will remain existent within the space and form a bond with his surroundings.

The adequate security within the Parkstation building plays an important role in reinforcing Norberg-Schulz's concept of dwelling and that of 'being at peace in a protected place'. The effectiveness of security ensures that although the space is transitional and remains empty during intermittent periods, the odd commuter proceeding through this space should still feel safe. This concept of dwelling is better appreciated on the outside of the train station precinct with the warm and pleasant environment created within the space and exemplified by the food outlets.

The green space within the confines of the curved wall affords the commuter or pedestrian a place of pause from the hive of city life activity (Schulz, cited in Nesbitt 1996). As presented in the theories of Pallasmaa (1996), once in this space, the commuter or mere pedestrian is afforded the opportunity of retreating into the psychic realm and experiencing the architecture presented before him.

Although there remains constant and swift commuter movement throughout the precinct, commuters must be lured into taking some time out to pause and reflect on the space and its impressive architecture. Commuters should be allowed to enjoy the warm and welcoming environment of the train station building before continuing on their journey. The commuter must ultimately experience a feeling of contentment and invigoration within this transitional space, whether it is through visual connection or by making use of the activities provided.

There should be freedom of movement without any fenced boundaries and very limited restrictions within the public and semi-public side of the precinct. The space should benefit the public as a whole, and not only commuters. This will promote unity and equality amongst diverse societies that would otherwise remain divided by their socio-economic standings.

4.2.4 Tectonic Expression: The 'Branches' of a Community

There has been a tectonic approach carried through in the design of seating which protrudes from the concrete wall that divides the outer hard surface of the pedestrian concourse from the inner soft green space. There is further Tectonic Expression employed in the detail of the 'tree' like steel posts supporting the various roofs. One can only assume from this type of approach that the architects employed the theory of tectonics in an effort to reflect a commonality of design between each station with a primary focus of structural complexity.

Tectonic Expression does not only occur in the detail of an element but within the arrangement of the space allowing a sense of amazement and intrigue every time one enters a spatially simple or complex environment. The external spatial arrangement within the Gautrain Park Station with its mix of hard and soft surfaces and designated seating areas ensure minimal disturbance to landscaped areas which is crucial in appreciation of the space.

4.3 Gautrain Pretoria Station, Pretoria

After much research into appropriate case studies that could offer meaningful support to this argument, one certainly stood out as having striking similarities to this dissertation topic, and that being the new Gautrain Railway station located within the old Pretoria Central Railway station precinct.

The City of Pretoria with its grid like street arrangement, synonymous with that of colonial origins, enjoys a strong cultural history with its many heritage museums, monuments and old buildings. These buildings demonstrate an array of architectural styles ranging from 19th century Dutch to British colonial Architecture. Although in the new Democratic South Africa Pretoria still boasts the largest Afrikaans White population, there has been an increase in middle class Blacks into the residential part of the city and suburbs which could be attributed to the current governments, policy on Black empowerment and equality in the workplace with Pretoria being home to most government administrative centers. Indians and Coloured's on the other hand still remain in the minority and are scattered within the various suburbs including those dominated by Whites.



Photo 33, Prinsloo, D, 2011, Pretoria Railway Station

The first Pretoria Railway Station was built in 1893 and later demolished to make way for the current Pretoria Railway Station building as shown in **Photo 33**. One of the first public buildings designed by architect Sir Herbert Baker and completed in 1910, this Colonial style building was considered by many as an experiment in form, technique and building material for the later Union Buildings. (Pretoria Station Update, June 2001:4)

Situated on the South end of Pretoria's CBD, the Pretoria station is aligned along a direct axis (as demonstrated in **Figure 3**) with that of the Church Square reinforcing the cultural link between the station and the statue of Paul Kruger, who represents Pretoria's predominately Afrikaans heritage (Breytenbach 1979:35). The Church Square also houses other important historical buildings such as the now re-built first church, the Ou Raadsaal (council chamber) and the Palace of Justice, buildings all synonymous with that of Colonial influence.

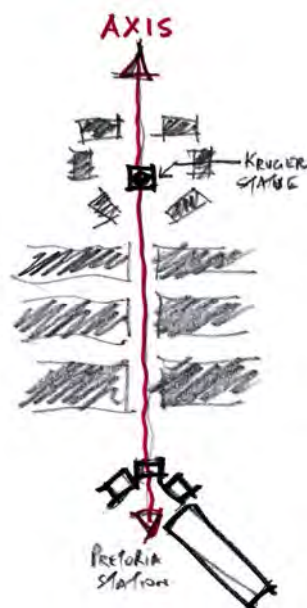


Figure 3, Author, 2014, Axial Relationship between Pretoria Station and Paul Kruger Statue (Church Square)

Apart from the Pretoria station's cultural significance to that of South African history, one overwhelmingly important factor was its first hand association with the then National Party government, of being a public building built within a city that was considered instrumental in effecting the laws of apartheid. Up until the abolition of the Group Areas Act of 1950 and the apartheid government's strong stance on racial segregation, non-whites were prohibited from entering the main train station building and had to make use of alternative facilities known as Pretoria B located in another street (Pretoria Station Update, June 2001:4).

Today, the old Pretoria station building remains basked in the realm of democracy with all South Africans enjoying the freedom to wonder within the confines of this historical gem. The station building is still extremely functional as it remains the terminus of Metrorail, commuting rail and other rail services. The station building along with the Union Buildings within this predominantly government administrative city, are testament to South Africa's strive for change and equality within our diverse society.

Following on from the trip aboard the Gautrain from Johannesburg Gautrain Park station, one disembarks at the new Gautrain station in Pretoria. The new station, as is the case with all the Gautrain stations, was designed by the Gautrain Architects Joint Venture (GAJV) and completed in 2012. Located south-east of the existing old Pretoria station main building, the new Gautrain building and platforms lie almost parallel to the existing station's railway lines and platforms.

Unlike Kings Cross railway station building in London, used as a precedent study in support of this argument, it is important to note that the new station building at Pretoria does not abut the old station building (as shown in **Image 12**) but stands side by side in unison with it.



Image 12, DigitalGlobe 2014, Google Earth – Overhead View of Pretoria Station Precinct

Although the detail elements of all the Gautrain stations are somewhat similar, their spatial organization is entirely dependent on site constraints which result in a difference in layout from one to the other. In the case of the Gautrain Pretoria Station, its form is a simple linear arrangement along most of the length of the old train station platform building. The new train station hall and platform remain homogenous under a single double volume roof with the platform portion of the building slender on approach and then tapering out, becoming wider towards the station hall and entrance.

Unlike the Gautrain Park Station, the new Pretoria Station is on ground level and completely open on both sides of the platform area allowing for much natural light and cross ventilation to penetrate the space. The building becomes completely walled on either side of the main entrance hall with natural ventilation moving from the platforms into the hall and out through the entrance doors. In addition to this and only in the entrance hall there is a ducted airconditioning system within the void above the ceiling. One can assume that this system is only switched on during extremely hot days as there was ample cross ventilation within the space with the main entrance doors remaining constantly open.

The abundance of natural light within the platform area (as shown in **Photo 34** and **Figure 4**) negates any need for artificial light causing the building to use less energy during the day even when the weather is overcast. The building boasts a vaulted roof with large open eaves to both sides of the platform space only, as demonstrated in figure 6. There are no ceilings except for the entrance hall with lighting along the platform hanging off the main roof on both sides giving the space a more human scale feel. The new Gautrain Pretoria Station is a predominately steel structure with a large glass enclosure surrounding the entrance hall, as shown in **Photo 35**.



Photo 34, Author, 2014, View of Platform Eaves



Photo 35, Author, 2014, View to Gautrain Station Entrance

Concrete is briefly used for the platform and other minor elements but more especially for the columns up to an extent and thereafter terminated in a steel 'tree' like roof structure support, as demonstrated in **Figure 5**. The cavernous entrance hall is scaled down with lowered ceiling and lighting panels hanging off the roof structure. It is in this space that turnstiles separate semi-public from public spaces both within and outside of the main entrance doors. This space also houses the ticket sales and administration offices which include security and police as well as public ablutions; however these are only accessible after one has tendered payment.

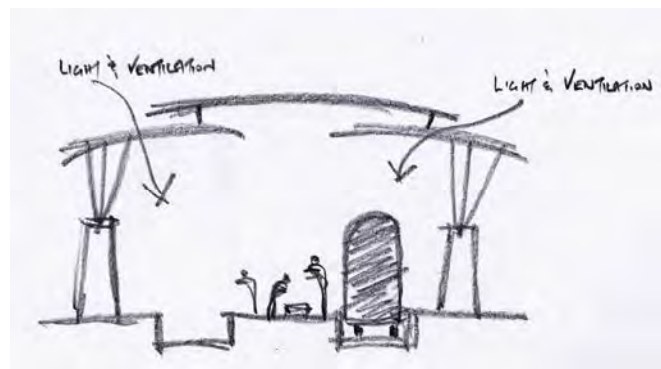
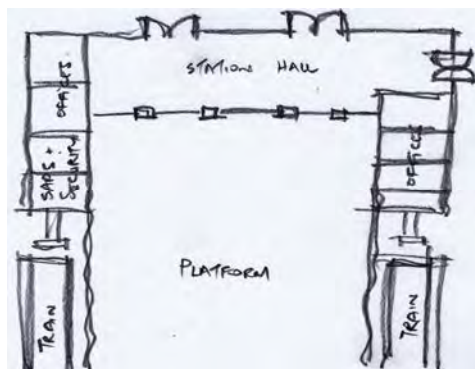


Figure 4, Author, 2014, Gautrain Pretoria-Part Plan Figure 5, Author, 2014, Gautrain Pretoria-Typical Section

The internal spatial arrangement of the entrance hall is a large volume space and quite simple in design, both before and after the turnstiles, wide enough to cater for high number of commuters during peak hours as demonstrated in **Figure 5**. This simple design allows for very limited way finding signage as the platforms are quite visible and on the same level as the entry and exit turnstiles. All other finishes are similar to that of Gautrain Park Station with the only difference being tiled insets from the entrance hall that are carried through in the cobblestone paving at the outer entrance. The colours to various elements and textures are quite muted in conforming to Gautrain Operations standards.

Immediately to the north-east exterior of the entrance hall, is a covered link that leads to what was probably an old shed, originally part of the old railway station precinct. This building has been retained and converted into a drop off zone and parking facility. Beyond the shed on the same side, is the Gautrain Bus Station with the commuter parking area immediately behind. Outside of the entrance hall on the north-west side is a paved open square with a few trees and contemporary designed concrete seating aligned with lamp posts suggestive of a pedestrian route. Paving levels have been altered in some areas to cater for the gentle change in topography and in a bid to make the space both able and disabled friendly.

The paved square is softened by some green spaces and a water fountain (**Photo 36** and **Photo 37**) reinforcing an air of calm and peace; however this is interrupted by a newly built steel and glass information kiosk.

Stone cladding has been used for new dwarf feature walls and balustrades to steps to mimic the stone walling of the old station building. The new square is flanked by the old Railway Station building, which has had some of its spaces on the square side converted into food outlets and coffee shops, whilst directly opposite the old building is a newly built Mc Donald's fast food outlet.

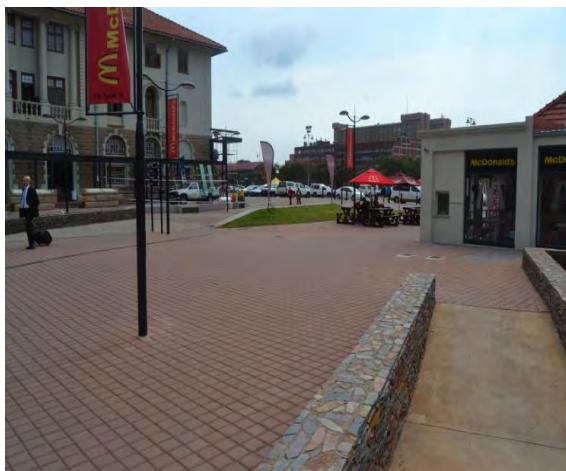


Photo 36, Author, 2014, Public Square-North-West View



Photo 37, Author, 2014, Public Square-South-West View

The new public square has a direct link with the main front garden at the entrance to the old train station building. One noticeable design element is that in order to create the new square; the architects deliberately set back the new Gautrain station building from the old station building. This has created a new dimension for equal sharing of space in that the buildings do not compete with each other but have a sense of respect for each other. In terms of what was there before, this should remain and be celebrated, whilst the new building stands tall in the background being welcomed into the space.

