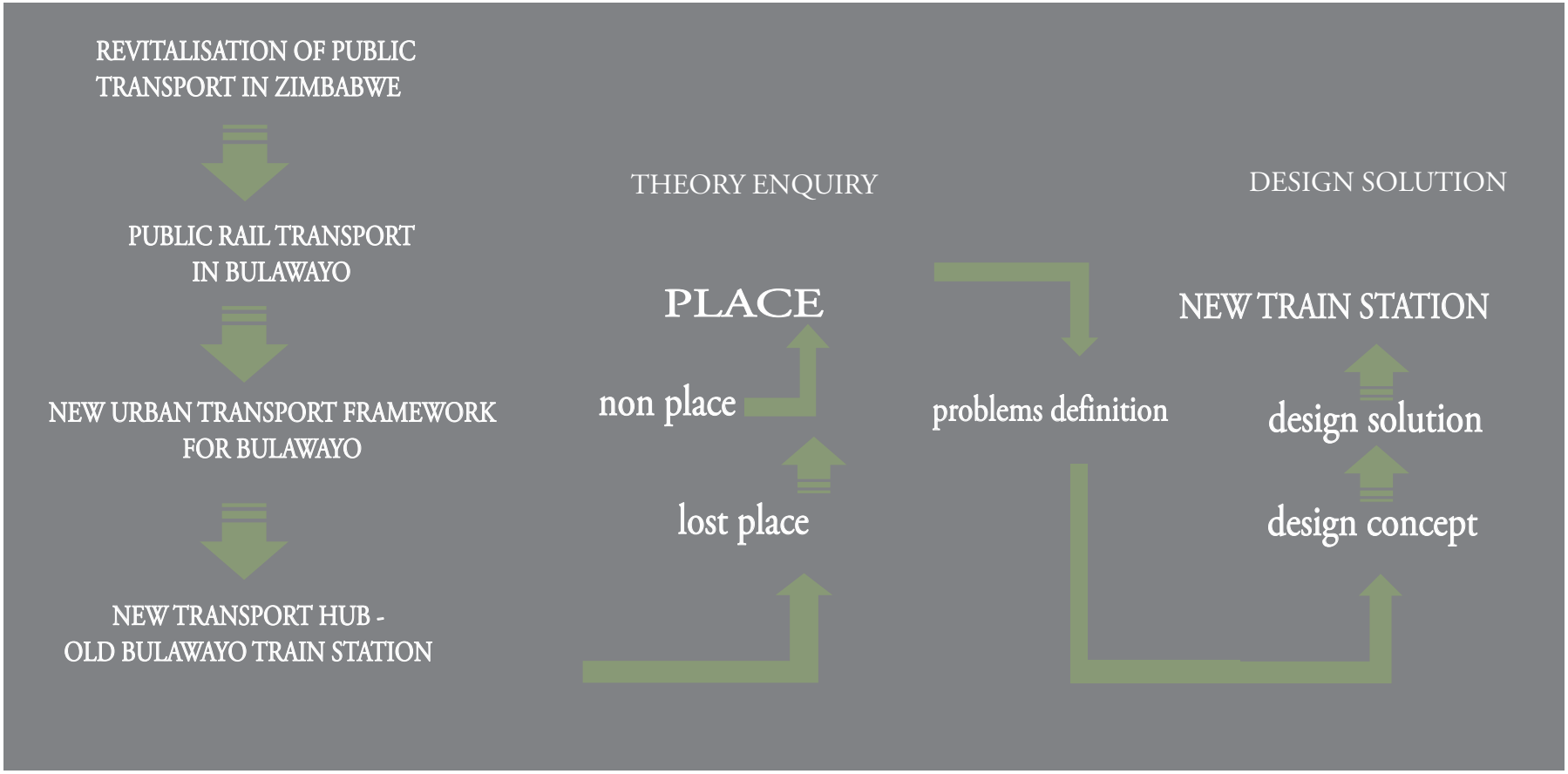
re-CONNECTION

finding place in a Bulawayo train station

Revitalising a lifeless train station by re-linking it to the city through re-creating commuter rituals as a catalyst for stimulating human movement and urban development.

This document is submitted in partial fulfilment for the degree:
Master of Architecture [Professional]
at the University of the Witwatersrand, Johannesburg, South Africa, in the year 2011.

thesis overview



declaration

I, Gillian Chikerema [471555A] am a student registered for the course, Master of Architecture [Professional] in the year 2011.

I hereby declare the following:

I am aware that plagiarism [the use of someone else's work without permission and/or without acknowledging the original sources] is wrong. I confirm that the work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise. I have followed the required conventions in referencing thoughts, ideas, and visual materials of others. For this purpose, I have referred to the Graduate School of Engineering and the Built Environment style guide. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of ideas or words in my own work.

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acknowledgements

My deepest gratitude goes to the Department for their assistance in completing this thesis, my supervisor, Dr. Daniel Irurah, Prof. Jonathan Noble and Prof. Paul Kotze for their contribution throughout the year

To my room-mates, friends and family for their unwavering support, and finally to the Almighty for giving me the design abilities needed to put together a building.

abstract

Every city experience is defined by the connective qualities of individual places within the city, however these human bodily experiences can potentially be disjointed if the individual places within the city are far from each other. Zimbabwe's Bulawayo train station has become a lost place, a phrase associated with abandoned and under-used urban spaces, mainly because of their lack of connectivity to the city (Trancik (1986). As part of the government's plan to improve Bulawayo's public transport system, commuter rail transport is being introduced and expanded for public convenience. Creating a new transport hub at the train station is not enough to make sure that people will use rail transport as a form of public transport because the site's location is outside the city. Though the place cannot be relocated nearer to the city, this thesis explores the ways in which this lost place can be reconnected to the city and transformed into a revitalised and vibrant transport hub for commuters from within and outside Bulawayo.

One of the main aspects of 'finding' lost places involves using urban commuter rituals to rejuvenate the train station. These rituals will be used to activate the internal and external spaces of the train station as a method of connecting the site to the city. Since movement is a vital entity of places of transit, restoring all commuter, private and public vehicular links from the city to the station will become another method of re-connection to be explored. Reconnecting existing comatose transit systems rejuvenates and improves the efficiency of the urban life, however, more people in Zimbabwe are not using mass transport modes because of lack of security and their inaccessibility to the city centre. Public transport nodes are eroding fast and people are resorting to hitchhiking on a daily basis. This quality of life is taking over the city whilst abandoning other existing public transport systems. New routes of circulation are going to be established as a result of the new train station. Areas of commercial and social activity will occur bringing on the need for the area around the train station to be rezoned so as to accommodate the expected development. The station's new programme will help realise the potential of places of transit as social centres that people can go to and not as temporal nodes of transit that people merely go through. The building's new programme will allow spaces to create a new sense of place shaped by the users and their ritualistic activities. Whether they are formal or informal, these activities mark the new identity of the city's commuter experience and at the same time act as a gateway to the many opportunities that lie in the city.

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(All images are the authors own unless otherwise stated.)

INTRODUCTION

"Bodily movement is important in creating place; conceptualising space as movement than a container." (Low and Zuniga 2003:5)

objective

The relevance of this design thesis is to re-establish commuter rail transport as a reliable source of public transport through the re-use of an under-used train station. The author questions ways in which unused urban pieces of land can be reconnected back to the city centre. The objects to be studied are successful transport systems in developing and developed countries as a reference to understand how they use commuter rituals.

The significance of the investigation will help realise ways in which rail transport can become a safer and more efficient mode of transport in potentially growing nations and simultaneously re-conventionalising transport nodes as places people can go to and not go through.

The author's intentions are to identify the problems with rail transport in the city of Bulawayo, Zimbabwe and how these problems affect the nation and the broader context of Africa. After understanding the problems at hand, I want to make an analysis of whether the site is theoretically a 'lost place' as understood by urban theorist Rodger Trancik (1986) and how viewing places of transit as 'non places' Marc Augé (1995) could be a likely cause of lost place. They have both been classified as urban problems that are as a result of the poor principles of the modern movement. In order to 'find' these 'lost places' I hope to use theories that can help re-link rail transport into the heart of the city and adopt ways of attracting different types of commuters to use rail transport as it is a safe and efficient mode of mass transport, a step in Zimbabwe yet to be realised as a sustainable move to good urban living. By seamlessly connecting a lost place back into the city through the use of commuter rituals. The author hopes to create and resuscitate a socially inactive transport node into a place that people can go to and not just a place to go through.

site

The site is in Bulawayo, Zimbabwe's second largest city, laid out on gridiron pattern with the roads crossing perpendicular to the streets. Each city block is 6500 m^2 and serviced by a five metre wide central lane. The business district is found in the heart of the city and surrounded by low to medium density housing from the north east to the south west of the city and the industrial zone towards the south west to the western area of the city. The station is within this zone but detached from the city centre and mostly transporting people working in the industries and those staying in the low income housing area in the north eastern areas of the city.

The location of the rail station is unfortunately at the border of Bulawayo's business district; however this is no reason for it not to be included in the urban landscape. In fact, rail transport is the embodiment of Zimbabwe's main resource disseminator and human distributor. By invigorating a new spirit, the author strongly believes that this will stimulate the growth of new urban centres and peripheries around its networks locally, and regionally

There was limited data on the train's traveling timetable and statistics pertaining to a number of passengers in the last ten years. The railway's Drawing Department was also not as useful in providing the author with existing drawing plans except for the station's ground floor plan.

literature review

Anthropologists have understood spaces to be connected to the analysis of natural landscapes and material conditions connected to place. This dimension has shifted their interests to geography, history, philosophy and sociology and how they influence the material and spatial aspects of the culture of a place. Any city has its own urban culture that makes it particularly unique as they are shaped by the material and spatial patterns of inhabitant communities. The author intends to paint a vivid description of the site's geographical, historical and sociological culture for the reader to understand the problems associated with the site and how this picture is shaped by the city's location, economy, political and historical forces as controlling forces. To capture this data, the author hopes to use primary and secondary resources related to the site getting interviews from different users of the transport node to understand the success and shortcomings of railway transport.

The site of study has become a pocket of stagnant space with little urban use. As the author studied the material culture of the site in relation to its urban counterparts, the author thought it was vital to understand if it has really become a lost space. Urban centres designed from the onset of the modern movement were structured on the treatment of buildings as isolated objects in a landscape without the realisation that these buildings constantly interact with each other and man. When they do not consider the city's 'paths','edges', 'districts', 'nodes' and 'landmarks' as the main threads between human experience and these 'urban objects', many pockets of dead places occur. Lost places make no positive contribution to the city and they fail to connect to the urban fabric in a coherent manner. In the architect's eye there should be a tremendous opportunity in redeveloping lost places into creative urban in-fills. The author questioned whether any of these causes applied to the site and if non places are also likely causes of lost places. Non places are places that have become strange; places that are part of our daily course of life and have become unavoidable such as the garage station to fuel your car or the shopping mall to restock on food supply.

Marc Augé (2005) explores the need to imbue meaning in the world, how the excess of space can somehow induce a sense of disassociation only marginally compensated by nostalgia. Spaces which are un-relational, un-historical and not concerned with identity such as airports, hotels and train stations are defined as non place. Augé (1995) questions the extent to which the experience of a space is tied directly to the objective conditions of that space and to what extent the objective conditions of a space can be separated from the subjective experience of that space. Is there something in non places that one cannot experience in the same way as ordinary places? Therefore, it, means there is a social force lacking in non places as he goes on to say that non places are not anthropological and do not integrate earlier places. The author questions whether Bulawayo's transport nodes qualify to be repetitions of non-places and once the train station has been restored how can the author stop it from being a non place?

Urban centres are containers for different groups of bodily movement and transport nodes facilitate the highest collection of bodily movement in one place in order to transport people from one point to the other. As the body moves, there is a metaphorical transformation of experience to symbol and to remake experience to an object such as an artefact, a gesture, an activity or a word, objects are used to evoke those experiences thus molding experience into symbols and back into experience. These can be in the form of signages, art pieces to even public seating spaces. This is one of the ideas that the author will use to 'find' lost places. Commuter rituals will be used to re-activate bodily movement, social interactions and spatial re-use. This method of approach can be used to restore lost place and prove that non places are still places with anthropological connections. The provision of the following spaces for a start will be: a street market for informal street trade, secure ticket sales points and control centre, a public toilet facility, open air meeting places, an overnight facilities for long distance cross border traders and those travelling to other towns, a history/tourist guide centre, adequate seating area for arrival and departure, private waiting lounges, eating and dining facilities, rail museum and a rail park, informal and formal retail space, administration offices,and children's play area and a few arts and craft retail spaces.

CHAPTER 1

CONTEXT

"I confront the city with my body; my legs measure the length of the arcade and the width of the square; my gaze unconsciously projects my body onto the facade of the cathedral, where it roams over the mouldings and contours, sensing the size of the recesses and projections; my body weight meets the mass of the cathedral door; and my hand grasps the door pull as I enter the dark void behind. I experience myself in the city, and the city exists through my embodied experience. The city and my body supplement and define each other." (Pallasmaa 1994:26)

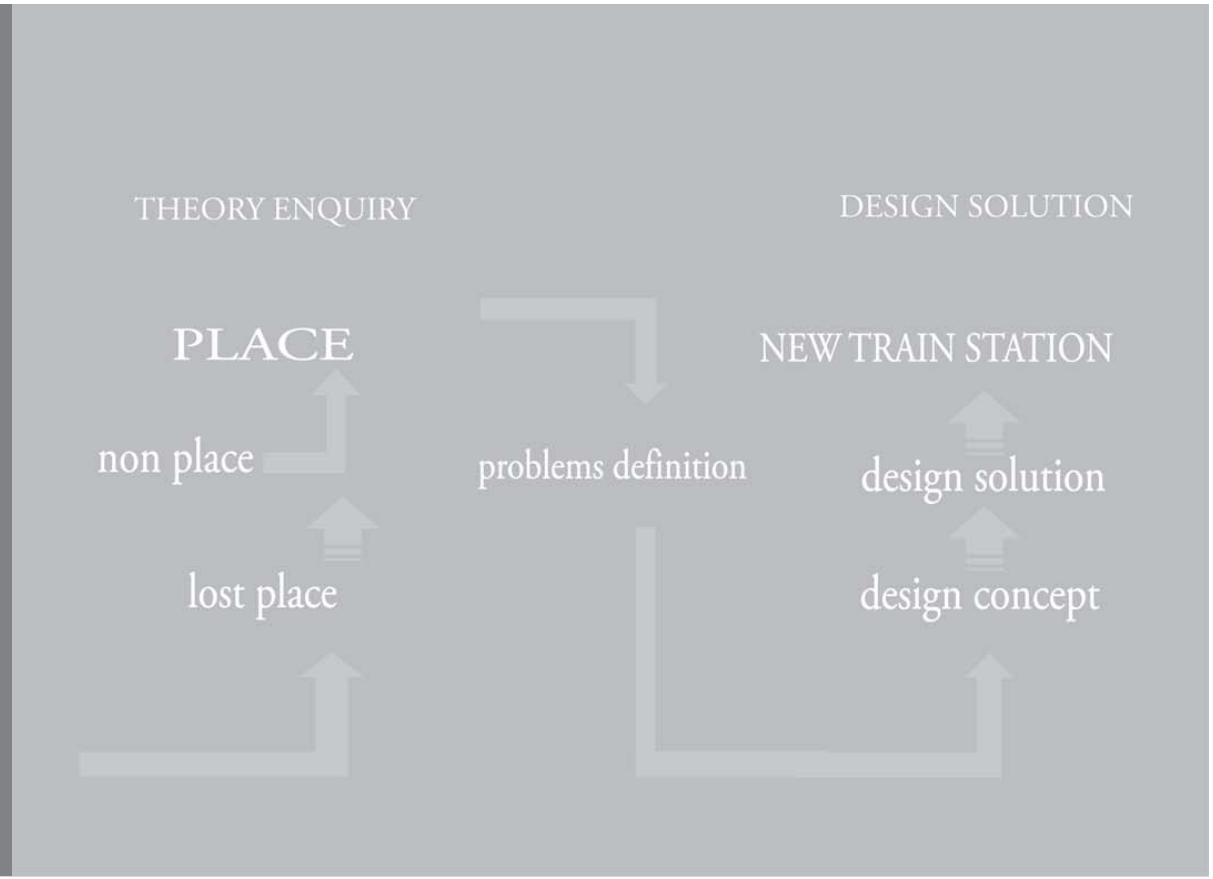
thesis overview

REVITALISATION OF PUBLIC TRANSPORT IN ZIMBABWE

PUBLIC RAIL TRANSPORT IN BULAWAYO

NEW URBAN TRANSPORT FRAMEWORK FOR BULAWAYO

NEW TRANSPORT HUB - OLD BULAWAYO TRAIN STATION



introduction

Urbanisation and transportation are the most influential determiners of Zimbabwe's city growth patterns. The local government has seen the importance of providing efficient public transport systems and maintaining them because of the unforeseen pressure of the population increase. Foreign investors have shown keen interest in providing finance to help meet the government goal. The city of Bulawayo has been selected as one of the cities that need an improved public transport network through the resuscitation of public rail transport

rail transport in Zimbabwe

Transport creates valuable links between regions and economic activities and between people and the rest of the world. It has been internationally accepted as a multi-dimensional activity that has put many cities on the map, including Bulawayo. Bulawayo has grown to be a major industrial centre owing to the growth of the rail network system.

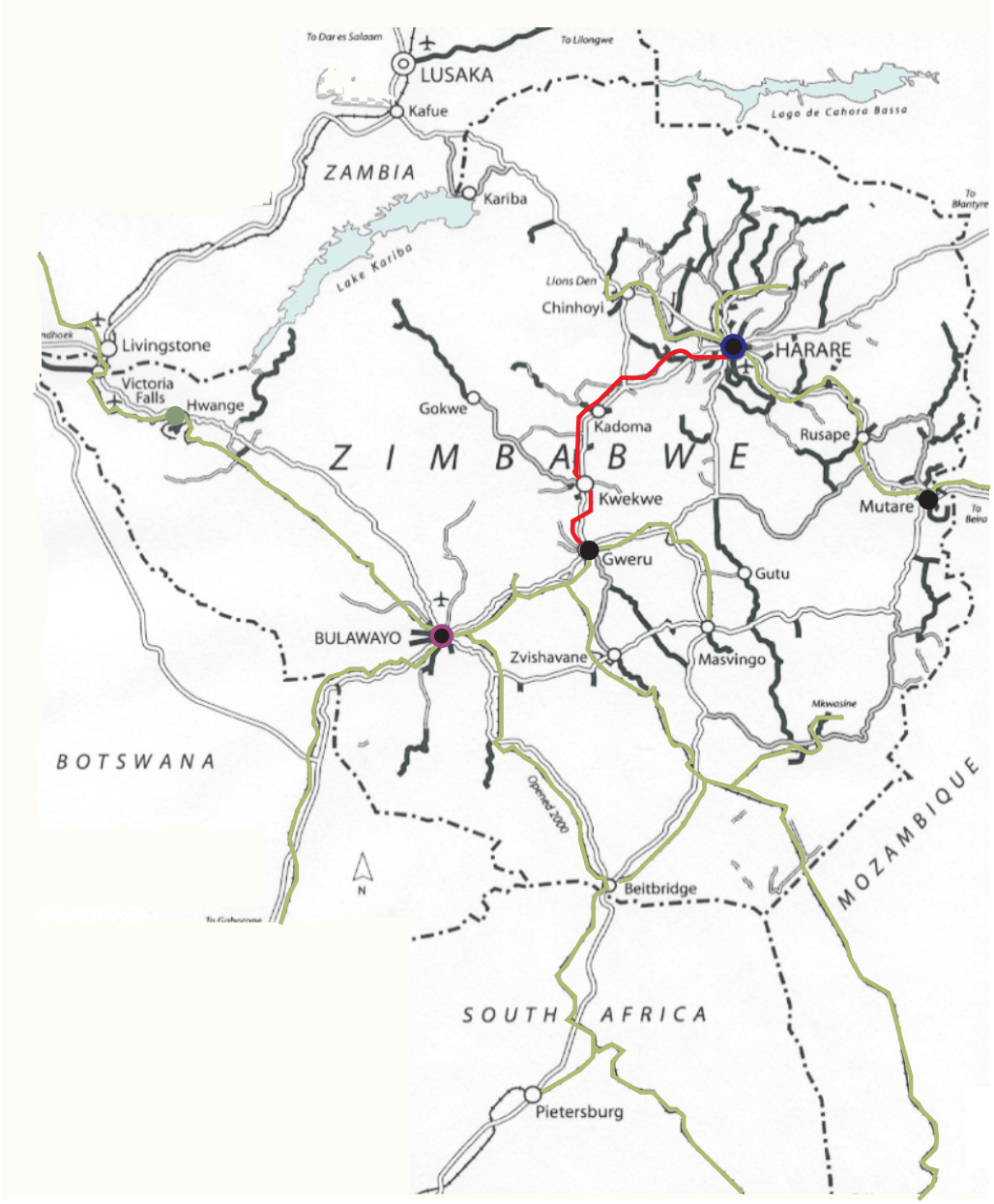
The development of transport networks in Zimbabwe was concomitant with the British colonisation of the country from the 1890s. Road and rail network and other transport links to most parts of Zimbabwe were growing fast soon after the country's independence. Today the National Railways of Zimbabwe (NRZ)'s rail network covers over 3,000 km of track providing passenger and freight services. The rail track connects the major urban centres of Harare (the current capital city of Zimbabwe), Bulawayo, Gweru, Victoria Falls and Mutare. Several countries in Southern Africa; South Africa, Botswana, Zambia all the way to the Indian ocean in Maputo, Mozambique, are also served by the same rail network (fig 1).

The first rail track was built in Bulawayo in 1897 and linked to Mafikeng, South Africa in the Cape Province, on a 3-ft. 6-inch gauge. By 1990, 1,575 km of rail track was managed through a centralised train control system, and 311 km of track was electrified (Kunaka 1991:3). Today Zimbabwe's rail network consists of both electrified and non-electrified sections where the motive power fleet are run by electric and diesel locomotives, whilst steam engines are reserved for local and national safari tours, a growing tourist attraction. Unfortunately, electricity is used only along the rail track between Gweru and Harare, as shown in red on image 1-0, due to the nation's recurrent limited supply

of electricity. Both electric and diesel locomotives travel at speeds of around 90km/h and according to a rail engineer at the NRZ the maximum never exceeds 110km/h.

The freight services offered by the rail company include the import and export trade and the domestic trade of mainly coal, oil and motor vehicles. Through the 1980s, NRZ experienced management problems, along with financial and train maintenance problems which led to what Kunaka (1991) referred to as "the coal crisis of the railways" between the years 1988 and 1989; a period where coal was in short supply. Freight services declined from 18 million tonnes worth of goods in 1998 to 2 million tonnes in 2010.

The railways passenger service was initiated by the founders of the rail system in Bulawayo which was later introduced in other cities of Zimbabwe. The service was limited to the black population that worked for the railways and those in the industrial and manufacturing industry (Kunaka 1991:4). These workers lived in the high density suburbs near the railway station in the western area of Bulawayo, an area zoned for black people separating them from the white people living in lush eastern suburbs. After Zimbabwe gained independence in 1980, the black population in cities grew rapidly into the areas previously inhabited by whites (Kunaka 1991), and until today the passenger services haves still yet not expanded to cater for those living in these areas previously occupied by the whites.



diesel run rail route

electric run rail route

site study area

capital city

main urban centres

1-0. rail network in Zimbabwe
(after Surveyor General map 2011)

urbanisation and transportation in Zimbabwe

By 1975, it was estimated that a third of the world's population lived in the urban areas. In 2000, the population living in urban areas increased to almost 50% and it is estimated that by 2025 two thirds will be living in urban areas (World Development Report, 2000).Population growth was caused by the rapid migration from rural and small urban centres to the bigger cities soon after the country attained independence in 1980. Similarly, rapid patterns of urbanisation were happening in the cities of the developing countries especially in Africa and by the 1980s, urbanisation growth rates for Kenya, Tanzania, and Zimbabwe were recorded to be 7.7%, 6.6% and 5.9% respectively.

Bulawayo's population has grown from 621,742 in 1992, to an estimated 1,500,000 in 2009 and possibly more. Munzwa and Wellington from Department of Rural and Urban Planning, University of Zimbabwe in their research on the Urban Development in Zimbabwe (2010) talk about how the country's government tried to make efforts to curb urban overgrowth by making sure that the district service centres harboured some small-scale industries, in addition to agro-processing industrial units to try expand the economic opportunities for the locals living in the district centres, however, these economic initiatives have failed to reduce the migration patterns from the district centres. The rise is attributed to peri-urban migration patterns as returning Zimbabweans migrating back to Bulawayo from other countries, especially from South Africa; a side effect of the world economic recession.

1-1. lorries are even being used to ferry people as a form of public transport (Mbara 2005:124)

1-2. passengers doing last minute shopping by a nearby supermarket in Harare (Mbara 2005:124)

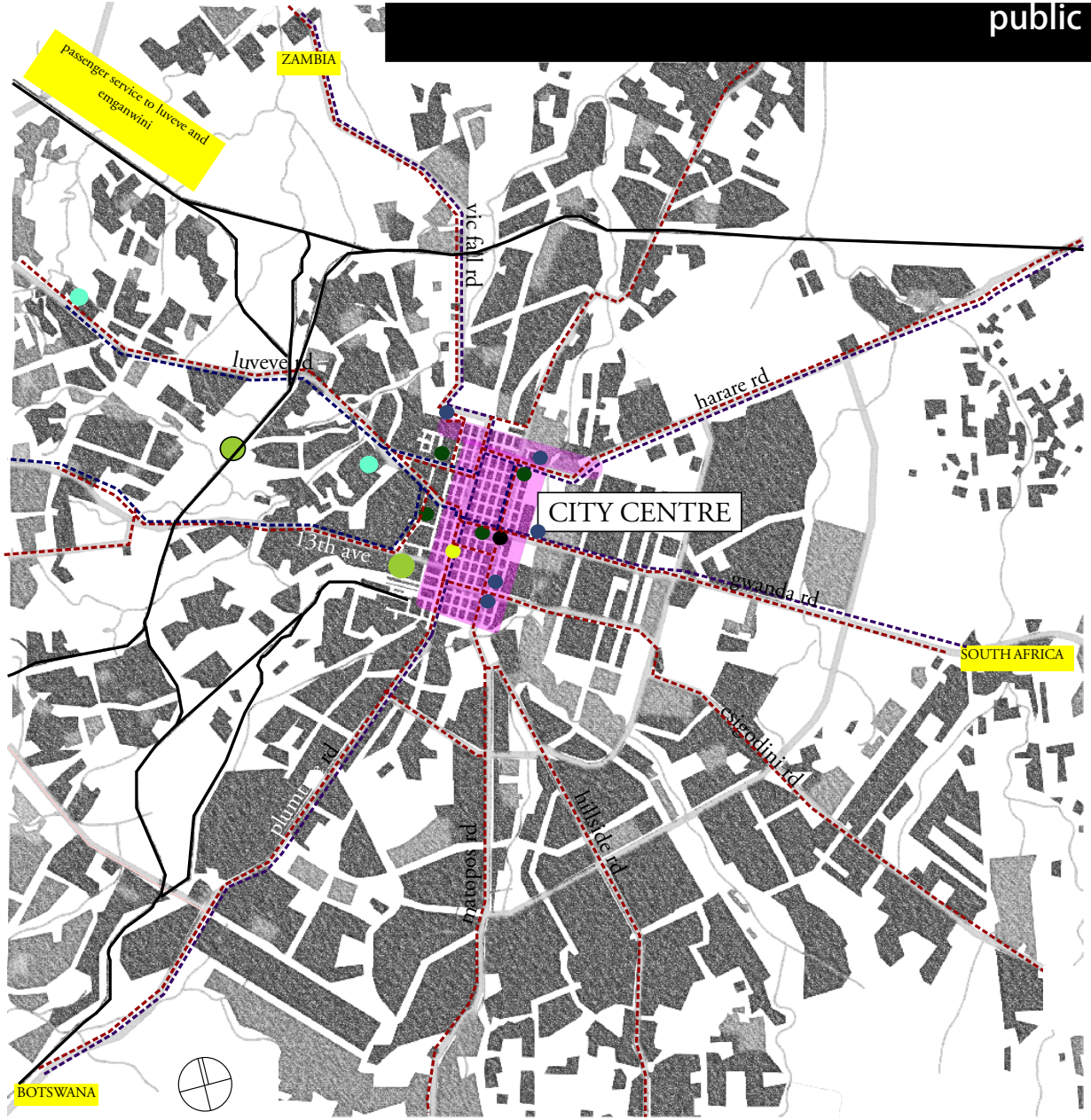
The population increase in urban centres brought on profound pressure on the public transport system in the country. With the growing population living in Zimbabwe's main cities from the mid-1990s, the local government saw the need for a convenient and reliable public urban transport system. These efforts were made through implementing transport policies that allowed the allocation of a fleet of government-owned public transport facilitators in the form of bus companies such as the Zimbabwe United Passenger Company (ZUPCO) and the privatisation of some informal private transporters with a fleet of emergency taxis; commuter omni-buses (termed as kombis in Zimbabwe) that ferry a maximum of 15 people a trip. Over time, especially from 1999, public transport services in Zimbabwe in urban and rural areas declined as these government funded vehicles deteriorated faster than anticipated. They were reaching the end of their economic life too soon and as the country's economy was declining, the government was and currently is still unable to replace them (1-2 and 1-3).

Zimbabwe's domestic and international commuters, especially those in the cross-border trade, have become a ready market urgently seeking the attention of a good transport system. Transport systems "support the livelihood activities of the growing urban population" (Mbara 2005:125) in the form of mass transportation system. In the last ten years the private automobile has taken over this existing market. People have "resorted to devising coping strategies to travel to work and home" (Mbara 2005:124) because of the escalating costs of other modes of transport. Long hours of waiting and walking distances characterise today's urban public transport situation.

By July 2000, the government re-introduced domestic and international passenger train services in Harare, Zimbabwe's capital city, and Bulawayo in an attempt to reduce the problems of public transport in the county's urban areas. The rail service is unfortunately limited to serving nearby low income residential suburbs. Using the train public transport has become the cheapest form of public transport though widely accepted by most commuters in Zimbabwe as unsafe compared to the other forms of public transport available in the cities. Mbara (2005) says that rail transport is an affordable and appropriate solution to Zimbabwe's public transport. Due to severe fuel shortages, the challenge

that NRZ now faces is the need of 'infrastructure' to increase the rail network and improve other 'train facilities' that enhance safety and comfort for users. As a way of increasing financial stability in the crippled parastatal, steam locomotives were added for rail leisure safari trips, targeting mainly tourists. The demands for tourist rail trails have reached a level of 300 passengers in one trip, though this demand is seasonal and will not provide enough finances to meet the demand for an affordable, convenient and socially inclusive public commuter rail network system. The causes of this diminishing industry are highly attributed to the socio-economic and political environment, re-investing in the infrastructural development of transport systems can counteract the causes in the long term. According to the Global Times online news (2009), Zimbabwe was working on expanding the existing passenger and freight services to minimize running time and to meet emerging regional economic and trade dynamics. Transport, Communication and Infrastructure Development Minister Nicholas Goche said Zimbabwe is constantly being introduced to new economic opportunities and the country now requires an efficient railway system.

public transport in Bulawayo, Zimbabawe



Upon looking at this map, the rail network does not serve the greater populace of Bulawayo but mainly those living in the north western suburbs of Emganwini and Luveve as shown on the map. There are short distance taxi ranks, short distance bus terminuses and long distance bus terminus and one long distance mini bus rank the city. The long distance bus termini, unfortunately, have now been abandoned and consequently taken over by the emergency taxis. Fortunately the local council is looking to introduce mini-buses to service shuttle routes within the city, mainly to aid in the efficient distribution between transport nodes.

Existing transport nodes

- Bulawayo train station
- Train station
- Long distance bus Terminus
- Intercity bus Terminal
- Short distance Taxi rank
- Short distance Taxi rank (Old short distance bus terminus)
- Informal hitchhiking point for Bulawayo destinations
- Informal hitchhiking point for National and International destinations

1-4. public transport routes in Bulawayo (derived from Surveyor General Diagram 2011)

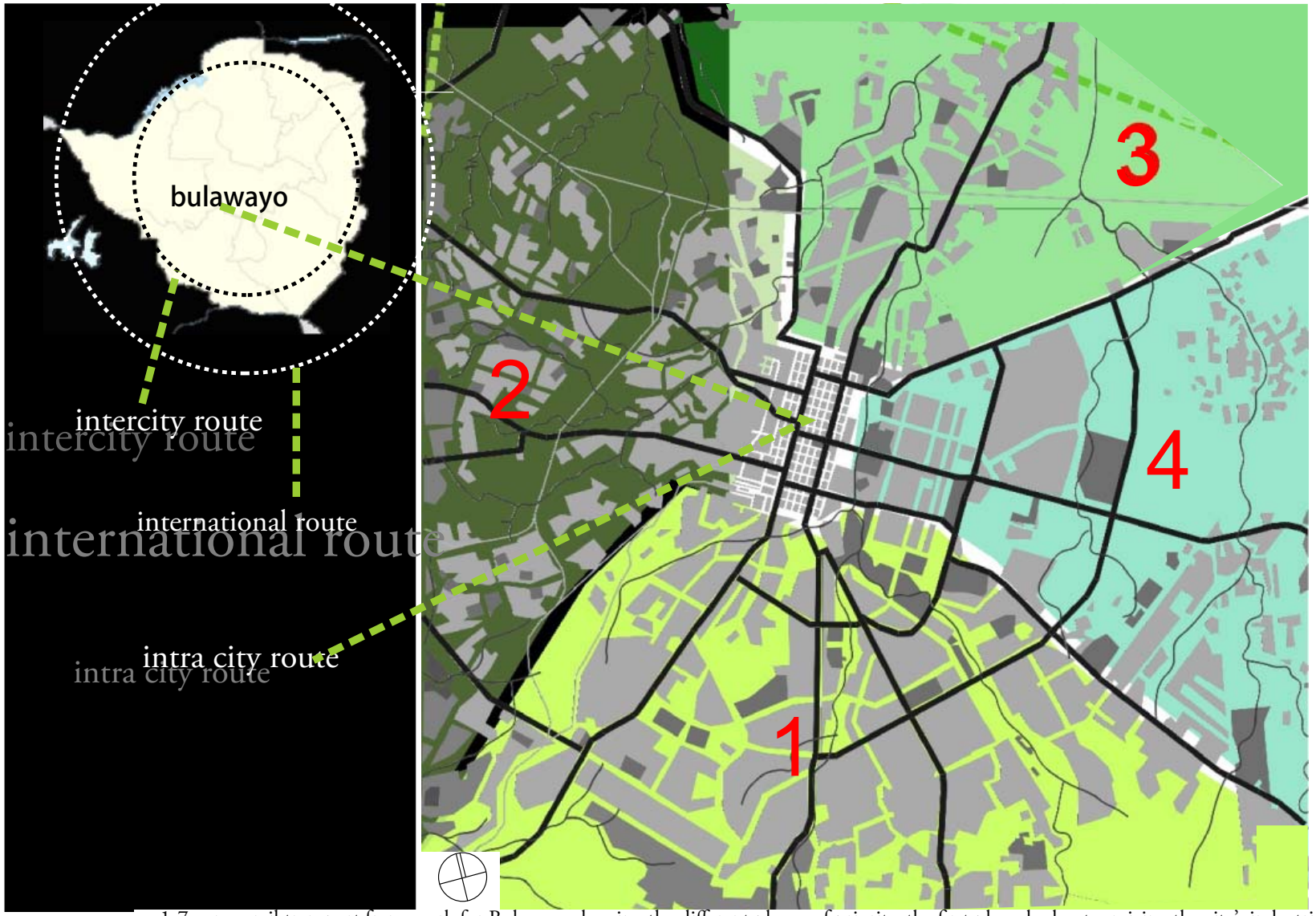
new urban transport for Bulawayo, Zimbabwe

A new public transport framework has been proposed for Bulawayo's existing urban transportation network to sustain the demand for short and long distance travel within and beyond the country's borders. NRZ seeks to expand the existing local and international passenger service by increasing the existing rail network for a more efficient public transport system in Bulawayo to sustain the current and emerging future population growth pattern.
Accessible transport systems are a catalyst for urban integration and urban development and by implementing a new and more efficient public transport network, social and economic systems will develop by increasing the circulation of people, information and goods are efficiently circulating in and out of the city and the country.

The type of destination routes that NRZ plan to include in the new urban transport framework will cover the intracity route (a new rail network connecting the train station to the industrial sector of the city and the surrounding residential areas of Bulawayo), intercity route (a new rail network connecting the train station to all the cities and towns of Zimbabwe) and the national route (a new rail network connecting the train station to the countries within and around the SADC region of Africa). This is illustrated on the map in 1-7. The new rail network expansion will require a new transport hub for the city, one that is designed for the people, catering for the people and their urban social needs. NRZ is planning to revitalise the existing railway station into a new socially active transport hub that will indirectly stimulate the re-use of the

1.5. Renkini Long distance bus

1-6. City Hall Bus stop

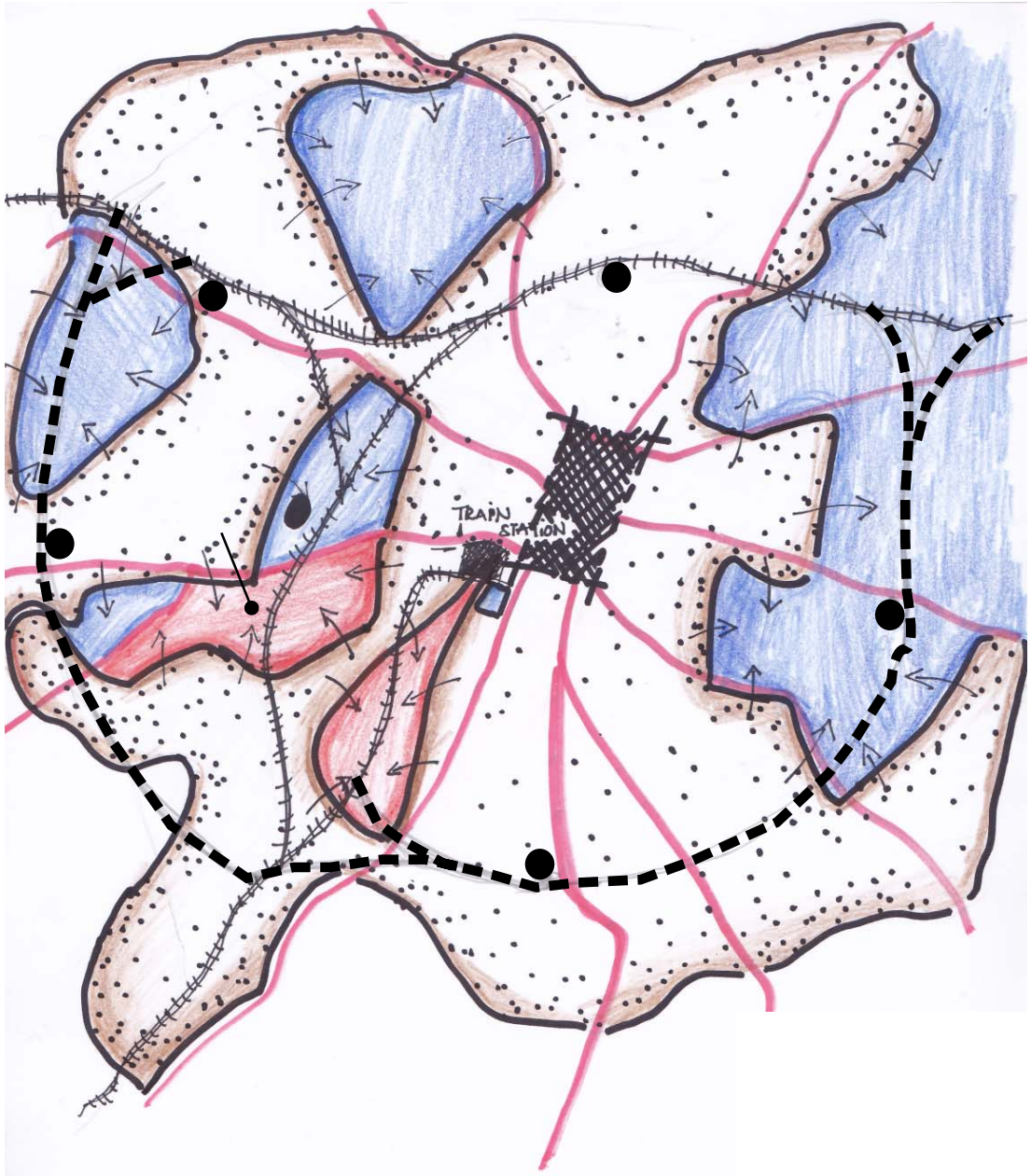


1-7. a new rail transport framework for Bulawayo showing the different phases of priority. the first phase looks at servicing the city's industrial sector, whilst the 2nd looks to service the high density residential area prior to the medium and low residential areas in phase 3 and 4 (derived from Local Government Plan No.4, 2011)

train as a form of public transport and which will also indirectly activate other existing transport nodes in Bulawayo such as 'Renkini' Long distance bus terminus (1-5), the City Hall Bus Stop (1-6) and the urban space surrounding the train station's downtown precinct into a newly re-zoned destination for all walks of life. A new bus shuttle will be added to connect commuters in the city to the train station to operate on a daily timetable. This will in the long term, encourage urban development within the city.

The proposal on the following page takes into consideration the ideal future urban growth foreseen for the city. Learning from the case study in Bloemfontein, the proposed rail network will channel off from the existing rail route round the city's neighbourhood cutting through some of the existing main roads. Drop off points have been added at points where the road and rail track cross nearby a place of high pedestrian activity. These places also consider

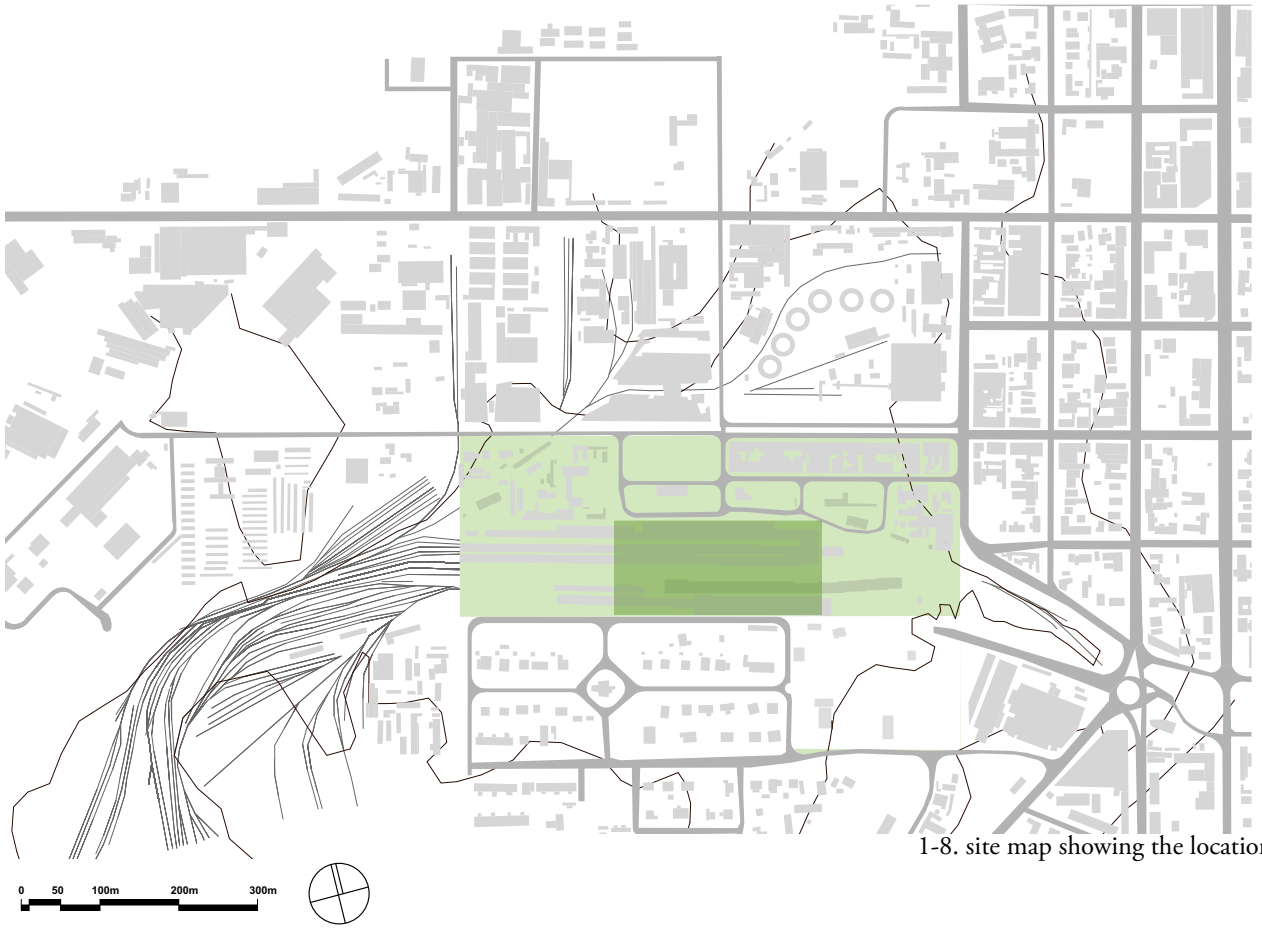
- potential housing demands within the area,
- activity nodes such as shopping mall and nearby existing taxi ranks or terminuses,
- the feasibility of the inclusion of the rail track within the area.



1-7. proposed new rail network for the city of Bulawayo
(derived from Local Government Plan No. 5, 2011)

urban framework

The site that has been set aside for a new transport hub is shown below demarcating the area that is going to be re-zoned and the area for the new train station.



1-8. site map showing the location fo the new train station and the area to be rezoned (derived from Local Government Plan No.4, 2011)

conclusion

Urbanisation is an urban phenomena that is currently changing Bulawayo into a potentially economically driven industrial centre. The urban growth expected for the city in the next twenty to thirty years would demand a well planned public transport system especially after its failure in the early 1990s. Re-investing in rail transport will contribute to the country's manufacturing, mining and commercial industries growing as well as the efficient distribution of the workforce that will sustain it. A new transport hub will not only improve the public transport network in the city but promote the development of the city's economy. However the city's train station was not designed for the population the new urban transport framework is expected to cater for. Its architectural condition does not match the qualities expected of a new destination point for local and international travelers too.

The theory enquiry in the proceeding chapter will help explain the causes of the train station's current condition and how understanding the material culture of the place will further explain the problems associated with the site in relation to the city and the country.

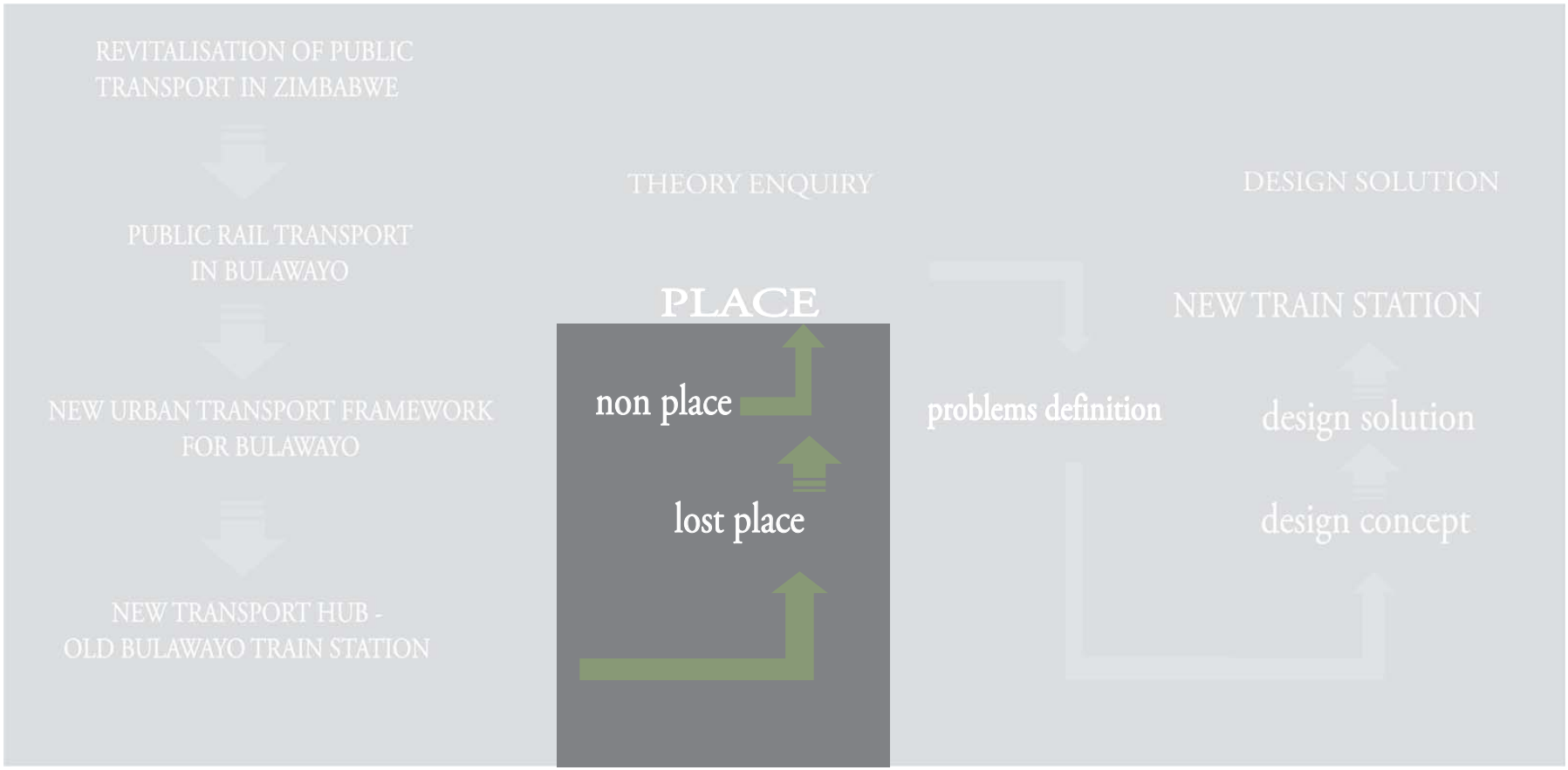
CHAPTER 2

THEORY INVESTIGATION

"The urban gaps are the forgotten emptiness, the sound of silence in the contemporary city."

(Franinovic 2008)

thesis overview



introduction

Urban centers designed from the onset of the modern age were structured around the treatment of buildings as isolated objects in a landscape without recognising that these buildings interact with each other and man. Pockets of dead spaces developed as some of these buildings failed to connect to the urban fabric in the most coherent way. Such places have been termed lost places (Trancik:1984). Lost places is a term associated with either leftover unstructured urban land or places away from pedestrian activity, whilst non-places are characterised as places that people go through and not go to.
As the author defines the causes and problems normally associated with lost places, she will confirm how non places can contribute to the decay of urban spaces.

The site to be studied is in the surroundings of an old rail station located in the city of Bulawayo, the location of the head parastatal - National Railways of Zimbabwe (NRZ). Over the last few decades, the place has slowly become under-used and abandoned. This chapter looks to understanding why this has happened .

lost place

definition

Urban centres from the modern age treated buildings as isolated objects in a landscape without considering possible future urban patterns, human behaviour and how the spaces between buildings would interact with each other. The theory of LOST PLACES, as described by the theorist Rodger Trancik, describes that such places transform into "left over unstructured landscape at the base of high-rise towers; away form the major flow of pedestrian activity in the city; surface parking lots that ring the urban core or sever the major connections between the commercial centre and the residential areas." (Trancik 1986:3)

Lost places make no positive contribution to the surrounding users and over time they transform into being the anti-spaces of cities where no man wants to be seen in. Though they are ill defined, lots places can offer opportunities for urban redevelopment for cities like Bulawayo. Architects should start seeing opportunities of redeveloping creative in-fills within these places. Lost spaces, as under-used and deteriorated as they may be, can "provide exceptional opportunities to reshape an urban centre, ... attract people back downtown and counteract sprawl and surburbanisation" (Trancik 1986:2).
Lost places are caused by the following factors:
- the automobile,
- land uses and zoning -policies
- treatment of open space by architects of the Modern Movement
- lack of responsibility by the private and public sector over the public urban environment
- abandonment of industrial, military and transportation sites in the city's inner core

The AUTOMOBILE has taken over public space within the city and diluted the potential cultural meaning and human purpose of these spaces all for the convenience of mobility.

2-0. orlando commuter rail station birds eye view
(Through their eyes, 2011)

2-1. the densification of the business district over-shadowing a low rise residential precinct
(Through their eyes, 2011)

LAND USE AND ZONING POLICIES of the modern era were well intentional as misguided as their policies led to urban decay. They cleared the ground, sanitised and promoted human welfare by segregating land uses into discrete zones. They localised high rise towers that overshadowed low rise residential precincts whilst confusing vehicular and pedestrian systems in the busy inner city cores.

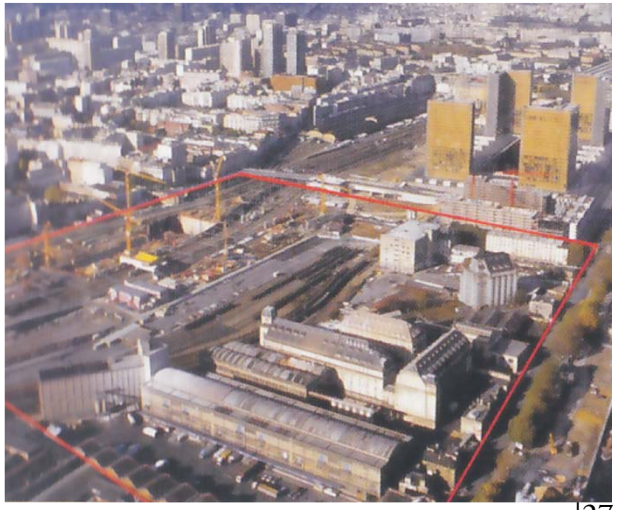
The TREATMENT OF OPEN SPACE involved the under-design of open spaces in the city. They were inspired by the utilitarian ideals of the nineteenth century concentrating on composition and organisation centred primarily more on function from the external space as compared to the organisation of internal space. The building was more like an object separate from its context.

The plan of Venice, Italy showing the relation between open space and built space

ABANDONING INDUSTRIAL AND TRANSPORT SPACES is one of the many urban phenomena that are still happening today. Local municipalities still do not take responsibility in the re-use of old industrial buildings nor see them as places of redevelopment.

2-1. the diagrams above, to the left shows the public rooms in the city, all at their different scales generally found at water canals or pedestrian intersections. the spatial order of the city is shown in the figure ground on the right, showing the ideal balance between built space to the open space (source: Dewar and Todeschini 1996:104)

2-3. to your right is an aerial view of Massena District in Paris, France
this industrial area had become obsolete next to active business and residential neighbourhoods
(Our cities themselves 2010:36)



non place

definition

Another possible cause of lost places that Trancik does not mention, looks at places of transit like Bulawayo's train station as a place that people can merely go through. Such places according to Marc Augé'(1994), are termed as 'non places'. They are normally associated with "strange places"; places that are part of our daily course of life that have become unavoidable like the garage station where one pours fuel into one's car or the shopping mall to restock on food supply. Augé's hypothesis explains how super-modernity produces non-places where super-modernity is a perception based on the logic of excess of overabundance is seen as robbing meaning from space through overinvesting meaning in our daily activities (Bolon 2009)

Place is relational, historical and concerned with identity whilst non places are not defined as relational, historical nor concerned with identity. Augé further questions the need to imbue meaning in the world, and "how the excess of space can somehow induce a sense of disassociation only marginally compensated by nostalgia" (Augé 1994:78).Excess of space occur over time, space and ego and they each have their individual impacts on the world. Bolon's understanding of time comes from the rise of explicit and pressing daily needs for humans to give meaning to the world and to understand the present in its entirety, thus investing major interest and significance in the present to the detriment of the recent past, which is then seen as lacking in

2-4. The idea of a transit node with no anthropological reference

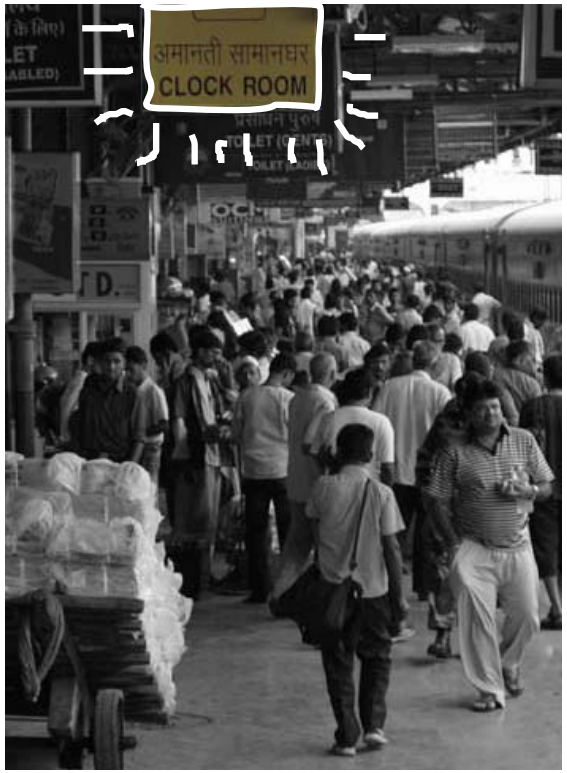
meaning. Space associates itself with the 'shrinking of the planet '(Augé 1995:31) impersonated in differing scales; through the propagation of imagery and manifesting in faster and more efficient transport systems.

Non-places are located in a world where transit points and temporal abodes occur; in places under luxurious or inhumane conditions (hotels, squatter camps); where there is a dense network of movement in which inhabited spaces are developing; a world of unmediated commerce through the use of credit card machines; a world thus surrendered to solitary individuality. Such places are "not anthropological and do not integrate earlier places"(Augé 1994:78).

Augé questions the extent at which the experience of a space is tied directly to the objective conditions of that space and to what extent the objective conditions of a space can be separated from the subjective experience of that space. Is there something in non places that one cannot experience in the same way in any other place?

Non-places contain two complementary yet distinct realities; the relations that the individuals have with these spaces and that these spaces are formed in relation to certain ends (transport, transit, commerce, leisure).

Augé states that anthropological places are organically social and non-places create solitary contractility. There are no forms of social connections or a distinct spirit of culture within these places also termed as 'end points'. The only form of attachment the individual has to the space is through the mediation of words. Text has the power to create images through the individual's imagination sufficiently isolating themselves from the place.



2-5. text in the form of signages in transport nodes have become prescriptive or informative navigators in space (Sunita ram 2006)

conclusion

The author does not agree that all places of transit have no anthropological connections. Augé does not talk about the significance of non-place to those that work in these places. The individual that uses places of transit every day, commuting to work and home, does not become the spectator. As place reconstitutes itself, the individual and the place become one; the spectacle and the space transforms into a container of journeys within itself fabricating a unique hybrid of social relations out of the familiar. If the average human being spends a larger portion of his time in transit than he spends in his own house, and if place is understood to be encrusted with historical monuments and creative social life, then a form of anthropology is manifested within places of transit. Treating places of transit as mere voids of inactivity; as dead ends between journeys of arrival and departure is what led the train station to its present condition. If the new transport hub is redesigned into the city's potential urban and social artefact, the site can become Bulawayo's new point of reference.

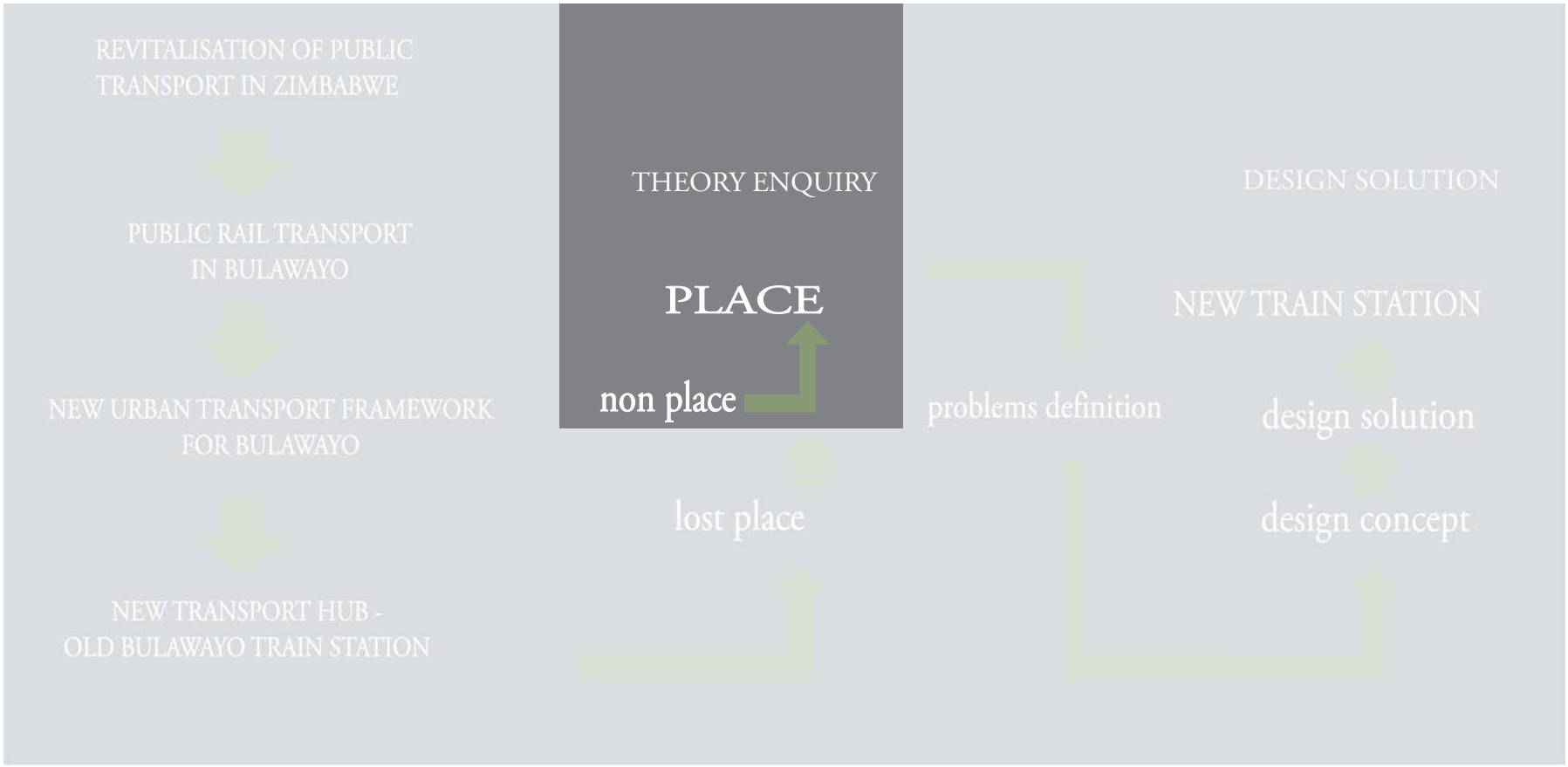
Non-places are characterised as places that people go through, however, places of transit can be re-programmed to become special transitory points of arrival and departure; places subconsciously programmed to mentally prepare one for the next journey. In that respect, the author understands that places of transit can potentially be places that people can go to.

The thesis will now investigate whether Bulawayo's train station is a lost place and whether any of the causes of the lost places apply to the reason why the station is being under-used in the next chapter. To understand these causes in relation to the station, a brief account of the existing conditions, history and the context of the site will be examined. These, along with the relevance of non-place will be explained in the next chapter and an overall picture of the problems associated with the site of study will be surfaced in-order to understand what problems need to be solved to revitalise the station.

CHAPTER 3

FINDING PLACE IN A LOST PLACE

thesis overview



introduction

The Bulawayo train station is being under-used for a number of reasons that will be discussed in this chapter, though the main reason the station is under-used is a factor of distance. Understanding the material culture of the site will aid in identifying the problems associated with the station. The place is suffocating from pedestrian activity as a result of the place being nestled away in the junk yards of the dying chains of the Bulawayo's industrial belt. As good as hidden, Bulawayo's only train station has found itself lost within the city.

The author will firstly analyse how understanding the material culture (Low and Zuniga: 2003) helps explain an account of the problems associated with the station and they will help with coming up with design solutions to 'find' the place.

material culture

definition

The context of a place can be expressed in its material experiences and social interactions. In-so-doing, one would be expressing the material culture of the place. Material culture is a term that refers to the relationship between artifacts and social relations of a specific place. Anthropologists normally describe material culture as a series of collapsed acts and signs of what could happen if the acts were carried out to completion. People respond to objects on the basis of what those objects mean and the meaning of these objects arises out of the negotiated 'material' experience and social interaction in a place (Blumer 1969:79). Through the 'objectification' of our subjective experience and using social interaction, material culture is not simply there like an object of nature, structuring our movements by its mere physicality. It is expressed by dramatistic qualities attributed to the collection of words and images so it becomes a 'scene', or better expressed, an opened visual text whose narrative we read.

Describing the material experience at the rail station is paramount to understanding the causes that steered it to its present state. Whilst images produce qualitative data, Low and Zuniga (2003) affirm the additional use of text together to bring a unity of being-in-the-text. Images and text jointly assist in showing how one moves from being-the-reader into being-in-the-world (i.e understanding a situation by using text and images).
For a reader that does not understand the context of a place, material culture helps paint and defragment the mystics of a place in three distinct components:
1. The material component
This is the descriptive account of a setting and it defines the place's limits in terms of its physical and thematic features to surrounding communities.

2. The interaction component

This looks at the behavioural qualities of the people within and around the setting and how they interact with each other.

3. Inscribed spaces

The relationships between the people and the places they occupy.

4. The image component

This is the material image of the emerging situation of a place; a collective word summarising the other three components that describe the situation of the place being analysed.

material component

Bulawayo has a unique culture shaped by the material and spatial patterns of its inhabitant communities. The materiality of the train station can be consciously mapped by seeing the quality of urban life in the city.

Visiting Bulawayo is like stepping back into the past. The eclectic mix of cultures from the wide spread traditions of the Ndebele people of Bulawayo to the showered works of the British expressed in the city's layout to architecture of modern styles of post -independence (3.0-3.2).

"Gleaming high rise buildings border Bulawayo's wide streets, designed so an ox wagon could make a full turn in the road. The modern architectural structures in the city centre contrast with the quaint colonial-style houses in the avenues. Although the two building styles represent two different eras the eclectic blend works, and is symbolic of Africa's often turbulent past." (Todd 2009¶1)

The city of Bulawayo was founded on King Lobengula's kraal and became the first position of the white man's camp. They built shelter for themselves using inconceivable materials from the likes of corrugated iron sheets to grass and mud; all salvaged from Lobengula's abandoned town. Bulawayo was declared a town in 1894, a municipality in 1897 and finally a city in 1943. It was designed in a grid pattern surrounded by park lands by the town planner Patrick Fletcher. The old planning layout is similar to layouts used in some cities in South Africa like Bloemfontein and Polokwane (previously named Pietersburg) and in India like Delhi and Bombay: both British colonies. Towns laid on a grid pattern are closely inspired by the ancient Greek Planning, credited to designer, Hippodamus shown on the map 3-3. New Delhi's urban planning appears to be systematically organic where the city centre was designed in a grid pattern and the rest of the town grew organically, a growth pattern that occurred soon after India's early

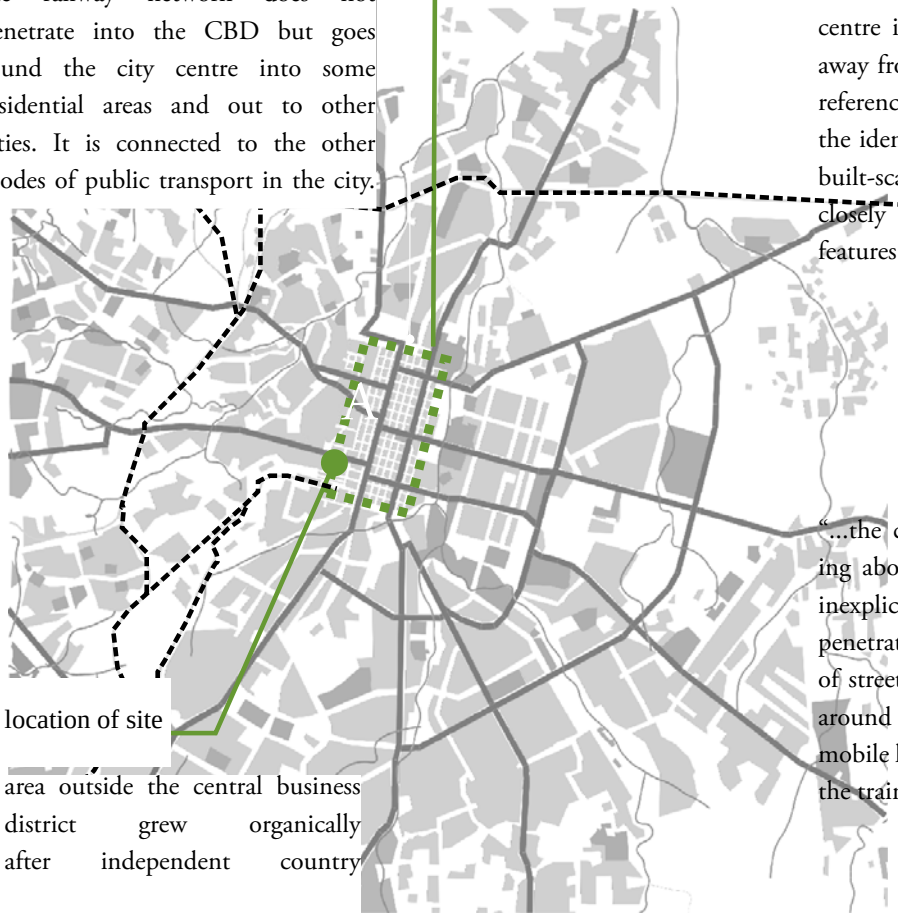
3-0. modern architecture in Bulawayo

3-1. Bulawayo's beautiful skyline

3-2. Bulawayo is characterised by the wide streets, wide enough for an ox cart to make a full turn

central business district; area indicates the origins of Patrick Fletcher's grid lay out

the railway network does not penetrate into the CBD but goes round the city centre into some residential areas and out to other cities. It is connected to the other modes of public transport in the city.



area outside the central business district grew organically after independent country

legend

main roads

rail network

The general urban layout of Bloemfontein is in a grid pattern, similar to Bulawayo's city layout. The main road system feeds heavy vehicles from the city centre whilst the rail network routes does not penetrate the city. To the outer periphery of the city centre is the train station and most park space is away from the city centre as in Bulawayo. Colonial references are still visible and have become part of the identity of the city. The different heights in the built-scape produced from the straight grid pattern closely resemble Bulawayo's eclectic architectural features

bloemfontein - SOUTH AFRICA

"...the chaos and clutter of scores of people darting about in their own chosen direction, forming inexplicably complex, web-like traffic patterns..." penetrate through straight lines of the urban threads of street life you could almost "... nervously weave around mail parcels, coolie trolleys and vendors with mobile handcarts, with one motive in mind: to catch the train before it leaves the station."

(Sunita Ram 2001:1)

new delhi, INDIA

The city's main road system penetrate the city through a series of nodes whilst the rail network briefly enters the city parallel to some road systems

3-3. Comparison of Bulawayo city planning to Bloemfontein, and New Delhi (after Local Government Plan No.4, 2011)

independence in 1947. India claimed independence earlier than South Africa and Bulawayo hence evidence of colonial rule is not visible in New Delhi's layout. The city's rail transport network penetrates considerably deep into the city allowing easy access to the train station where as in Bloemfontein and Bulawayo, their train stations and rail system are laid out around the city.
Bulawayo's city's land use layout shown on map 3-6 shows the train station location along the border line of the industrial zone and part of the city's outer core in the southern down town precinct.

When the Bulawayo rail venture began, the then new transport system facilitated the importation of foodstuff, building materials and other merchandise needed to build the country. By 1968 10,000 men and women worked and lived by the railway station bringing in close to 10 million pounds to the economy at that time. Bulawayo's railway museum was the first railway station in Bulawayo which was later turned into a workshop for the maintenance and refrigeration of old train wagons. The old station was then moved to the current station situated. Upon entering the parking area of the station to the right is a six storey structure built in 1925. It was once the headquarters for NRZ which the parastatal now uses for general offices for railway personnel.

The building has gone through numerous alterations and extensions over the years and has become the home of NRZ workshop apprentices, train drivers and other railway personnel with a wide range of recreational and residential facilities in a small area behind the station, called Raylton. The station and the museum have both become the home for some old and retired steam engines and coaches. Some are on display in

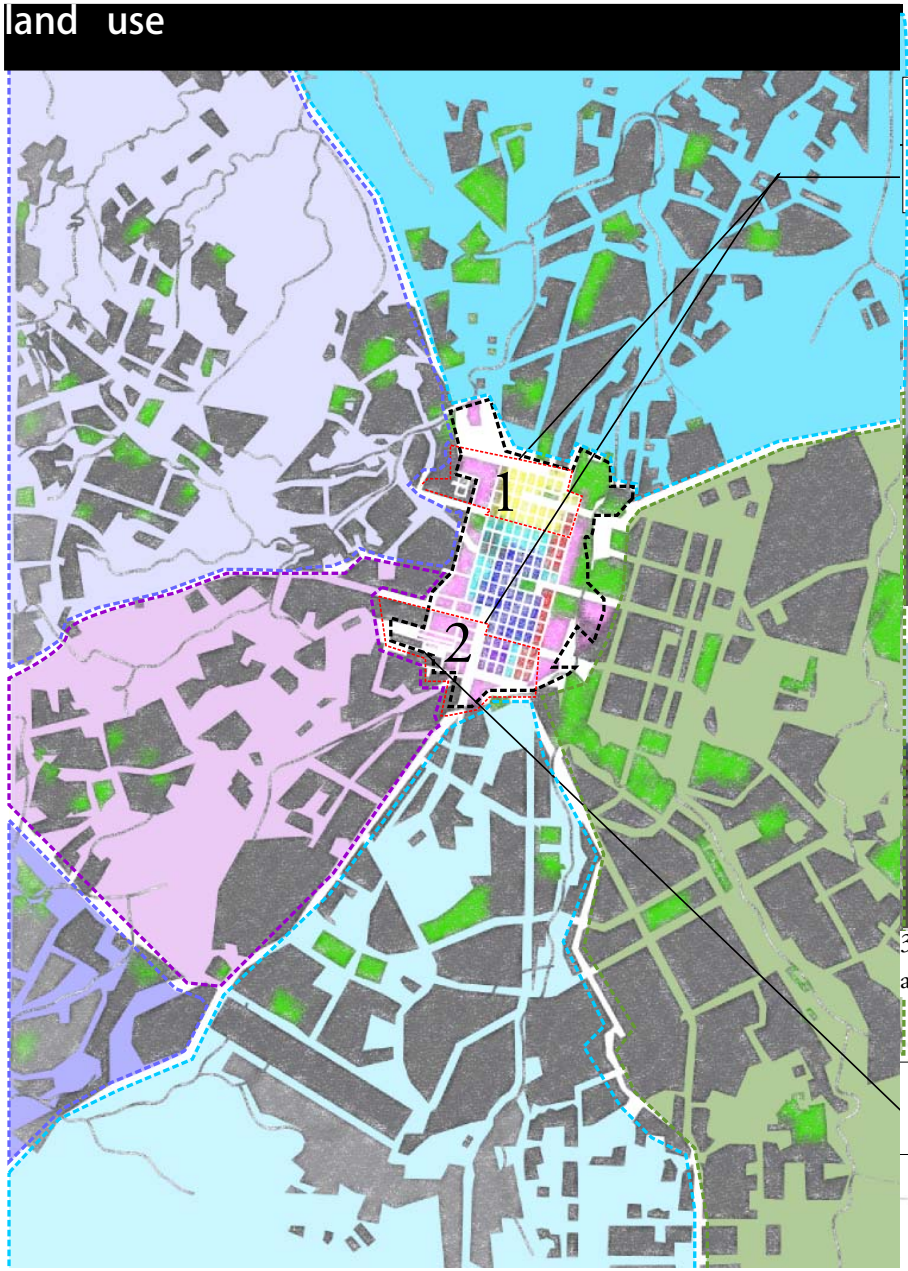
3-4. first rail fire engine


3-5. first steam locomotive engines to be used in Bulawayo, Zimbabwe

the railway museum with the oldest exhibits including Cecil Rhodes' 1897 personal railway coach (3-6), preciously preserved as the most priceless antique of all the trains on display. Buildings built before 1930 have been declared heritage sites and protected by the preservation order from being demolished, however, the station and museum are yet to be acclaimed as heritage sites but the author will respect the buildings and include them as part of the new trains station as they are of architectural value.

The physical, architectural and climatic analysis in the following pages will inform the site's context.

3-6. Cecil Rhodes' 1897 personal railway coach



There are two down town precincts in the city of Bulawayo. The train station falls within the downtown area of number 2. This area of is zoned for offices, light services and wholesale, residential and ancillary services. This zoning pattern has affected the quality of urban life in this downtown precinct. Life is slow, not busy, quiet and no open spaces or exciting spaces of enjoyment.

3-8. images of some places in downtown area 2. there are a series of light industry and wholesale shops

The light to heavy industrial activities border the train station. As a result, the views onto the south east are dull. According to function, the train station conveniently serves the industries with freight services because of their close proximity factor.

3-7. Zonal map of Bulawayo City centre and other Urban precincts
(derived from Local Government Plan No.4, 2011)

ZONES

- Zone 1A &1B: Business core- shops and offices
- Zone 1C : Business0 shops and offices
- Zone 2A : Offices and Public Buildings
- Zone 2B : Public Buildings
- Zone 3 : General Business and service Industry
- Zone 4 : Light/Service industry and Wholesale
- Zone 5A : Residential
- Zone 5B : Residential and Ancillary
- Zone 5C : Residential and Offices

RESERVATIONS

- Government Buildings
- Public and Private Open space

TYPOLOGY OF URBAN AREA

- City Boundaries
- Down Town Precinct
- Industrial Precinct
- High density residential suburb
- Medium density residential suburb
- Low density residential suburb

NRZ has dedicated 2-3 types of diesel locomotives for local and city to city destinations and offers the following passenger train services;

- Intercity,
- Urban Commuter,
- Luxury, Safari and Steam Excursion Trains, and
- International services

(www.nrz.co.zw 2011)

The INTERCITY PASSENGER train services link all major towns and cities accommodate different social classes (3-8)namely;

- Sleeper class

4 or 2 sleeping bunks are a full compartment and the coach has the capacity to carry 26 passengers. The bedding used is availed on request and on payment of a fee.

- Second class

6 and 3 sleeping bunks are a full compartment (coupe). One coach has the capacity to carry 39 passengers.

- Standard class

This is a seater class with seats. One coach has the capacity to carry 68 passengers.

- Economy class

This coach also a seater class with more seats than those in the standard class. One coach has capacity to carry 98 passengers.

The URBAN COMMUTER SERVICE operates daily except on Sundays. From Mondays to Fridays they operate thrice in the mornings and afternoons and once in the morning

seating in a standard commuter train

image of a luxury excursion train

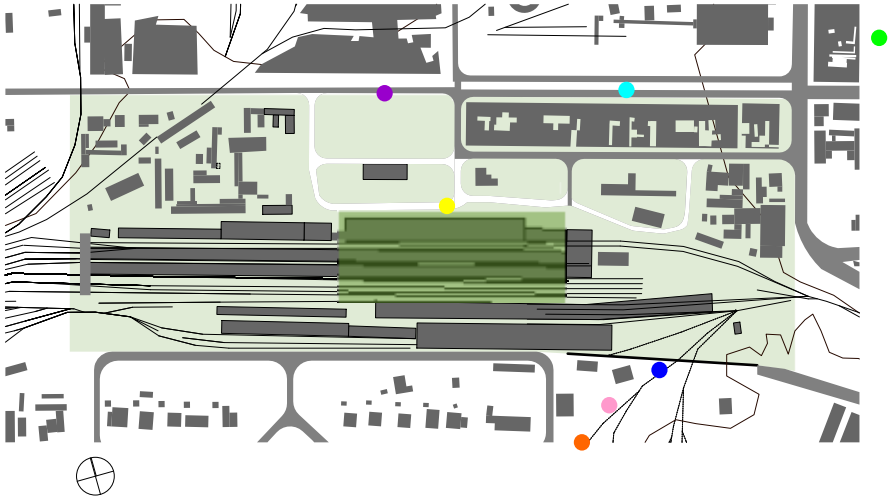
urban commuter train

3-8. images of some of the train services (: www.nrz.co.zw)

and afternoons on Saturdays to two locations in the city (3-25), Luveve and Emganwini. The INTERCITY service is run mostly at night and arrives in the morning and then used for urban commuter services for the day and switched back to intercity commuter services at night. LUXURY EXCURSION TRAINS (3-8)are operated as luxury and tourist safari trains. They are operated by Rovos Rail and Shongololo's Southern Cross tours as a regular service for tourists. Both operators start their tours in South Africa with the Shongololo going through Swaziland and Mozambique before coming into Zimbabwe through Beitbridge to Victoria Falls. Passengers visit tourist attractions in all parts of Zimbabwe such as the Great Zimbabwe, Matopo National Park and Hwange Game Reserve. Steam Excursion train services are used by another group of companies for tourism in Germany called Globe Steam and Far Rail Tours. They use NRZ steam locomotives and coaches to cater for their steam engine enthusiasts (3-8).