When comparing the scale of both buildings, one cannot help but notice that they tend to compliment each in terms of height and volume, although it is obvious that the old station building is a bit higher. No attempt has been made in the new Gautrain Station building in terms of the architectural style, to replicate the old train station building. There remains a clear distinction between old and new in the station buildings with the exception of a few design elements being carried through in terms of relating the new building to its context.

One that stands out is the horizontality of the aluminium within the curtain wall of the new building matching the horizontal lines within the stone walling and plaster quoining of the old building façade.



Photo 38, Author, 2014, View South-West towards Gautrain Station and Pretoria Station

Commuter movement is free flowing on the outside (**Photo 38**) in a similar fashion to the inside with adequate open spaces being provided without much restriction in terms of designated walkways. Because of the direct link of the new square with that of the main front entrance garden of the old station and surrounding roads, this space is enjoyed by both commuters and the general public using the site as a thoroughfare. All seem to enjoy this soothing and friendly environment; either by way of standing around under a tree and having a chat while waiting for a commuter; or simply passing through; or having a short rest on one of the benches whilst on route to their destination. Both police and security guards remain actively present rendering the space quite safe and secure to all.

4.3.1 Conclusion

Although Pretoria was considered the home to the Afrikaans speaking people of South Africa, just like in the case of Pietermaritzburg it enjoyed much colonial influence in the architecture of its predominantly public buildings. However, this Colonial influence did not only occur in the aesthetics of the building's façade but also in the design of its spatial arrangement which encouraged racial separation. One of the public buildings that played a crucial role in this atrocity of the past is the Pretoria Railway Station building with its historical remembrance of not allowing Black people to board a train through the main building.

4.3.2 Historicism: Welcoming Change

Because of the memorable connotation that buildings of this nature have with the laws of the pre-democratic government, some may argue that it would be better to have all buildings destroyed to ease the horrible memory of the past, but current government and society appreciate this as being a part of our history which should remain to remind us of the past and our fight towards a society of all being equal.

This certainly has been the case with the Pretoria Station building in that it had over the years been restored and renovated to the extent that even though there is the new Gautrain Station next to it, it still remains unchanged and enjoys much use with the Metrorail commuters, except for relocation of food outlets to benefit from the new train Gautrain station. This speaks strongly to the theory of Historicism, in particular, the definition of 'being concerned with the traditions of the past'



Photo 39, Author, 2014, View of Pretoria Station



Photo 40, Author, 2014, and Revitalized Old Railway Shed

This sensitive approach of allowing the Pretoria Station building to remain unaltered in its aesthetics, in order for it to be revered as a part of history, once again demonstrates our '*concern for the traditions of the past*' which is one of the many theoretical arguments of Historicism and may be associated with that of 'seeking to express the spirit of the zeitgeist' or 'Spirit of Age'. Another key factor in support of Historicism and that of 'Periodization' is the sensitive union between the old station building and the new Gautrain building, as shown in **Photo 39** and **Photo 40**).

Pretoria's historical cityscape in terms of colonial influence is very similar to that of Pietermaritzburg which begs a similar approach towards restoration of old buildings and allow new buildings to fit in between. However, the two cities differ tremendously from a cultural sense in that Pietermaritzburg is more diverse and multilingual which may present a challenge in the quest to promote unity and 'change', as oppose to the predominately Afrikaans speaking dominance within Pretoria.

It can only be assumed that there was a concept to invite 'change' and unity of society within the public domain of the link between the old Pretoria train station building and the new Gautrain station building which should stand as testament that this is the positive initiative needed in order to correct South Africa's cultural and social imbalances irrespective of one's background which will be a key approach in the relationship between old and new buildings at the Pietermaritzburg Station precinct.

4.3.3 Phenomenology: The Freedom to Dwell

The effective union formed between the old Pretoria Station building and the new Gautrain Station building is in line with Martin Heidegger's concern with the existence of the 'building' where in order for man to 'dwell', man should connect with the building that he occupies, but it requires the building to first form an 'existence' within its environment and in this case it has been successfully achieved with the existence of both old and new building forming not only a union between buildings but a union between man as well.

This will be a major factor in the unifying old and new train station buildings at the old Pietermaritzburg station. Like with Pretoria Station building, there does not have to be a direct connection between the two buildings to ensure cohesion, but the mere fact that they occupy the same space with a sense of respect for each other will transpose through to its inhabitants where respect will be key in creating a unified society.

Security both within and around the Pretoria Station precinct is a clear indication of the city's strong rejection of crime within public environments in allowing commuters and the public at large to move safely within this transportation hub. This will be important in the promotion of continued use of the new facilities at the old Pietermaritzburg station.

Spatial organization in the Gautrain Pretoria Station building is simple and uninterrupted reinforcing the free-flowing concept of 'movement' from the time the commuter disembarks from the train; and moves along the wide platform and through the large main entrance hall; then across the square. A stimulation of the senses is experienced through the introduction of a mixture of textures on both floor and wall creating both hard and soft softer spaces and spaces of intrigue generating a sense of imagination and along the way.



Photo 41, Author, 2014, Textural Treatment to Floors



Photo 42, Author, 2014, Textural Treatment to Walls

This psychic experience as proposed by Pallasmaa will be encouraged by textural treatment to facades and feature walls and various detail elements (**Photo 41** and **photo 42**) to invoke memory of space within the predominantly public and semi-public areas at the new Pietermaritzburg Station building. This along with generous open spaces and a play with both natural and artificial light will be of importance in promoting the concept of movement and the continuation of the journey far beyond the confines of the train station precinct.

4.3.4 Tectonics: A Unique Identity

Detail elements both within and outside of the new Gautrain Station building is simple yet effective in terms of the architectural statement of being a new modern train station building. However, much effort was made in the replicated detail of the 'tree' like concrete and steel column used throughout most of the station building. This conceptual mix of simplicity and complexity invites a strong '*visual connection*' between man and building invoking a sense of '*identity*' which is an important concept within the theory of Tectonics where there should remain a fusion of technique and art.

The simplicity of details (as shown in **Photo 43** and **Photo 44**) employed within the Gautrain Pretoria Station building is not only evident in the structural realm of the building but also within the spatial arrangement encouraging effective commuter use. This can be seen in the simple flow of space from the platforms through to the main station hall. In order for the new building at the old Pietermaritzburg station site to be a success in terms of maximum usage and enjoyment of space, it should employ a similar design of simplicity between spaces whilst at the same time creating spaces of intrigue.



Photo 43, Author, 2014, View of Detail Elements

Photo 44, Author, 2014, View of Detail Elements

The modern day proponents of the theory of Tectonic Expression will argue that replication of details and old styles should be avoided which seems to be the case with most of the Gautrain Pretoria Station building with the exception of the 'tree' like detail which has been employed throughout all the Gautrain stations for continuity of the conceptual theme. Replication of details will be limited except that this is required when creating a holistic theme within a building of this magnitude.

5.0 CHAPTER FIVE: ANALYSIS AND FINDINGS

5.1 Introduction

The analysis outlined in this chapter have been by way of questionnaires handed out in a sensitive manner to commuters, station employees and business owners within the immediate confines of the Gautrain Parkstation and Gautrain Pretoria station precincts, as well as amongst the general public within the city of Pietermaritzburg. Commuters were requested to comment on the spatial qualities, comfort and accessibility of public transportation hubs whilst those who do not make use of this mode of transportation were required to give their views on Public Transportation in general.

5.2 Response to the Questionnaire

The data presented below has been extracted from the questionnaires in order to provide an informed recommendation on the public's perception of public transportation and that of old colonial public buildings, in particular train station buildings, in South Africa.

Of a total of **30** (thirty) questionnaires handed out, only **22** (twenty two) people were responsive.

Part A:

1. Nationality: **22** South Africans
2. N/A
3. Ethnicity: **08** African **06** Coloured **05** White **03** Indian
4. Age: **04** 0-16 **07** 17-25 **07** 18-35 **03** 35-45 **01** 45-65
5. Occupation: Some people preferred not to furnish their occupation.
 05 Unemployed **04** Professionals **05** Students **02** General Workers

Part B:

1. Type of public transport do you use:
 05 Train **09** Minibus **01** Bus **00** Meter Taxi
2. Which type of public transport do you most use:
 05 Train **09** Minibus **01** Bus **00** Meter Taxi
3. How often do you use the above:
 15 Daily **00** Weekly **00** Monthly

Part C:

1. How would you rate each specific form of public transport in terms of safety:

(i)	Train	00 Poor	06 Average	08 Good	01 Brilliant
(ii)	Bus	15 Poor	00 Average	00 Good	00 Brilliant
(iii)	Minibus	15 Poor	00 Average	01 Good	00 Brilliant
(iv)	Taxi	00 Poor	09 Average	06 Good	00 Brilliant

2. How would you rate each specific form of public transport in terms of comfort:

(v)	Train	00 Poor	03 Average	12 Good	00 Brilliant
(vi)	Bus	00 Poor	05 Average	10 Good	00 Brilliant
(vii)	Minibus	07 Poor	05 Average	03 Good	00 Brilliant
(viii)	Taxi	00 Poor	00 Average	15 Good	00 Brilliant

3. How would you rate each specific form of public transport in terms of quality:

(ix)	Train	07 Poor	08 Average	00 Good	00 Brilliant
(x)	Bus	12 Poor	03 Average	00 Good	00 Brilliant
(xi)	Minibus	08 Poor	04 Average	03 Good	00 Brilliant
(xii)	Taxi	00 Poor	06 Average	09 Good	00 Brilliant

4. How would you rate each specific form of public transport in terms of Accessibility:

(xiii)	Train	05 Poor	03 Average	07 Good	00 Brilliant
(xiv)	Bus	00 Poor	08 Average	08 Good	01 Brilliant
(xv)	Minibus	00 Poor	03 Average	12 Good	00 Brilliant
(xvi)	Taxi	00 Poor	00 Average	15 Good	00 Brilliant

Part D:

What improvements can be made (if any) to ensure that you continue to use your preferred type of public transportation?

Below are some suggestions extracted from the questionnaires are;

- Ensure only roadworthy taxis and buses operate.
- Ensure strict compliance with the rules of the road.
- Taxi drivers and owners to be trained in providing good customer service.

- Ensure commuter safety, especially in mini-bus taxis.
- There must be a coupon service to avoid payment in cash for security reasons.
- Fares for all modes of public transportation must be made affordable.
- Buses and taxis must stick to a time schedule.
- Drivers with PDP's must be tested every year.
- Newer and faster trains must be introduced and must service more areas.

Part E: (Answered by people who do not make use of public transportation). Below are some suggestions extracted from the questionnaires are;

Why do you not use public transportation?

- Bus and Taxi drivers are reckless on the roads.
- Public commuter trains are not available in the city of Pietermaritzburg.
- Meter Taxis are too expensive.
- Buses and Taxis are not roadworthy.
- There is too much crime at taxi ranks.

If you had to make use of public transportation, which mode would you use and why?

- Train, because it is safer.
- Train, due to its comfortability and safety.
- Train, only if it is similar to the Gautrain. These trains are comfortable and faster.
- Train, to avoid traffic delays.

If public transportation infrastructure, facilities and safety was improved to meet with European standards, would you be happy to pay more than the norm?

05 Yes

02 No, Fares must be made cheaper even if the standards are improved.

Part F: (General)

1. What do you think the government should do with old public buildings in South Africa?
07 Demolish them and build something else.
11 Restore them and re-use them.
01 Leave them to ruin and then demolish them.
03 I don't care.

2. What do you think should be done with old railway station buildings in South Africa?
10 Demolish them and build something else.
09 Restore them and re-use them.
00 Leave them to ruin and then demolish them.
03 I don't care.

3. What do you think should be done with the old Pietermaritzburg railway station building?
03 Demolish it and build something else.
06 Restore it and re-use it.
00 Leave it to ruin and then demolish them.
00 I don't care.

4. If there was a new railway station building built in Pietermaritzburg, would you use it & why?
09 Yes
00 No

Below are some suggestions extracted from the questionnaires are;

- Because it will probably be more modern.
- Because the trains will be new.
- It may be much safer than the old one.

5.3 Analysis of the Responses

All questionnaires were completed by South Africans which meant that most answers were based on real life experiences. There is an evenly spread response across ethnicity, age groups and occupation ensuring that the findings are representative of a balanced society.

The mini-bus taxi is the most commonly used mode of public transportation (on a daily basis) followed by that of the train. In the case of the train, this statistic is based on questionnaires completed within the Johannesburg and Pretoria region. In terms of public safety, comfortability and quality, the mini-bus taxi and the bus are rated poorest whilst the train is rated quite good. However, in terms of reliability, the mini-bus taxi and bus is rated as being good whilst the train is rated between good and poor. This poor rating assigned to the train was from commuters outside of Gauteng.

After evaluation of the answers provided in Part D and E, one can deduce that most people whether a regular user of public transportation or not, expressed concern for the poor roadworthiness of mini-bus taxis and buses and the drivers non-compliance with the rules of the road. There is a further concern for crime and commuter safety, both within the mini-bus taxi or a bus or simply at the taxi-rank. Most people suggested that the cost of public transportation across all spheres of the industry was too expensive and at times unreliable.

In addressing Part F, there seems to be a split in the responses received whereby some South Africans would like to see old heritage public buildings demolished, whilst others would prefer they be restored or renovated and re-used. In response to old railway station buildings in particular, the old Pietermaritzburg train station building. Most responded that this building should be restored and re-used including the fact that if there were a new train station built on that site, most would make use of it, as they felt that this could be an improvement in rail transit.

5.4 Findings

It seems obvious that most people desire a need for a safe, comfortable, reliable and cost effective mode of public transportation irrespective of whether it is a min-bus taxi, bus or train. It can also be deduced that most people think that the train is the safest mode of public transportation and that if more technologically advanced trains with newer stations were introduced; there would be an increase in their use.

Although there is a preference for a newer train station building to be built within our society, people still believe that old trains station buildings across South Africa and in particular, Pietermaritzburg, should remain within our current society which is indicative of Historicism and the concern for our past heritage.

The co-existence of the new train station building along with the old building reinforces the theory of 'Periodization' whereby there remains some form of respect for the two historical periods. This will be seen as society embracing the concept of 'change' where there remains a forgiveness of the atrocities of the past even though these buildings invoke sad memories.

Phenomenology is expressed in the desire for people to want to 'dwell' in or visit the new train station building whereby there is an expectation of seeing something new and invigorating that will ensure they make constant use of the space. This will promote the concept of 'movement' whereby the commuters will be constantly moving in and out of this precinct. People are also sensitive to the ongoing crime in transportation nodes and expect that the new train station precinct will offer a new resistance to crime and allow them to 'remain at peace in a protected space', as theorised by Norberg-Schulz.

The expectation of a technologically advanced train and train station building is the community's response to a need for Tectonic Expression to be infused into the architecture of the building. This tectonic approach will not only be expressed in the new building but in the old building as well, with the restoration of the old architecture. This attention to detail will ensure that there remains a 'visual connection' between man and building, ensuring that the building receives its identity through the concept of 'visual connection'.

The question can be answered that train stations are environments that have the ability to unify societies, due to their diverse commuter integration and that public transportation by train can be improved with the help of government whereby funds must be allocated to improving technology and safety whilst every attempt must be made to establish ways of making fares more affordable. The design of the newer train station buildings must promote equality and avoid any form of segregation. 'Dwelling' in these environments can be enjoyed only with crime free and cleaner environments.

6.0 CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The aim of this chapter is to formulate a conclusion based on the various issues raised within the context of this argument and to offer an informed recommendation how public transportation, in particular that of rail commuting, can be improved to enable its continued use by all South Africans, irrespective of one's race or socio-economic standing. It is of vital importance to have satisfied the key questions embodying this argument as this plays an important role in addressing the problem of a depleted rail commuting system out of Pietermaritzburg. This should ultimately necessitate the revitalization of the old Pietermaritzburg Railway Station Precinct.

6.2 Conclusions

This argument enjoys the support of three theories and concepts that holistically demonstrate the cause of the built environments difficulty when dealing with heritage public buildings in South Africa post 1994, and the measures that could be put in place to address this, along with the creation of socially active spaces that will promote 'forgiveness' and enhance 'togetherness'. The ultimate goal is to enable social and economic growth within a society that has been plagued by discrimination.

Through the theory of Historicism one was able to delve into the origins of apartheid and its connection with public buildings. It was through apartheid that the country remains embedded in its current socio-economic position which may require many decades of healing. The first step to this healing process is that of forgiveness of the atrocities of the past and the willingness to move forward in a positive manner by embracing 'change'.

Change within the context of the built environment is the ability to engage in new ideas and technologies in order to grow architecturally and ultimately produce buildings that are meaningful in today's post-modern society. However, in the context of the Pietermaritzburg's heritage cityscape, these buildings must find a way to co-exist with the 'traditions of the past'. Heritage, although associated with a damning past, must be retained as remembrance of what our forefathers went through, whether Black or White, in order for us to achieve freedom.

As George Hegel defined, there should always remain a concern for the 'spirit of age' or 'zeitgeist', where old historical buildings must be revered and allowed to equally exist within the confines of a new post-modern architectural era. This demonstrates one's concern for the past and the willingness to forgive and move on through 'Periodization', whereby a new architectural language indicative of a modern and born-free society is introduced within the South African context.

This goes a long way to promoting the concept of 'change', whereby society recognises the lead taken by the built environment in embracing change from the old architecture of the past to a new contemporary style which is indicative of today's societal mix, currently being expressed by the 'born free' youth of post 1994.

The precedent and case studies presented, reinforced this theory of Historicism, with one in particular being that of the Pretoria Central railway station in Pretoria. Apart from the obvious colonial influence and the strict conditions of apartheid, the historical context and spatial grid layout of the city of Pretoria is strikingly similar to that of Pietermaritzburg. The successful merger of two periods of architecture within the same site makes for a strong argument in terms of retaining the old Pietermaritzburg railway station whilst introducing a new building of similar typology within the same precinct.

Change will always require a catalyst in order to remain effective, with it being in the form of a Phenomenological theoretical approach towards the existence of the building within its precinct and ultimately its spatial arrangement and aesthetical treatment. Norberg-Schulz's theory of 'place making' speaks to the new train station building being allowed to 'dwell' within the same environment as the old station building without being seen as being intrusive which culminates in a 'marriage' of two periods in architecture.

This approach is similar in the proposed urban renewal of the relocation of the old taxi rank at the City Square in Pietermaritzburg, to its new home within the boundaries of the old railway station site. Although the key focus will be to concentrate on the preservation of the existing old building and the creation of a new train station structure, it is equally important to revitalize the entire station precinct in a bid to create a new type of public space of where people can dwell' and remain comfortable and safe within the confines of a new type of multi-modal transportation hub.

In order for this parity to remain effective, there needs to be a dialogue between the two periods whereby there is an element of respect for one over the other. This dialogue could be in the form of certain elements being taken from the old building and incorporated in the new in a modernistic manner. However, in saying this, one should commit to avoiding the temptation of replication in that there should be a clear distinction between old and new invoking a visual connection between 'being' and 'building'.

This visual connection should be encouraged by an aesthetical treatment within each space that will invoke ones psychic perception of the space and as proposed by Pallasmaa, one is able to have ones senses heightened and experience forgotten memories and at times enjoy imagination. In the case of the new train station, this visual perception may also be enjoyed within the spatial arrangement of one space to the other whereby the commuter feels a sense of ease and pleasure when moving from one part of the station to another.

This promotes the concept of 'movement' whereby there is a connection between spaces, and the 'Beings' connection to each space. Movement is associated with that of transportation whereby ease of access should always be enjoyed. This ease of access should remain open and free to all within the public domain up until the point of entering the platforms, at which stage there should remain restricted access. Free movement should be employed both inside and outside especially when there requires a 'mix' of commuter, visitor or mere pedestrian.

In order for one to 'dwell' in the confines of the train station precinct, one must feel safe within that environment which warrants the necessity for adequate and effective policing. Commuter safety should always remain number one priority at times and within all public buildings, reinforcing Norberg-Schulz's theory of 'being at peace in a protected place'. Both Gauteng Park station and Pretoria station demonstrated this concept with immense ease, which was evident in the manner in which pedestrians and commuters progressed freely within the confines of the station precinct promoting a safe environment.

As mentioned earlier, the idea of 'man' engaging with his environment reinforces the concept of 'visual connection'. This manner of connection requires a stimulant in the form of an expressive approach to details which are employed by most modern proponents of the theory of Tectonic Expression.

Buildings do not have to be elaborate and excessively intricate to be applauded.

All it may require is a subtle approach towards each element that enables the building to remain unique in its own right. The simple approach is at most times considered elegant and effective in terms of its depiction of what the building represents.

Another theoretical Tectonic approach could be in the way an element from the old train station building is stylistically redefined into a post-modern 'work of architecture'. Repetition of detail may be frowned upon by some critics; however repetition of certain elements to ensure continuity and a holistic approach when tying the design together is of vital importance, particularly in a building of this magnitude. Annette LeCuyers description of Tectonic Expression being a fusion of art and technique is correct in every sense, and should remain the architect's key goal in order to ensure continuous commuter engagement.

Calatrava's design approach to the Stadelhofen railway station in Zurich, is indicative of one's ability to be mesmerised by an iconic piece of architecture. From the time the commuter enters the station precinct one enjoys a wealth of visual connectivity with the buildings expressive tripartite structural form. The rhythmic nature of the elements invokes a connection with that of movement and 'dwelling' in order to gaze further. The building manages to display its identity in being that of a train station of a modern period. Simple material choice and colour have been intelligently used to invoke an array of emotions which encourage spatial pleasure.

All of the train stations investigated in support of this argument displayed a strong engagement with the use of modern technology and materials whilst at the same time engaging a modern approach to the design of modern day railway station typologies. Even in the case of the Gautrain station buildings, where prior modern precedents remained absent within our South African environment, they still managed to impose a modern approach but in a sensitive manner where homage was paid to the existing context.

In answering the research questions, one can strongly state that public transportation in particular that of rail commuting can be technologically improved to render itself a safe and effective mode of transportation that can be enjoyed within a culturally integrated environment that will ultimately promote socio-economic growth. However, one challenge still remains, which is that of the high cost of such a service as experienced in the new Gautrain network and how this can be overcome in future train station developments.

This is seen to target the middle to upper class only which should be seen as a challenge to Government in terms of finding a solution that will enable any South African, irrespective of their economic background, to be able to commute using this modern type of public transportation.

6.3 Recommendations

Social and economic segregation should not be the downfall of our free society. Freedom should be enjoyed by all within the confines of a safe environment that enables equality amongst all who 'dwell' within its walls. Restrictions should be limited to only the point of moving within the departure zones of the station building. This will encourage unity and enable a transfer of knowledge and skills amongst our diverse nation, especially between our literate and illiterate.

Train stations are key contributors towards the creation of communities as these are public places that should not be seen as proponents of discrimination. Commuters from 'all walks of life' pass through the halls, concourses and platforms of train stations and given our diverse culture and racially mixed community, the station should play an important role in the unification of our diverse community where we are one day eventually able identify one another as being South African.

The old train station building in Pietermaritzburg should be allowed to remain within the confines of the existing site and be restored as a reminder of our South African heritage. Even though it has strong connotations to the colonial regime, it still remains a part of our history of what the country was like before democracy and should as a testament of the past in order for our children and grandchildren to be educated in the history of our struggle for freedom.

Even though it is recommended for the old train station building to remain within this precinct, there is still a need for a new modern train station building that will stand side by side and in union with the old building where it will represent the future of South Africa and our society's eagerness to advance both socially and technologically. This new building should represent a new wave in train station architecture within the South African context.

Lastly, in order for rail commuting to become an attractive mode of public transportation for all, there needs to be major infrastructural and technological improvements not only in the train's station buildings but in the trains themselves to render them safe and reliable.

However, this type of approach will require huge investment by government and other stakeholders in ensuring that the public do not end up funding these projects otherwise these buildings will suffer a similar demise to our current situation.

Keeping up with technology is one aspect, but this should be supported by an assurance that rail commuting will be devoid of crime. This is a major problem within our South African society and much needs to be taken from the Gautrain stations response to dealing with commuter safety. However, care should be taken not to over secure this environment and ultimately run the risk of losing the creation of 'communities' and 'dwelling' by all citizens of Pietermaritzburg.

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APPENDIX I

The following questionnaire will be used to gather information from various sources such as the rail transport management and staff, traders within and around the train station, commuters and the general public around Pietermaritzburg.