The author questioned a few commuters found within the city on whether they know the location of the city's train station. Ninety percent of the people interviewed were either not aware that there were commuter services running at the train station or were not sure of the train station's location. One has the ability to navigate themselves to the station when they see the coal towers, located opposite the train station (3-12). The walking distance is not far but for those carrying heavy luggage, four wheeled cart carriers are used to carry the luggage. The arcade of trees on the road's carriage way announce 13th avenue and normally used by large industrial trucks, the only way into the industries (3-12).

Most parts of the surrounding areas of the train station are composed of old industrial facilities characterised by the grime and dirt from the individual activities. Little to no architectural identity is associated with these buildings reflected by their dilapidated state. The station however, is known for its aging colonial architecture. The entrance gate to the station is recessed away from the main access road past the exit point, whilst a six storey building with NRZ personnel offices blocks the view of the station from the road (3-15). Not many commuters that travel on foot use this entrance, but prefer using the exit gate closer to the city because of its convenient access from 13th avenue.



3-9. coal towers, a navigation point to the station

3-10. main entrance to train station Victorian architecture aged with time

3-11. one of the industrial sites around the train station

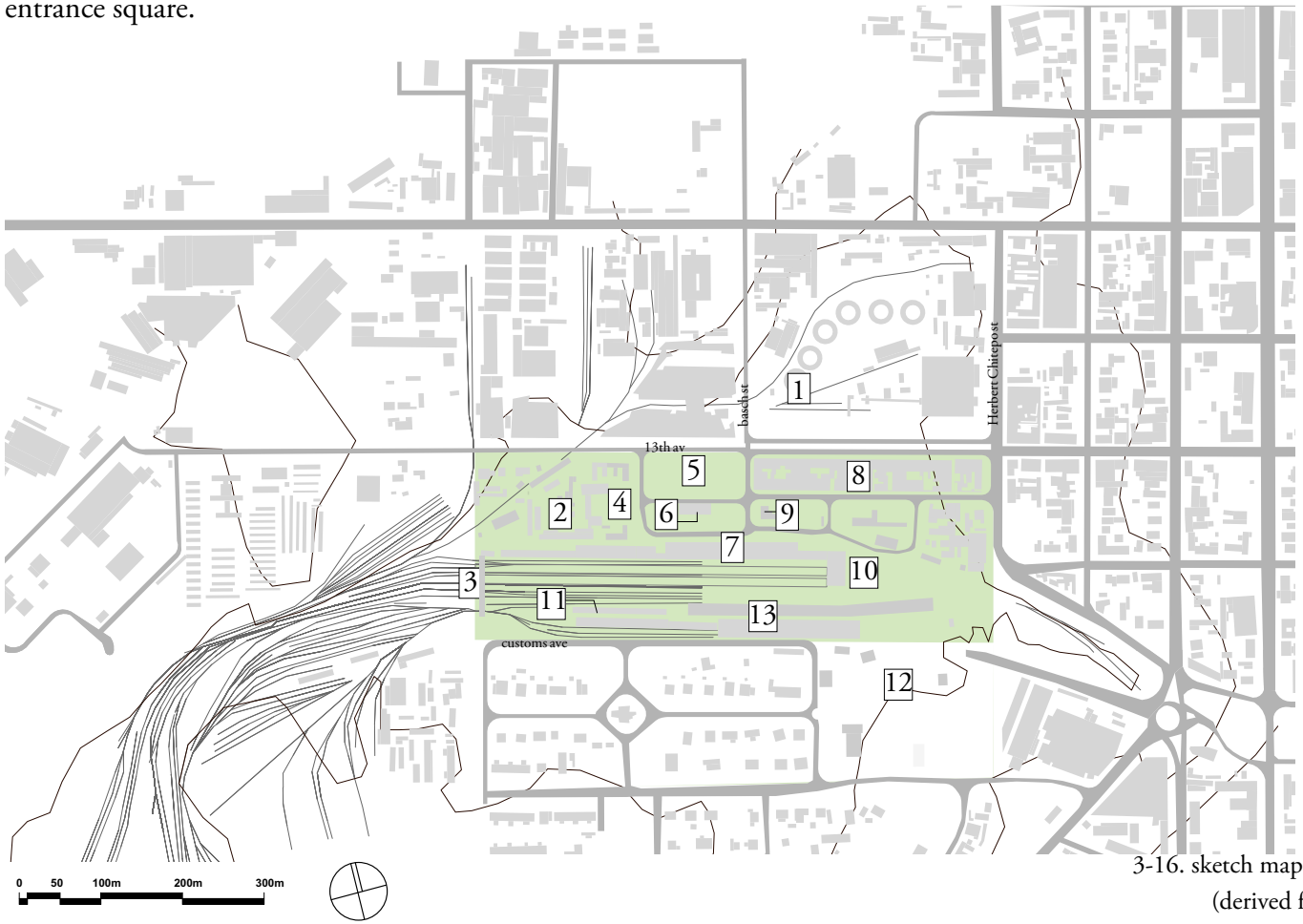
3-12. down town precinct leading to the train

3-13. first steam locomotive to be used in Zimbabwe

3-14. railway museum

3-15. entrance to the train station

The site's topography is considerably flat gently sloping towards the north of the city. There are little signs of any soil and vegetation except at the entrance square.



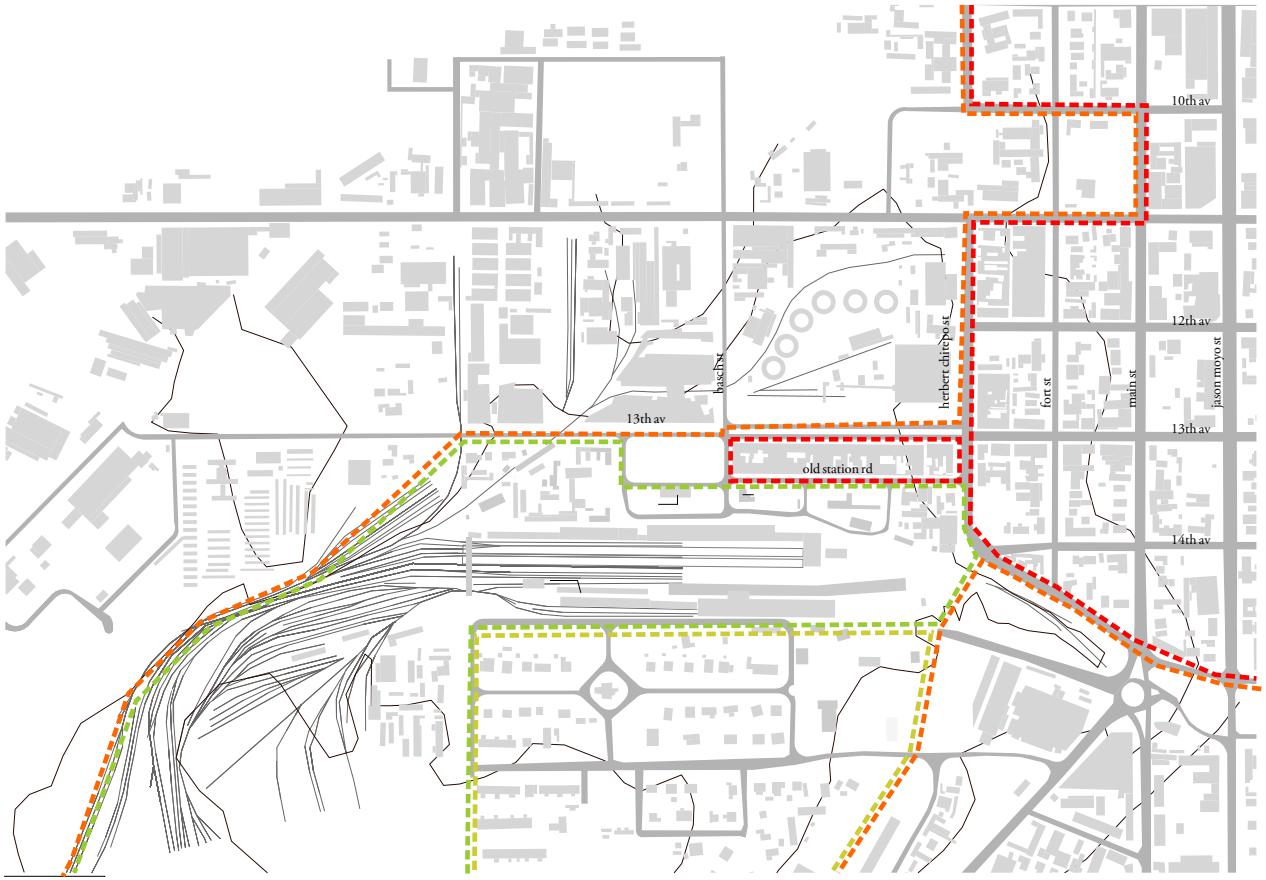
1. Zimbabwe Electricity Supply Association (ZESA) coal station
2. NRZ road-works Department
3. Pedestrian bridge
4. Burnt down offices
5. Metcalf square
6. 6 storey NRZ offices
7. Train station
8. Downtown shops and informal traders
9. Post office
10. Customs office
11. Workshop
12. Yard for existing train museum
13. Derelict warehouses

3-16. sketch map showing the existing buildings on the site (derived from Local Government Plan No.4, 2011)

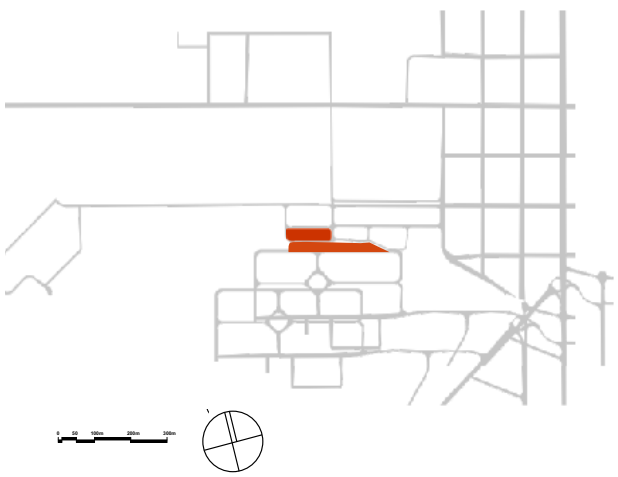
physical analysis

The site's architectural language is rooted from a mixture of colonial architecture and the robust industrial massed buildings which has directly affected the site built up space. The density of buildings is very low compared to the amount of open space on the site. The building footprint becomes more dense closer to the city centre . Each stand seems to be smaller with maximum built up space.

Within 1-2km of the site, no open spaces for social interaction are evident (3-17) though there is plenty of land for it. The density depicts the character and function of the space according to the site map shown on the next page. The building footprints becomes more dense the closer you move to the city and the further one moves out of the city, the larger the building footprints are and the wider the open spaces between them (a characteristic of industrial spaces).

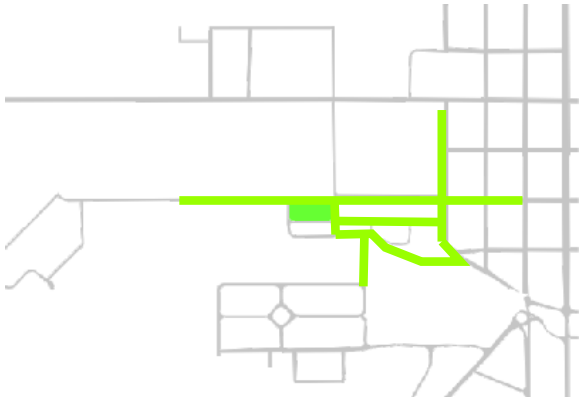


3-17. sketch map showing comparing building density to open space (derived rom Local Government Plan No.4, 1988)



parking spaces

The parking space in relation to the built space defines a lifeless character to the entrance pathway to the station.



pedestrian spaces

There is little spaces for pedestrian interactions.

vehicular movement

Vehicular circulation is not as regular as the grid pattern of the city.

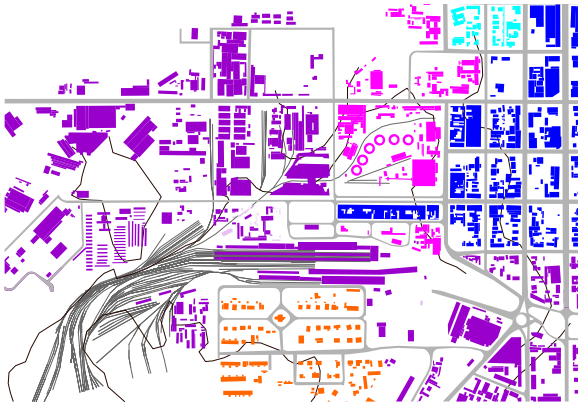
3-18. parking spaces, pedestrian spaces and vehicular routes

figure ground

The character of the figure ground by the station has large pockets of empty space as compared to the dense figure ground of the city.

open spaces

There are large amounts of open spaces around the site.



land use

ZONES

- Zone 1A &1B: Business core- shops and offices
- Zone 1C : Business shops and offices
- Zone 2A : Offices and Public Buildings
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- Zone 3 : General Business and service Industry
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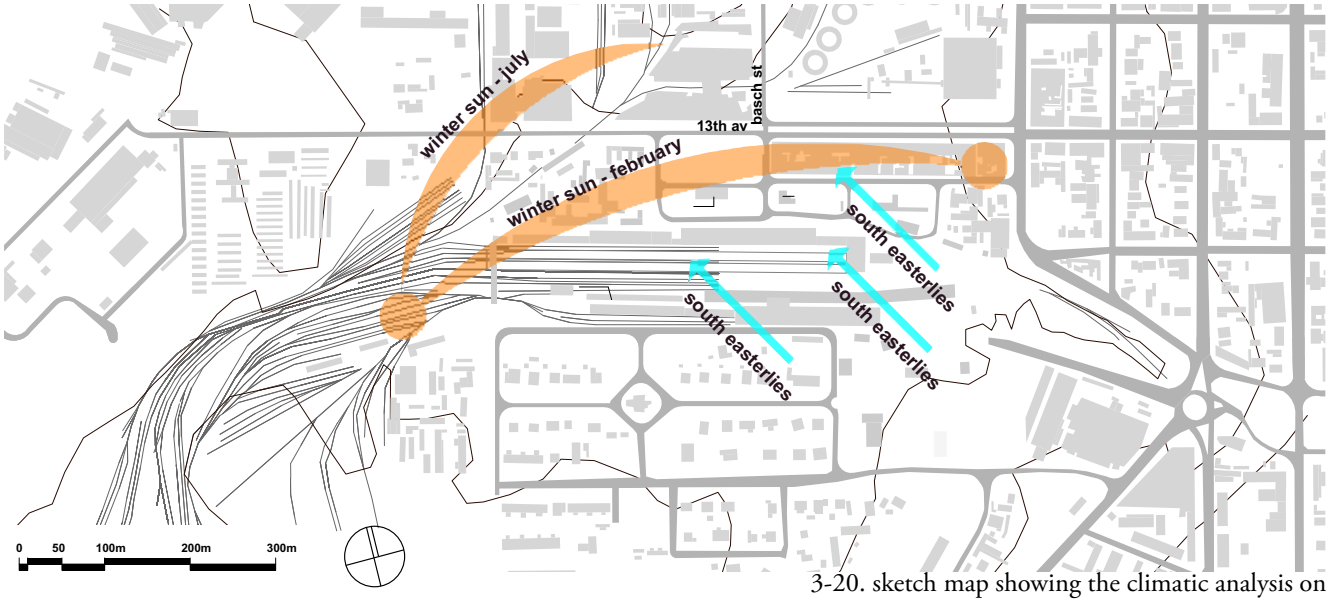
- Zone 5A : Residential
- Zone 5B : Residential and Ancillary
- Zone 5C : Residential and Offices

3-19. figure ground open spaces and land use

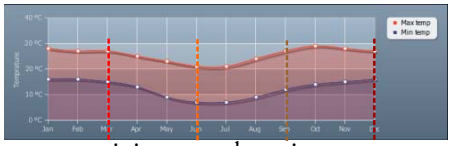
climatic analysis

Bulawayo sits at an altitude of 1,351m above sea level, considerably lower than the rest of the country. Bulawayo slopes generally towards the north of the site with a height difference between the two extreme areas of the city ranging between 90-100 metres with a small height difference of five meters on the site.

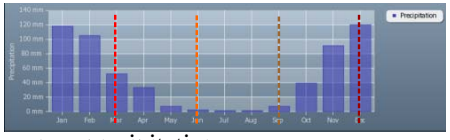
The summers are very long with short cold windy winters during July and August. Maximum temperatures are as high as 28 degrees during the month of October though maximum hours of sunshine are towards the winter months of July and August with temperatures as low as 8 degrees hence this is the best time to capture as much sun heat and light in the building to warm and light up the deep areas that do not receive much sunlight.



3-20. sketch map showing the climatic analysis on site



average minimum and maximum temperatures



average precipitation

average monthly sun-hours

north and north eastern facades receive the most of the sun's warmth
(World weather and climate conditions 20010-2011)

social interactions

There is a low level of social interaction observed at the station. These are carved by the type of users that are currently using the train station and how their social patterns are very closely knit to their movement within the city. These users rely on long and short distance emergency taxis and mini-buses, however, the different types of commuters that use public transport in Bulawayo do not end up using the train station because of the limited passenger services the station provides. This section looks to understand the causes of the existing social interaction at the trains station, the type of users that use the train station and their movement patterns through the city to the site.

type of users

ordinary commuter travelling on a daily basis

cross border traders

commuters travelling between cities and countries

the luggage carrier

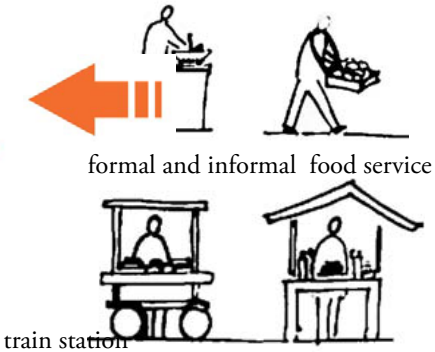
the station personal

goods loader

those that travel on a daily basis

those that travel long distances

those that work at the train station



formal and informal food service

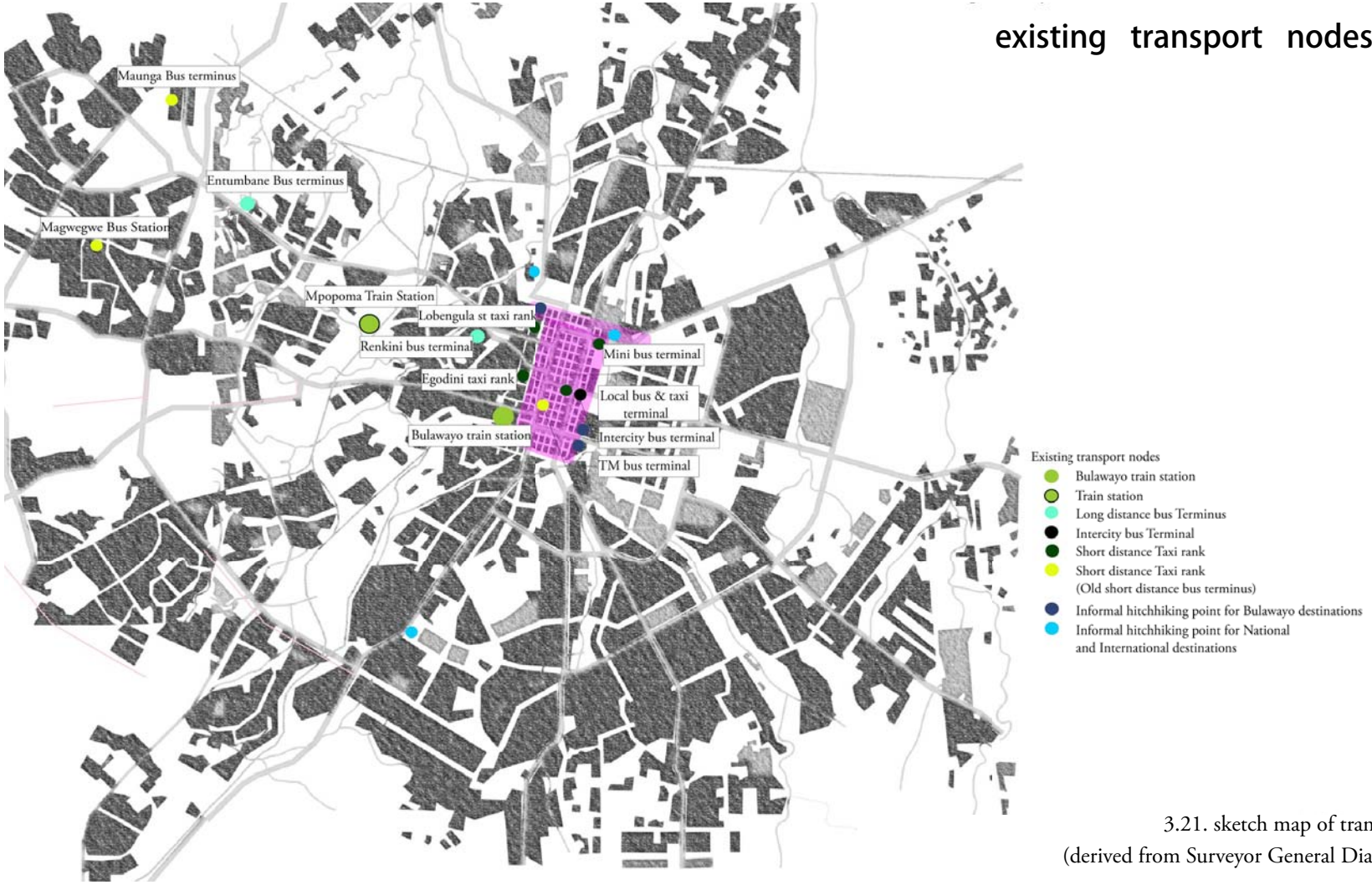
For apprentice engineers working in the railway workshops, the pedestrian bridge to the west of the site is the only way out of the station. This makes movement to the main road very difficult. Inside the station's concourse, no one is seen standing by the information desk, nor is there anyone waiting by the small arrivals and departure lounge. No one is interested in each other's affairs but to get to where they are going. The few people that walk through the main entrance walk straight through to the offices upstairs or in their small numbers, to the benches on the platforms. The sleeping security guard by the exit door in the concourse appears not to be aware of his surroundings nor the limited activities of the occasional commuters, a security compromise that needs to be looked at in the new solution.

A five minute walk away from the station is the railway museum. Neither directions nor advertisement signs are used to direct any potential train enthusiasts to the museum. The only form visible link to the museum from the station is an overgrown grass pathway. As the author arrived at the museum, the quality of the trains appeared to be just as run down as the museum shed. The old locomotives, the oldest being ninety years old, are stationed outside for display and are not protected from the harsh elements of weather.

Behind the stillness of the lonely platforms, a local radio station plays from old speaker phones fixed to the platform roofs. Not many passengers are visible, only those waiting for the evening train most likely traveling to Victoria falls, Beitbridge or Botswana. There is low social interaction at the station by the lack of activity noted.

To analyse the movement patterns of the existing users of the train station from the city, sketch maps were mapped out.

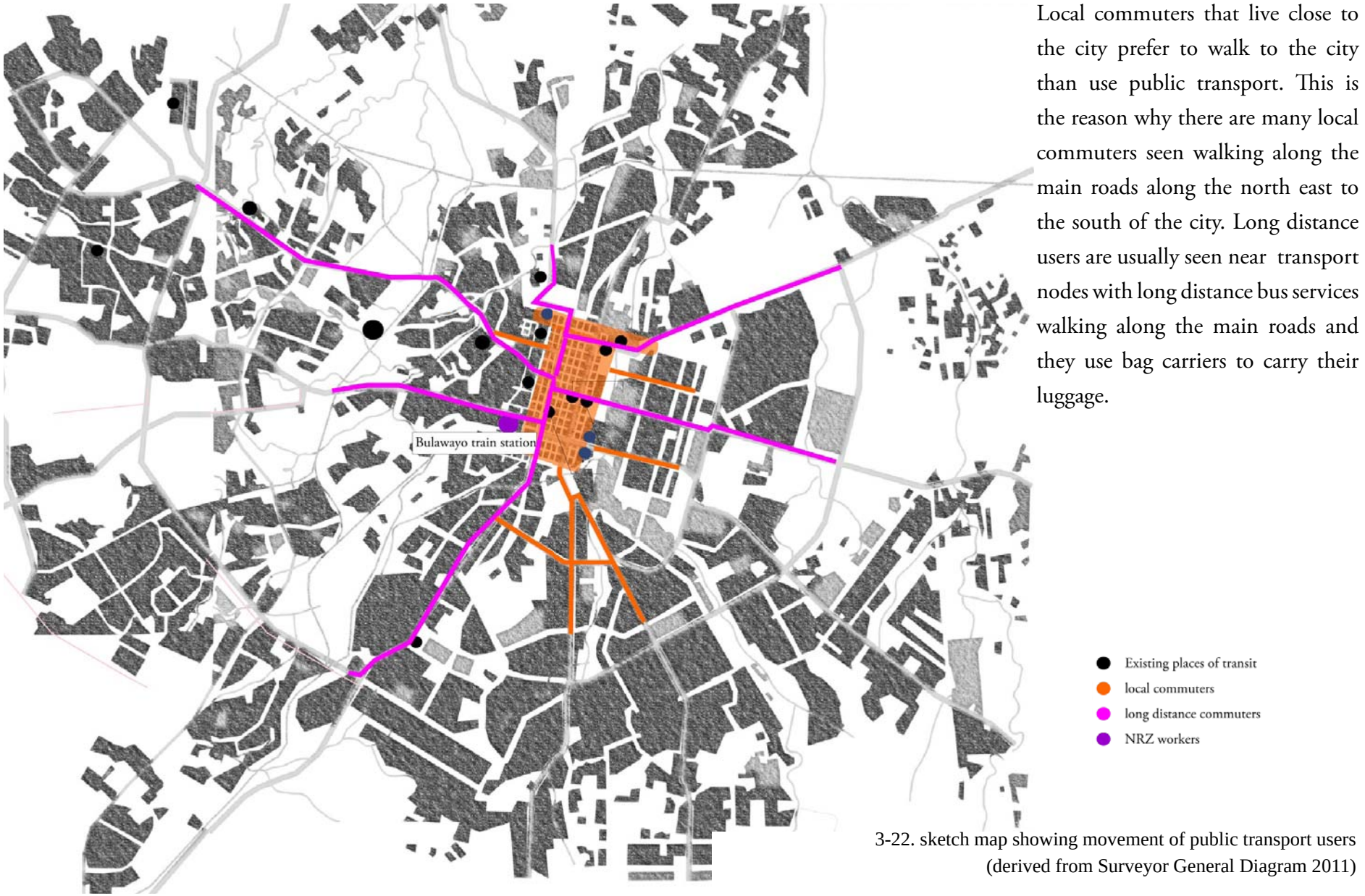
existing transport nodes



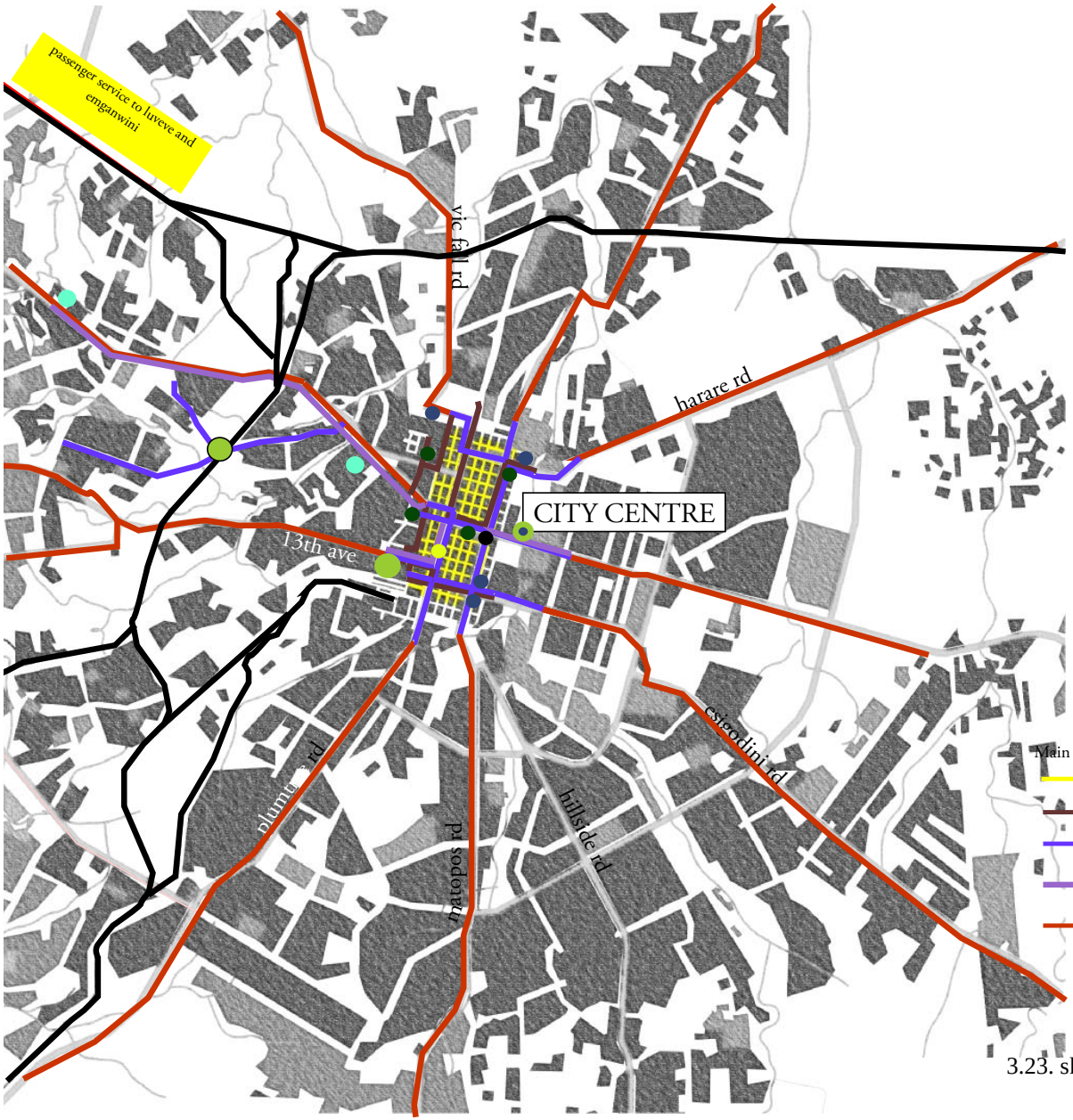
3.21. sketch map of transport nodes
(derived from Surveyor General Diagram 2011)

movement of train users

Local commuters that live close to the city prefer to walk to the city than use public transport. This is the reason why there are many local commuters seen walking along the main roads along the north east to the south of the city. Long distance users are usually seen near transport nodes with long distance bus services walking along the main roads and they use bag carriers to carry their luggage.



3-22. sketch map showing movement of public transport users
(derived from Surveyor General Diagram 2011)

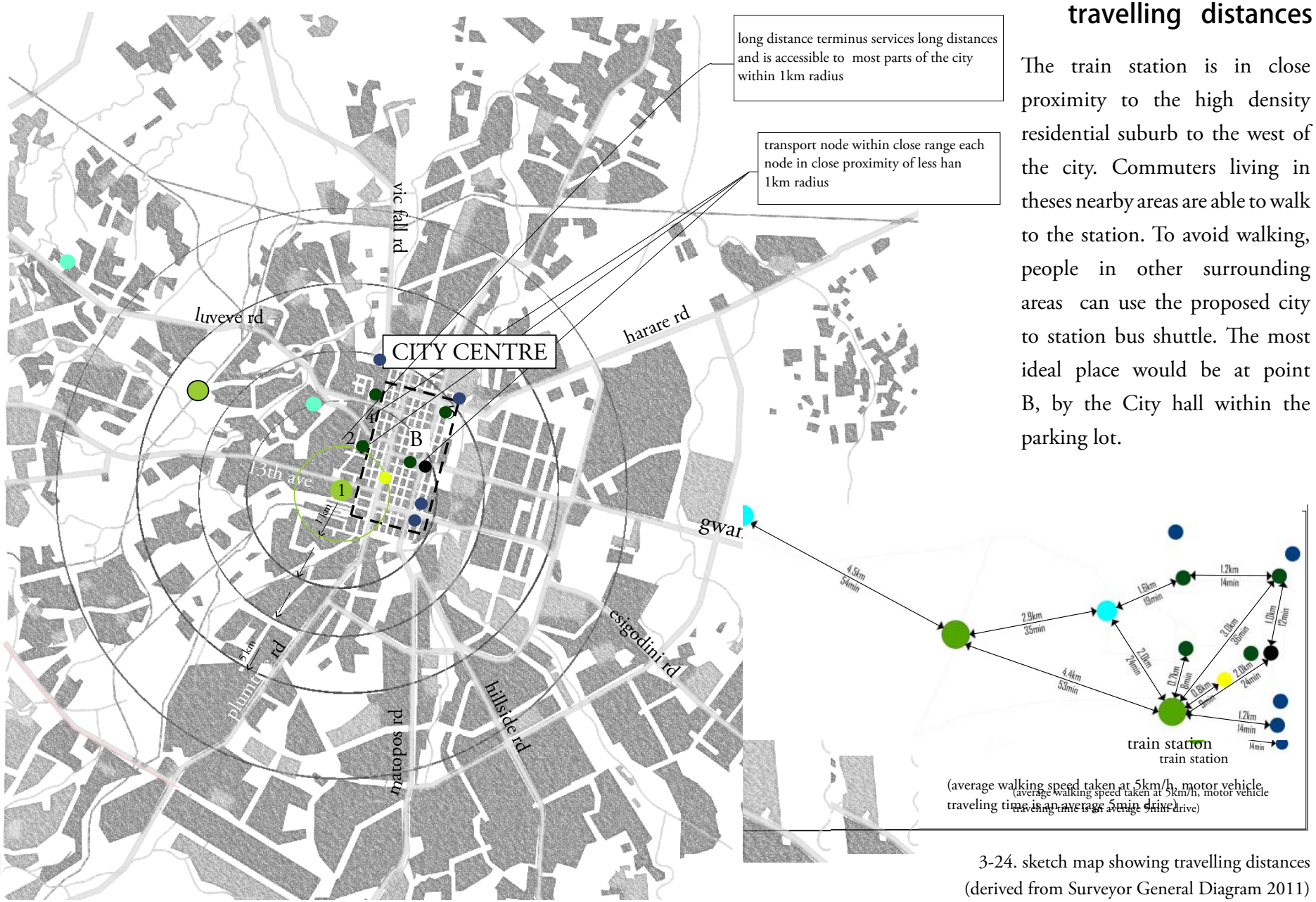


pedestrian movement

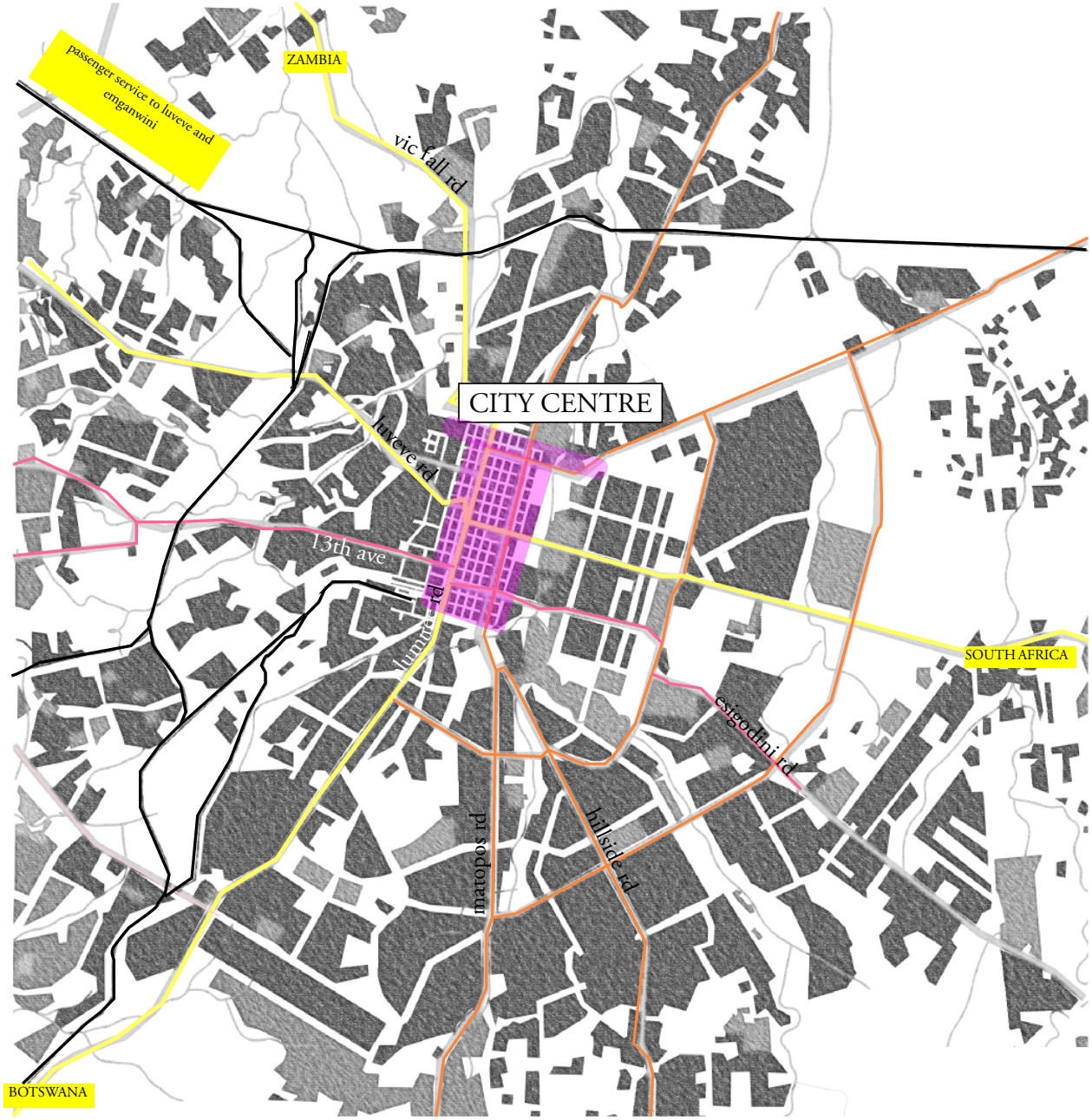
3.23. sketch map showing pedestrian movement within the city
(derived from Surveyor General Diagram 2011)

travelling distances

The train station is in close proximity to the high density residential suburb to the west of the city. Commuters living in theses nearby areas are able to walk to the station. To avoid walking, people in other surrounding areas can use the proposed city to station bus shuttle. The most ideal place would be at point B, by the City hall within the parking lot.



3-24. sketch map showing travelling distances (derived from Surveyor General Diagram 2011)



main circulation routes

Bulawayo main routes are divided into international, national and city routes. They evenly distribute road traffic to all parts of the city except for the city centre. This was done to avoid heavy vehicles disturbing the main traffic flow within the city and damage to roads. The railway station only has one city circulation route that links all types of traffic to the city using 13th avenue.

Major roads (all roads are 2 way unless stated otherwise)

- international routes
- national routes
- main city circulation routes
- main freight services rail route
- main passenger services rail route

3.25. sketch map showing Bulawayo's main routes (derived from Surveyor General Diagram 2011)

pedestrian movement on site

The NRZ staff make the most pedestrian movement especially during lunch time and towards the end of the day. They frequent the entrance way to the station concourse; main access route to do their daily duties. Some will be moving from the six storey building to the personnel offices on the first floor whilst others move towards the downtown shops for food supplies. The movement of commuters (3-7) using the train commences from the pedestrian bridge in the far east of the station where the workshops are located; in the far most southern portion of the station.