QUESTIONNAIRE

PART A

1. Nationality:

2. Country of residency: (if not South African)

3. Ethnicity:

Black ☐ White ☐ Coloured ☐ Indian ☐ Other ☐ (Please specify) _____

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

5. Occupation:

PART B (* If you have never made use of public transportation, Ignore Parts B, C & D)

1. What type of public transport do you use: Train ☐ Minibus ☐ Bus ☐ Meter Taxi ☐

2. Which type of public transport do you use most: Train ☐ Minibus ☐ Bus ☐ Meter Taxi ☐

3. How often do you use your preferred mode of public transport: Daily ☐ Weekly ☐ Monthly ☐

PART C

1. How would you rate each specific form of public transport in terms of safety:

i) Train Poor ☐ Average ☐ Good ☐ Brilliant ☐

ii) Bus Poor ☐ Average ☐ Good ☐ Brilliant ☐

iii) Minibus Poor ☐ Average ☐ Good ☐ Brilliant ☐

iv) Meter Taxi Poor ☐ Average ☐ Good ☐ Brilliant ☐

2. How would you rate each specific form of public transport in terms of comfort:

i) Train	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
ii) Bus	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
iii) Minibus	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
iv) Meter Taxi	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>

3. How would you rate each specific form of public transport in terms of quality:

i) Train	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
ii) Bus	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
iii) Minibus	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
iv) Meter Taxi	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>

4. How would you rate each specific form of public transport in terms of accessibility:

i) Train	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
ii) Bus	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
iii) Minibus	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>
iv) Meter Taxi	Poor <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Brilliant <input type="checkbox"/>

PART D

What improvements can be made (IF ANY) to ensure that you continue to use your preferred type of public transportation:

PART E (ONLY ANSWER IF YOU HAVE NEVER USED PUBLIC TRANSPORT)

Why do you not use public transport? please explain?

If you had to use public transport, which mode of transport would you use & why?

If public transportation infrastructure, facilities & safety was improved to meet with European standards, would you be happy to pay more than the norm?

PART F: (General)

1. What do you think the government should do with old public buildings in South Africa?

- ☐Demolish them and build something else.
- ☐Restore them and re-use them.
- ☐Leave them to ruin and then demolish them.
- ☐I don't care.

2. What do you think should be done with old railway station buildings in South Africa?

- ☐Demolish them and build something else.
- ☐Restore them and re-use them.
- ☐Leave them to ruin and then demolish them.
- ☐I don't care.

3. What do you think should be done with the old Pietermaritzburg railway station building?

- ☐Demolish it and build something else.
- ☐Restore it and re-use it.
- ☐Leave it to ruin and then demolish them.
- ☐I don't care.

4. If there was a new railway station building built in Pietermaritzburg, would you use it & why?

Yes ☐ No ☐

APPENDIX II

Informed Consent Form

(To be read out by researcher before the beginning of the interview. One copy of the form to be left with the respondent; one copy to be signed by the respondent and kept by the researcher.)

My name is Denzil Prestin Romulis Coetzee (student number 210528222). I am doing research on a project entitled 'Public Transportation as a Generator for Change in Architectural Identity which focuses on the Revitalization of the Old Pietermaritzburg Railway Station into a Main Transportation Hub'. This project is supervised by Mr Juan Solis-Arias at the School of Architecture, College of Humanities, University of KwaZulu-Natal. I am managing the project and should you have any questions my contact details are:

School of Architecture, University of KwaZulu-Natal, Durban Cell: 0794984915 Tel: 0333946464. Email: denzilc@mtmarch.co.za or 210528222@ukzn.ac.za.

Thank you for agreeing to take part in the project. Before we start I would like to emphasize that:

- your participation is entirely voluntary;
- you are free to refuse to answer any question;
- you are free to withdraw at any time.

The interview will be kept strictly confidential and will be available only to members of the research team. Excerpts from the interview may be made part of the final research report. Do you give your consent for: *(please tick one of the options below)*

Your name, position and organisation, or	
Your position and organisation, or	
Your organisation or type of organisation <i>(please specify)</i> , or	
None of the above	

to be used in the report?

Please sign this form to show that I have read the contents to you.

----- (signed) ----- (date)

----- (print name)

Write your address below if you wish to receive a copy of the research report:

(Interviewer to keep signed copy and leave unsigned copy with respondent)

BACKGROUND

Due to our **current socio-economic** position in **South Africa**, brought about by the **apartheid** era, **advances** in **technology** have been **slow**.

To ensure **progression**, there has to be an **interchange** of western **ideas**, products and both international and **inter-cultural** resources.

PROBLEM

Safe Public transportation is **vital** in our ever changing **social environment**.

Freeways are becoming more **congested** and **accident prone** between major cities, in especially locally between **Pietermaritzburg** and **Durban**.

Rail commuting in particular should be **improved** to ensure **commuter safety** which will encourage **economical growth**.

HYPOTHESIS

Railway stations should **respond** to our **current economic** condition where **affordable public transportation** is **vital**.

The **combined** old and new railway **station** typologies at Pietermaritzburg should **reinforce** the **concept** of **sharing** and **co-existence**.

THEORIES AND CONCEPTS

All **theories** used have a **reliance** on each other to ensure a **holistic** outcome in the development of an **iconic building** within the framework of this historically rich **colonial context**.

Historicism, an interrogation of the **architectural style & period** of the old railway station building and that of similar buildings within the **heritage context** of the city.

This is tied to the **concept** of **"change"** meant to demonstrate the **technological** and **social impact** of a **new modern building**.

Phenomenology, 'Genius Loci or place making' and **sensory perception** to **act** as a **re-enforcer** of the 'change' referred to in Historicism, by **creating unified spaces** inhabited by **unified societies**.

This is tied to the **concept** of **'movement'** and **appreciation** of these **spaces**.

Tectonics, exploits the **sensory experience** further by the **expression** of the **detail**.

This is tied with the **concept** of **'identity'** displayed by the **'expressive architecture'**.



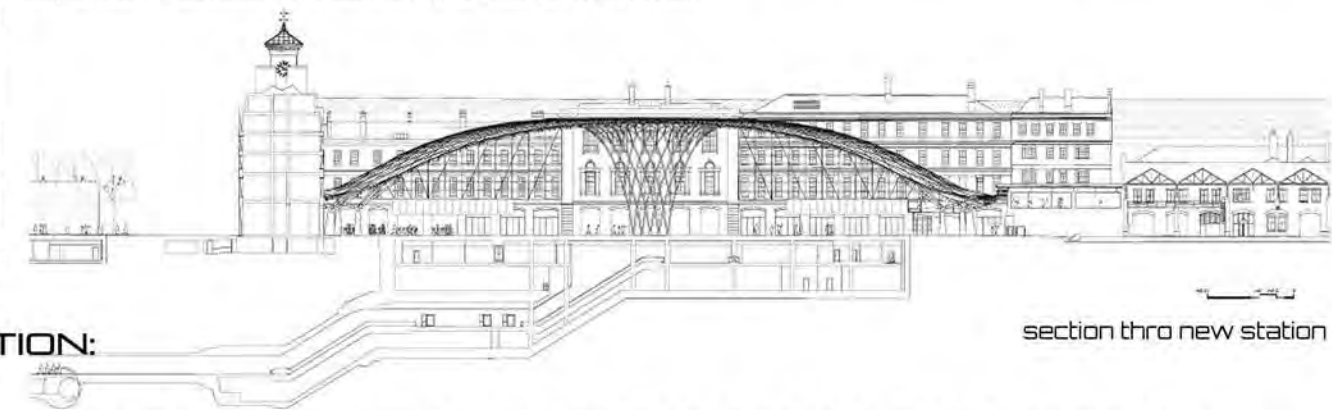
main piazza at kings cross station

PRECEDENT STUDIES

KINGS CROSS RAILWAY STATION: LONDON, UNITED KINGDOM

The new regeneration of the Kings Cross station building was designed by architects John McAslan and Partners (JMP). According to McAslan (2012), to aid in the successful parity of these two architectural iconic structures at Kings Cross, they employed three different styles of architecture being that of re-use, restoration and re-build. Passengers access platforms of this dramatic and volumous interior space either on ground floor or by way of the mezzanine level above, through the use of lifts escalators which also carry passengers from the footbridge across the lines down onto the platforms. One can see and appreciate the architect's sensitivity in ensuring that with the introduction of the new domed roof with its gentle curvature, there always remains a clear visibility of the old building from both the outside and in. The use of the domed roof and its lowered eaves at the abutment against the hotel still enables light and visibility through the hotel windows. However, the ground level of the hotel now remains enclosed within the train station concourse which may not be ideal in terms of access and privacy.

Both the old and new buildings main facade has been celebrated with the old facade being fully glazed, with frameless glass, to allow a fully transparent view of the preserved old structure within the old station building. The new glazed entrance and canopy on the Western side of the new station building, representing the new gateway to the future of train travel. The large outdoor Kings Cross Square between Kings Cross station and the nearby St Pancras station offers an enjoyable public social environment enhanced by its southern orientation. Trees have been installed within the space to not only soften the space but to also offer both commuters and pedestrians some form of protection against the elements. The contrasting texture and colour of paving against tarred road creates a clear separation between vehicle and pedestrian movement.



section thro new station

CASE STUDY

PRETORIA GAUTRAIN RAILWAY STATION: PRETORIA, SOUTH AFRICA

The new Gautrain station, as is the case with all the Gautrain stations, was designed by the Gautrain Architects Joint Venture (GAJV) and completed in 2012. Located south-east of the existing old Pretoria station main building, the new Gautrain building and platforms lie almost parallel to the existing station's railway lines and platforms. Although the detail elements of all the Gautrain stations are somewhat similar, their spatial organization is entirely dependent on site constraints which result in a difference in layout from one to the other. In the case of the Gautrain Pretoria Station, its form is a simple linear arrangement along most of the length of the old train station platform building. The new train station hall and platform remain homogenous under a single double volume roof with the platform portion of the building slender on approach and then tapering out, becoming wider towards the station hall and entrance.

Unlike the Gautrain Park Station, the new Pretoria Station is on ground level and completely open on both sides of the platform area allowing for much natural light and cross ventilation to penetrate the space. The internal spatial arrangement of the entrance hall is somewhat simple in that it is a large space, both before and after the turnstiles, wide enough to cater for hordes of commuters during peak hours. The paved square is softened by some green spaces and a water fountain reinforcing an air of calm and peace. The new public square has a direct link with the main front garden at the entrance to the old train station building.



main entrance to pretoria gautrain station



square between new & old station



site plan - pretoria gautrain station

CRITERIA

the new station must be located along the main johannesburg to durban rail route.
 the new station must be located near a major city for commuters living in one city or small town & working in the other in order to render the cost for a high speed train between cities viable.
 the city/town housing the new station must have colonial or heritage architecture.
 the city/town housing the new station must have a large enough population to sustain a public building of this magnitude.
 the existing main station building within the proposed site must be a heritage building.
 the existing building must be retained to allow a cohesion or co-existence between old & new architectural periods.
 the new station site must be located within the CBD of that particular city for easy access to all.
 the station site must be large enough to house a 8 000 to 12 000 sqm building of two or more levels & other modes of public transportation in close proximity.
 the new station must be in close proximity to existing public transportation nodes e.g. mini-bus taxi & bus ranks.
 the new station must be located along a major public transportation route.
 the new station site must be seen to be the catalyst for urban regeneration with particular focus on its surrounding precinct.



EXISTING PIETERMARITBURG TRAIN STATION SITE

THE NEW STATION SITE WILL BE HOUSED WITHIN THE EXISTING PIETERMARITBURG TRAIN STATION PRECINCT for the following reasons;

THE EXISTING STATION SITE;

is located along the main johannesburg to durban rail route.
 is located within the city centre of pietermaritzburg which is the Capital of KZN & is 45 minutes drive to durban for commuters who live in one city and work in the other.

is located within the pietermaritzburg CBD for easy access to all.

is 40 000sqm & is large enough to house a 10 000sqm building within a semi-vacant part of the site.

is in close proximity to existing public transportation nodes e.g. mini-bus taxi & bus ranks.

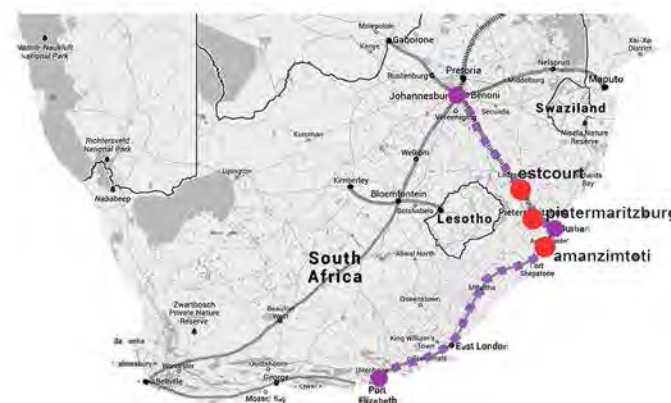
is located along a major public transportation route.

the city of pietermaritzburg has predominantly colonial heritage architecture. due to pietermaritzburgs Capitol status, it has developed a large enough population to sustain a public building of this magnitude.