3-26. sketch map showing pedestrian movement on site
(derived from Surveyor General Diagram 2011)

vehicular movement on site

The vehicular movement at the station is limited to the entrance and exit points surrounding the parking area.

Major roads (all roads are 2 way unless stated otherwise)

- international routes
- main circulation routes

Main Public Transport routes

- main route used by long distance buses
- main route used by buses and taxis
- main route by rail

Existing transport nodes

- Short distance Taxi rank (Old short distance bus terminus)

3-27. sketch map showing vehicular movement on site (derived from Surveyor General Diagram 2011)

inscriptive qualities

As explained earlier, the inscriptive qualities of a place explains how people express themselves within a given space. The train station, as shown in the images 3-28 to 3.33 are no different to a GHOST TOWN or an UNDER-USED SPACE. No one uses the facility at the station because few people use the train. The commuter dining hall 3-33) is empty, the benches on the platforms are dilapidated (3-31), the parking area is empty of any cars, buses or any vehicular activity (3-28 and 3-32).

3-28. the main parking lot

3-30. parcel counter

3-32. the parking lot in front the main entrance to the train station

3.29. a dilapidated door

3-31. a passenger sleeping on a bench

3-33. an empty commuter dining hall

image component

The architectural elements of this place are falling apart, from the doors (3-29), the furniture to the actual masonry that holds the building together.

From understanding the material culture of the station, it is clear that the place is experiencing from any pedestrian activity (3-34). As good as hidden, Bulawayo's only train station has found itself lost out of the city. The station has failed to connect to the city in a coherent way and has failed to make any positive contributions to the surrounding urban context or its users.

3-34. bird's eye view of the loading docks
(www.throughtheireye2.co.uk)

Lost places, as mentioned earlier, are caused by the automobile, land uses and zoning policies, treatment of open space by architects of the Modern Movement, lack of responsibility by the private and public sector over the city and by abandoning industrial, military and transportation sites. These causes have created micro (local) and macro (urban) problems that have affected the train station's architectural, social, economical and physical character.

local problems

The main problem that the author found evident is the site's LACK OF CONNECTIVITY to the city caused by irrelevant land policies that the city is still using. The rail industry was zoned as part of the industrial sector because freight services used to be the station's prime service. For this reason, the designers did not allow for the future expansion of passenger rail service.

NRZ has ABANDONED the station by not meeting LOCAL AND NATIONAL DEMANDS OF FREIGHT AND PASSENGER SERVICES and MAINTAINING EXISTING INFRASTRUCTURE. A fleet of train yards, UNUSED TRAIN WAGONS and the derelict locomotive parts have been left scattered on parts of loading yards, painting a bad image of the station yard.

LACK OF SECURITY has compromised the station's credibility of providing a safe passenger service for many years. CABLE THEFT, VANDALISM to rail property and THEFT on the trains have lowered passenger ticket sales for years. To intensify security on the premises, NRZ has improved security standards to combat acts of theft and vandalism. Security officers and guard-dogs have been added to safeguard passengers at the train station though they are not often

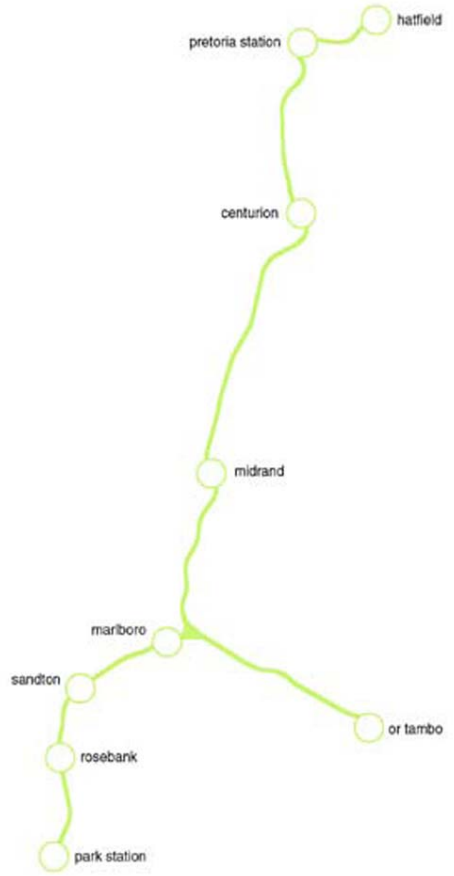
seen on site. Few people travel at night because of no lighting on platforms. CABLE THEFT, a common problem in Southern Africa, has limited the service of electric run locomotives in Zimbabwe.

"There is a need to provide LIGHTING on the platforms to ease boarding and inside the trains to improve security." (Mbara 2005:128)

The bad lighting is attributed to the shortage of power supply in the country and bad architectural design. The USE OF TECHNOLOGY is limited to diesel and coal powered locomotives, a dilemma that reduced any plans of expanding electric run locomotives.

Passenger services for short distance commuting currently serve commuters living in the high density residential suburbs of Luveve and Emganwini in the north eastern area of Bulawayo. This type of suburb is primarily occupied by the low income generating population of Bulawayo. As a result, people have STIGMATISED the train services to be a service for the poor, because of the LIMITED PASSENGER SERVICE segregating the poor from the middle to high income group of Bulawayo.

In a similar situation, South Africa's new rapid railway network, the Gautrain, has a limited passenger service that covers close to 80 km of rail. The concern that some commuters have about Gautrain's limited passenger service is that the first phase of construction connects certain areas that are associated with the wealthy income group living in Gauteng. Additionally, the service is NOT AFFORDABLE for the middle to low income generating population. A train ride to the airport is R100, an amount



3-35. the gautrain rail route in gauteng (after www.gautrain.co.za)

normally spent in one week using public taxis to and from work. The Gautrain is much more accessible to Gauteng's high income group and the passenger service in Bulawayo does the opposite; the service appears to only SERVE THE LOW INCOME GENERATING POPULATION. Public transportation should serve all income generating groups regardless of their race and place of dwelling by providing an affordable, safe and yet efficient means of travel.

Another set of local problems associated with the train stations is VANDALISM. These problems have painted a perception of LOW QUALITY COMMUTER SERVICE. Some of these locomotives are painted in unattractive graffiti with most of the internal furniture vandalised beyond repair.

The ARCHITECTURAL INTEGRITY of the place is overshadowed by the numerous extensions added to the original Victorian station. Nothing celebrates the colonial identity of the original station building. Circulation within the building can sometimes be confusing to the visitor because of the INADEQUATE AND LOW QUALITY SIGNAGE used

urban problems

The attractive mobility and communicative qualities of the AUTOMOBILE have overtaken the public qualities of the place caused by a large section of land dedicated to parking. Trancik (1986) also says mobility, motion and the automobile are the prime causes of lost places. As the automobile is very important in Bulawayo, it has become one of the main modes of public transport used and causing other forms of mass transport such as the emergency taxis and mini-buses to be abandoned.

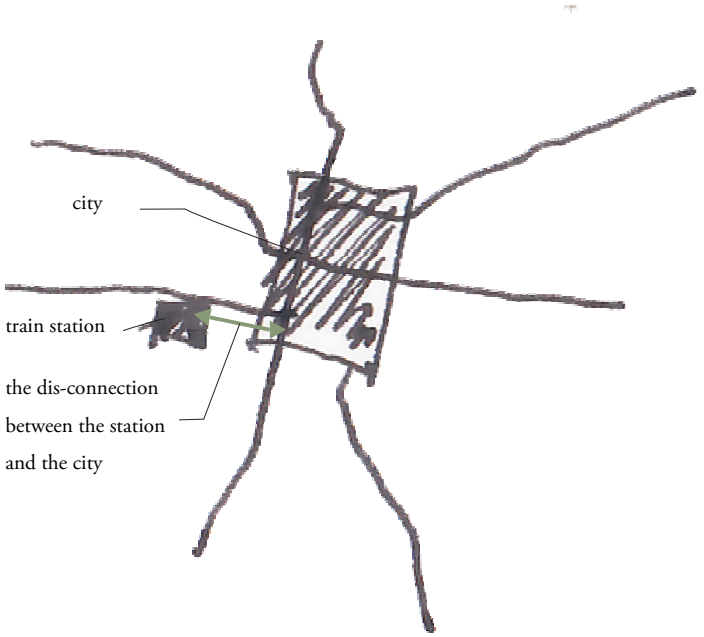
The resources used to run the locomotives need good diesel and electricity supply. The supply of electricity has become unstable in the city because of continuous cable theft and power cuts and the country's POOR ECONOMY

failing to sustain the nation's demands for electricity. Diesel, instead, is used for all daily haulages.

The ZONING AND LAND-USE POLICIES_used in Bulawayo were founded on the idea of segregating white from the black people. These policies placed poor black people to the eastern edges of Bulawayo and closer to the industries where they were only allowed to work (refer to land use diagram 3-7). The whites were placed in the opposite area of the city, buffered off by a strip of park-lands. After independence these areas were then taken over by mostly medium to high income generating black people and they have since been occupying more areas in the northern and southern parts of the city. The city maintained the same land policies which have resulted in the railway station being ISOLATED from the city. The architects of the original building had not taken into account possible FUTURE POPULATION GROWTH PATTERNS and changes in the country's political and economic climate.

The station's LOW PEDESTRIAN AND VEHICULAR MOVEMENT_is caused by the lack of vehicular and pedestrian routes between the city and the station. The station is, consequently, dis-connected from the main activities of the city making it difficult for commuters to access the station using public transport.

Other problems the author found caused by non-places are associated with the station's LOW SOCIAL INTERACTION. The place LACKS SOCIAL FACILITIES AND ACTIVITIES such as comfortable resting places.



3-36. the location of the station is disconnected from the city

conclusion

After understanding the material culture of the train station, evidence shows that the place is lost and needs to be reclaimed. The main problem that needs to be solved is the factor of disconnection between the place and the city. Collectively, the other major causes of the place being lost are from the effects of obsolete land-use and zoning policies, the nation's unstable economy and the automobile.

To solve the problems surfaced in this chapter, the author will look at solutions that connect the station to the city by encouraging movement between these places in the next chapter.

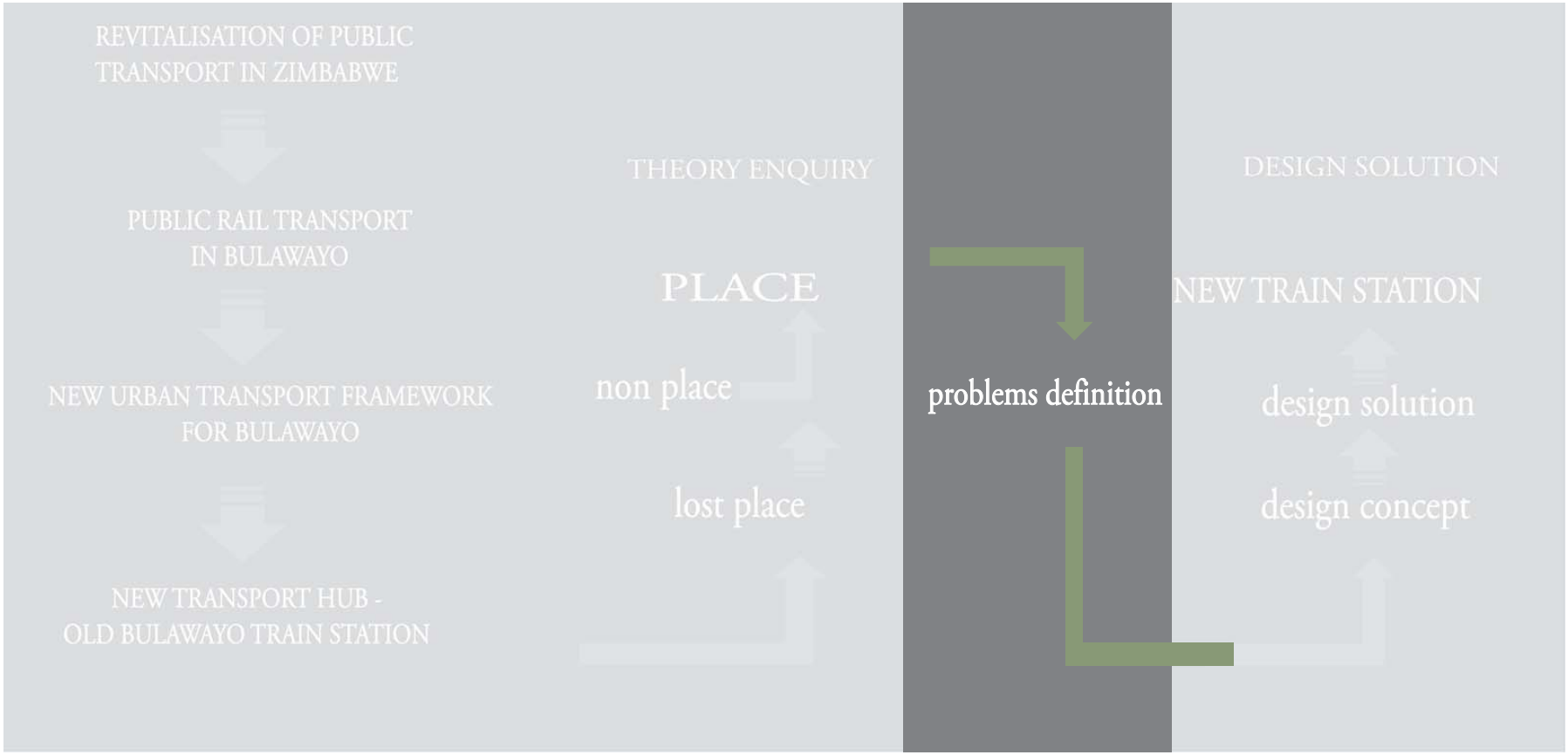
The programming of train stations needs to be constantly revitalised to accommodate the needs of a changing society through the pragmatic knowledge of urban growth patterns. NRZ foresees Bulawayo's population growing and exerting more pressure on the city's current public transport system. New productive patterns can only be sustained if NRZ supplies affordable, socially inclusive public rail transport to reduce movement time between destinations. Efficiency is the new drive to urban development.

Addressing the problems of rail transport in Bulawayo would facilitate easier access to work, school, health care, welfare and cultural or art events, thus performing a social service for all income groups. Transport systems, therefore, are linked to urban development and thus accepted as a vital economic factor in the distribution of people, goods and services. Improving the mobility of people shapes social structures.

CHAPTER 4

ATMOSPHERE OF A FAMILIAR PLACE

thesis overview



introduction

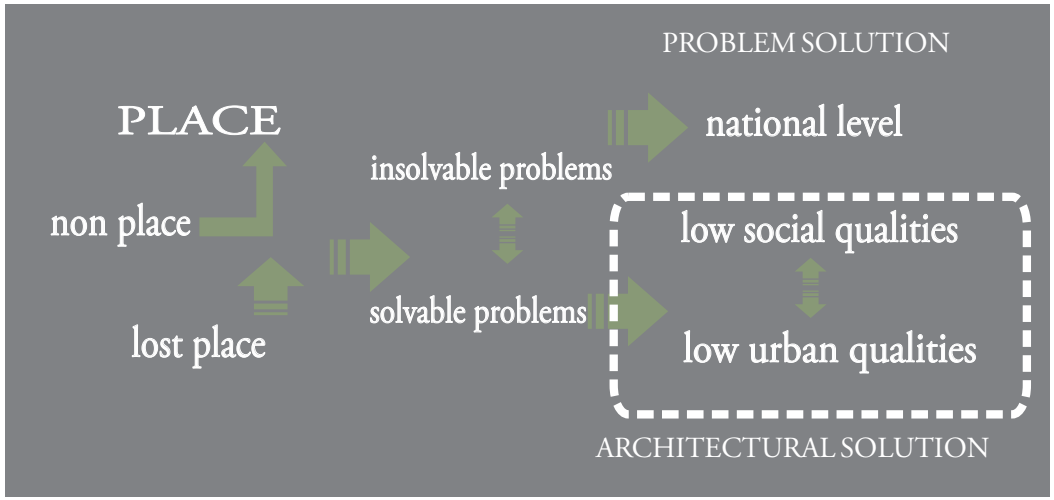
Bulawayo's train station has become a lost place and this chapter will look at how the problems associated with the trains station can be solved.

In Trancik's (1986:3) exploration, as a means of finding lost places, three urban theories were suggested: the figure ground, place and link theories. This chapter will look at these theories and their relevance in re-connecting the station to the city.

The problems associated with the train station being a lost place have affected the URBAN QUALITIES OF THE PLACE and the problems associated with the place being considered as a non place have reduced the SOCIAL QUALITIES OF THE PLACE and further distributed into insolvable and solvable problems.

design strategy

PROBLEMS WITH LOST PLACE	PROBLEMS WITH NON PLACE	DESIGN CONSIDERATION
LOCAL low social interactions security lack of accessibility from the road energy wastage segregation from people social exclusion bad lighting affordability dirt signage underused lost identity site and infrastructure abandoned technology crime URBAN low vehicular movement low pedestrian movement non proximity to the city poor transport network poor land policies unreliable public transport system the automobile economy	LOCAL no social interactions lack of reason to be in the place site lacking identity of transit no place of rest	URBAN DESIGN LEVEL pedestrian movement vehicular movement public transport routes transport routes re-zoning according to user needs TRAIN STATION extent of conservation of existing structures social activities circulation of arrival and departures space lighting movement type of destinations security architectural identity between old and new facilities LEGEND solvable problems insolvable problems



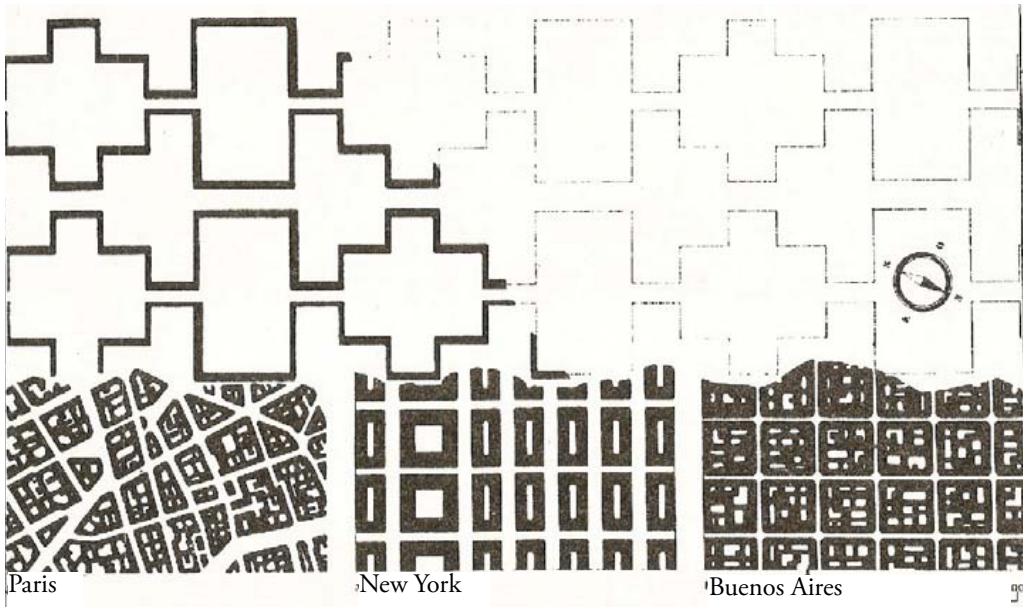
The problems that have been layered as insolvable can only be solved at a national level, beyond the scope of this thesis document. There is a great need for capital injection, technology advancements, energy saving facilities and policies that will make the project implementation much faster, however, this thesis looks to creating a new transport hub as the architectural solution and will make the assumption that all insolvable problems will be attended to at a national level.

The train station is a protected building and its conservation will form a third layer of the author's design strategy for this thesis as shown on the image below.

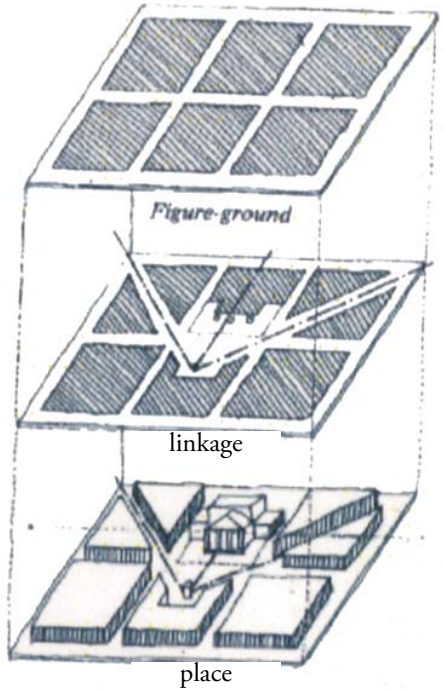
4-0. the project's design strategy

design solution

In order to improve the urban and social qualities of the place, Trancik looks at three urban design principle that can be used to finding lost space; link theory, figure ground theory and the place theory.



4-1. a comparative study of figure ground patterns of Le Corbusier's Ville Radieuse with the city blocks patterns of Paris, New York and Buenos Aires. The cities' free flowing grid layouts were inspired by Functionalist theorists.
(source: Trancik 1986:104)



4-2. the three urban theories.
(source: Trancik 1986:98)

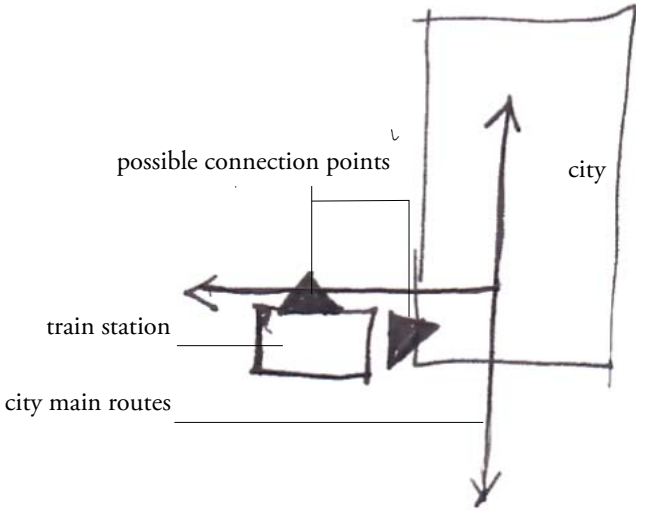
The figure ground theory looks at the manipulation and organisation of solid spaces and voids and how the relationship between them needs to be balanced in order to create a form structured on the voids it creates. The author will not use the figure ground theory to inform her design concept as it expresses no idea of re-connection.

link theory

This theory looks at the organisation of lines that connect parts of an urban space and the design of these spaces from lines relating to buildings and spaces through a spatial datum. A spatial datum is a site line, a directional flow of movement, an organisational axis or a building edge. Trancik explores Fumihiko Maki's investigation of different forms of spatial linkages. Maki understands linkages to be 'the glue of the city; the act by which we unite all the layers of activity and the resulting physical form in the city (Trancik 1986:106). They are also created between discrete spaces and amongst special activities within the city's spaces.

place theory

This urban principle looks at understanding the cultural and human characteristics of any space. The contextual meaning of place is only defined from the cultural or regional content of the place. The types of spaces formed under this urban principle are defined by the categories based on their physical properties that are unique to the

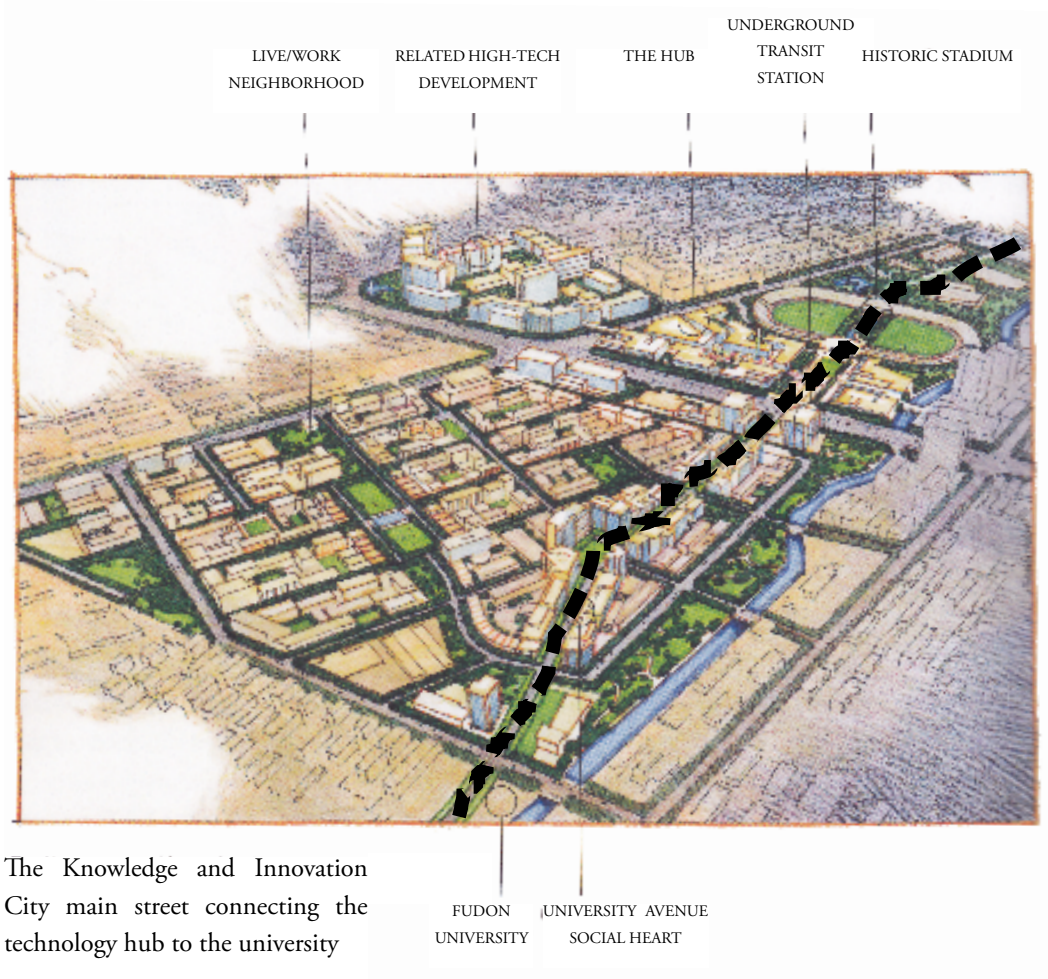


4-3. a sketch showing how the train station can be re-connected to the city.

context of the place. It has the tendency of taking on the character of the place or the surroundings; the character can either be a material item or have shape, texture, colour of more tangible cultural associations.

The link theory will be used to help connect the station to the city through the main transport routes near the site, shown on sketch 4-3. and the place theory will add a new identity to the station by the use of commuter rituals. The downtown area that the station is located in separates the station from the city but has the potential qualities of linking the station to the main roads that lead to the city. This area will be re-zoned to form part of the station's urban framework.

Two international examples have been selected to demonstrate how under-used urban districts can be re-activated through the use of links in the form of OPEN SPACES and MOVEMENT CHANNELS.



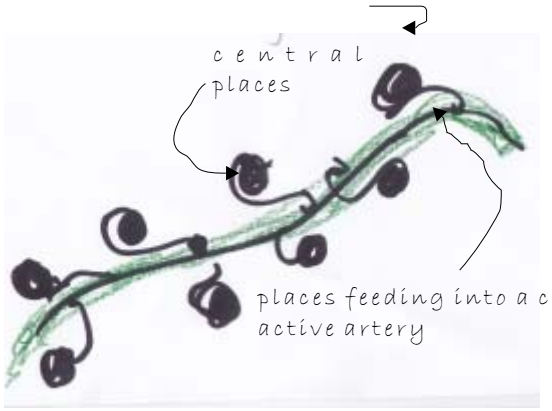
The Knowledge and Innovation City main street connecting the technology hub to the university

4-4. Shanghai's Yangpu District in China (Kriken 2010,105-73)

Identifying the special qualities of this place' was the main objective of the next example. The mixed-use complex did not support the social life and services of Shanghai Yangpu's university district's university life so a proposal was made to introduce wide sidewalks, small scale commercial activities and live/work spaces that soon became the social heart of the city.

The context and human spirit in this place was to heave university life in existing commercial life and merging the two. Link and place principles were applied by joining the different varsity places into a central line of activities.

This example shows how identity, open spaces, streets, paths and pedestrian friendly environments including mixed used commercial and residential zones can bring together different districts of urban spaces.



4-5. the idea of the central artery as the main feeder of activities

4-6. The technology hub's plaza leading to the social heart of the street
(Kriken 2010,105-73)

4-7. looking onto the restored historic stadiums
(Kriken 2010,105-73)

4-8. Kaohsiung Port Station, Taiwan
(Kaohsiung City Government's Urban Development Bureau 2009:30)

The next example looks at Kaohsiung Port Station, an old railway yard served by the harbour to the south east of the site. The station has become a potential commercial hub, with a master plan that incorporates a designated cultural and leisure district, a commercial district and public facilities such as parks, transportation facilities and roads. Some railway facilities, signal buildings, platforms, railroads and other old articulated devices and switches are preserved for future operations.

The urban planners transformed track yards into park spaces of outdoor sculpture, restaurants and retail rail-cars. Former sugar warehouses were renovated into creative industry lofts and heritage areas.
The area carefully engages with the city's road network whilst the rail track inspires linear movement into the area.

4-10. urban plan layout of the station
(AGER Group's Winning Kaohsiung Port Station Proposal, 2011)

Other old warehouses were reused into new hotel facilities, medium density commercial and mixed use residential buildings.

4-9. bird's eye view of the port station
(AGER Group's Winning Kaohsiung Port Station Proposal, 2011)

4-11. Artistic impressions of the urban renewal scheme (AGER Group's Winning Kaohsiung Port Station Proposal, 2011)

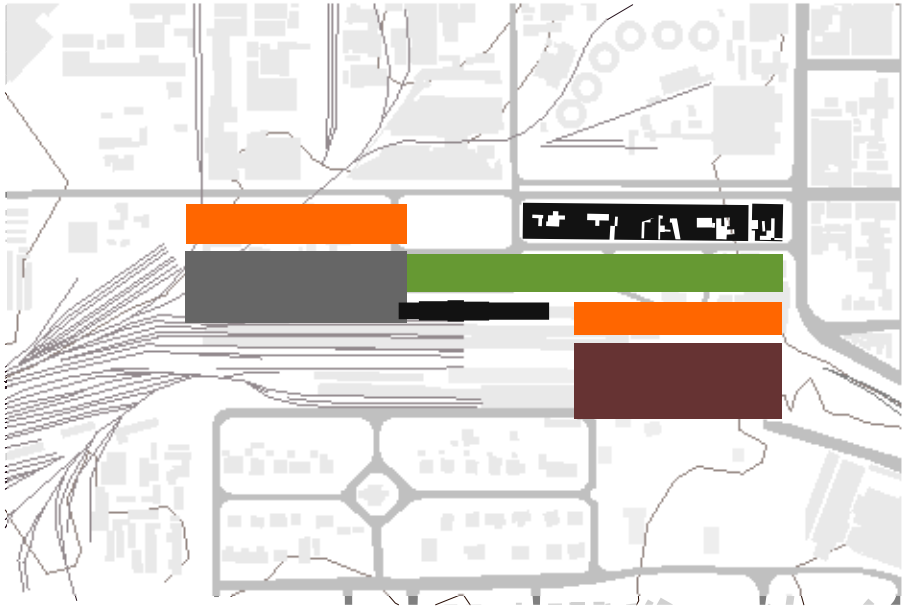
application of design principles

The link and place theory will be used to re-zone the area around the station to IMPROVE THE URBAN AND SOCIAL QUALITIES of lost places. In the previous examples, link and place theory helped RE-CONNECT abandoned places. They were expressed through VISUAL LINKS, MOVEMENT STRATEGIES AND ACTIVATED DEAD SPACES WITH COMMUTER ACTIVITIES. The author will use the same strategies to help reconnect the station to the city.

Movement will be expressed in
- access routes for public and private modes of transport,
- convenient movement links for pedestrians from the two streets that border the site,
- a clear transport network for emergency taxis, buses, motor vehicles and pedestrians,
- clear and porous movement of all transport modes from the city to the site.

Visual links will be in the form of:
- a new architectural identity that links both the history of the site to the new transport hub,
- a simplified zonal strategy for the area around the station,

The new station will have new commuter activities that have
- adequate outdoor resting spaces and places of contemplation,
- preserved future usable space and re-use demolished material in pathways, outdoor recreational spaces and within the new train station,
- places of commerce and retail opportunities,
- places that encourage social interactions and social inclusion such as children play areas and outdoor market spaces,
- leisure and heritage sites as part of the open spaces experience.



existing buildings to be preserved

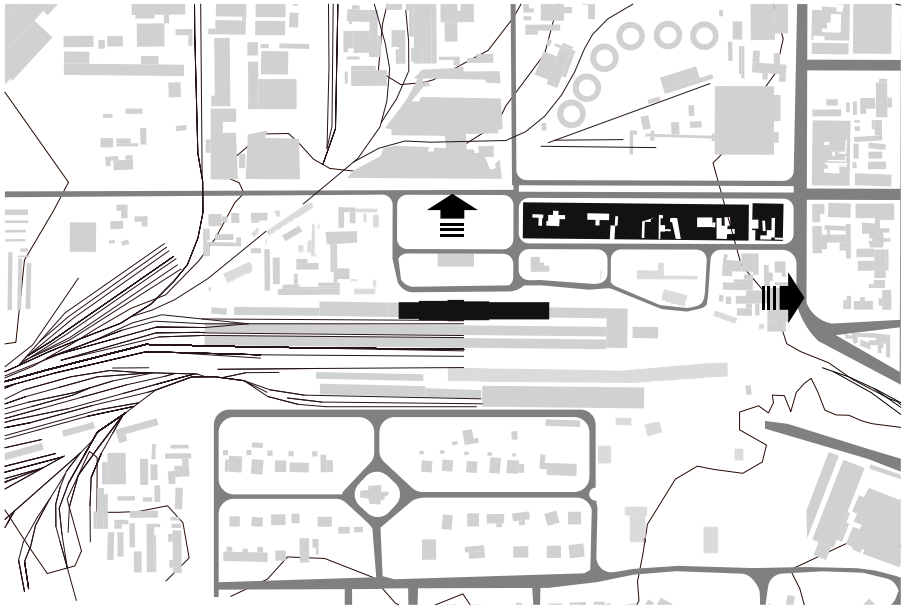
area preserved for setback

area where rail-raod texture is preserved

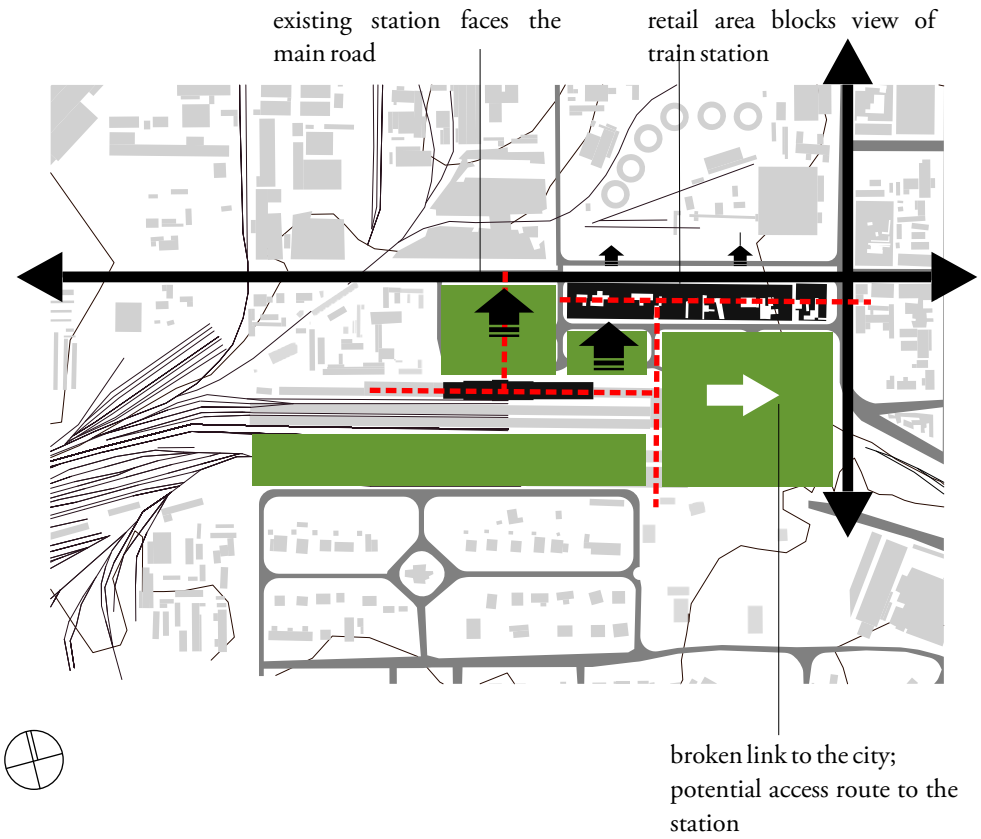
area for public facilities

area for NRZ offices and road works

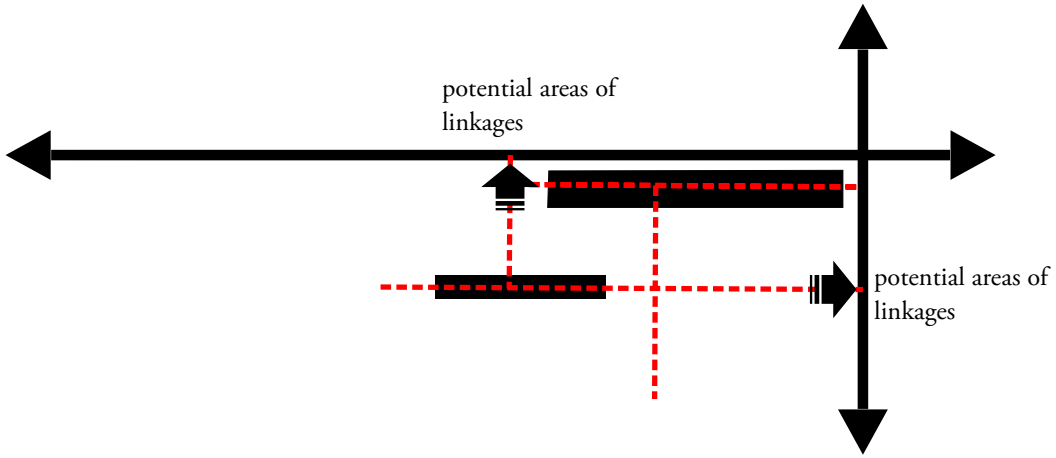
4-12. conceptual diagram of the site's existing problems and links



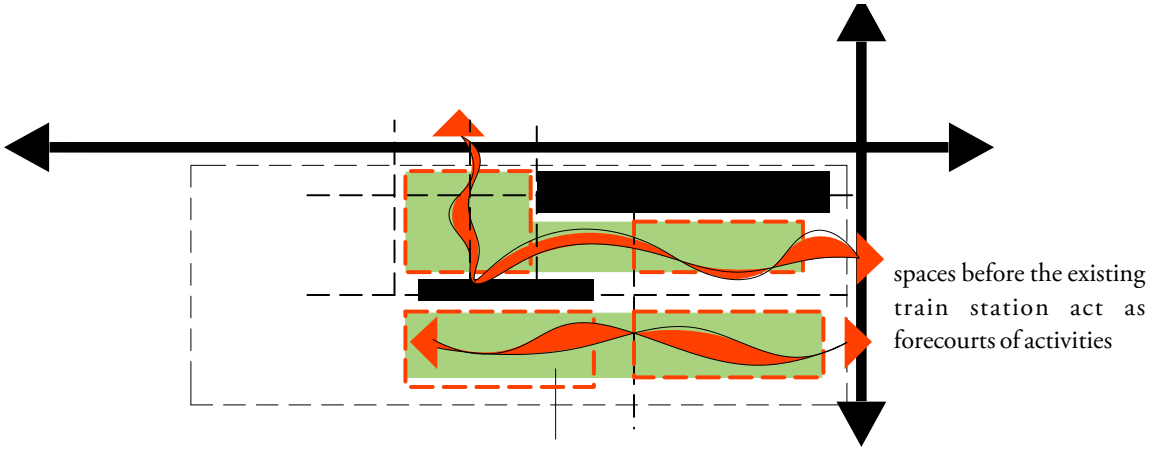
4-13. conceptual diagram of the site's potential link patterns



4-14. conceptual diagram of potential areas of development

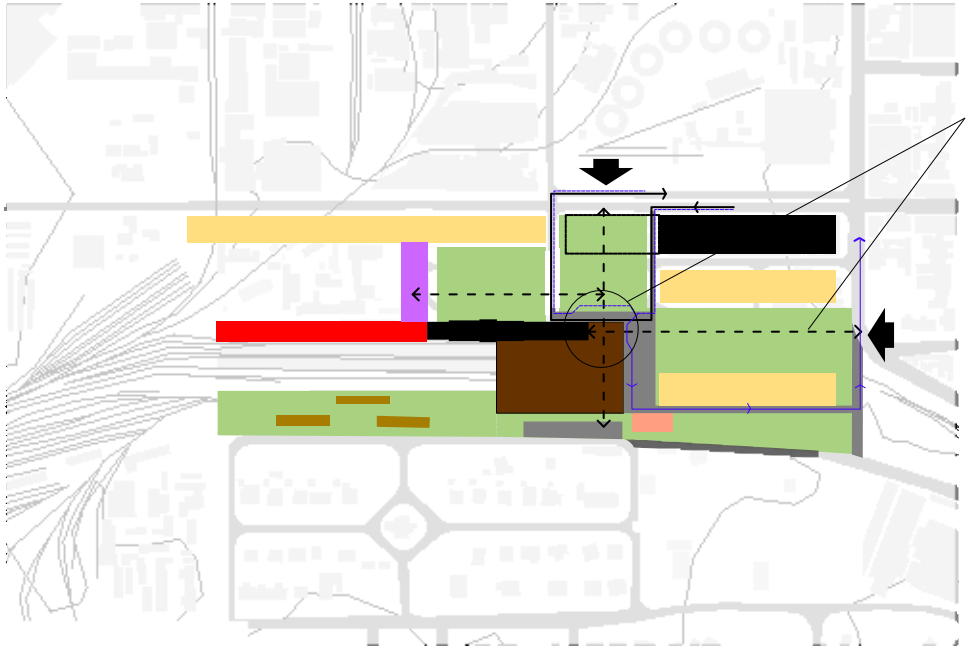


4-15. conceptual diagram of the links patterns



4-16. further development of link ideas

option 1



the links produced from this arrangement are not clearly lined.

LEGEND

programme

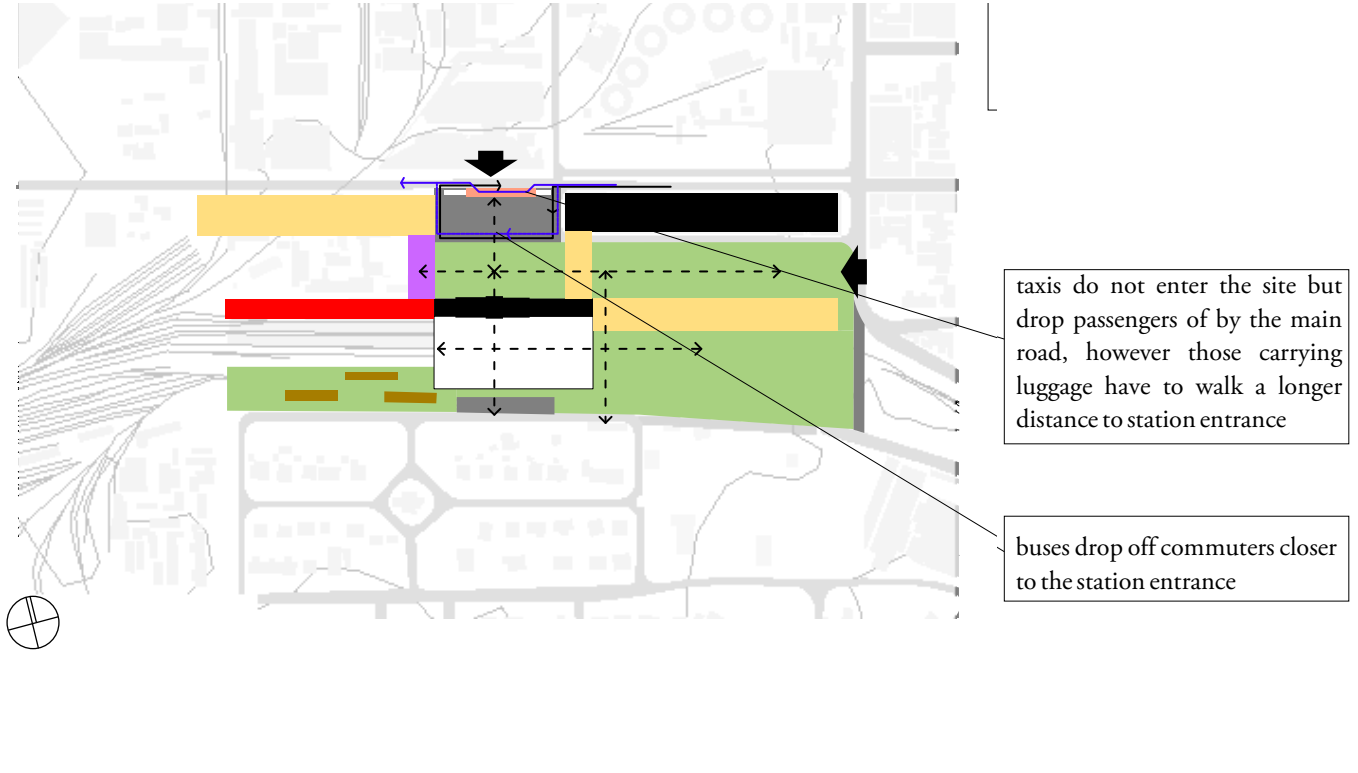
- existing buildings
- medium density commercial
- taxi rank
- fore court activities
- new station
- mixed use accommodation
- NRZ offices
- rail park
- parking

circulation

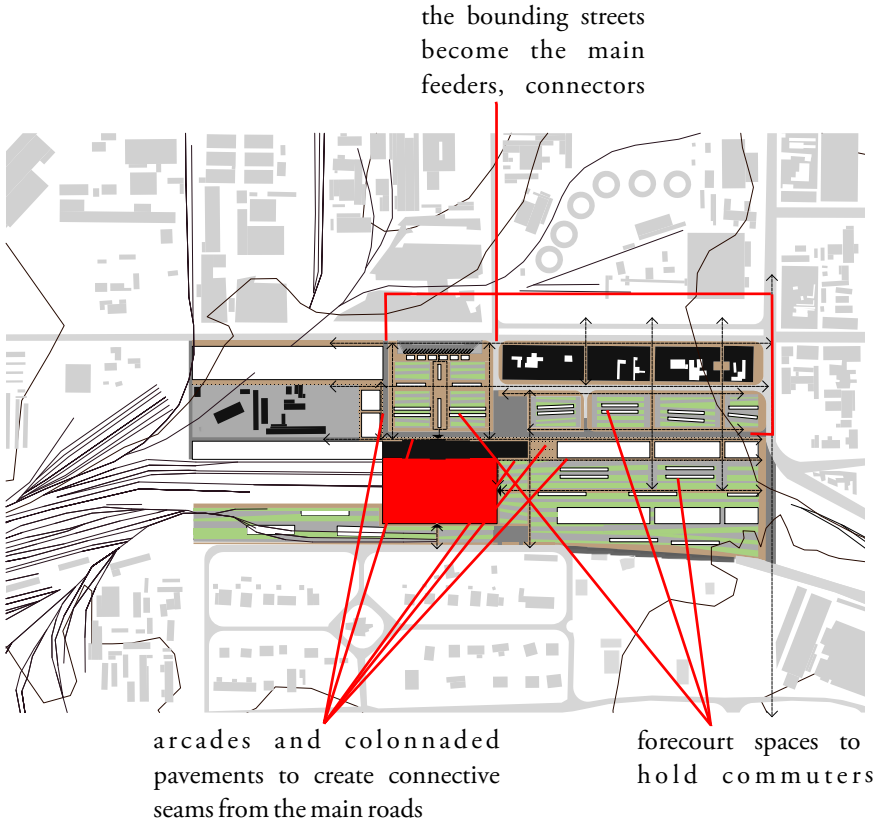
- private vehicle movement
- pedestrian
- taxi
- bus

4-17. proposed site layout option 1

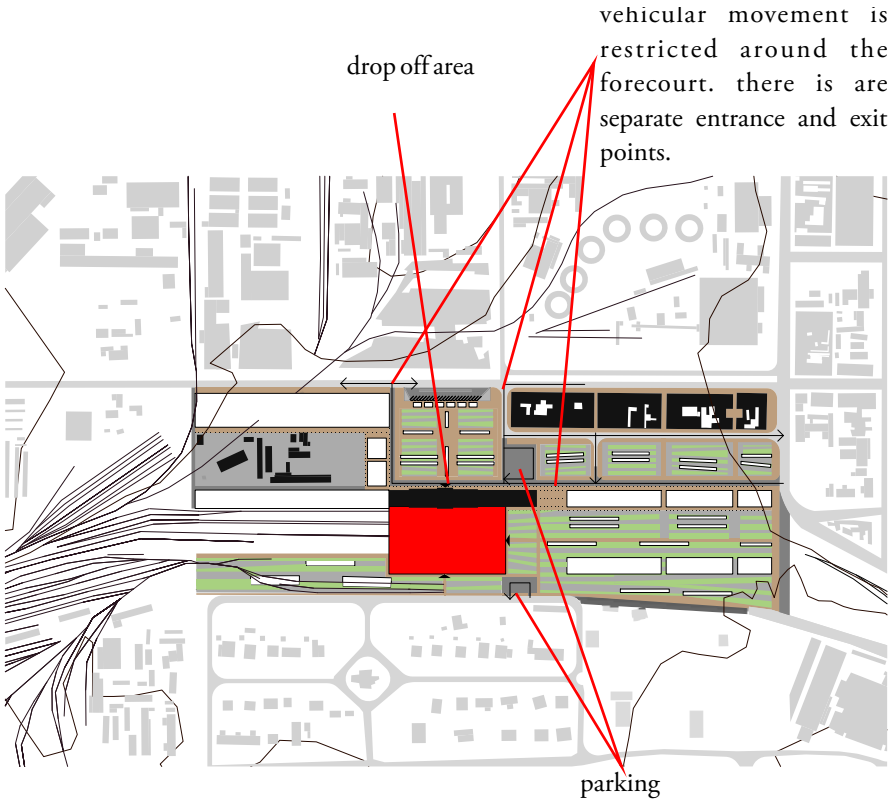
option 2



4-18. proposed site layout option 2



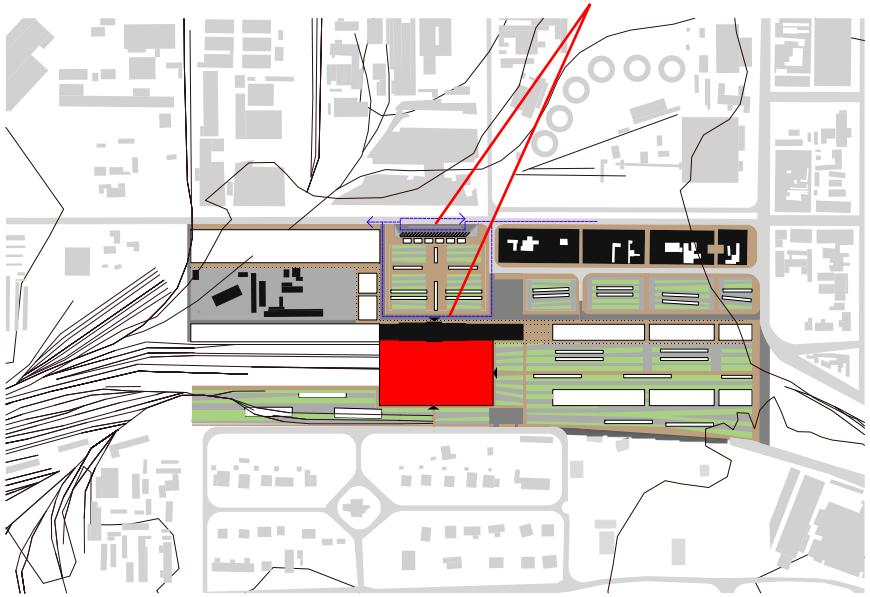
4-19. proposed pedestrian movement



4-20. proposed motor vehicle movement

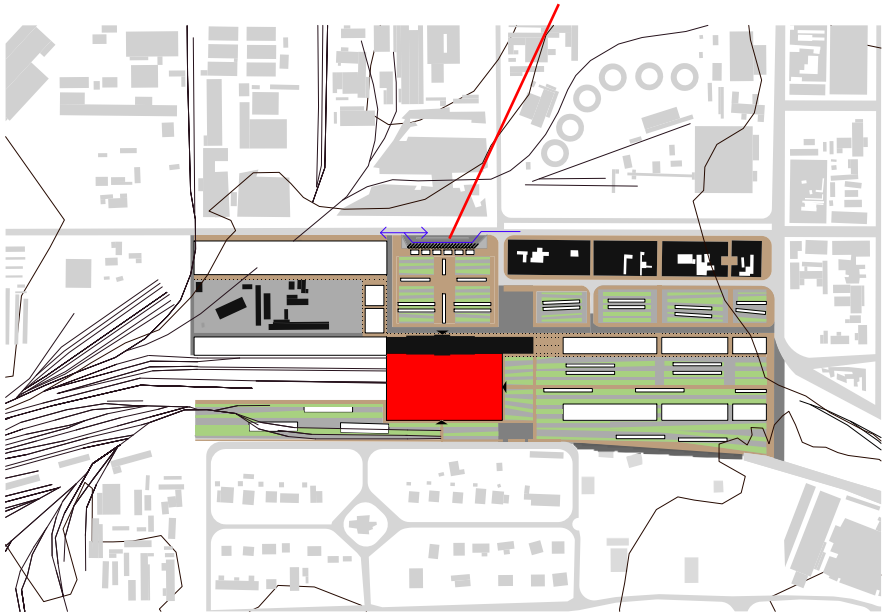
The city has interesting linkage patterns along the streets, street intersections and pavements whilst pedestrians activate these links with their commuter activities. Option two was chosen as it shows clear channels of movement from the two bounding streets. The fore court will have interesting social activities such as outdoor exhibition spaces, formal and informal food courts, fresh food vendor and market spaces that will function daily.

buses drop off passengers at the mini taxi rank along the 13th ave and the main entrance

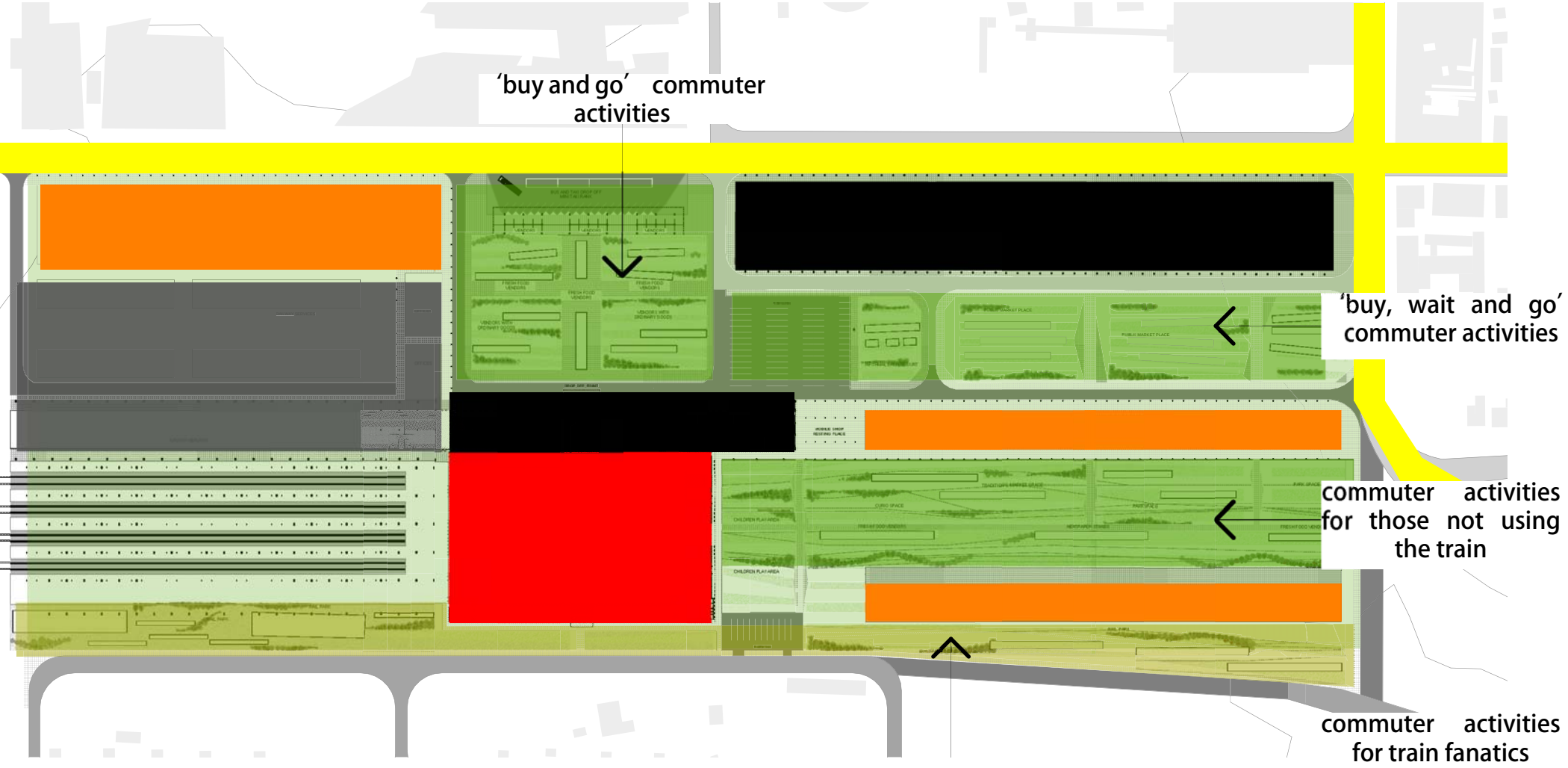


4-21. proposed bus movement

by the main road is a mini taxi rank and they have their own entrance and exit points separate to private vehicles



4-22. proposed taxi movement



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context plan

PRESERVED AREAS

AREAS PRESERVED FOR SETBACKS

AREAS WHERE RAILROAD TEXTURE IS PRESERVED

AREAS WITH COMMUTER ACTIVITIES

AREA FOR RAILWAY OFFICES

AREA FOR NEW STATION

4-23. urban planning layout

1. DOWNTOWN RETAIL
2. RAILWAY ROAD SERVICES
3. RAILWAY OFFICES
4. RAILWAY SERVICES
5. PLATFORMS
6. RAIL PARK
7. NEW TRAIN STATION
8. OLD TRAIN STATION
9. DROP OFF POINT
10. OFFICES BLOCK
11. VENDORS WITH ORDINARY GOODS
12. FRESH FOOD VENDORS
13. TAXI RANK WITH VENDOR SPACE
14. BUS AND TAXI DROP OFF POINT
15. CAR PARK
16. EXISTING SHOPS
17. KIDS PLAY AREA
18. INFORMAL EATING COURT
19. PUBLIC MARKET PLACE
20. MIXED USE RESIDENTIAL
21. MEDIUM DENSITY COMMERCIAL
22. CURIO SPACE
23. TRADITIONAL MARKET SPACE
24. NEWSPAPER/MAGAZINE STANDS
25. PARK SPACE

50 100

context plan

4-24. final urban planning layout

conclusion

From the examples appraised, the urban principles of link and place theory were well applied to activate abandoned sites. The thesis has taken the concept RE-CONNECTION which was used in coming up with the proposed urban framework. The act of movement within a given space enhances the experience within an urban space which was used as a design method of visual and psychological re-connection.

In light of the above deductions, the author would like to create a new spirit of a place in a lost place through

the act of experience whilst within the site

through the act of movement

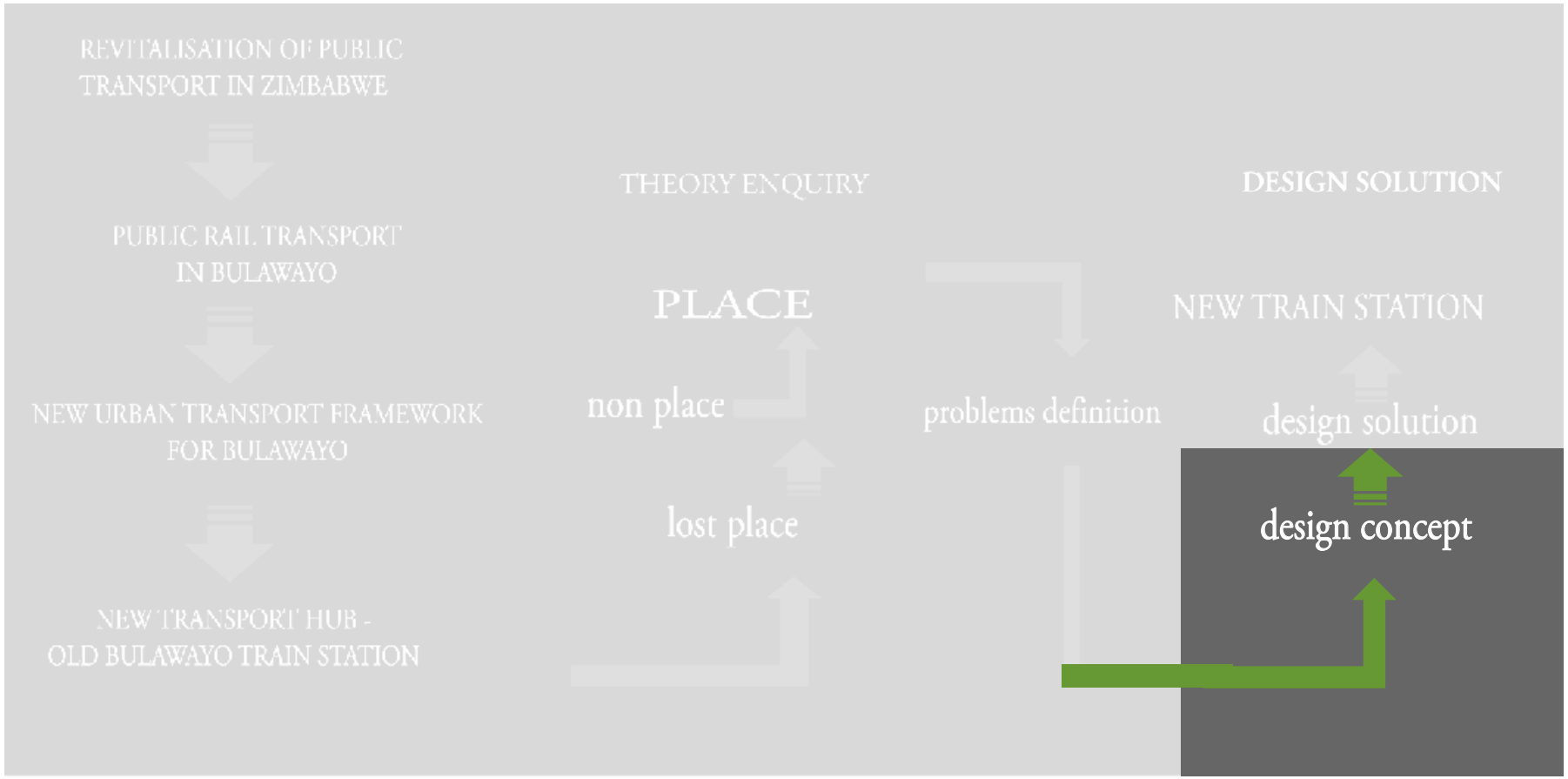
into the station building. This act of 'experience' can be expressed BETWEEN THE MOVEMENT OF ARRIVAL AND DEPARTURE into moments that will no longer be associated with the dreary and monotonous day to day rituals of waiting for the train ride. This experience will be activated by those special commuter rituals found within the city.

Trancik (1986:80) says that finding lost place "is not merely to manipulate form to make space but it is to create place through a synthesis of the components of the environment including the social environment." Now that the author has created 'components of re-connection in the area surrounding the station, the next chapter will look at creating a new space within the train station that will become a place that people will enjoy going to and being in, even if its not for a train ride.

CHAPTER 5

PROGRAMME DEVELOPMENT

thesis overview



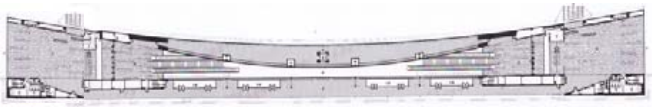
introduction

The urban design guidelines discussed in the previous chapter helped emphasise the main design concept to 'finding' the train station under the main concept of RE-CONNECTION. Re-connection is expressed in MOVEMENT, VISUAL AND SOCIAL LINKS.

Three precedents were chosen to understand train stations layouts and five case studies that best demonstrated re-connection through visual, movement links, commuter activities n the form of commuter rituals. The final case study reflects all three re-connection principles and additionally, conservation principles; an element to be applied to the new station.

programme analysis

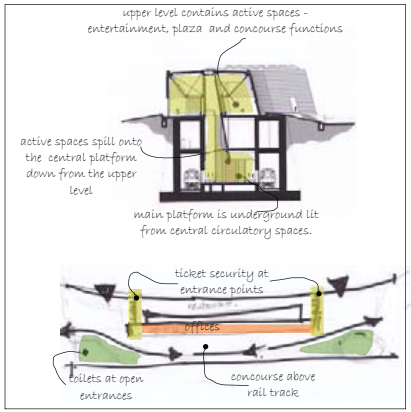
Stadium mass rapid transit station, Singapore



ground floor plan - concourse level

The train station is laid out on two levels. The ground floor has the main concourse with entertainment and leisure facilities and the lower ground floor has the platforms at the centre with the rail tracks running on both sides. The building is open at both points of entry and toilet facilities near by. Circulation is mainly along the periphery of the building and ticket offices in the centre, a double volume naturally lit.

5-0. to the left is a view of the west entrance. above are the steps that lead to the lower platforms (source: 2009)



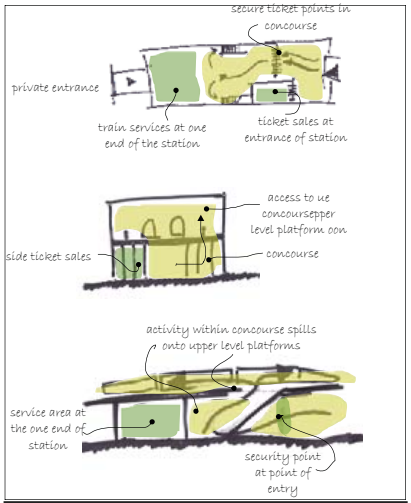
5-2. sketch analysis of programme layout

TX, Kashiwanoha-Campus station, Kashiwa-shi

ground floor plan

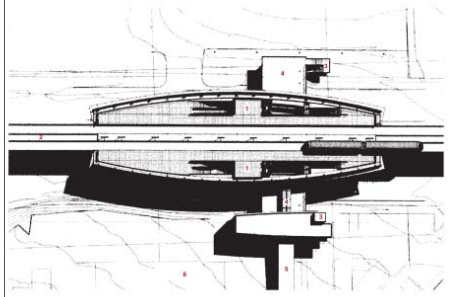
The commuters enter the train station from one end into the main concourse with ticket sales at one end and a security gate separating the concourse into two parts. Beyond the security point is unlimited access to the platforms above. The station offices have their own private entrance and share public toilets with train passengers. Very few social activities are present on the concourse and platforms above.

5-1. above is the internal perspective looking onto the main concourse and below is a perspective from outside (source: van Uffelen.C, 2010)

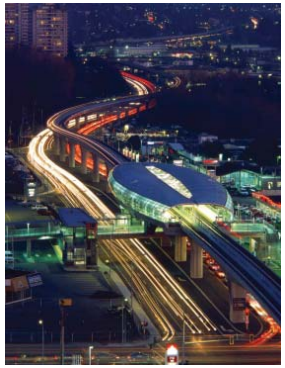


programme analysis

Metro Station, Vancouver, Canada

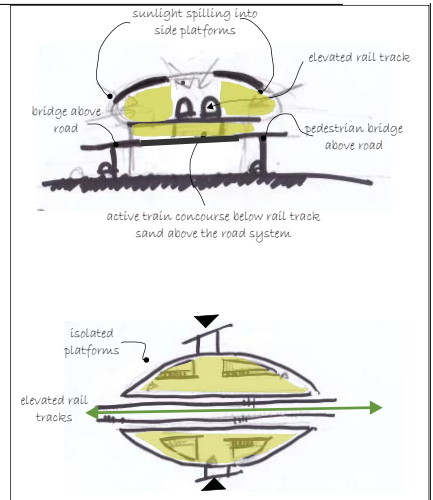


platform level plan



5-3. pedestrian bridge over the highway and under the rail tracks
(source: Lehoux, N. Architectural Review, 2003)

The main concourse is the main introductory space for commuters using the pedestrian bridge. To avoid confusion between road and rail traffic, a pedestrians bridge was introduced the highway and below the rail tracks. Staircases and escalators connect the organic platforms and the main ticket space at the centre.

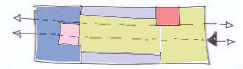


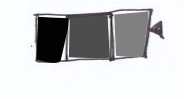
5-4. sketch analysis of programme layout

Looking at the different programme layouts of train stations of today, the following analysis was made;

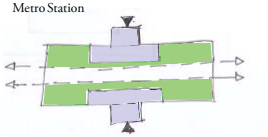
Stadium mass rapid transit station

TX, Kashiwanoha-Campus station

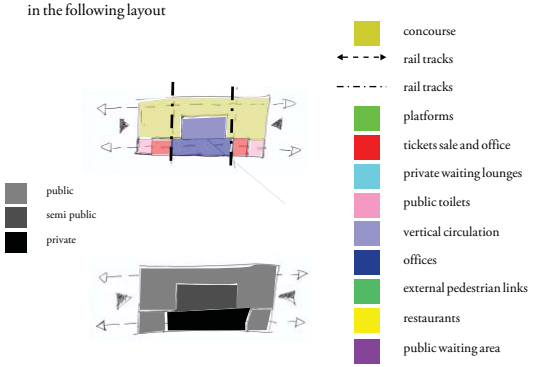




Metro Station



A general layout of train stations was then understood to be in the following layout



5-5. summary of programme analysis

From the analysis made on 3 examples of train stations, public transportation are taking on the character of multi-leveled structures. Passengers either load at ground level, above or below the ground level concourse, however the arrangement of public and private spaces is the same.

Train stations have several entrance points to allow for peak hour rush. security points have been put at entrance ticket points. The platforms are closely related attached to and accessible from the main concourse.

In the general layout of all the precedents chosen, they author concluded that the main concourse spills from the main entrance into the belly of the station with access point on either side. Ticket points are understood to be at the entrance points of the stations for security reasons. Behind them are station offices defining the private space on the one side of train stations.

case studies

Each case study is unique, driven by either programme, form, context or the mode of transport offered. Though the author deliberately used taxi ranks, they too have an inspiring expression of commuter movement.

Every city has its own urban culture that makes it particularly unique as it is shaped by the material and spatial patterns of inhabitant communities. Transport nodes however, do not reflect any socially driven existential patterns because their specific purpose is to fulfill a demand for mobility (i.e non place as explained in chapter two). The case studies will help show the activities that go beyond fulfilling the basic need of mobility,

commuter rituals

definition

The word ritual is defined as

"a hierarchy of organised skills and processes which include formal repetitive behaviour, small, encounters, and large-scale ceremonies". (De Coppet 1992:13)

These ceremonies are socially acceptable and can be used as a tool to define the social context of an urban situation through the value of embodied human spaces. Commuter rituals occur through movement between points and places within the city. De Copper (1992:18) believes that rituals need not fulfil the stated aim in order to continue and believed in. What he considers fundamental to this ambiguity and tension between a ritual's performance and assertion is its formulaic spatially, namely, the capacity to create and act through idioms of passage and movement, including exchange, journey, axis, and up-and-down directions.

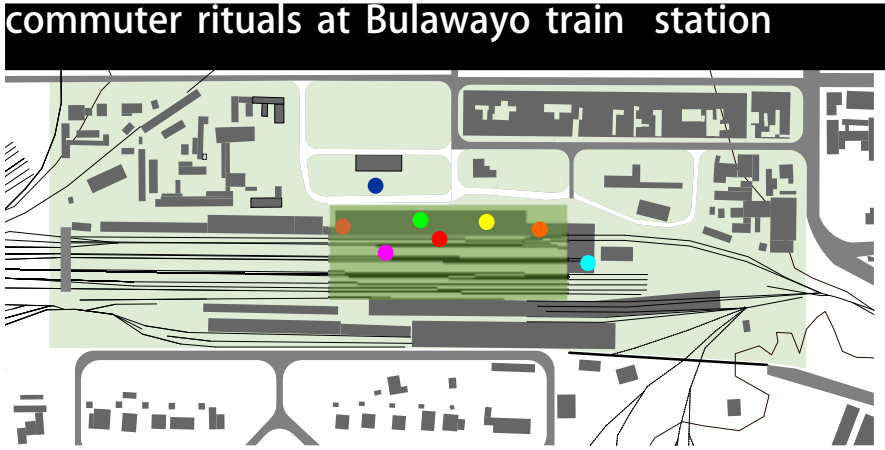
embodied space

The analysis of these ritualistic activities and how they enhance the experience of movement within a space is studied under the phenomena called embodied spaces. The thesis looks to question how architecture can use 'embodied space' to encourage the commuters rituals in a place of transit ?

Finnish architect Palasmaa (1994:24) says that 'the timeless task of architecture is to create embodied existential metaphors that concretise and structure man's existence in a changing world'. Human behaviour define places and encode their aspirations in the way they use spaces, and these spaces generate into places that function beyond their intended purpose. Seth (2000:128) says that well constructed urban spaces are made of social productions that shape the environments, encoding these spaces with aspirations, uses and meanings, often themselves contentiously produced. These places somehow start existing through the individual, through their habits and through their embodied experiences. Places of transit should become places where from the fast moving world and between the journeys of arrival and departure, the commuter can continue existing amongst the activities that he is familiar with; commuter rituals.

People identify themselves with the memorable experience of space and since architecture is the art of reconciliation between ourselves and the world, humans carve meaning to space. Low and Zuniga (2003) says bodily movement is important in conceptualising space as movement than a container. Embodied spaces look at the body as a physical and biological entity; as a living experience and as a centre of agency, a location for speaking and acting on the work. Mauss (1979) reiterates the importance of the human body as a metarphor, noting that architecture draws its imagery from human experience.

As urban centres are containers of different groups of bodily movement, places of transit have the highest collection of bodily movement. As the body moves, there is a metaphorical transformation of experience to symbol and to remake experience to an object such as an artefact, a gesture, an activity, words or objects are used to evoke experiences thus moulding experience into symbols and back into experience. The author will use symbols associated with commuter rituals as a method of re-connecting the station to the city.



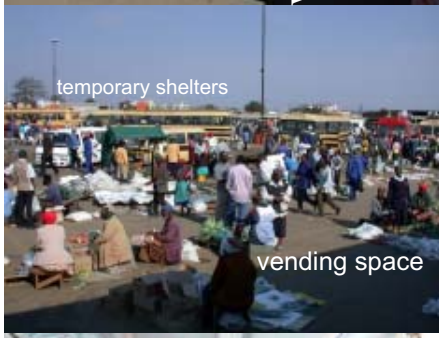
5-5. images of commuter rituals at Bulawayo Train Station

After reading the commuter rituals in Bulawayo, certain aspects of the activities stood out. They happen at the taxi ranks, long distance terminals as well as the public market nearby these transport nodes.

Surveying the site's commuter rituals of sleeping, resting, signage, luggage carrying, internet surfing, parking and loitering, seemed to rituals associated with long distance travellers.

commuter rituals in Bulawayo

- Existing places of transit
- local commuters
- long distance commuters
- NRZ workers



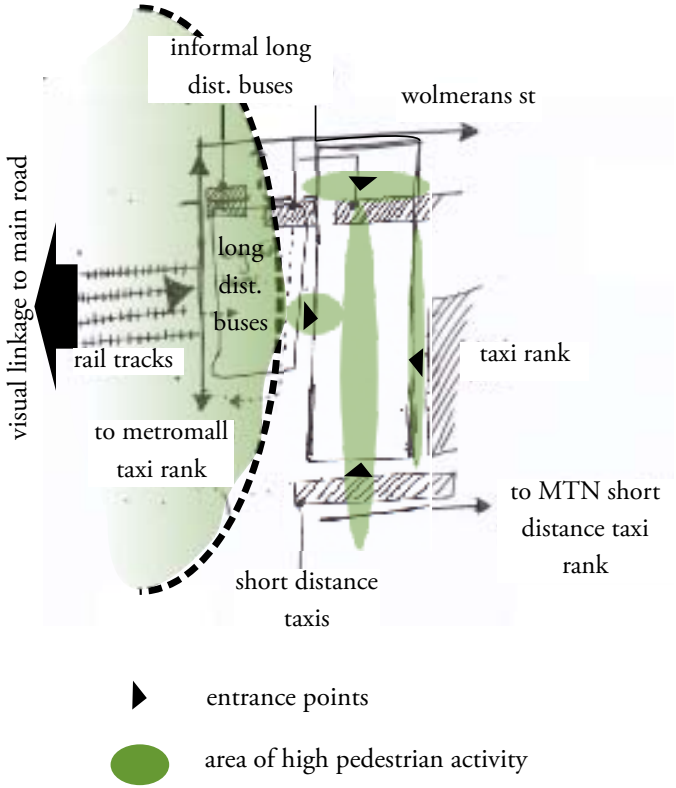
5-6. commuter rituals at Bulawayo

PARK STATION , johannesburg, south africa

Park station is a long and short distance transport node off Harrison street in Johannesburg central. Its a transport interchange that offers rail and long distance services. It conveniently situated between two famous short distance taxi ranks, Metro-rail Taxi rank and MTN Bus rank, within a comfortable walking distance from both ranks.

The huge shed is divided into formal and informal facilities with formal facilities such as famous food chains, restaurants and take aways, book stores, cell phones shops and bus booking offices on the ground floor and banking facilities, forex exchange spaces, an internet cafe and a bar on the upper mezzanine floor. The large hall is always filled with movement no matter the time of the day. Commuters are entertained by a large screen tv showcasing musical artists, brands and tv shows.

5-7. context layout
(after Google maps 2011)



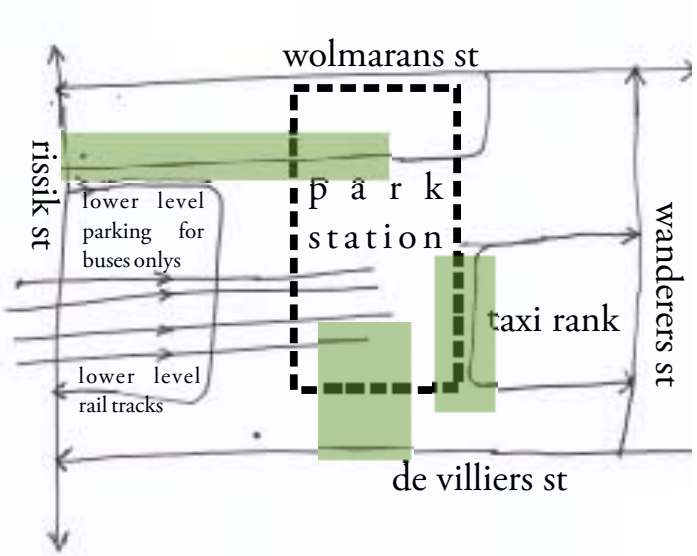
5-8. visual linkages and spaces of activity

Rail commuters do not wait on platforms for their trains but within the main concourse and they board the trains at a lower level.
Sometimes the crowd sweeps to the other side of the station where a string of informal vendors are found selling against the edges of the long corridor that leads to the back the station. An assortment of kitchen ware, fresh food and clothing are sold here and a few informal traders that such as bakeries, butcheries, convenient stores and other take-away. the shops in this area seem sell more affordable goods than the shops in the main concourse.

linkage analysis

The building demonstrates linkage through the collection of vehicular, rail and pedestrian movement. The building layout is, however, recessed from the bounding circulation routes. The flat front facade faces the city creating a strong VISUAL LINE, a welcoming gesture to that defines the entrance.

VEHICULAR MOVEMENT is separated cohesively on the one side of entry at the ground level. Motor vehicles, cabs and long distance buses share the same entrance and exit point. The top level parking is dedicate to motor vehicles though during holiday seasons the parking capacity is usually overwhelmed. The waiting area for rail passengers can is hidden and very few signage is used to direct passengers it.