THE EXISTING MAIN PMB STATION BUILDING;

is within the proposed site and is a heritage building.
 can be retained to allow a cohesion or co-existence between old & new architectural periods.

will promote urban regeneration with the upgrade of the existing precinct into mixed use & other supporting public amenities.



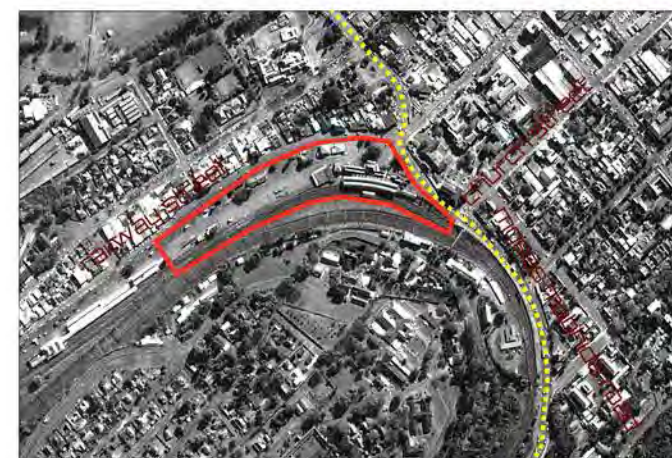
MACRO - SITE



existing pmb railway station site is located along the periphery of the city to the west of the N3 freeway.

the urban context around the site remains dilapidated & requires a major urban intervention to re-activate the entire precinct.

MICRO - SITE



The Sleepy Hollow

Pietermaritzburg, now commonly known as the 'Sleepy Hollow' was founded in 1838 by colonial settlers and emerged as a dual English Zulu town (Wills 1991). The town grid pattern is typically that of Dutch origins with the city hall centrally situated along the main street within the CBD.

map indicates main rail routes with major smaller cities enroute to durban.

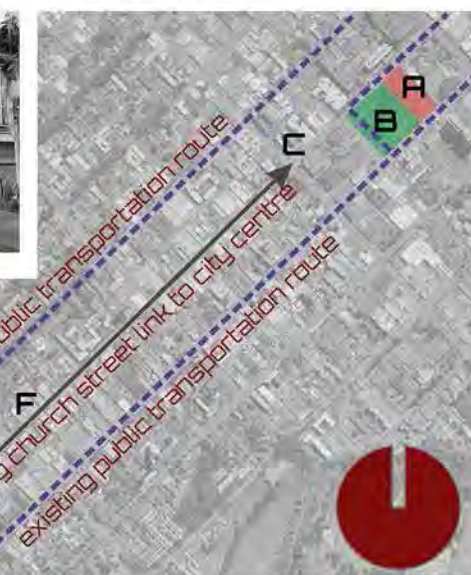
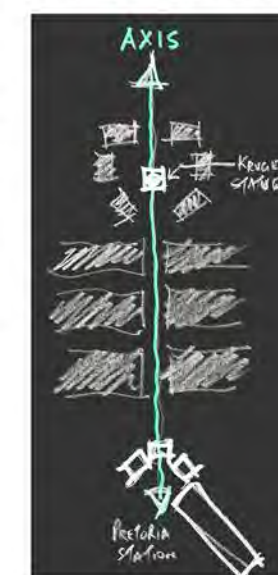
pietermaritzburg is ideally located for an intervention of this magnitude.



existing taxi rank 'A' at city centre feeding all outlying suburbs.

existing park 'B' fenced all round rendering it inaccessible to the public.

existing city hall at city centre & in direct sightline to old station precinct.



existing mahatma gandhi statue 'C' in church street in direct axis with existing station.
 existing pietermaritzburg railway station precinct 'D'
 existing dilapidated housing & small business 'E' around the existing station.

view 'F' up church street towards the old railway station building

view 'F' down church street towards gandhi statue & city hall.

context 'E' around station

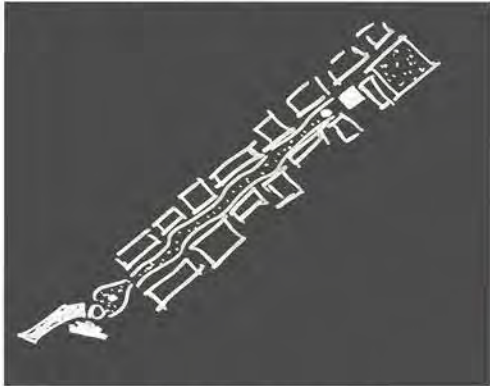
existing taxi 'G' & bus 'H' rank in close proximity



URBAN FRAMEWORK



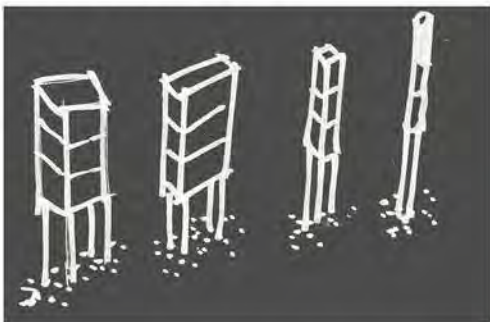
AVENUE OF TREES DOWN CHURCH STREET



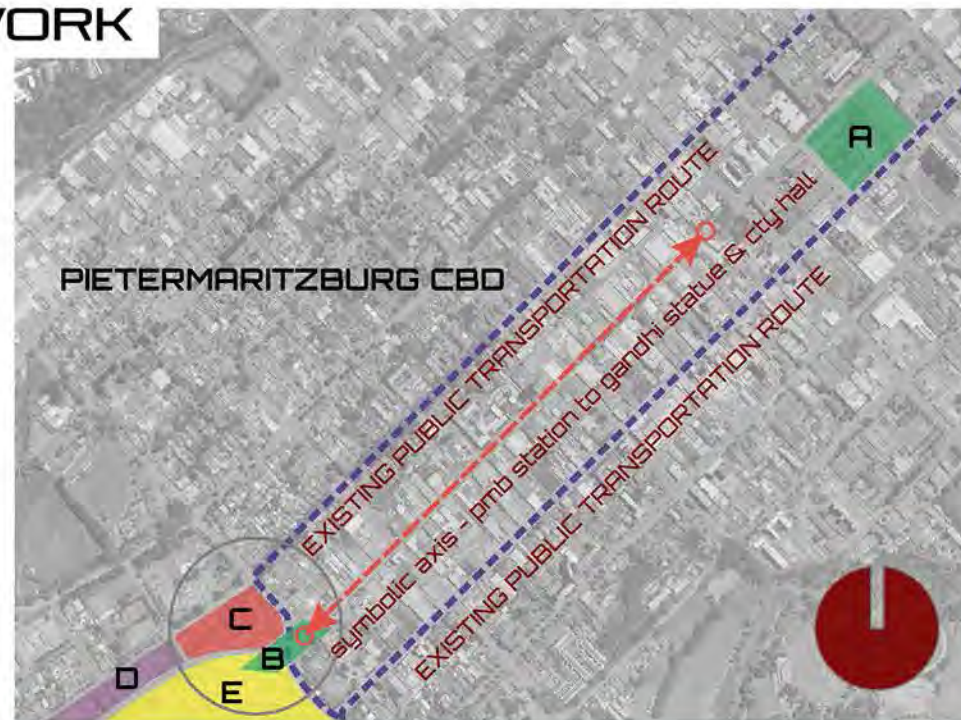
PEDESTRIANIZE CHURCH STREET & LINK EXISTING CITY SQUARE TO THE NEW STATION PARK PRECINCT



GANDHI MEMORIAL PARK FORMED OUT SIDE OF THE STATION PRECINCT



BEACON OF LIGHT OR OBELISK AT PARK AS ANCHOR POINT BETWEEN THE NEW STATION, THE OLD STATION & THE CITY SQUARE



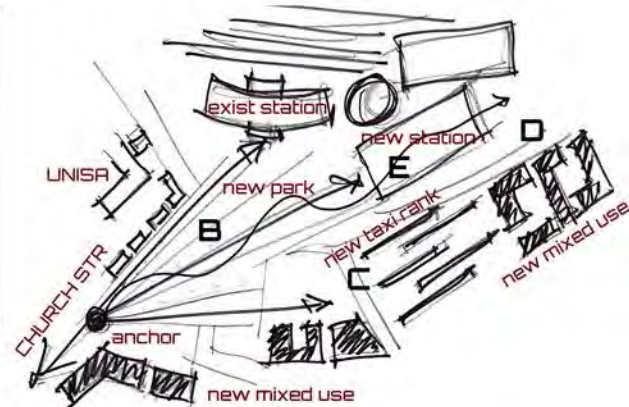
approach beacon of light at new reconciliation park, then journey up within park towards the new train station building whilst passing the old along the way.

existing central city square park & taxi rank 'A' to connect with newly formed gandhi memorial park 'B' & taxi rank 'C' immediately outside of the existing train station site 'E'.

existing site 'C' comprising of dilapidated buildings & small business converted to new mini-bus taxi rank as part of public transport interchange at new station.

existing site 'D' comprising of dilapidated housing & small business converted to mixed use in order to activate the station precinct.

new train station building located within existing site 'E' with existing public transportation running immediately in front of it.



urban proposal around station precinct

Site Data and Town Planning
Sewer, water & electricity existing within the site.
Site zoned Railway - No restrictions
Reservation site

Historical Status
Heritage - Station buildings ONLY



PIETERMARITZBURG STATION SITE

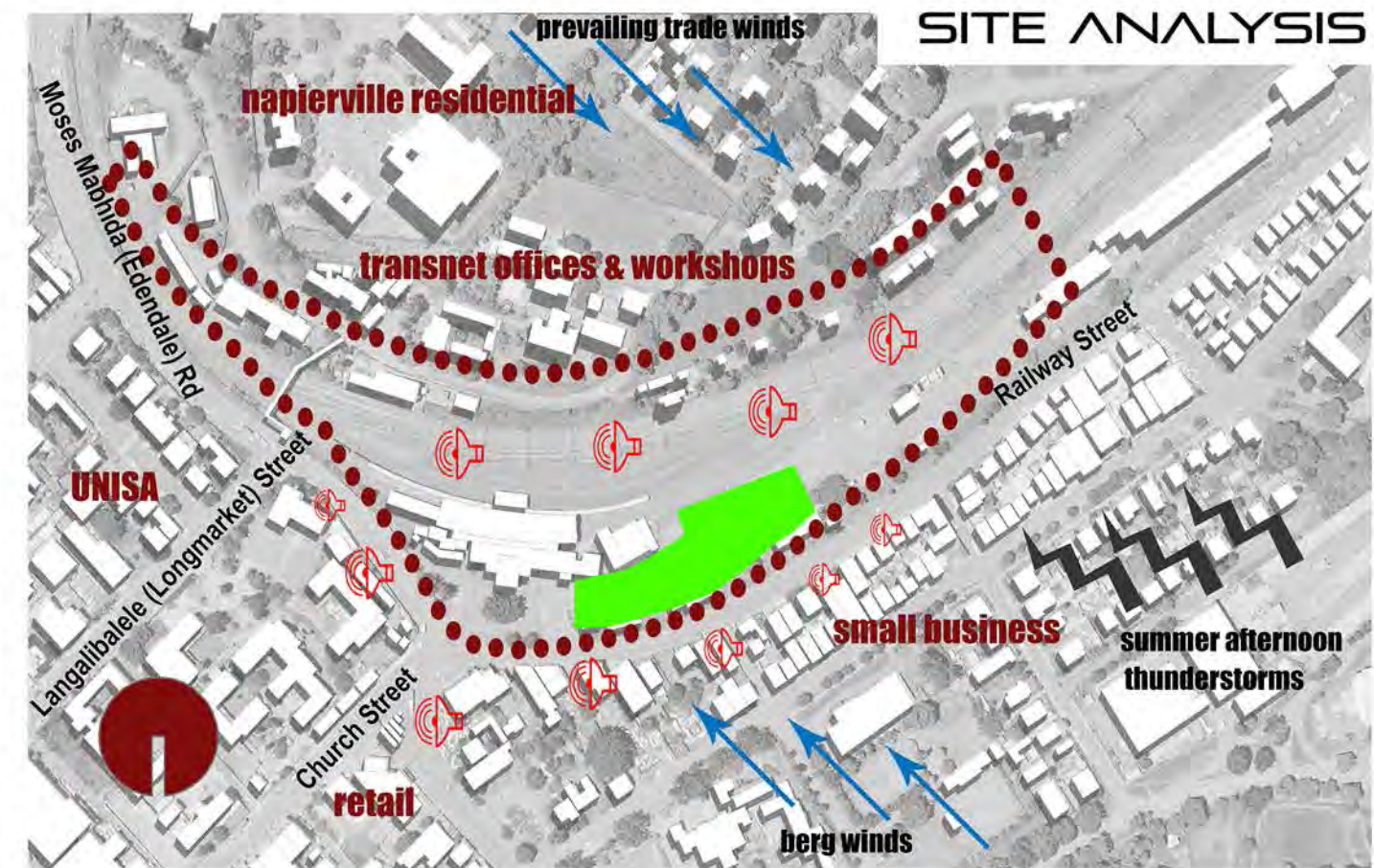


existing pmb station building

A product of the 19th century architect, William Street-Wilson, as a second phase of the expansion of the Natal Government Railways, the Pietermaritzburg railway station was built as a 'stop-over' station en route to the main Durban station. Located near the top of Church Street and following the same angle as the railway line, one can assume that the old station building with its predominant use of the old red 'Maritzburg' face brick and roof tiles is typical of the Queen Anne style or that of 'Free Style', which is also evident in the City Hall building (Radford, 2002).