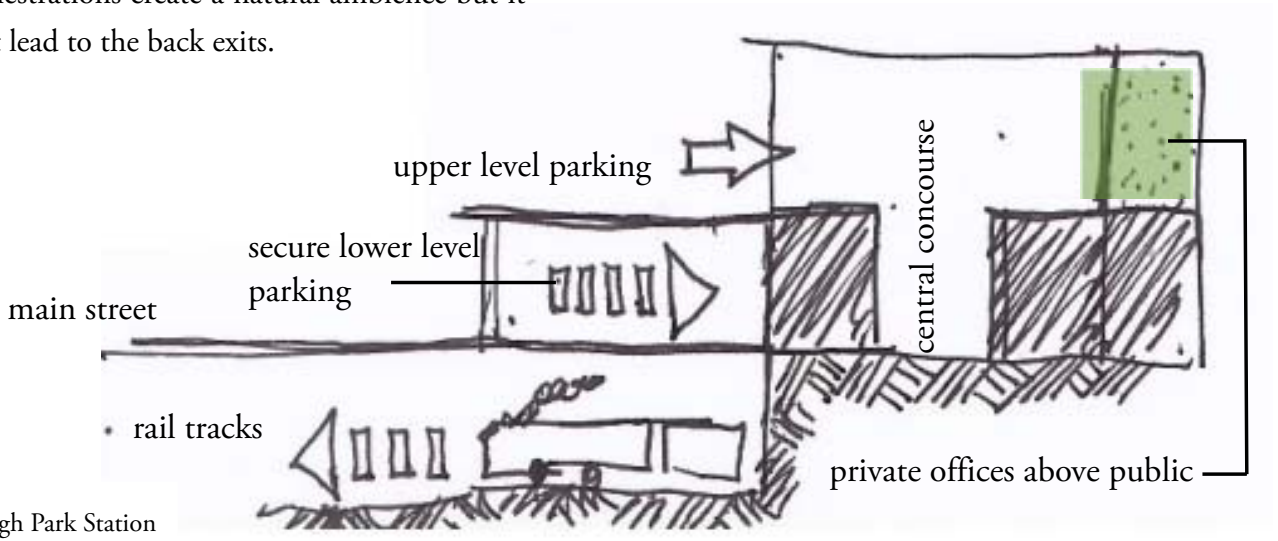
5-9. sketch diagram showing pedestrian activity in relation to the site's vehicular and rail movement

PEDESTRIAN MOVEMENT is concentrated into three access points; one entrance is lined with cab drivers, the other into a very busy, congested, unsafe outdoor market and third entrance being the safest, is closer to a Police station. Movement within the station is channeled through by wide sloping walkways with informal baggage handlers and security officers manning the place. Some places such as the railway ticket offices can be hard to find. The only indication of ticket office are the queues or commuters waiting to abode the trains.

The building's SOCIAL ACTIVITIES are mainly by the entrances. Beyond the activities, the arrival and departure waiting area can be hard to find.

The naturally light from the clerestory fenestrations create a natural ambience but it then gets lost in the cave like passages that lead to the back exits.

5-10. upper level entrance



5-11. sketch section through Park Station

MARABASTAAD TAXI RANK , pretoria, south africa

South Africa's public transport system is well connected. The social activities that happen in some of the taxi ranks will help inform the design programme for the trains station. Marabastaad is a culturally rich public transport node that is found along the northwest edge of central Pretoria, South Africa. The qualities of the place are rundown. It is often viewed as a slum and lacks basic services such as water and sanitation to sustain the daily activities rendered to the commuters by the informal traders. The commuter rituals manifest themselves through various activities that take place on a daily basis arraying from sacred to secular, public to private such as the informal social gathering spaces, often associated with African public transport nodes. Many people traveling from as far as Soshanguve and Mabopane use this facility daily, commuting from and to work.

movement and commuter rituals

The idea of movement and journeys in urban centres are often embraced in the rituals of pause areas. These pause areas form part of the public spaces in this place. Marabastaad has become a place to have a cut before going home, a playground fro children after school and place for last minute shopping before going home.

5-12. commuter ritual at Marabastaad Taxi Rank

second hand dealers

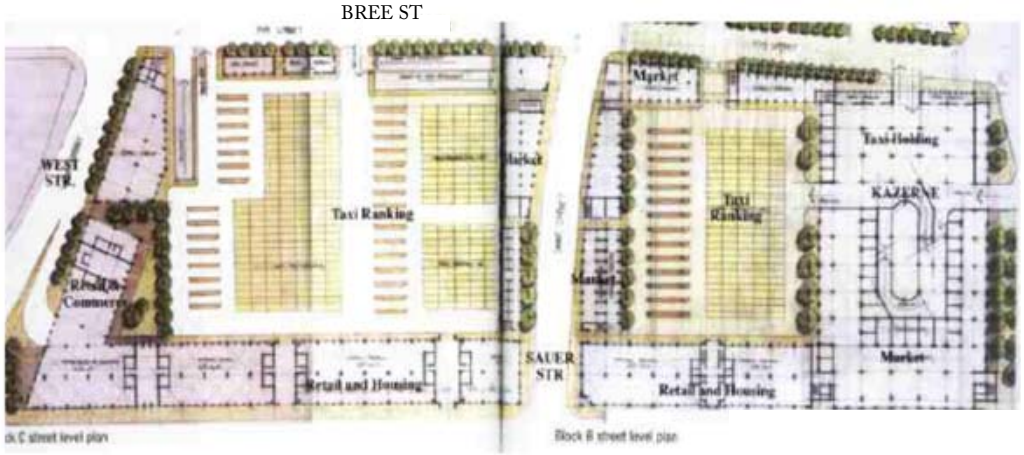
METRO MALL TAXI RANK, johannesburg, south africa

In a world filled with high transport demands, Metro Mall taxi rank, well known as "Bree Taxi Rank" became an urban solution to a difficult set of design demands of an over-populated metropolis. The functional combination of taxi transportation with living, shopping and entertainment is a favourable answer to a combined commuter and taxi driver experience.

The combination of formal and informal retail space cater for different trader needs from small stall stores to larger roller shutter cubicles to fully serviced outlets to accomodate specialist trade such as hairdressing, fast-food outlets and the like.

5-13. Block C west entrance tower
(Leading Architecture 2002:41)

5-14. Night view from Sauer street

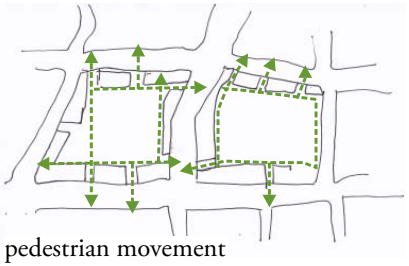


5-15. ground floor plan
(Leading Architecture 2002:42)

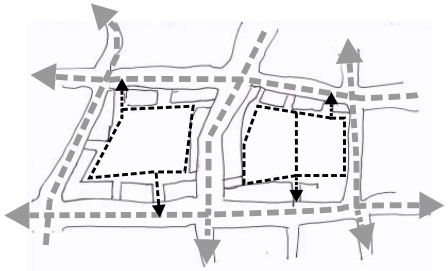
linkage analysis

The lines of ACTIVITY stem from the formal retail shops that feed off from the main pedestrian channels of movement; BREE STREET. This activity is evident around the edges of the building and they channel into internal walkways in the building. Traders sell along these walkways.

Architecturally, Metro Mall has an interesting variety of urban edges utilised by different trading needs and experiences. The materials, colours and textures used on the building are reflective of the many cultures of South African. The linkage theory is reflective in the vehicular and pedestrian movement along street edges outside and inside the building. Trading and waiting spaces are within close proximity to the main taxi loading space. The taxis drive in from Bree street and exit out onto the opposite street. The VOIDS created from the overlay of pedestrian and vehicular movement give shape to the mall's commercial spaces. Hierarchy is used in the definition of street edges through the use of level changes. The street is at the lowest level and treated as the primary place of movement and relaxation. A height change occurs at the street and building juncture defining the street traders' selling cubicles. Another level change is made towards the taxi rank for the more formal trader. Some of the trade points are serviced whilst others share communal washing areas. Not all shops have storage spaces making it difficult for the store keeper to pack away his goods. The west block has an enclosed courtyard with communal kitchens for communal cooking purposes. The precedent shows that the place has become a place rich with ritualistic experiences associated with place; the food stand and the customers exchanging money for food;. All these activities become social experiences that make the place highly anthropological.



pedestrian movement



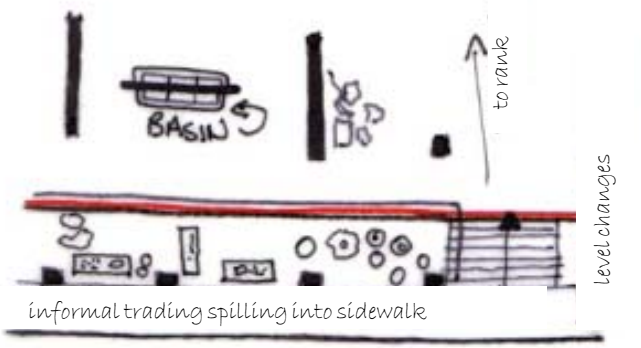
taxi and vehicular movement

figure ground in relation to main circulation space

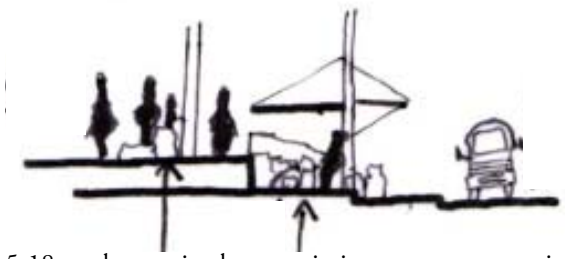
main commuter rituals

5-16. analysis of metro mall taxi rank

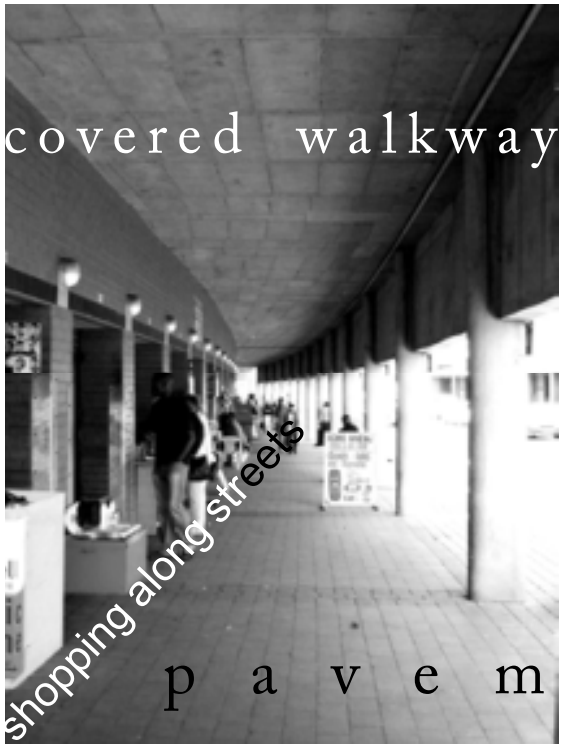
traders are in close proximity to commuter activity from the street and inside (source: Sophia Louw Croeser)



5-17. temporary facilities that are still providing a service for commuter rituals. (Croeser 2005:43)



5-18. traders are in close proximity to commuter activity from the street and inside. (Croeser 2005:43)

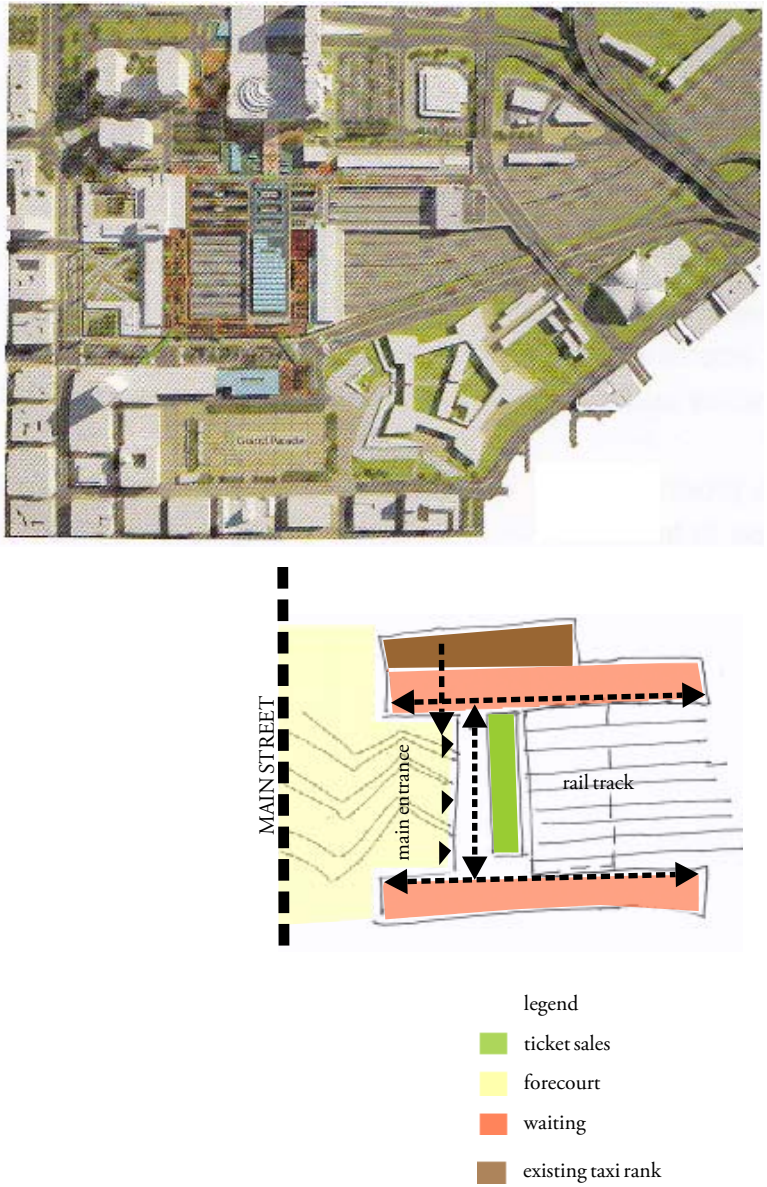


CAPE TOWN STATION, cape town, south africa

As one passes through metaphysical thresholds and crossing boundaries, transitional passages are symbolised by the physical movement in space. These journeys transform into journeys that can be seen, felt, smelt and experienced. German artist and historian August Schmarsow (1905) believes architectural experience is an accumulation such sensations brought about through movement (of rituals) within space; un-built or built. The building can sometimes portray the journeys experienced within the space. The following case studies were selected as they display movement, journeys, progressions and metaphysical displacement.

Movement, in this project, is shown in the HIERARCHY OF PEDESTRIAN CIRCULATION from the city to the building. The design team was tasked, under a restrained time and budget, to redesign a 1962 train station into a suitable 21st century transport facility and destination point for the city of Cape Town. The way the city merges into the station was achieved by integrating a series of pedestrian routes into the public realm.

5-19. images showing panorama view of front entrance and interior exhibition space within main concourse (Digest 2011:32)



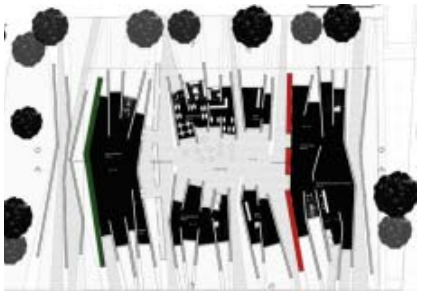
5-20. context plan and site circulation (Digest 2011:32)

ITALIAN PAVILION, shangahai, china

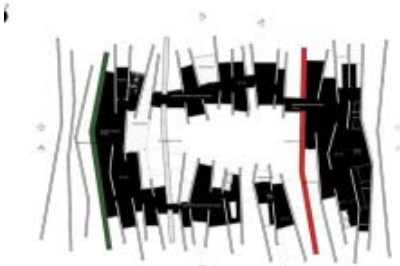
As a third prize winning competition entry, Bicuadro Architects designed a splendid stratified pavilion inspired by the city's historical character. The project presents the Italian lifestyle in the design, the main focus being continuity with the city's historical and the geographical background. The visual movement impersonated in the form, circulation and function connects the main design intention of the building; the spatial circumstances that expresses the stratification of the social and urban italian soul.

The project's design developed from a volume sliced into planes that represents a time-line as a metaphor of the rise of the Italian urban tissue. The twenty slices are separated by three fenestration shown in the floor plans below. As the building grows around the Italian plaza, the central meeting place, the journey of discovery pulls visitors into each of the planes. Re-connection is expressed in the visual strata of the building as the facade and the roof move as one. Movement is inspired by the city's streets and central meeting places. The author would like to use the language of this building in the thesis building using the movement of train to inspire the form of the building.

5-21. concept development
(Italian Pavilion @ Shanghai Expo 2010)



ground floor plan



first floor plan

5-22. context plan and plans
(Italian Pavilion @ Shanghai Expo 2010)

conservation through re-use

Close to fifty percent of the station's existing buildings have become redundant Methods of sustainability will be applied in the CONSERVATION THROUGH THE BUILDING REUSE AND THE EFFICIENT USE OF ENERGY, WATER AND WASTE (refer to Chapter 7).

The extent of conservation through re-use has become a sustainable trend in South Africa and other countries in the Western world. St Pancras train station in London will be reviewed as a case study of conservation to demonstrate how old train stations can be conserved and used as part of new urban solutions.

conservation in Zimbabwe

Famous architects of the modern age such as Adam Loos, Mies van der Rohe and Le Corbusier stripped off all traces of ornamentation, a main characteristic of traditional architecture. Eliminating ornamentation meant that cities were losing their historical identity and heritage. Adam Caruso in the essay 'The tyranny of the new' emphasises that the cultural city lends architecture's continued relevance which we seem to be losing to the ideals of the machine age.

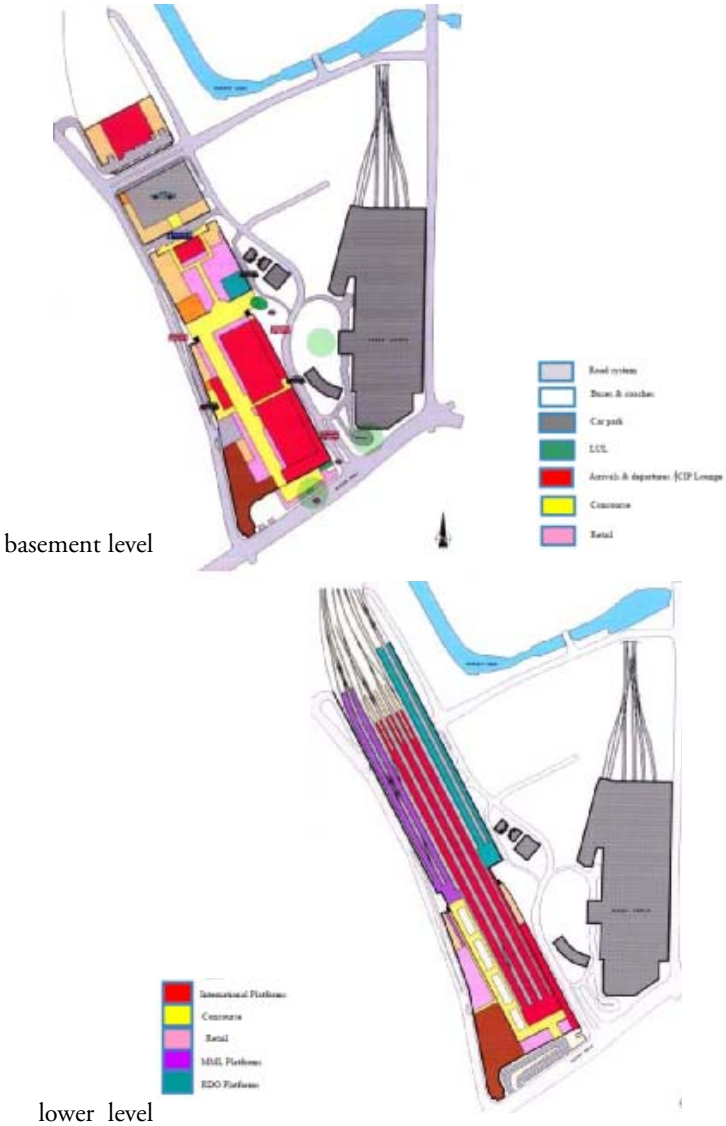
Conserving parts of the train station is a viable and sustainable solution to the economic stability of the company NRZ and the country as a whole. Many buildings declared heritage sites in Bulawayo are preserved in their original state but these buildings are not being maintained well. They have degenerated into dead buildings that do not stimulate the city street or offer dynamic functions that inspire heritage awareness. Conservation strategies look towards the preservation and careful management of the built and natural environment. This is an important layer that is going to be used to revive new place value to the new station. Zimbabwe is yet to explore conservation, heritage and architecture as a whole and as an option of reducing the nation's carbon foot print. Zimbabwe's architectural identity is loudly rooted in the colonial Victorian architecture, of which some noteworthy buildings have been preserved by protecting them as heritage sites whilst others have become part of the demolished rubble of new projects. Admittedly, the Zimbabwean city is cutting ties with the old city, a process that needs to be reversed.

ST PANCRAS INTERNATIONAL STATION, london, united kingdom

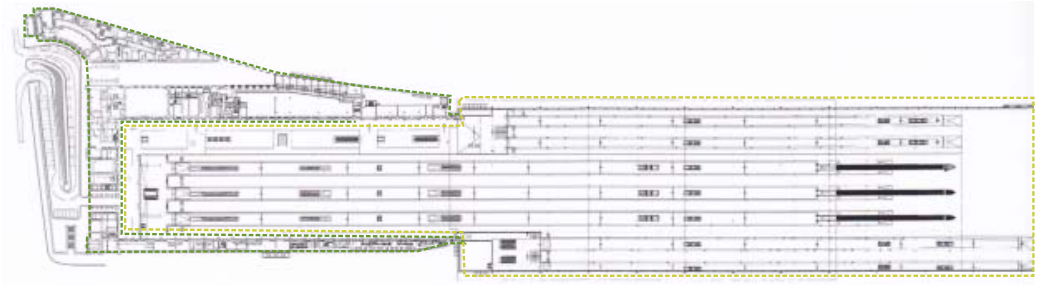
As a restoration, conservation and refurbishment project, the architects, Chapman Taylor and Simon Scott maintained the heritage of St Pancras 'cathedral' station by keeping the building's original style and integrity in the final concept. A new two level concourse area with SHOPS, CAFES AND BARS were added to the 1868 building and accommodates as many as 40 million people a year. The basement, previously a Victorian beer store, has become the new home for commuter daily rituals whilst the main concourse on the ground level is reserved for waiting and boarding the train for domestic and international destinations. The design discretely integrates parts of the old internal brick walls and arches into the new designed in-filled and extended to the eastern extent of the station. The external facade is maintained whilst the internal blends into a hybrid design of the old.

The final product speaks of movement in the way the form accentuates the rail tracks. The waiting experience is at the ground level whilst looking on at the basement level are the exciting experiences of SHOPPING, LIVING AND ENTERTAINMENT. Passengers first park their cars at this level and before they can get distracted with the fun of expensive clothing and well cooked delicacies, there are ticket offices at both levels assure ticket booking.
The main lounges are separated from the waiting areas along the platforms with then again retail at the edges for their convenience.

The final look is amazing. The refurbishment allows generous amounts of lighting in the main circulation spaces.. The final look of glass steel and brick compelled simple signage as well as structural detailing

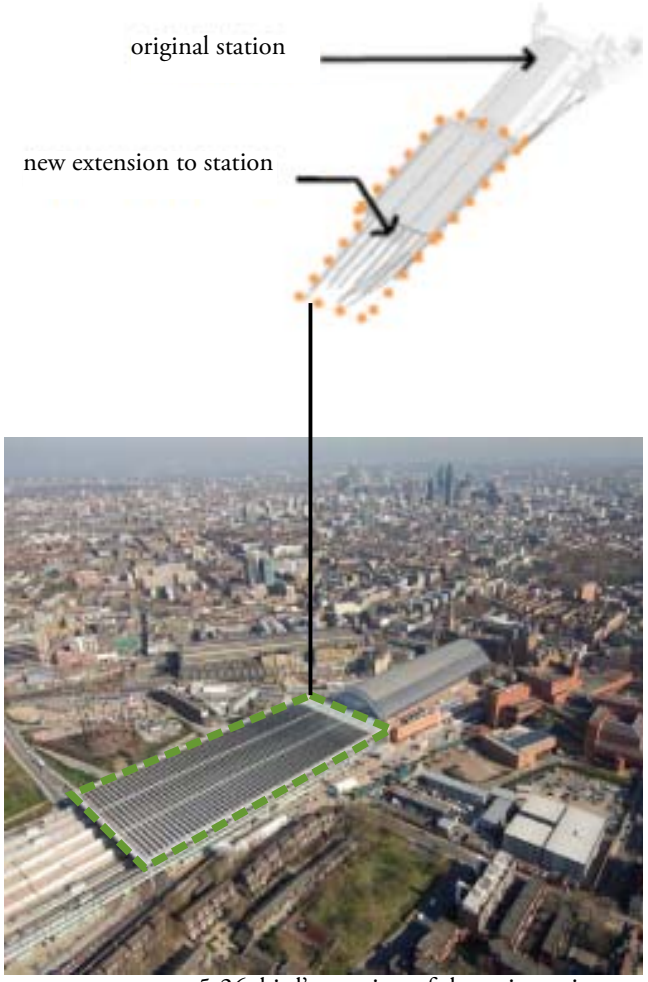


5-23. the programme layout
(The Channel Tunnel Rail Link 2008:6)



5-24. ground floor plan - concourse level
(van Uffelen, C, 2010)

5-25. entrance view of glass and steel
(van Uffelen, C, 2010)



5-26. bird's eye view of the train station
(The Channel Tunnel Rail Link 2008:11)

analysis

All the case studies displayed a sense of sensitivity to commuter activities and their spatial design were informed by them. A summary of commuter rituals were made and a programme list was made.

building analysis	commuter ritual	programme
- multiple entry points - open, well lit internal spaces fro circulation - public facilities at convenient points e.g toilets near entry points - private entry point for train services - security gates at check in points - threshold of activities occur at different levels - private spaces could be located at the back or side of stations depending on the context - clear well lit signage for directional purposes	sleeping eating outdoor food preparation and cooking large screen tv advertising street theater sitting waiting resting trading observing places of contemplation temporary structures street shops traditional and fresh food last minute shopping bakery newspaper reading curio and other locally made items mobile shop luggage carriers informal shops drinking forex exchange children play areas public washing areas	<u>additional spaces</u> motel retail shops - clothing, cellphone repairs, internet, second hand wares, odds and ends, children play area, take-aways overnight luggage store hair salon lock-n-go vendor stands curios centre informal street shops luggage and mobile shop waiting area meeting and performance spaces atms and forex exchange bank rail museum and library rail park stationary shop superette bakery informal shops mini taxi rank <u>traditional train station spaces</u> customs check in/ticket booths ticket sales main concourse departure and arrival lounges baggage control police station control tower

conclusion

Since the concept of RE-CONNECTION is being emphasised by movement, visual linkages and commuter activities, the case studies, collectively demonstrated commuter experiences in their planning, form and programming through SPECIAL PASSAGES, LINES, AND DIRECTION OF PEDESTRIAN AND SITE MOVEMENT. Movement can also be expressed in the form of the building especially shown in the example of the Italian pavilion in Shanghai, China. The interplay of stratified facades that become one with roof and back into the facade unify the concept of re-connection through movement.

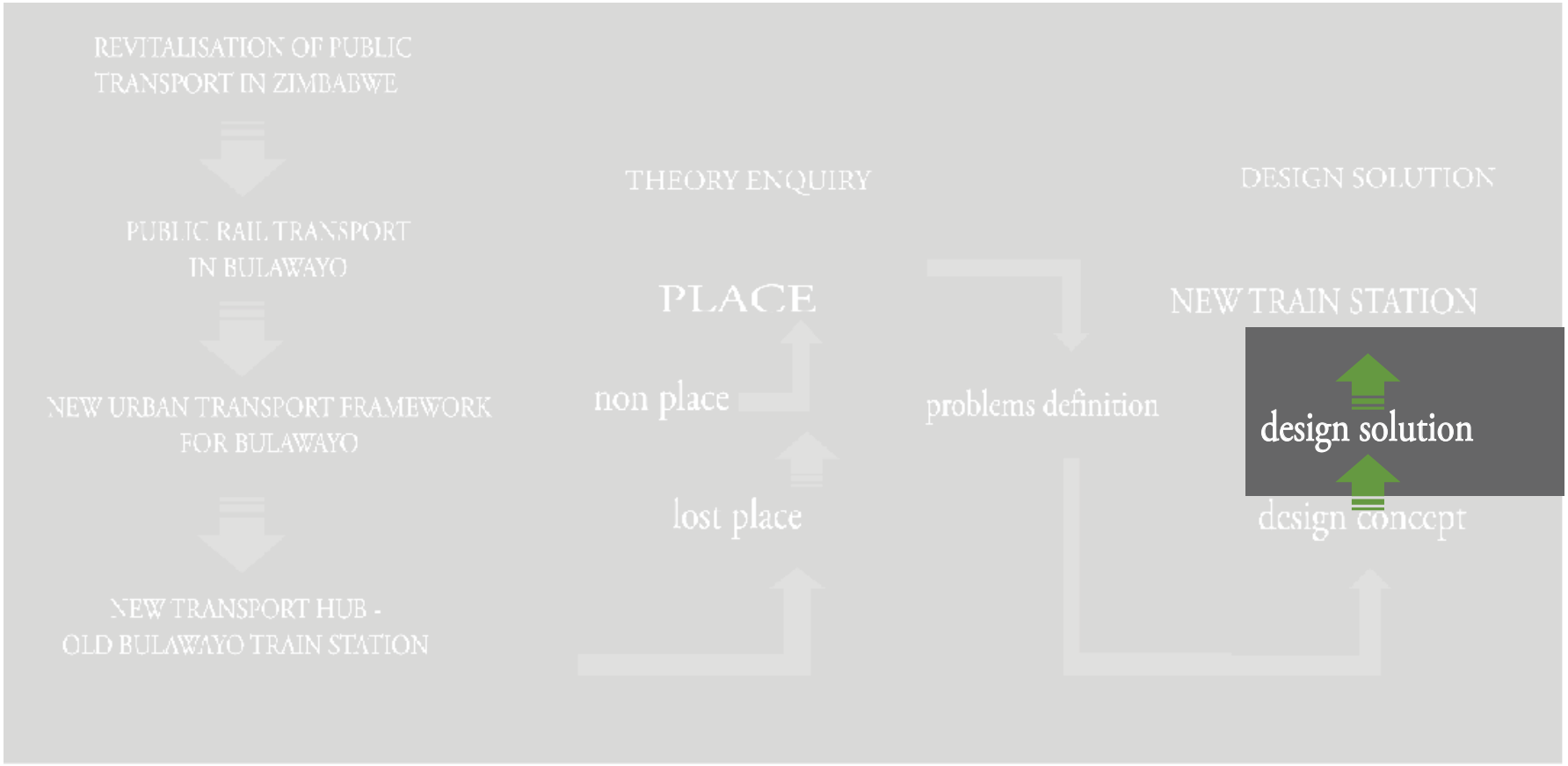
visual linkages	movement	activities
-building frontage is the most important introductory space to a building - signage at important nodes of activity, circulation or along aisle ways or suspended from the building's structure -identity is attached to material, colour and textures associated to the context	<u>pedestrian movement</u> easy movement from the public transport to the station need for activities along the entrance ways and along the edges of the concourse opposite entry points into the building <u>vehicular movement</u> bus and motor vehicular entry points should be clearly demarcated	there should be adequate waiting lounges and arrivals and departure seating areas separated building edges should be activated with some retail. activities along the edges of the building could spill into the pavement and onto the street.

Old buildings can be preserved and re-used by using the process of in-fill and addition to the existing from. St Pancras not only respects the original train station but through transitional design elements, a subtle agreement between old and new is seen.

CHAPTER 6

DESIGN DEVELOPMENT

thesis overview



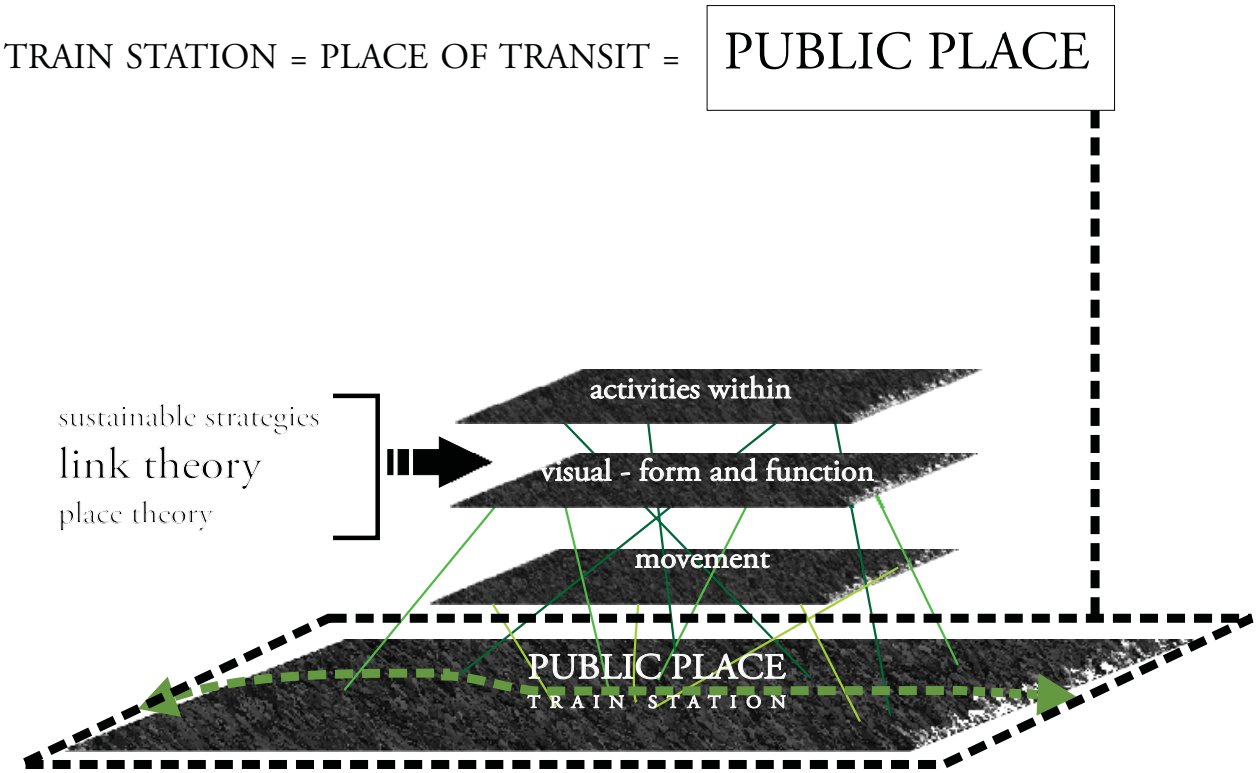
introduction

This chapter looks at the translation of the theory enquiry to design. Movement and re-connection strategies were applied on the site's design layout. How the site reconnects to the building will become the subject of exploration in this chapter.

The design process will be explained from initial sketch ideas showing how the site, programme and form inform the final design of re-connection. The next sketches will show the design development and the different design layouts that will give will lead to the final design.

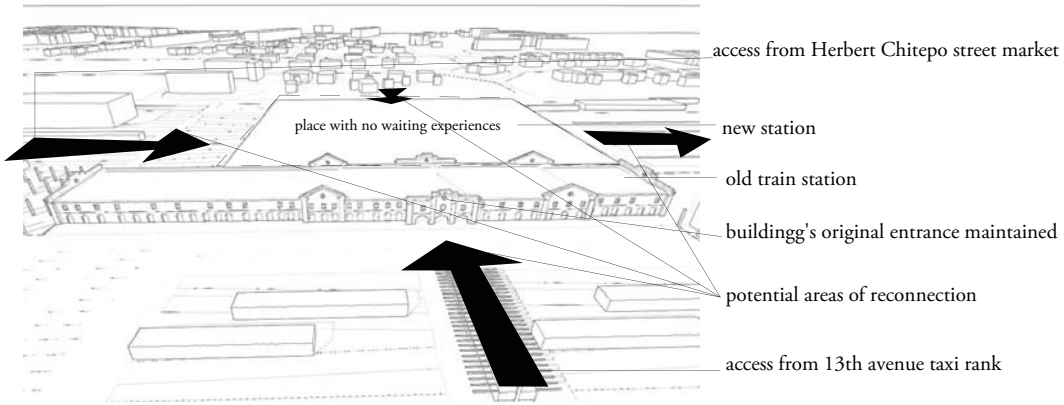
concept formulation

There are a variety of ways of experiencing a new place. Since the prime function of the places of transit is movement, the author intends on using physical, visual and experiential design strategies of movement.

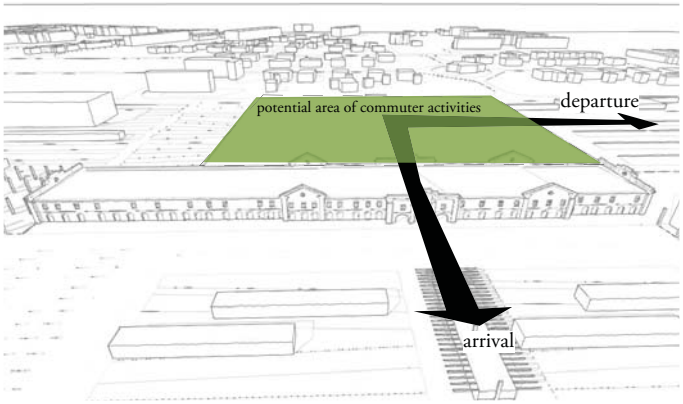


6-1. summary of design concept

s i t e

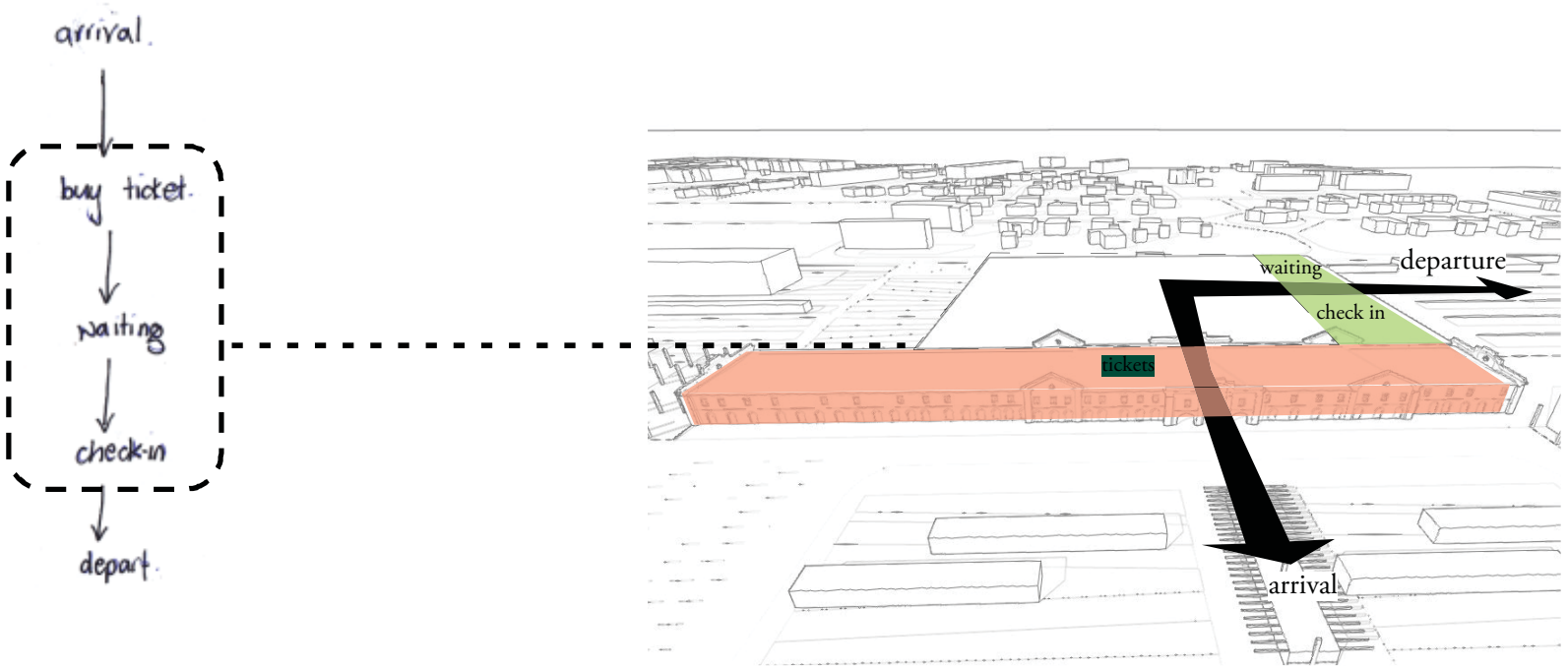


Places of transit collect journeys of arrival and departure. The act of waiting between these journeys bring out no special acts of experiences



Experiencing a place defines the qualities of the place. The best time to experience a place of transit is during the 'PAUSE MOMENTS' found between arrival and departure.

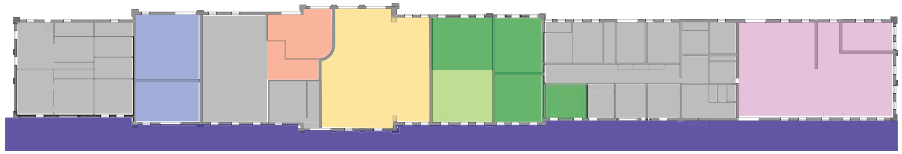
6-2. concept development inspired by site movement



6-3. application of design concept to building

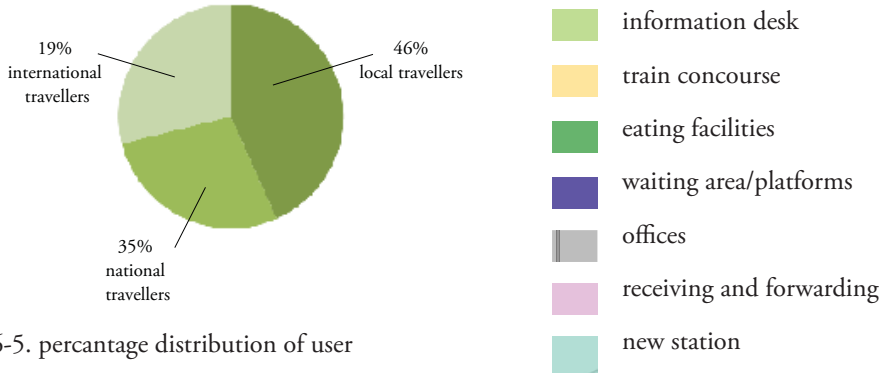
programme

LOCATION	DEPARTMENT		AREA
	EXISTING BUILDING		6000
	CONCOURSE	ticket offices	
		offices for luxury trains	
		museum admin. offices	
		main hall	
		toilets	
		storage	
		rentable spaces	
		toilets	
		rail museum	
		administation offices	
		retail	
	TRAIN SERVICES	train services department	
		lost/overnight store	
		post office	
		first aid centre	
		tour guide centre	
	NEW BUILDING		13840
	MAIN CONCOURSE	waiting area	
		customs and immigration offices	
		toilets	
	RETAIL	restaurants	
		take-aways, bakery, superette, 7/11 shop,	
		pharmacy, vegetable shops, butchery	
		gift shop	
		bureau de change	
		bank	
		pub and entertainment area	
		other shops	
	TRAIN SERVICES	cleaners facilities	
		receiving and forwarding dept	

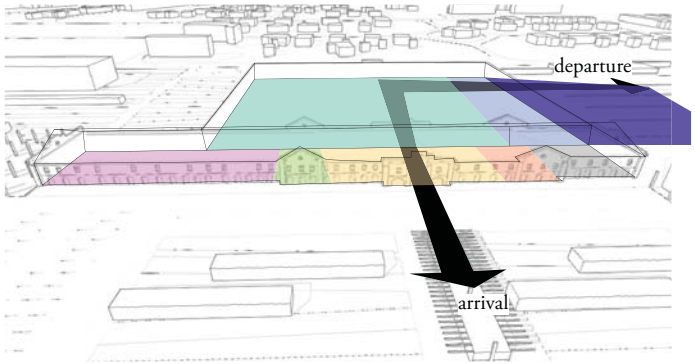


ground floor

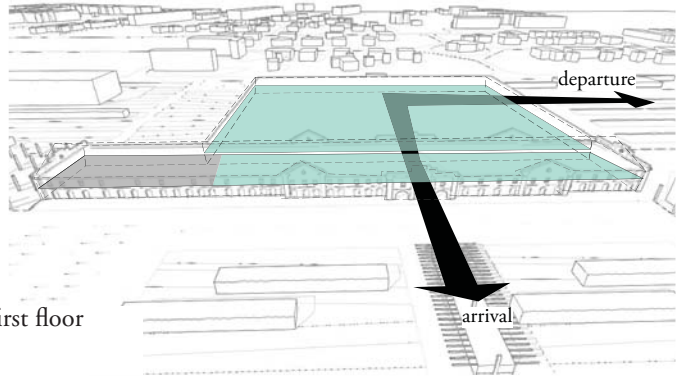
traditional railway services in the existing building



6-5. percantage distribution of user



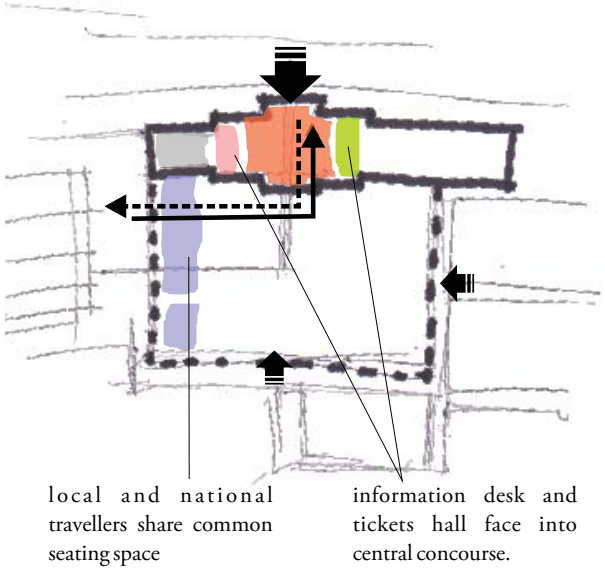
ground floor



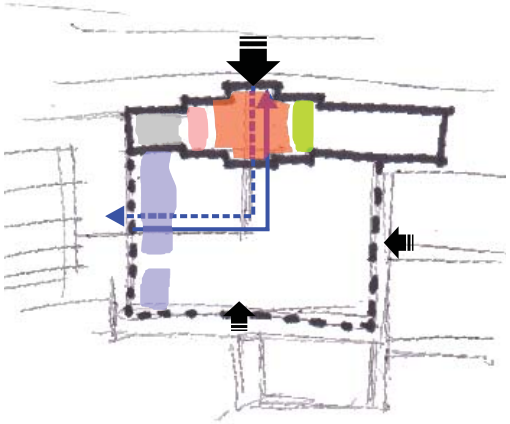
first floor

traditional railway services displaced into new building

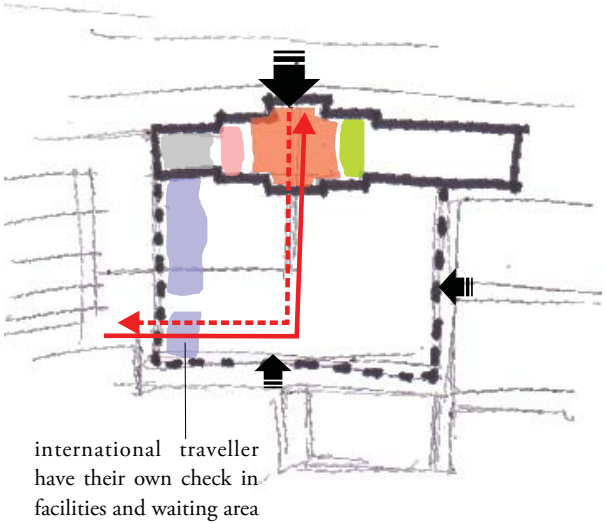
6-6. programme analysis of existing and proposed station



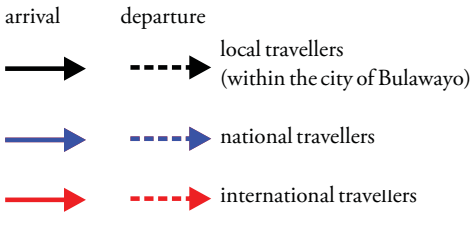
local travellers

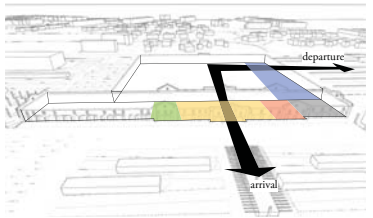


national travellers



international travellers

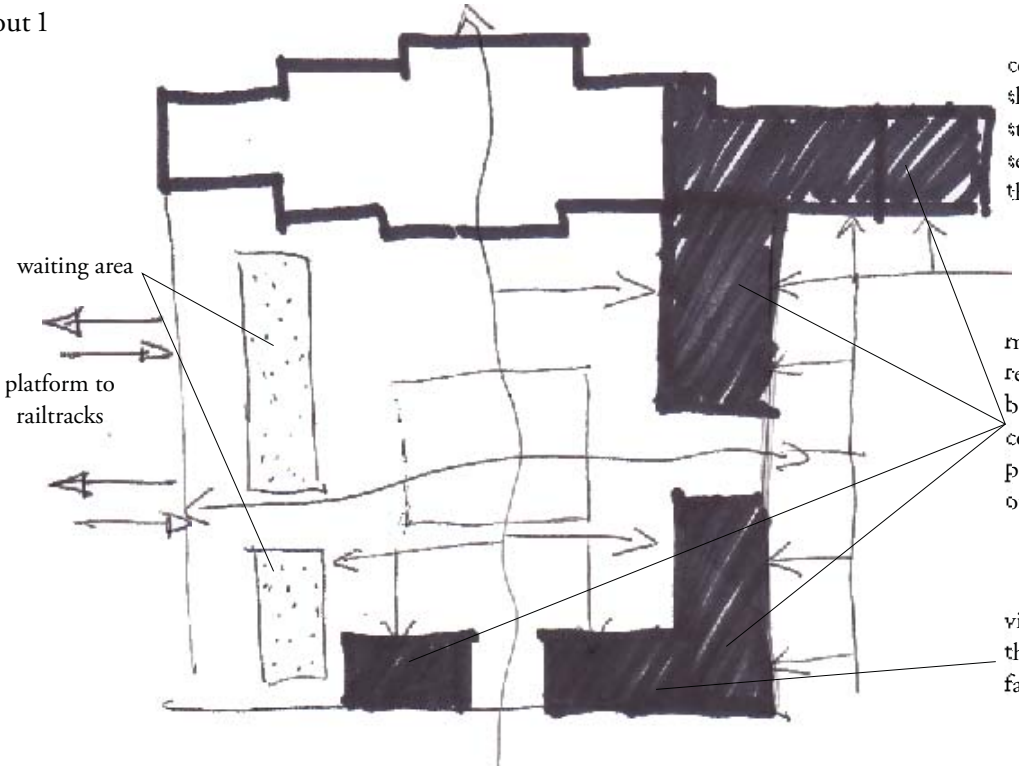




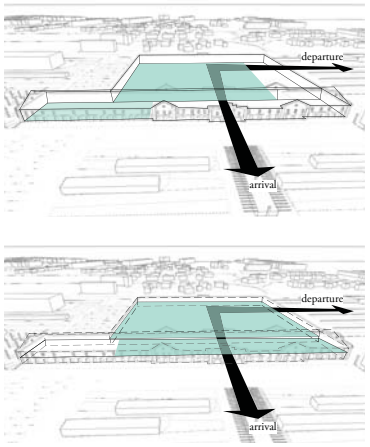
circulation of commuters

6-7. sketch diagrams of commuter circulation

Layout 1



commuter activities

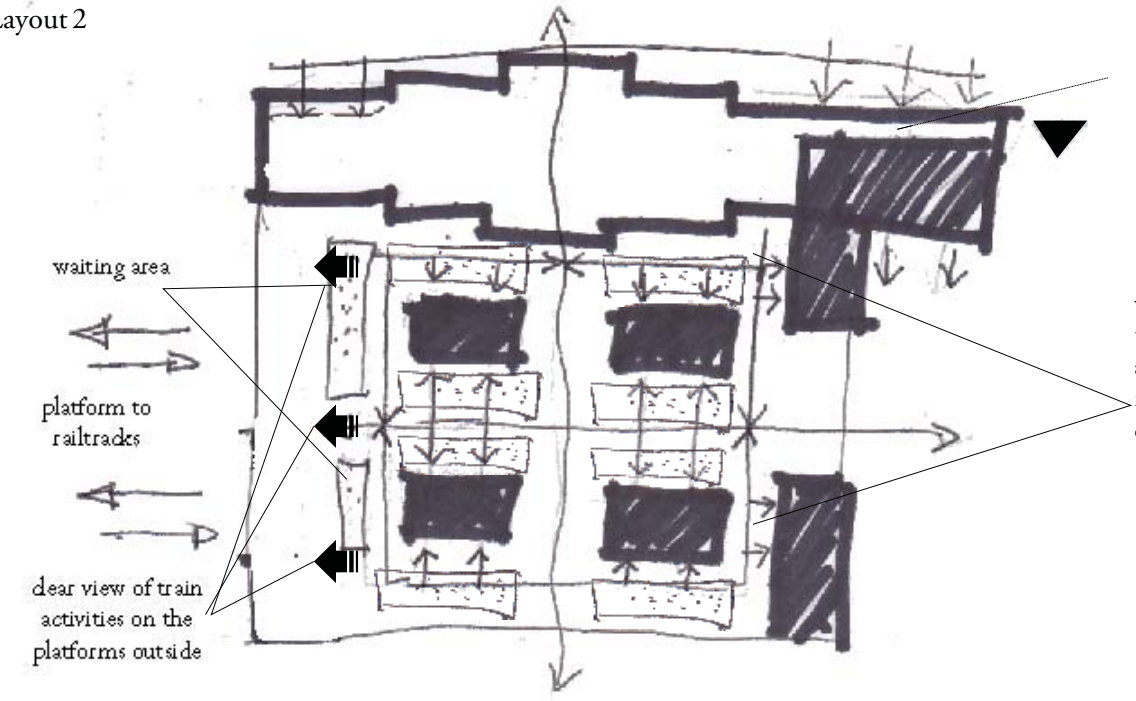


ground floor

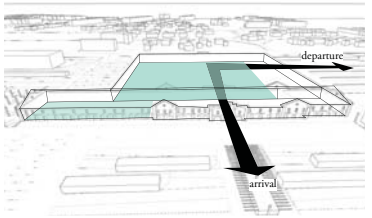
first floor

6-8. layout option 1

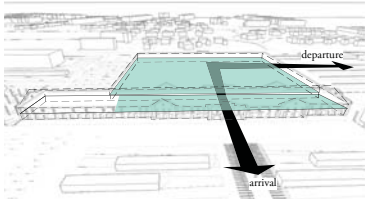
Layout 2



Layout 2 was selected because it showed a clear mix of commuters waiting and activity. T



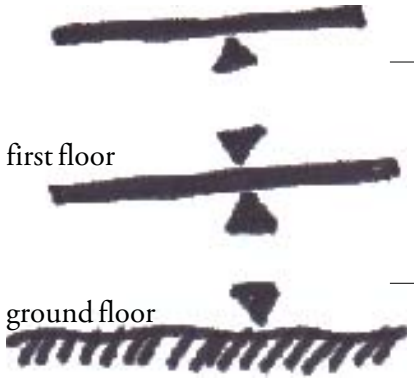
ground floor



first floor

6-9. layout option 2

The programming associated with the normal commuter activities associated with a place of transit such as this new train station has been divided into the following analogy;

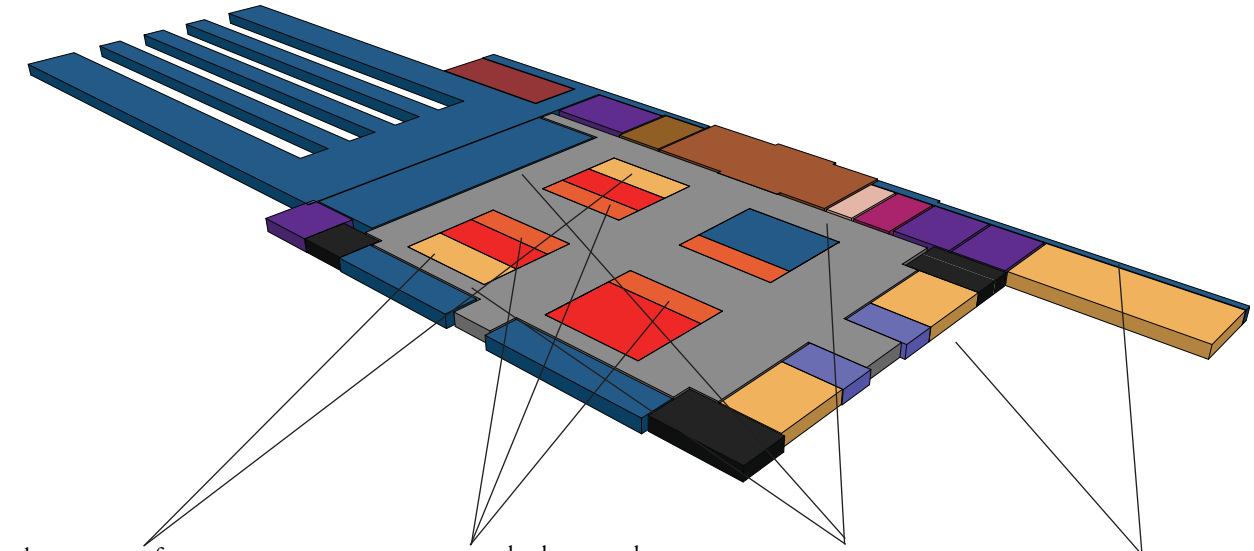


the type of programme at the upper level are based on commuters with a longer waiting period hence buy and relax type of activities.

the type of programme at this level looks at commuter activities that are based on a buy and go basis (mostly used by local commuters)

6-10. diagram showing space analogy of the new station

programme layout of commuter activities



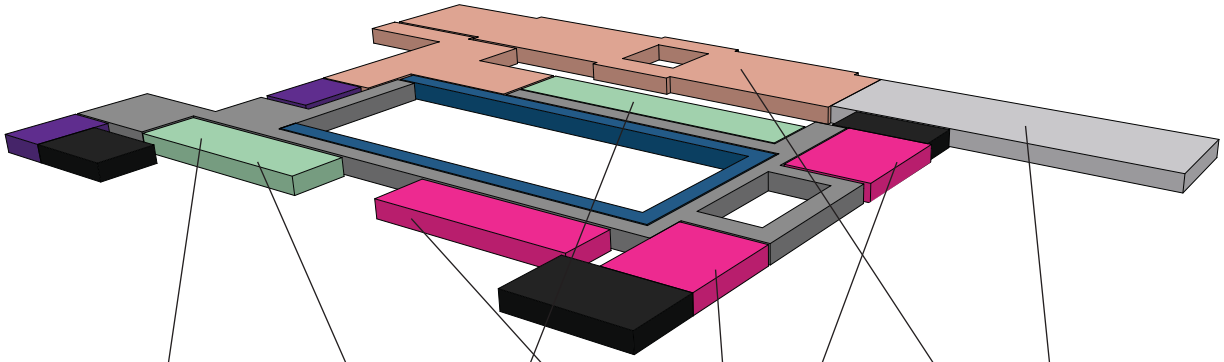
TICKETS
INFORMATION DESK
MAIN CONCOURSE
EATING FACILITIES
WAITING AREA /PLATFORMS
OFFICES
RECEIVING AND FORWARDING

PROGRAMME FOR COMMUTER ACTIVITIES

'EAT AND GO' RETAIL
BUY AND GO RETAIL
'EAT, WAIT AND GO' RETAIL
'BUY, WAIT AND GO' RETAIL
TOILETS
VERTICAL CIRCULATION
TOUR GUIDE CENTRE
MUSEUM SPACE

6-11. programme layout of the new station - ground floor plan

programme layout of commuter activities



atm and other banking facilities and cleaners spaces in blue

this area is dedicated to other shops that suite the need of longer period of shopping

a pub, entertainment area and a larger restaurant are found in this area

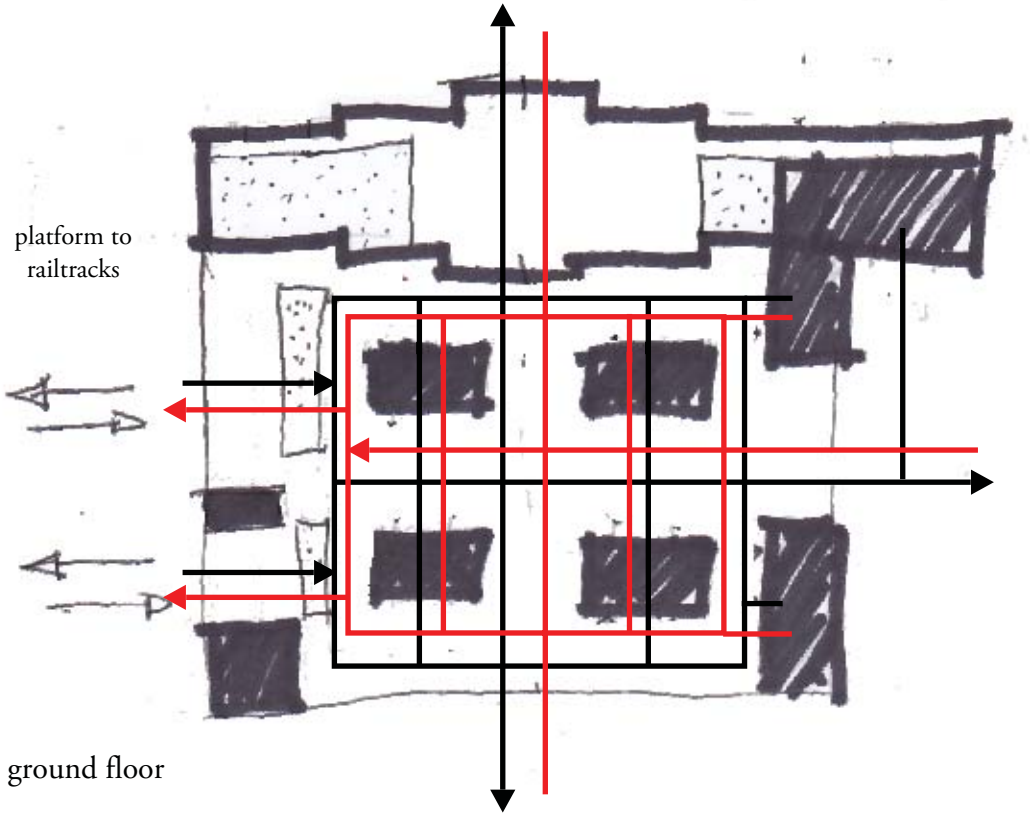
this area is dedicated for formal commuter activities especially for the tourist museum and tour guide spaces

TICKETS
INFORMATION DESK
MAIN CONCOURSE
EATING FACILITIES
WAITING AREA /PLATFORMS
OFFICES
RECEIVING AND FORWARDING

PROGRAMME FOR COMMUTER ACTIVITIES

'EAT AND GO' RETAIL
BUY AND GO RETAIL
'EAT, WAIT AND GO' RETAIL
'BUY, WAIT AND GO' RETAIL
TOILETS
VERTICAL CIRCULATION
TOUR GUIDE CENTRE
MUSEUM SPACE

6-12. programme layout of the new station - first floor plan



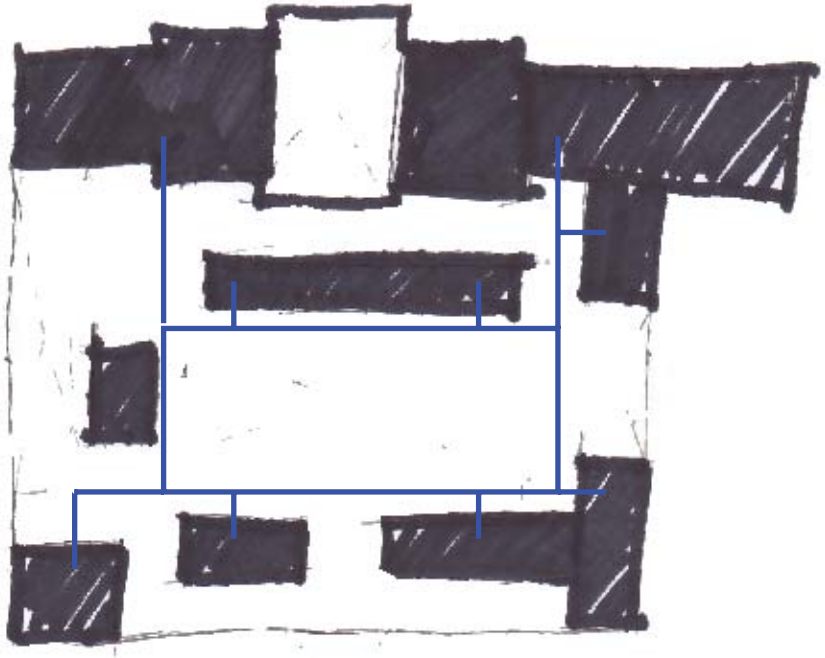
arriving commuters

departing commuters

both commu
commuters

6-13. commuter movement at ground level

movement analysis



first floor

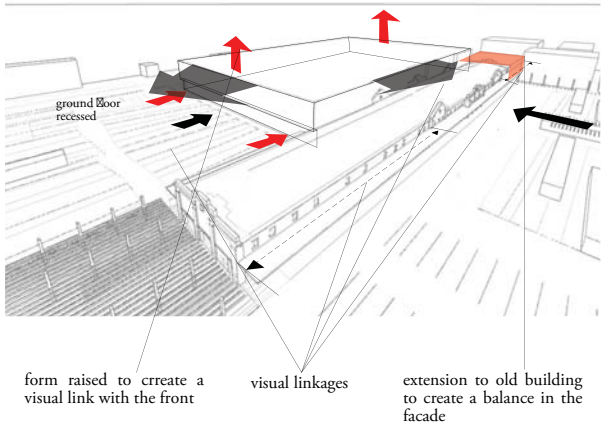
arriving commuters

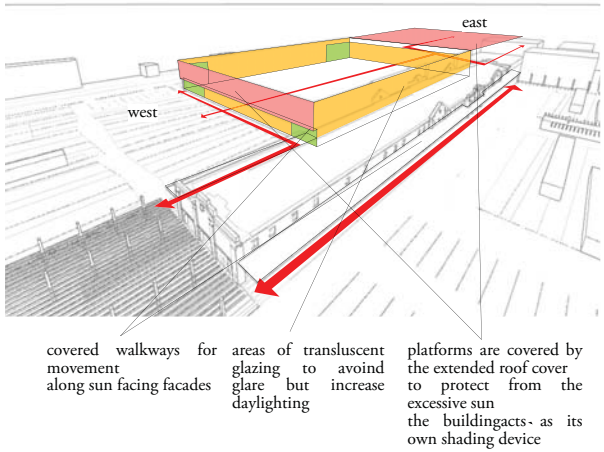
departing commuters

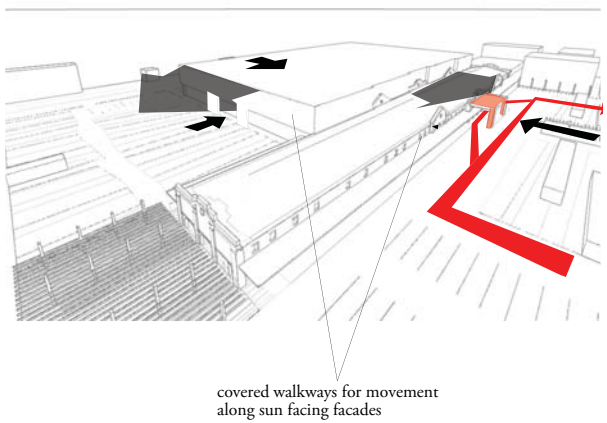
both commu
commuters

6-14. commuter movement at first floor level

f o r m



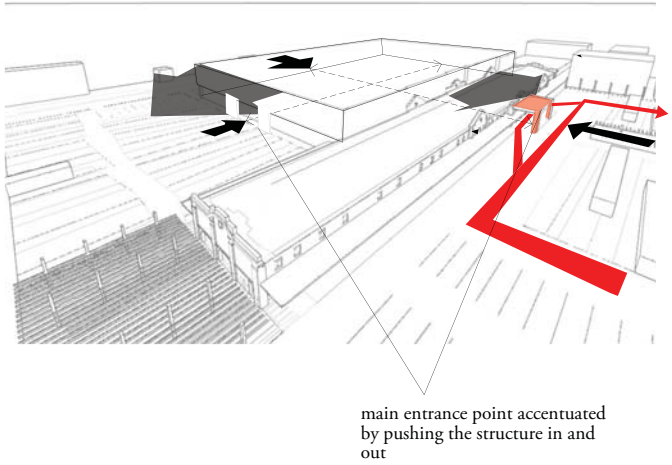




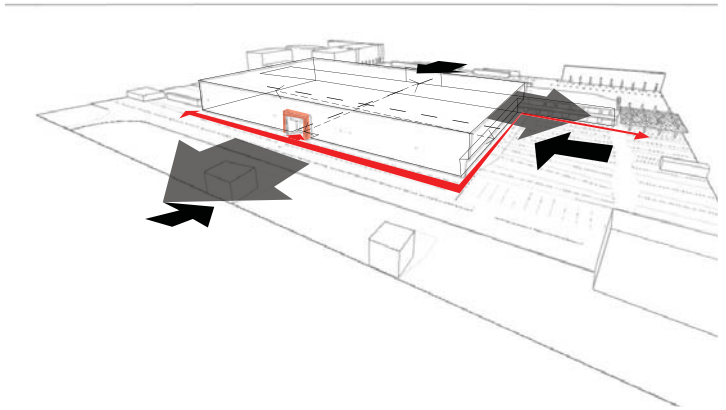
areas in green indicate areas for services and and act as buffers of heat loss during winter

areas in orange indicate areas with glazing primary for viewing

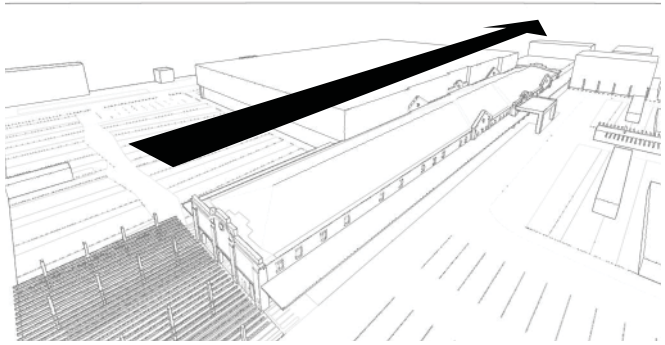
6-15. sketches showing form development

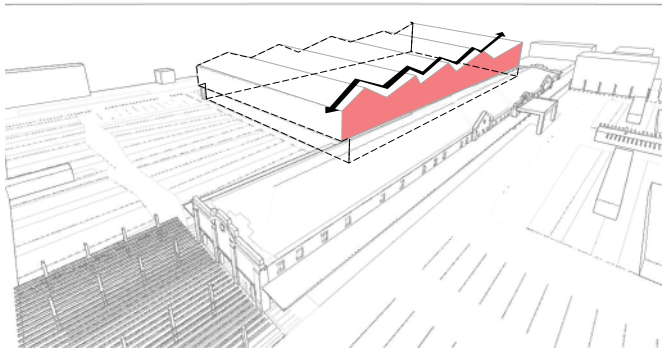


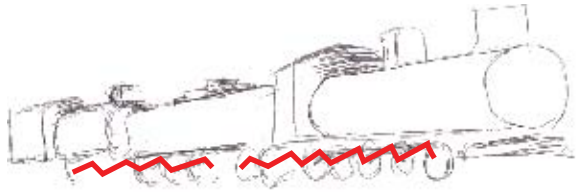
point of access



6-16. sketches showing points of access

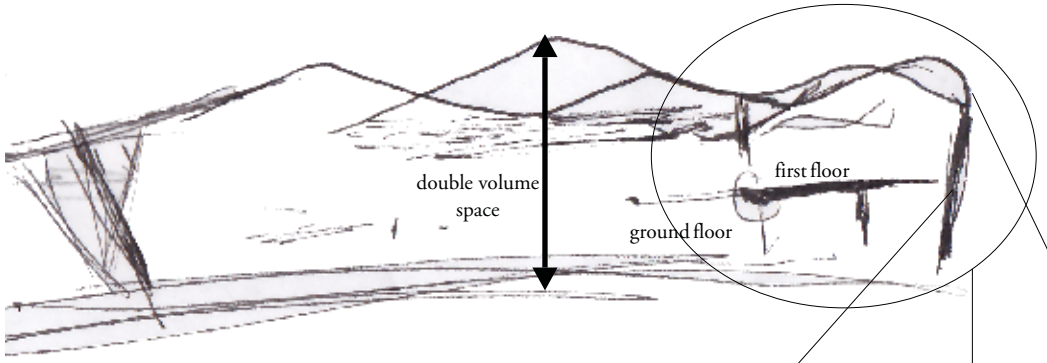






6-17. form inspired by movement

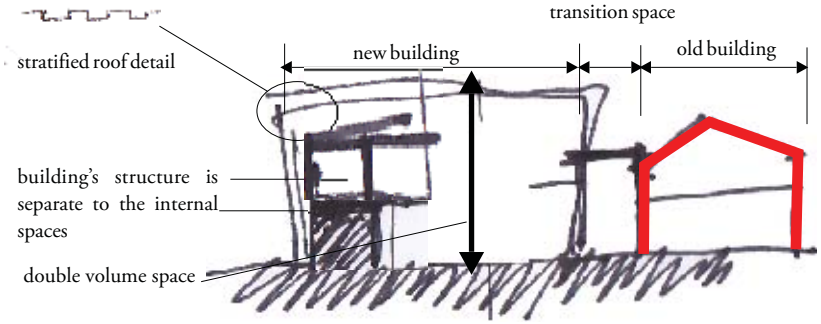
6-18. sketches of the building



sketch of longitudinal section through the new building

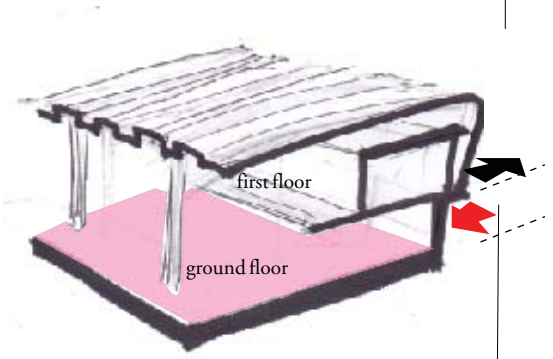
form curls into the side and become one with the elevation (east elevation)

movement in roof form



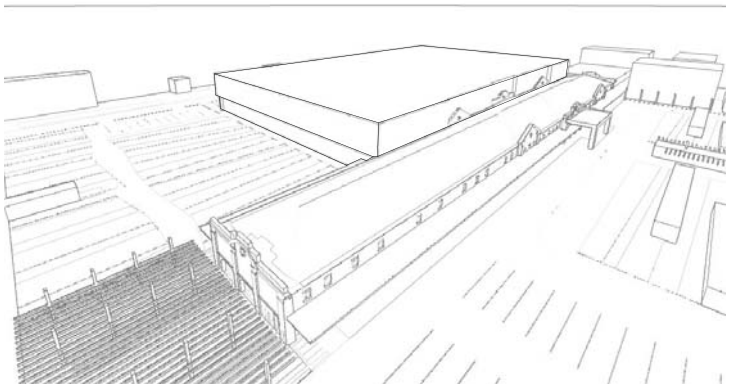
the transition space is a zone that detaches the new building from the old building. This area will be studied in the next chapter.

sketch through the old building and the new building

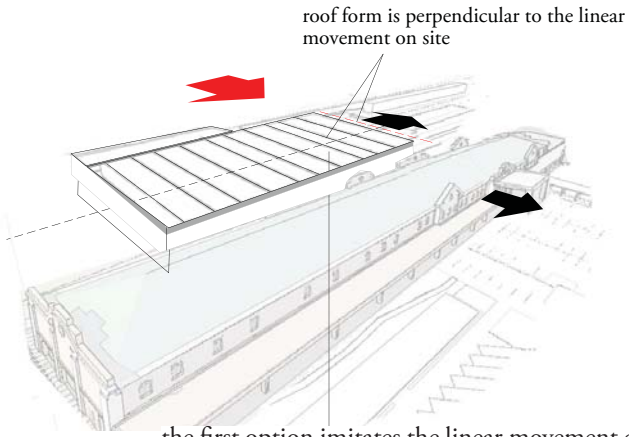


building becomes its own shading device

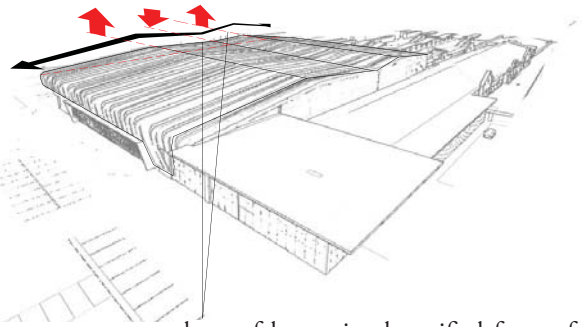
sketch through the old building and the new building



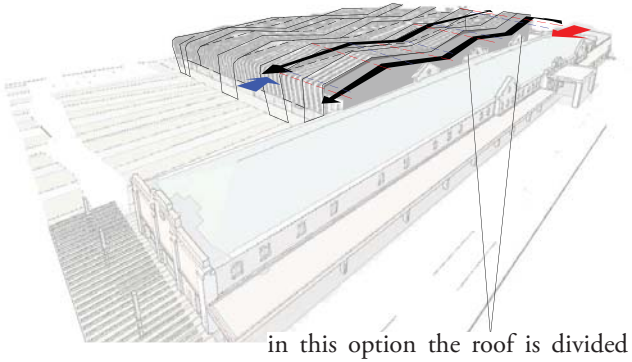
the base from of the station



the first option imitates the linear movement created by the rail tracks by having the roof stratified in the opposite direction. the building was moved towards the left edge of the old station



the roof has a simple unified form of ridges and valleys in a different design layout

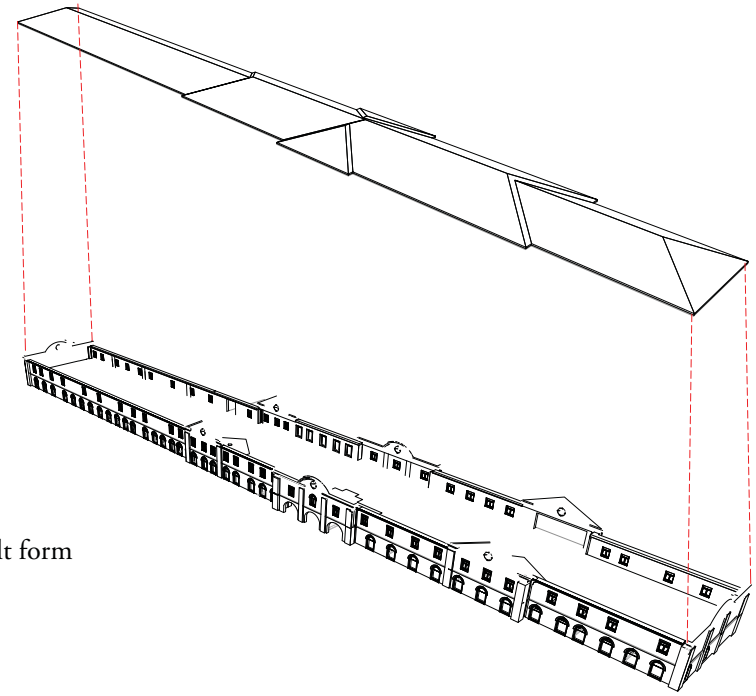


in this option the roof is divided into bays that area shifted to create the concept of rec-connection through movement

6-19. sketches showing roof transformation

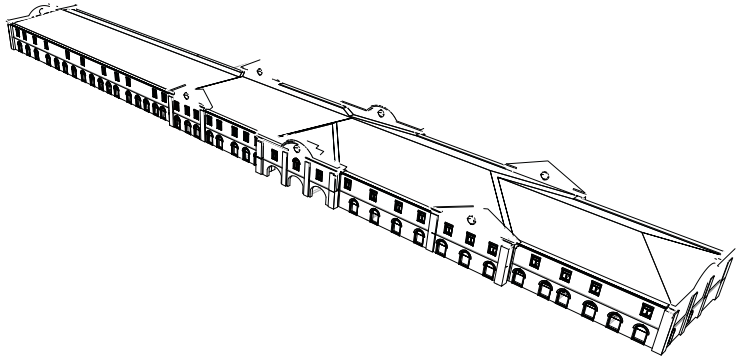
structural development

roof structure



built form

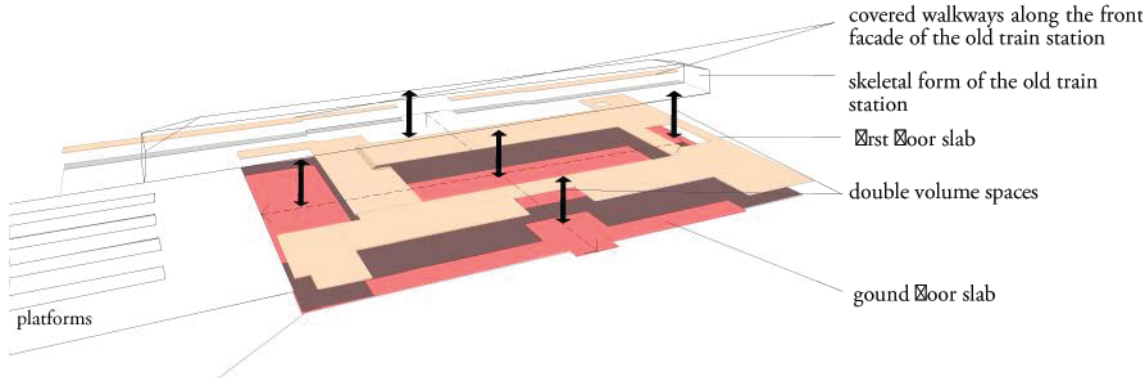
The building is divided into three independent structural systems that work together.