immediated surrounding context



existing pedestrian bridge from napierville residential area

denZil coetZee

Public Transportation as a generator for CHANGE in architectural IDENTITY

THE REVITALIZATION OF THE OLD PIETERMARITZBURG RAILWAY STATION INTO A MAIN TRANSPORTATION INTERCHANGE

urbAn frAmework & site AnAlYsis

Historicism - "change"
Phenomenology - "movement"
Tectonic Expression - "visual connection"

CONCEPT - "FRAMING HISTORY"



snapshot thro time



capturing memories



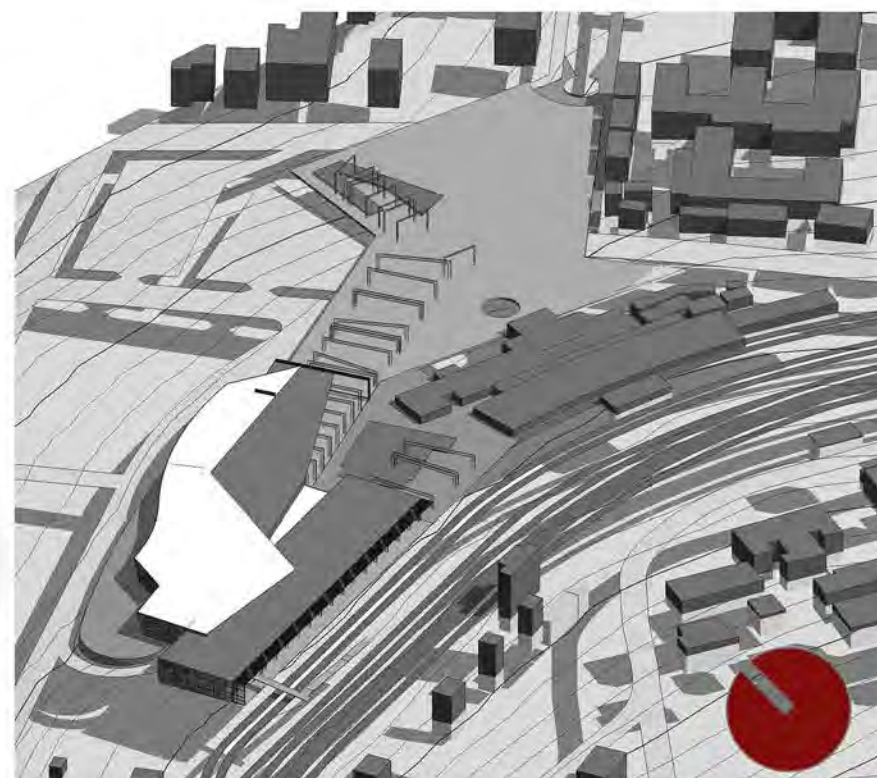
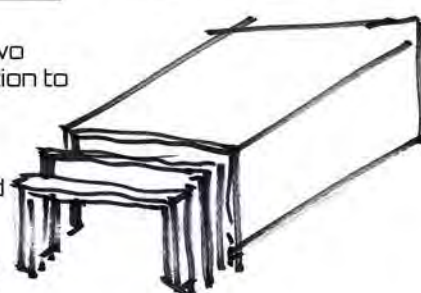
visual engagement



rectilinear old buildings replicated in two new main building forms at juxtaposition to each other.

framed portals indicative of picture framing at regular intervals extruded along entrance concourse.

visual framing of old building through glazed rectangular or mesh screens



two new rectilinear forms pay homage to the rectilinear forms of the old buildings. new organic shaped form connecting these two rectilinear forms symbolises that of unity of two periods of architecture.

the 'V' shape on the inner part of the organic form symbolises an acceptance of old history & its connection with apartheid & encourages forgiveness with the implementation of the garden of reconciliation.

MATERIALS



OUTDOOR FURNITURE

WALL ART



CLADDING



SLATTED TIMBER



POLISHED CONCRETE FLOOR

INTERPRETATION OF HERITAGE BUILDING ELEMENTS



curved roofing at old platform carried through along new platform also depicting concept of 'movement' & 'free flow'. corrugated sheeting used in line with Victorian era.



plaster bands from old building carried thro horizontally at entrance security office roof & where floor slab lines visible throughout new building



old curved platform roof



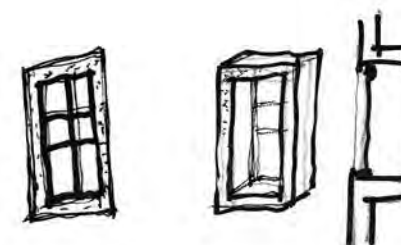
new 'tree' like steel roof support columns with curved beams pay homage to old platform roof support steel columns



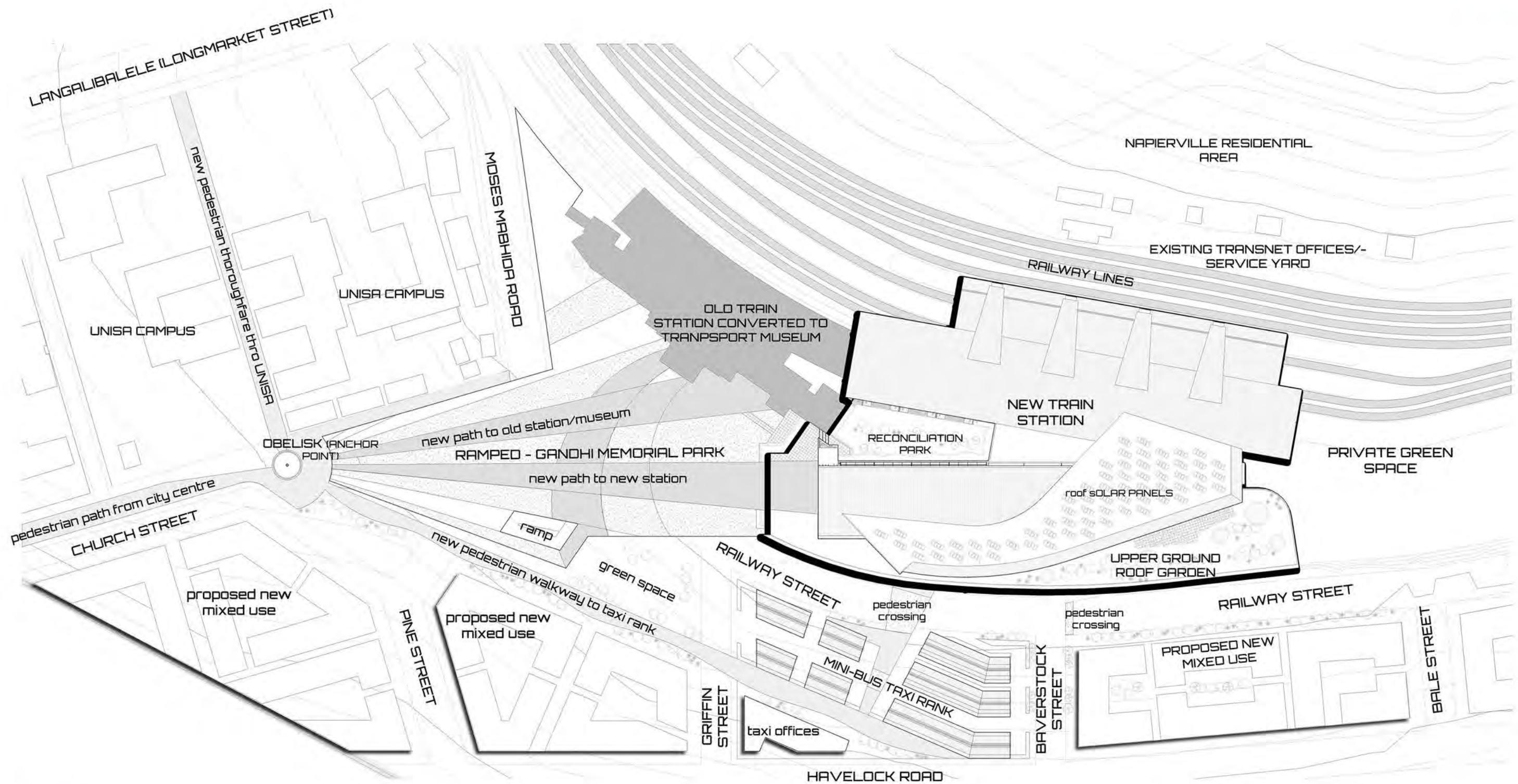
pitched pergola structure at new reconciliation garden entrance & new slightly angled main support structure to entrance concourse sympathetic to gabled roofs.

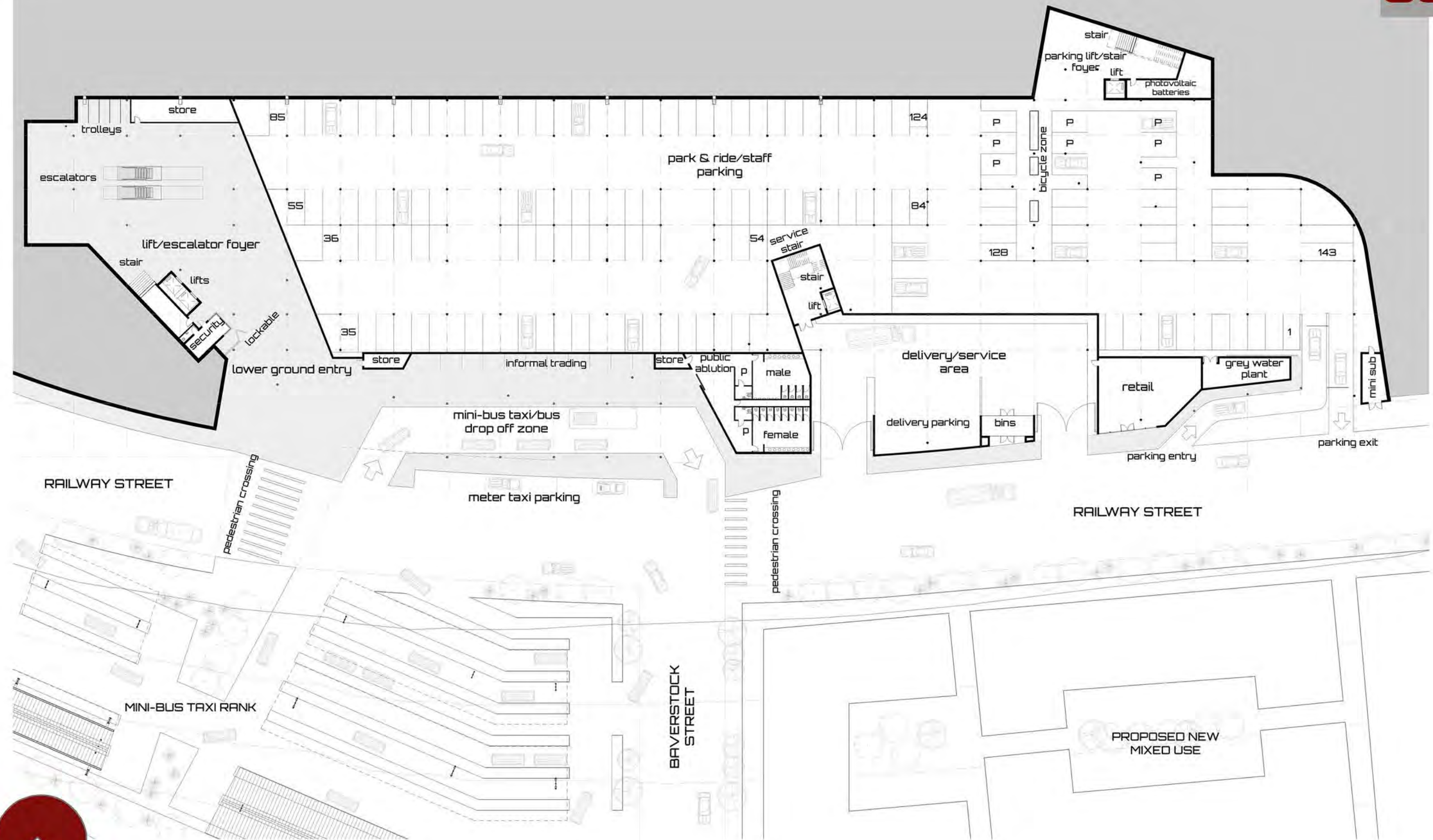


plaster quoin/band around old windows replicated with plaster band around new windows or window framed concrete protrusion.



old platform double pitched roofs replicated by double pitch roofs to traders kiosks in reconciliation garden





floor area = 8,612sqm

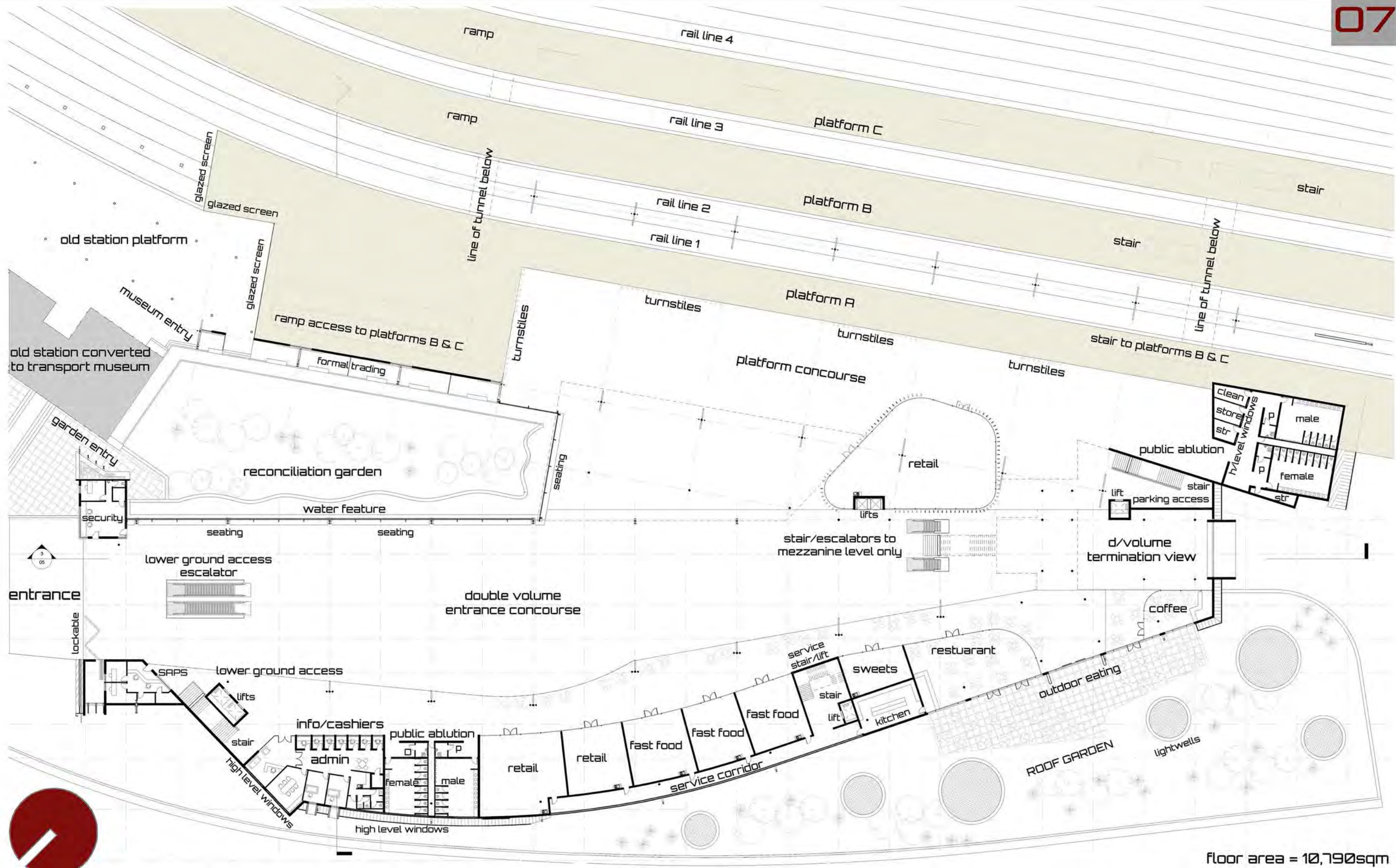


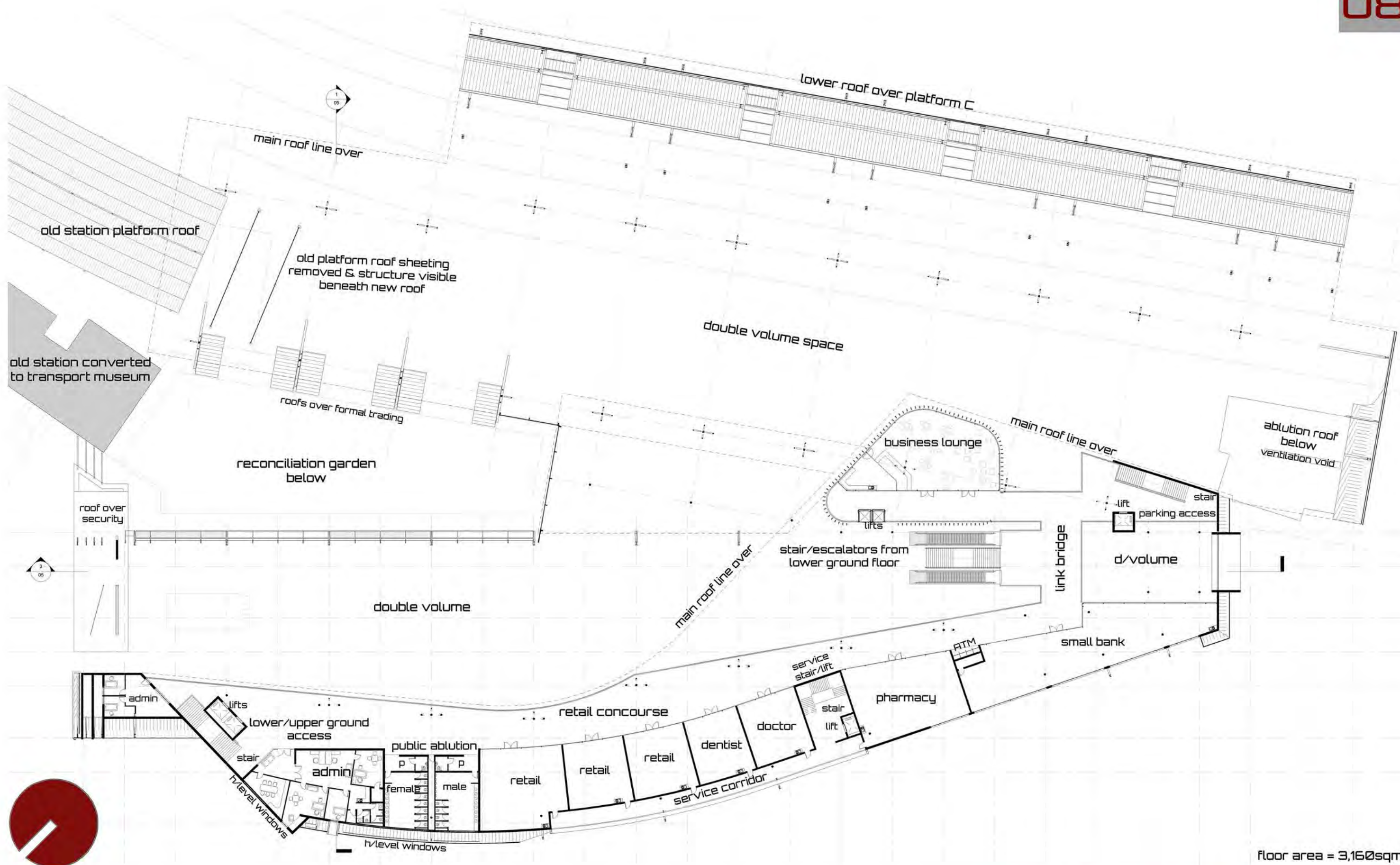
denZil coetZee

Public Transportation as a generator for CHANGE in architectural IDENTITY

THE REVITALIZATION OF THE OLD PIETERMARITZBURG RAILWAY STATION INTO A MAIN TRANSPORTATION INTERCHANGE

1:250 lower gRound floor plan





floor area = 3,160sqm

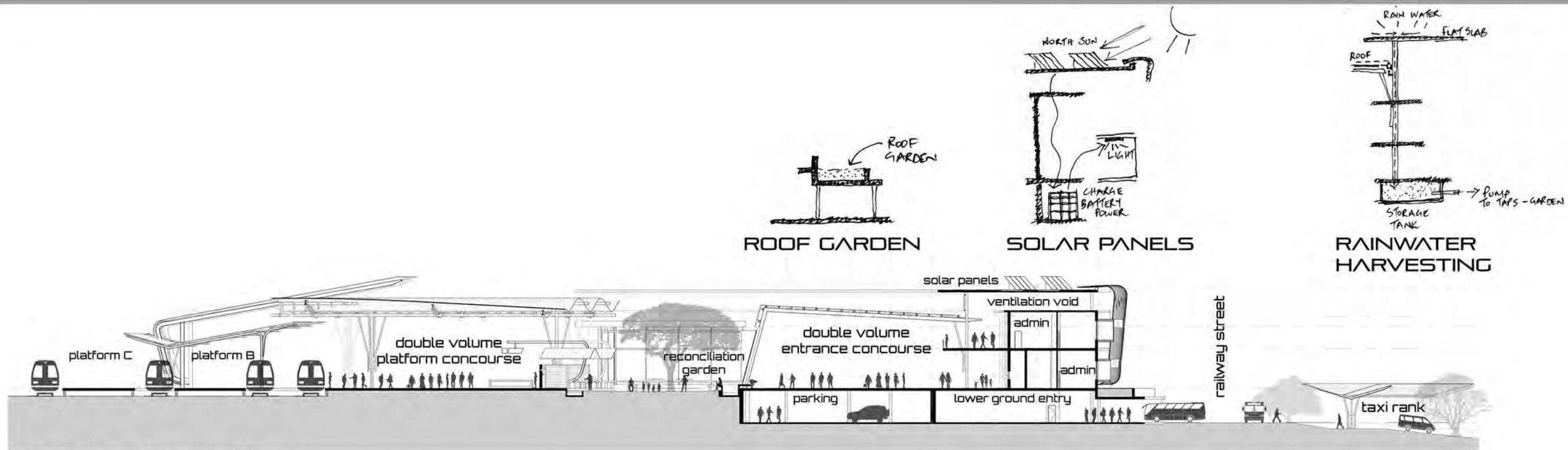


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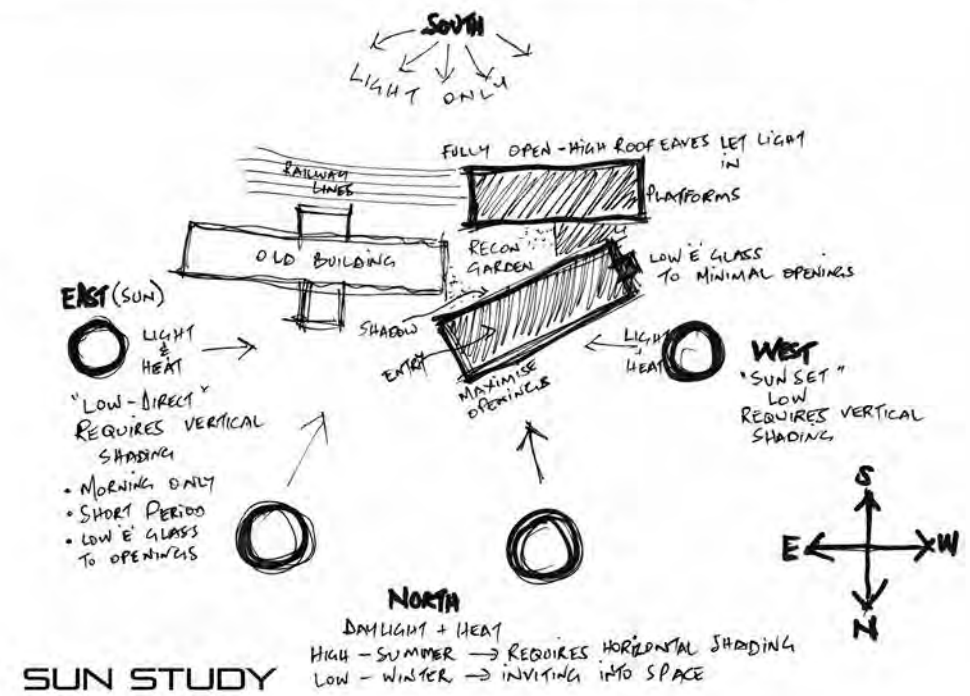
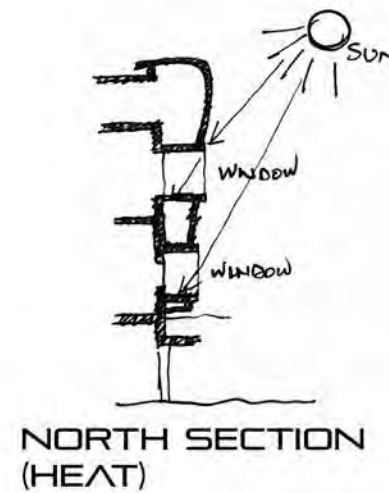
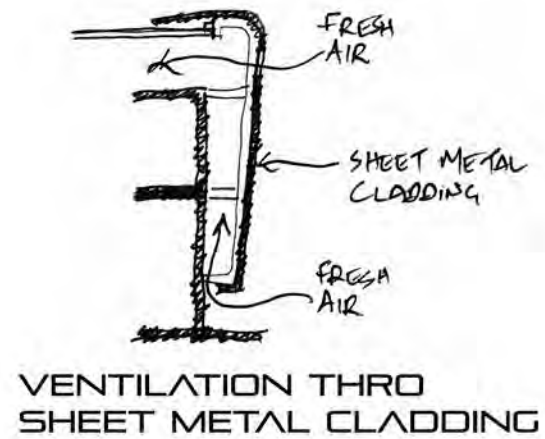
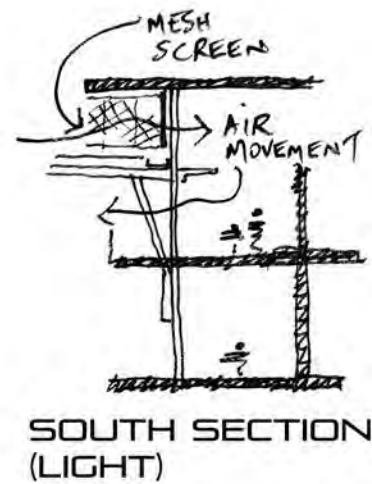
1:250 mezzanine floor plan

Public Transportation as a generator for CHANGE in architectural IDENTITY

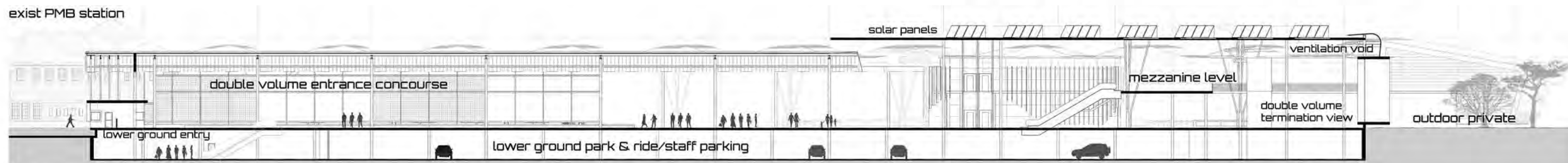
THE REVITALIZATION OF THE OLD PIETERMARITZBURG RAILWAY STATION INTO A MAIN TRANSPORTATION INTERCHANGE



CROSS SECTION



exist PMB station



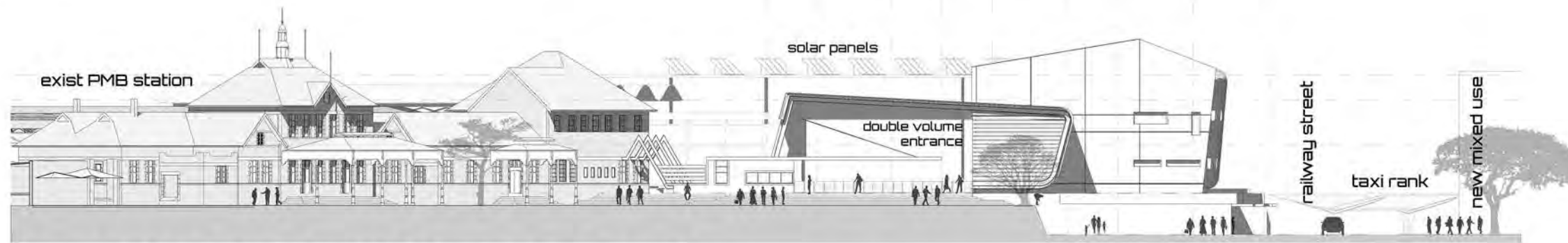
LONGITUDINAL SECTION

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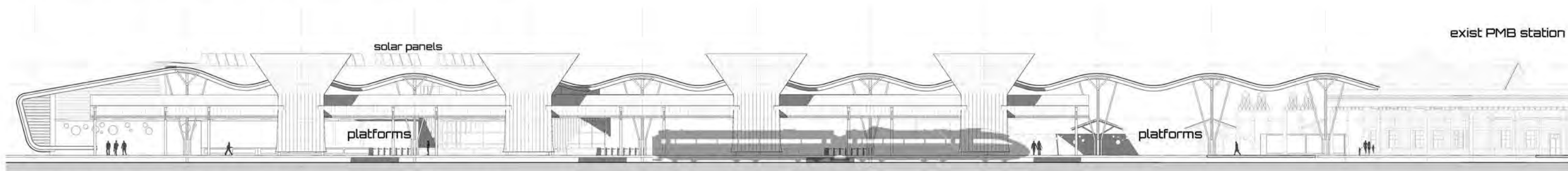
1:250/nts Sections & SuStainable deSign

Public Transportation as a generator for CHANGE in architectural IDENTITY

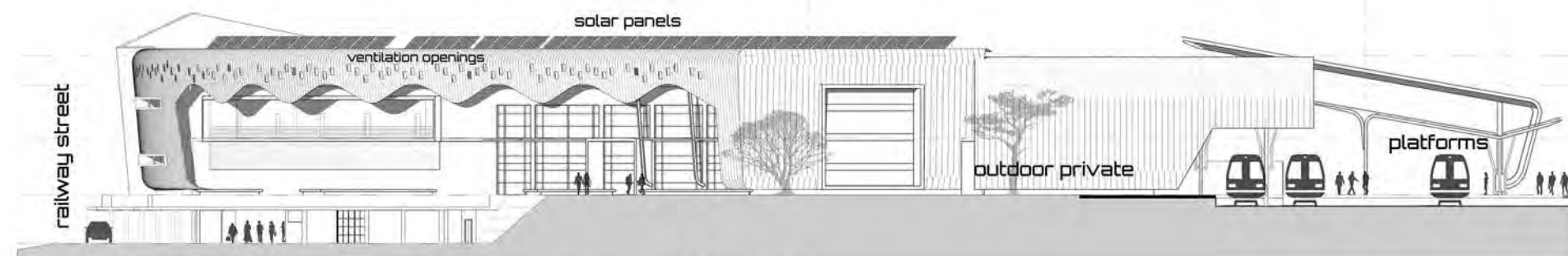
THE REVITALIZATION OF THE OLD PIETERMARITZBURG RAILWAY STATION INTO A MAIN TRANSPORTATION INTERCHANGE



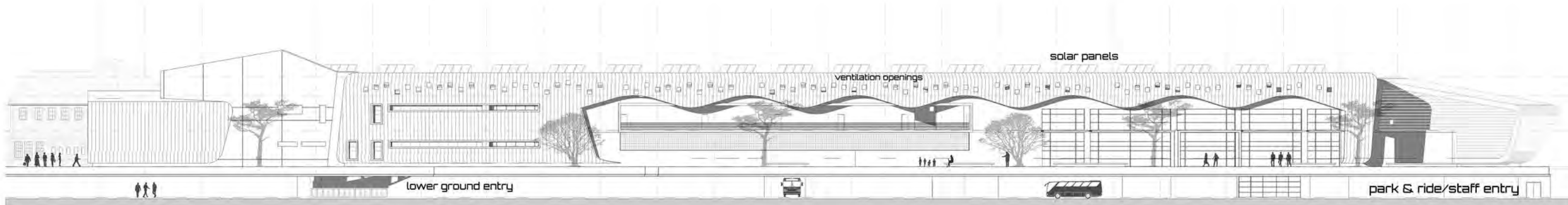
NORTH EAST (ENTRANCE) ELEVATION



SOUTH EAST (PLATFORM) ELEVATION



SOUTH WEST (VIEW END) ELEVATION



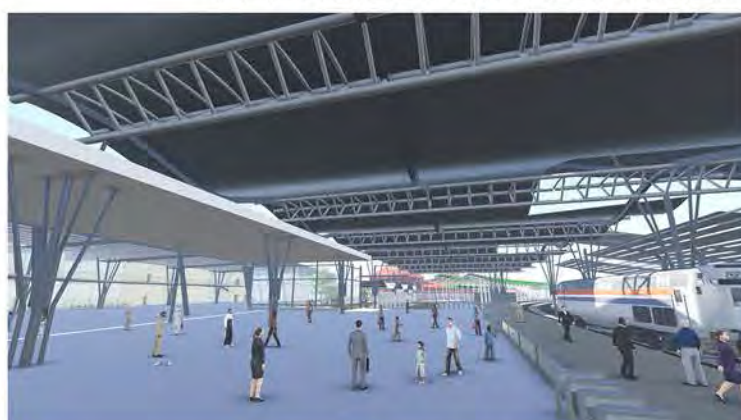
NORTH WEST (STREET) ELEVATION



PUBLIC CONCOURSE



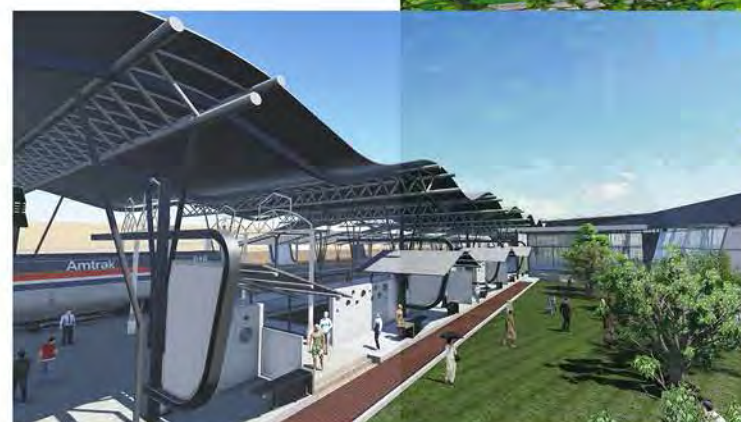
RECONCILIATION GARDEN



VIEW ALONG PLATFORM



RECONCILIATION GARDEN



TRADERS STALLS



VIEW FROM GANDHI MEMORIAL PARK



VIEW FROM OLD PLATFORM



STATION ENTRANCE



VIEW TO PLATFORMS & HERITAGE BUILDING