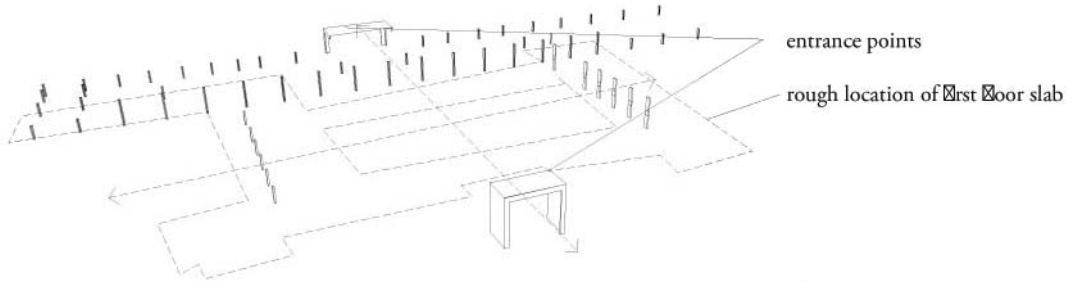
no alterations are being made to the external structure of the building but the internal spaces will be redesigned to suite the new programme

6-20. the old train station - front view

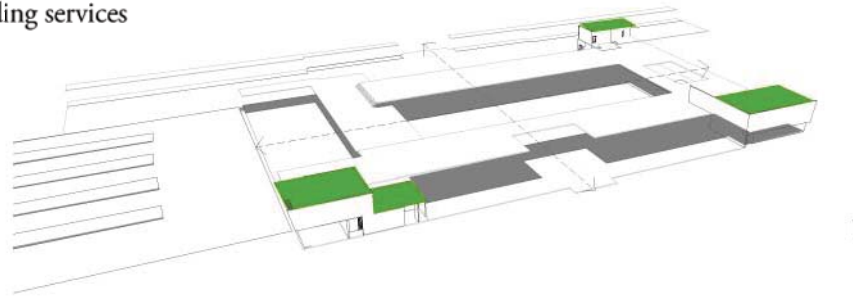
slabs



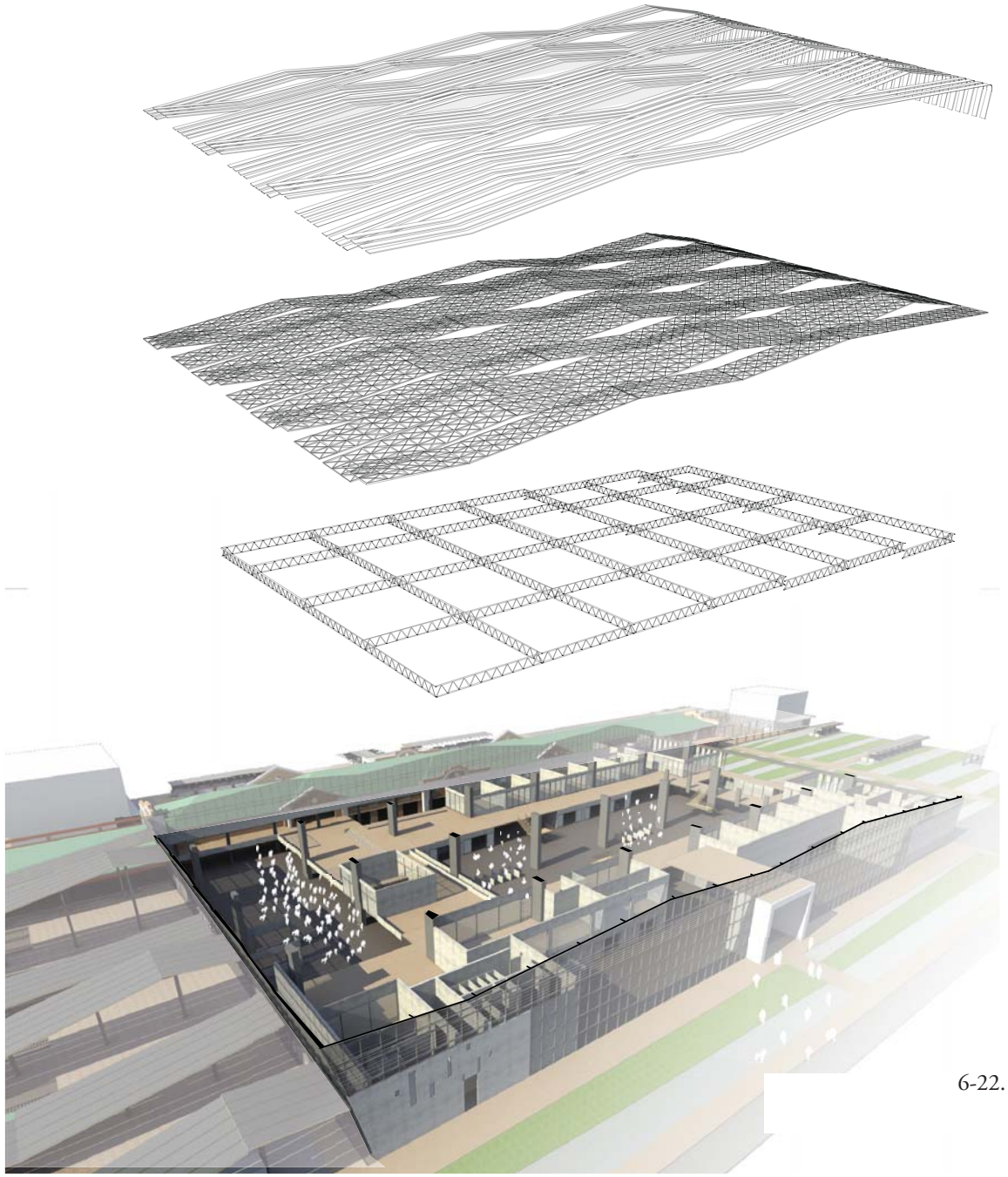
columns



building services

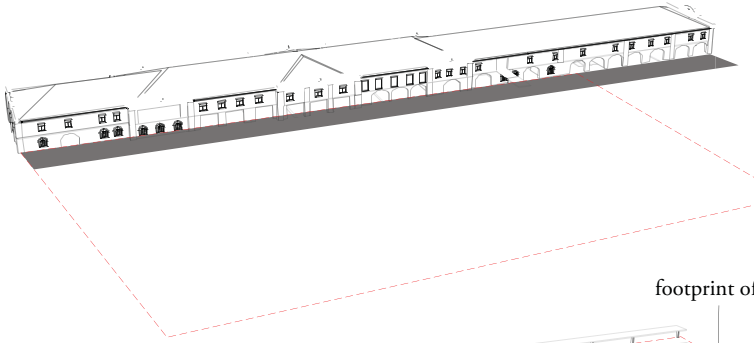


6-21. the new train station - inner shell



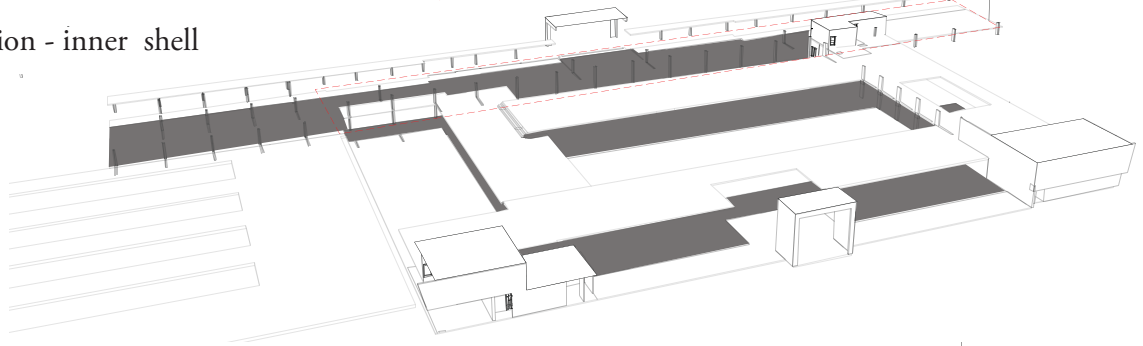
6-22. the new train station - outer shell

old station

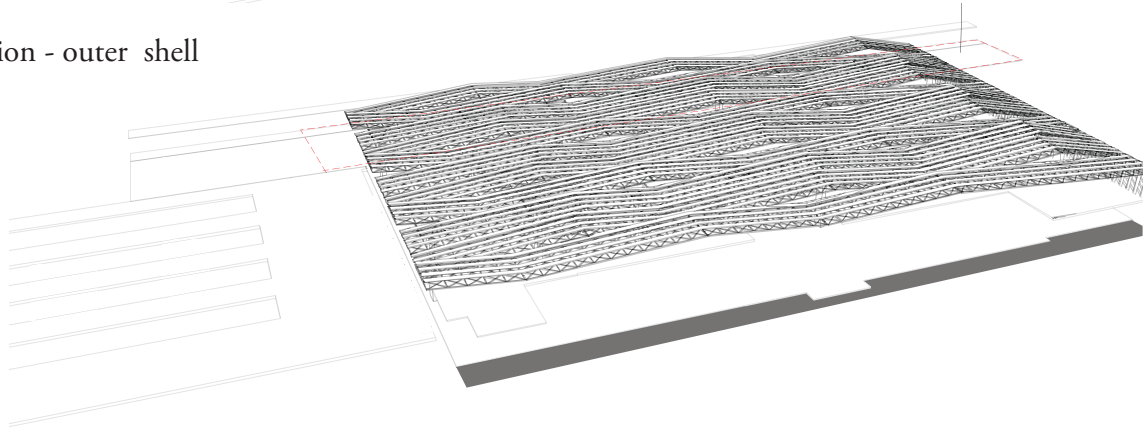


footprint of old station

new train station - inner shell



new train station - outer shell



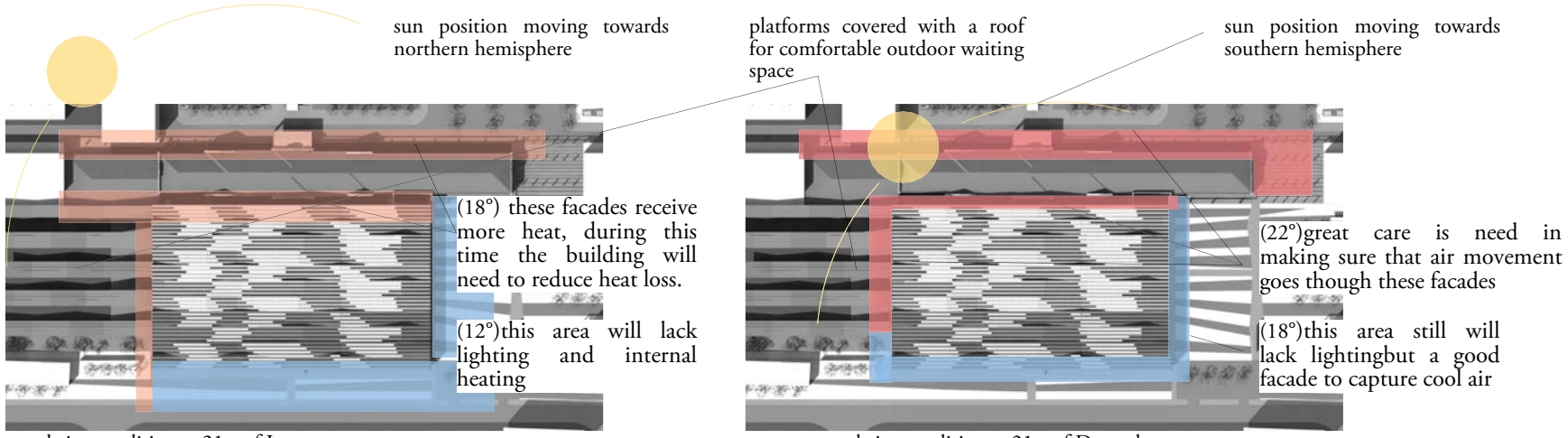
6-23. overall building system

sustainable strategies

Zimbabwe has a very sensitive economic climate causing the need for a energy saving transport system that relies on non-mechanical means of VENTILATION, HEATING AND COOLING STRATEGIES to achieve the best INDOOR CLIMATE as possible. Not only will this save power usage within the building but energy consumption as low as possible. The building will rely on a naturally ventilated system, and use the solar energy for all internal and external lighting.

indoor climate

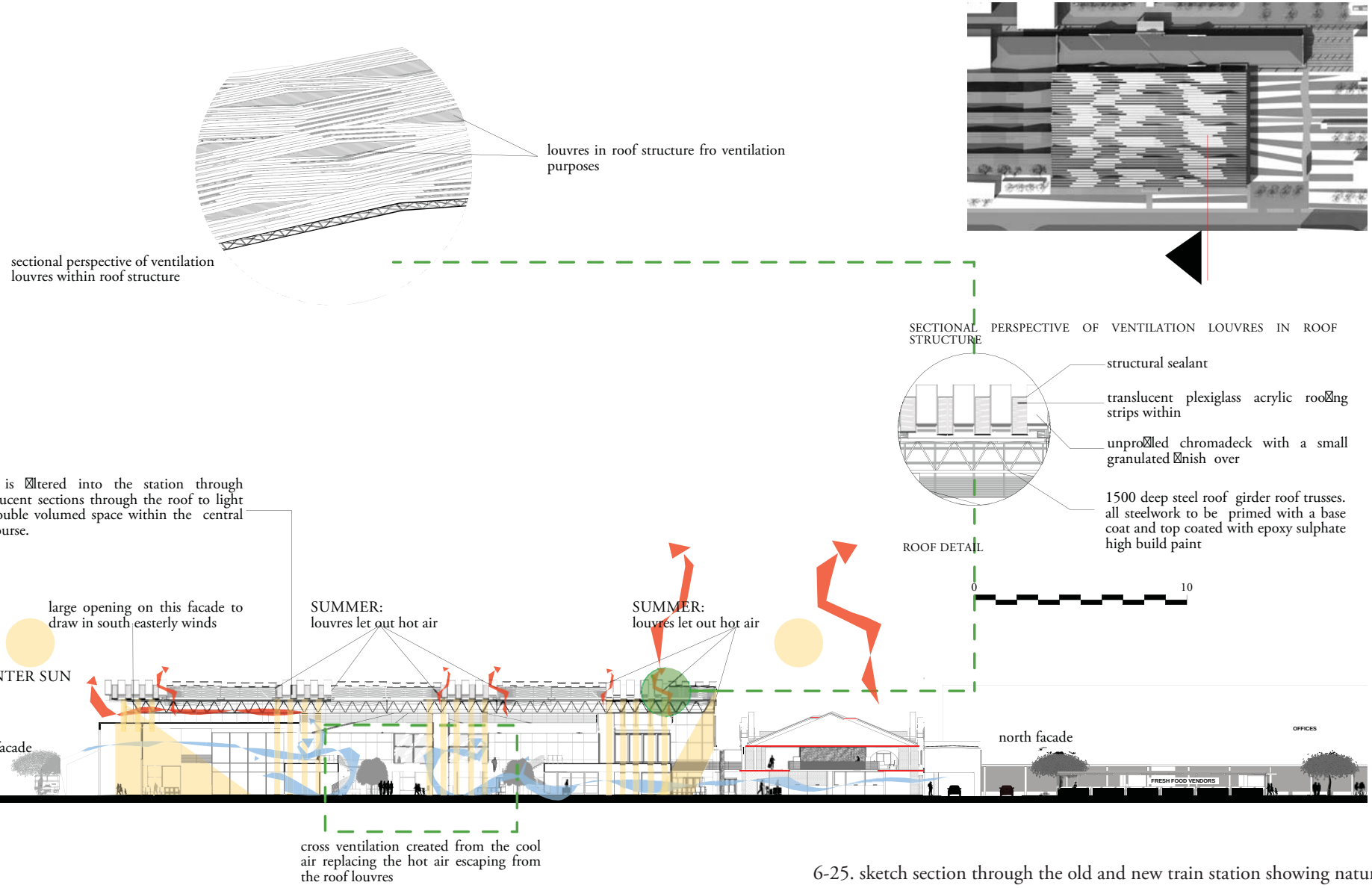
The images below show the parts of the building that will affect the indoor climate during extreme temperatures during Bulawayo's summer and winter months.



winter solstice conditions - 21st of June

summer solstice conditions - 21st of December

6-24. winter and summer temperature effects on the building



6-25. sketch section through the old and new train station showing natural heating and cooling strategies for summer and winter

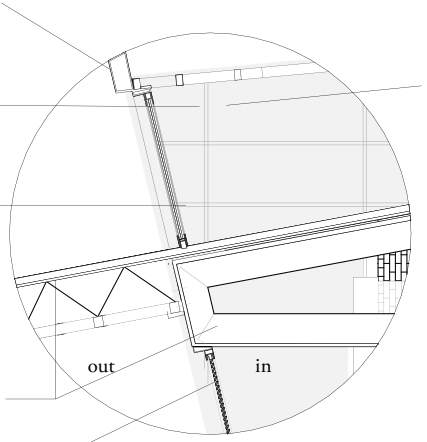
600x10 pro□led steel beam to take on

3 dimensional steel roof truss using 115 ø CHS. all steelwork to be primed with a base coat and top coated with epoxy sulphate high build paint

double glazing 10mm external insulated sheet with a 30mm air gap to act as a conductor to avoid heat loss during winter and to still admit light into central concourse on

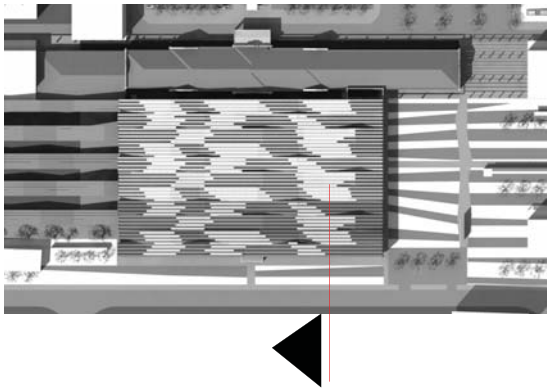
structural steelwork □xed to platform canopy made of unpro□led chromadek □xed on a □at steel roof truss

glazed louvres



DOUBLE GLAZING DETAIL

0 5



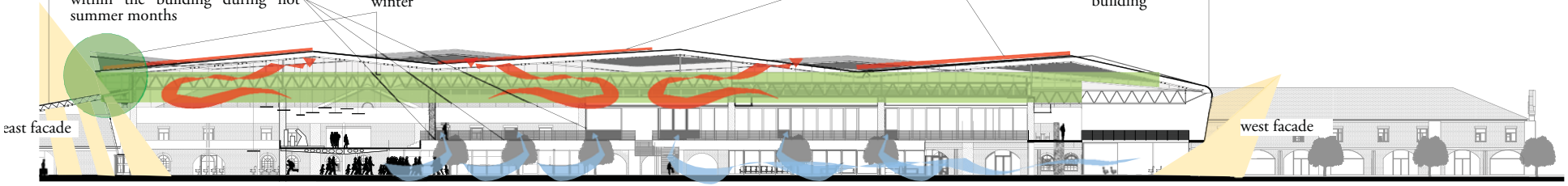
SUMMER
platform roof acts as a sun barrier and to reduce excessive heat absorption from the sun and excessive west light

trees help reduce temperature within the building during hot summer months

WINTER
double glazing system (highlighted in green) is in the upperlevel windows to avoid high heat loss during winter

the area highlighted in red shows the positon of solar panels placed on the roo□ng sheets, each 1500m wide, to collect solar energy

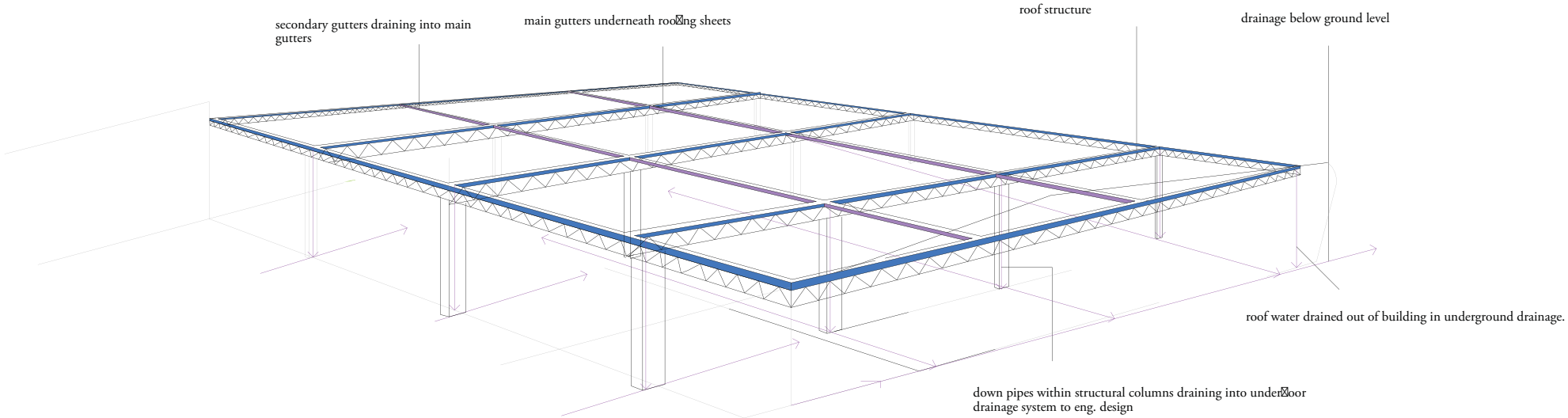
the building is its own shading device. the overhang to avoid heat creeping into the building



WINTER
to increase warmth within the building under□oor heating wil be used. all rainwater is drained through internal columns and the water is channelled to a central heating system that pumps the water in the ground □oor slab

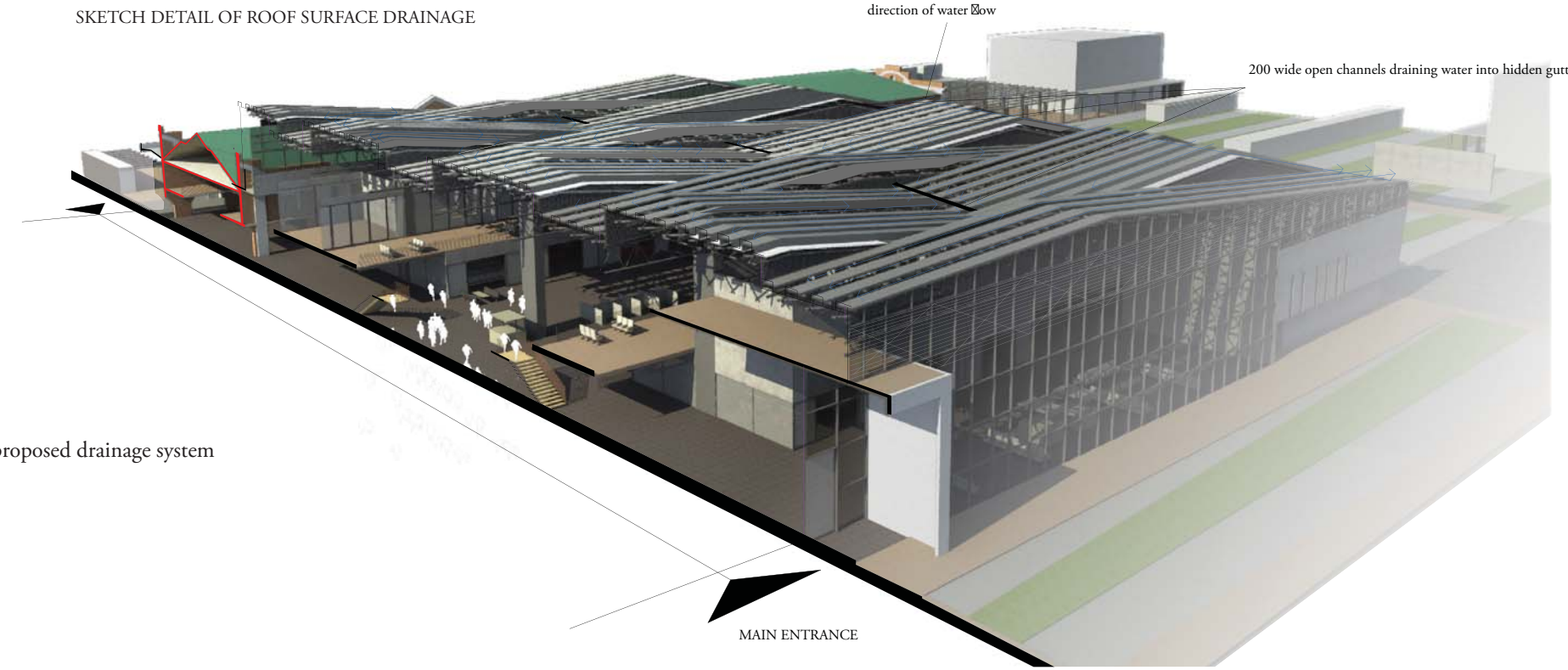
6-26. sketch section through the old and new train station showing lighting strategies for summer and winter

0 50



SKETCH DRAWING SHOWING DRAINAGE BELOW ROOF

SKETCH DETAIL OF ROOF SURFACE DRAINAGE



6-27. proposed drainage system

conclusion

Places of transit operate best in well planned areas of circulation, operation and commercial upkeep. Public places like these have the objective of having:
- convenient access and egress points for all types of movements; from the train, motor vehicles, metered and emergency taxis, cyclists, and the commuters
- provision of operation facilities, commercial facilities , and
- they serve as gateway into the city.

Other design elements that have been considered that enhance journeys of commuter rituals are:
- natural lighting
- floor covering (plain power floated slab because of its hard wearing qualities)
- responsive seating arrangement
- place of contemplation along the edges of the building objects of art
- adequate widths for circulation within and outside the building

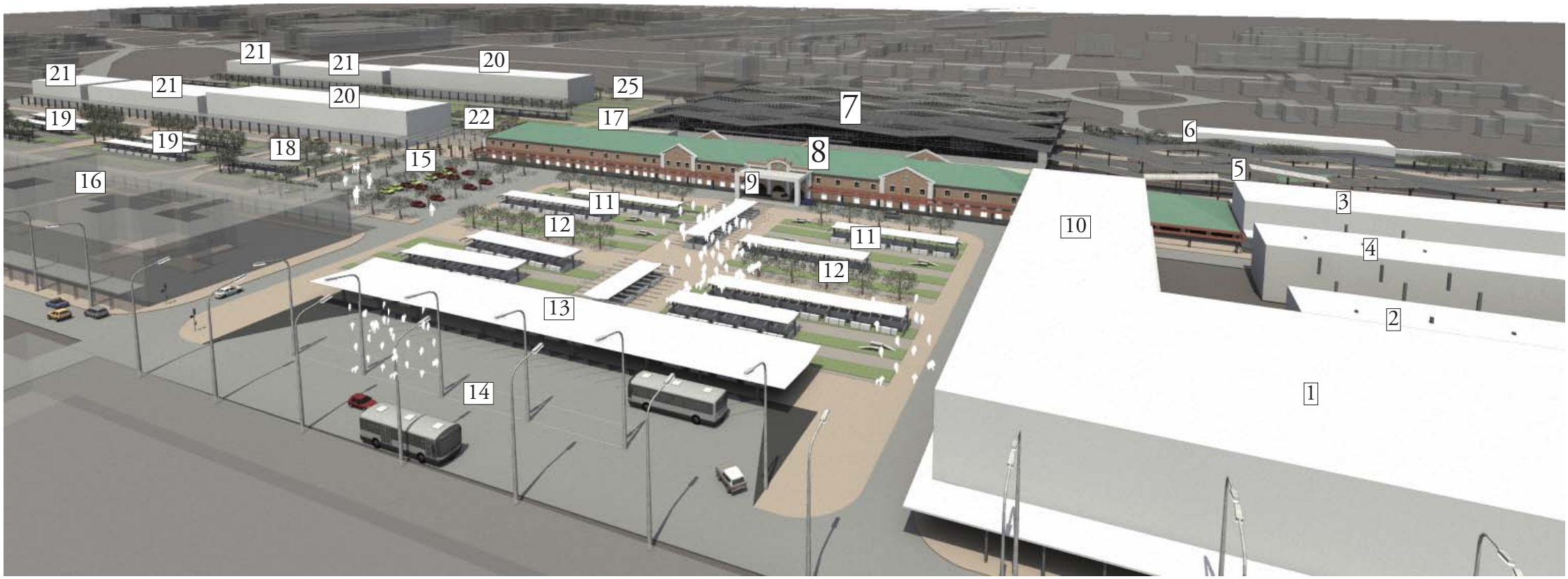
The imagery of re-connection through the emphasis of movement is not only seen in the building's form but in the spatial qualities that articulate the in-between experiences of arrival and departure. Waiting has been redefined. The occasion of waiting is now being taken over by those rituals that are associated with the city street.

CHAPTER 7

DESIGN

"Basically, I am interested in spaces which give me this feeling of enclosure –in spaces which make me slow down a little, stand still, or take a seat and start to read or work or sleep; spaces which invite me to dwell in them."

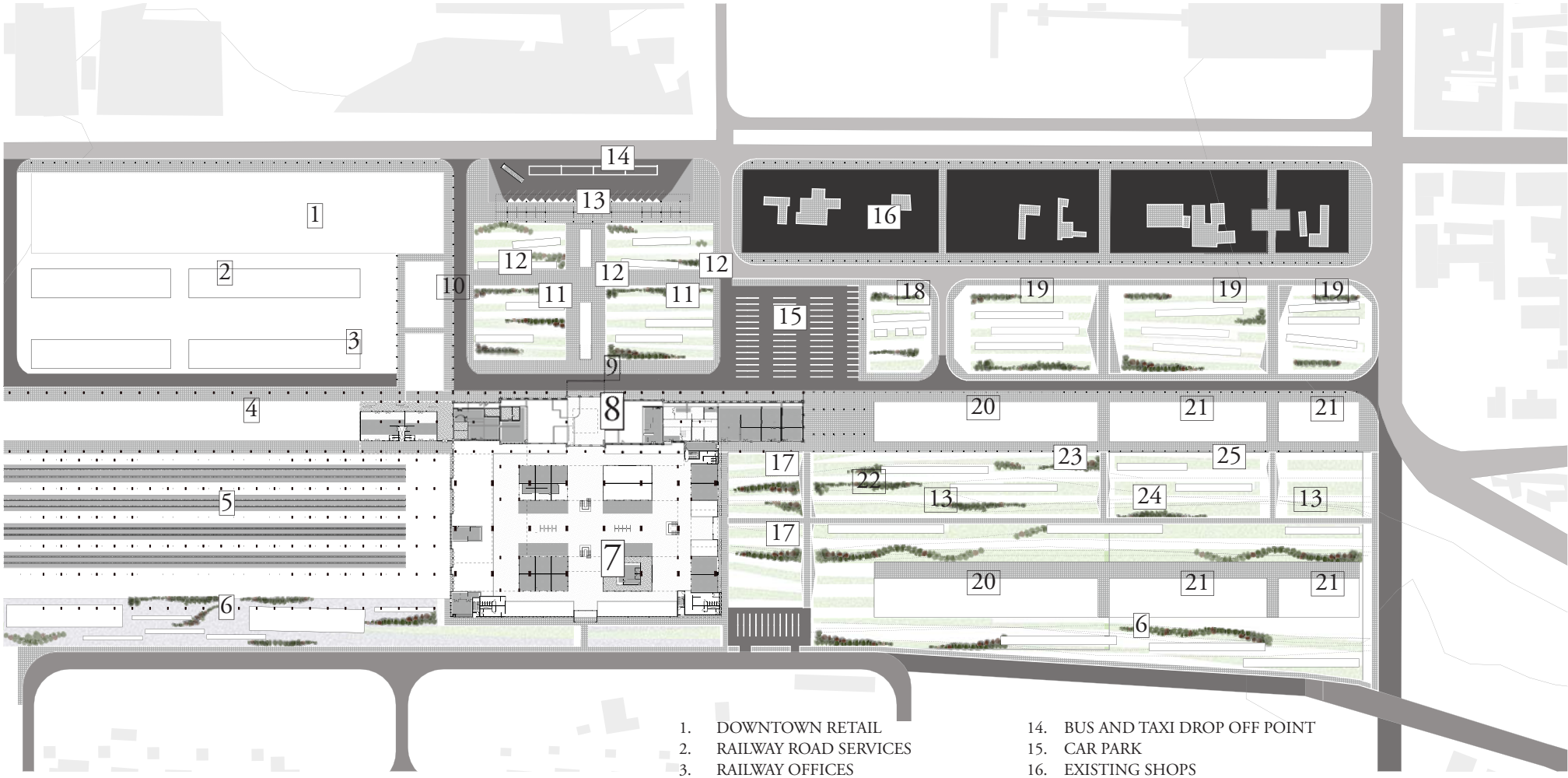
(Zumthar, 1996:65)



urban framework layout

1. DOWNTOWN RETAIL
2. RAILWAY ROAD SERVICES
3. RAILWAY OFFICES
4. RAILWAY SERVICES
5. PLATFORMS
6. RAIL PARK
7. NEW TRAIN STATION
8. OLD TRAIN STATION
9. DROP OFF POINT
10. OFFICES BLOCK
11. VENDORS WITH ORDINARY GOODS
12. FRESH FOOD VENDORS
13. TAXI RANK WITH VENDOR SPACE
14. BUS AND TAXI DROP OFF POINT
15. CAR PARK
16. EXISTING SHOPS
17. KIDS PLAY AREA
18. INFORMAL EATING COURT
19. PUBLIC MARKET PLACE
20. MIXED USE RESIDENTIAL
21. MEDIUM DENSITY COMMERCIAL
22. CURIO SPACE
23. TRADITIONAL MARKET SPACE
24. NEWSPAPER/MAGAZINE STANDS
25. PARK SPACE

7-0



50 100

context plan

1. DOWNTOWN RETAIL
2. RAILWAY ROAD SERVICES
3. RAILWAY OFFICES
4. RAILWAY SERVICES
5. PLATFORMS
6. RAIL PARK
7. NEW TRAIN STATION
8. OLD TRAIN STATION
9. DROP OFF POINT
10. OFFICES BLOCK
11. VENDORS WITH ORDINARY GOODS
12. FRESH FOOD VENDORS
13. TAXI RANK WITH VENDOR SPACE
14. BUS AND TAXI DROP OFF POINT
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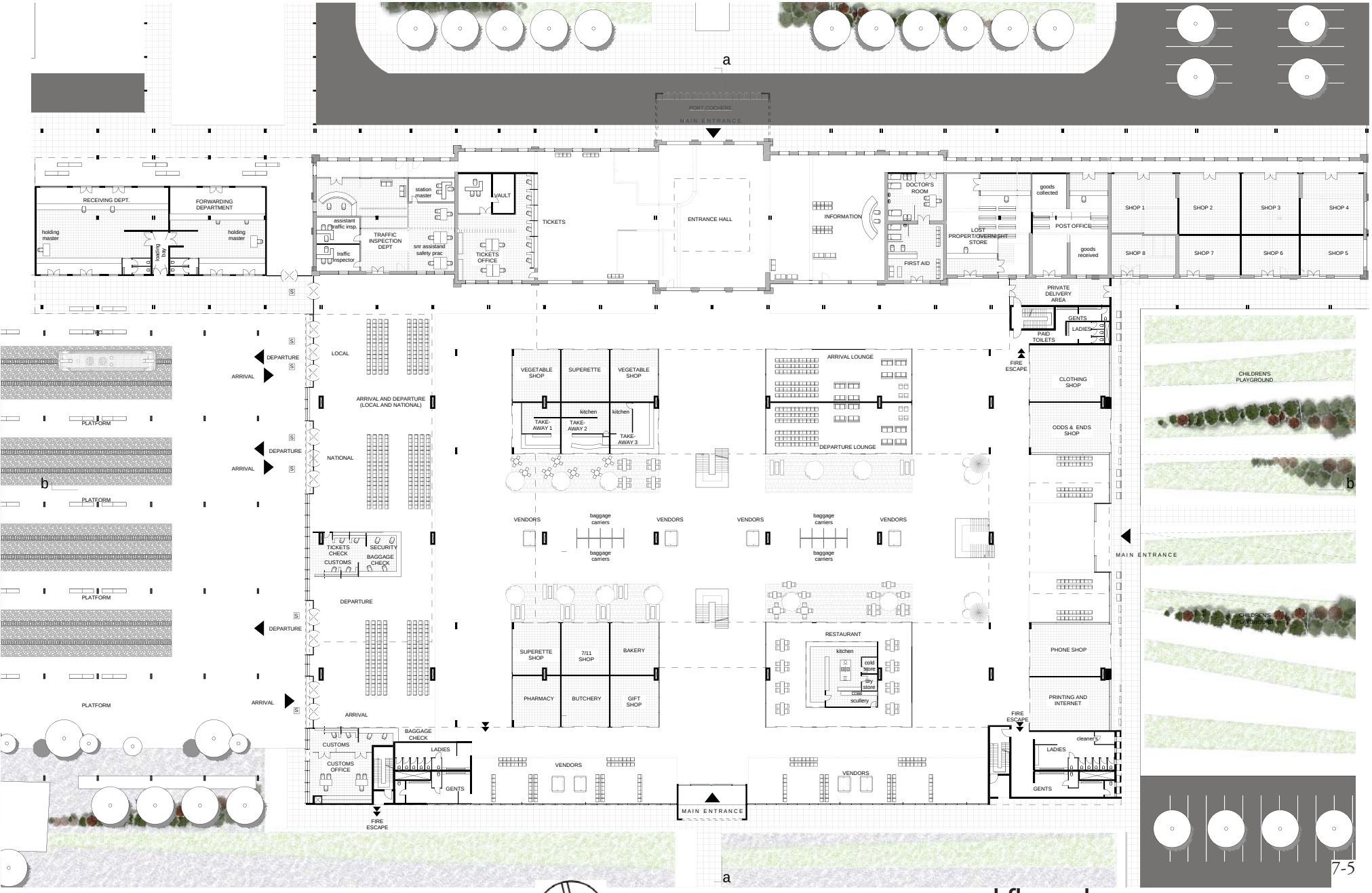
20. MIXED USE RESIDENTIAL
21. MEDIUM DENSITY COMMERCIAL
22. CURIO SPACE
23. TRADITIONAL MARKET SPACE
24. NEWSPAPER/MAGAZINE STANDS
25. PARK SPACE

bus and taxi movement

pedestrian movement

motor vehicle movement


13TH AVE

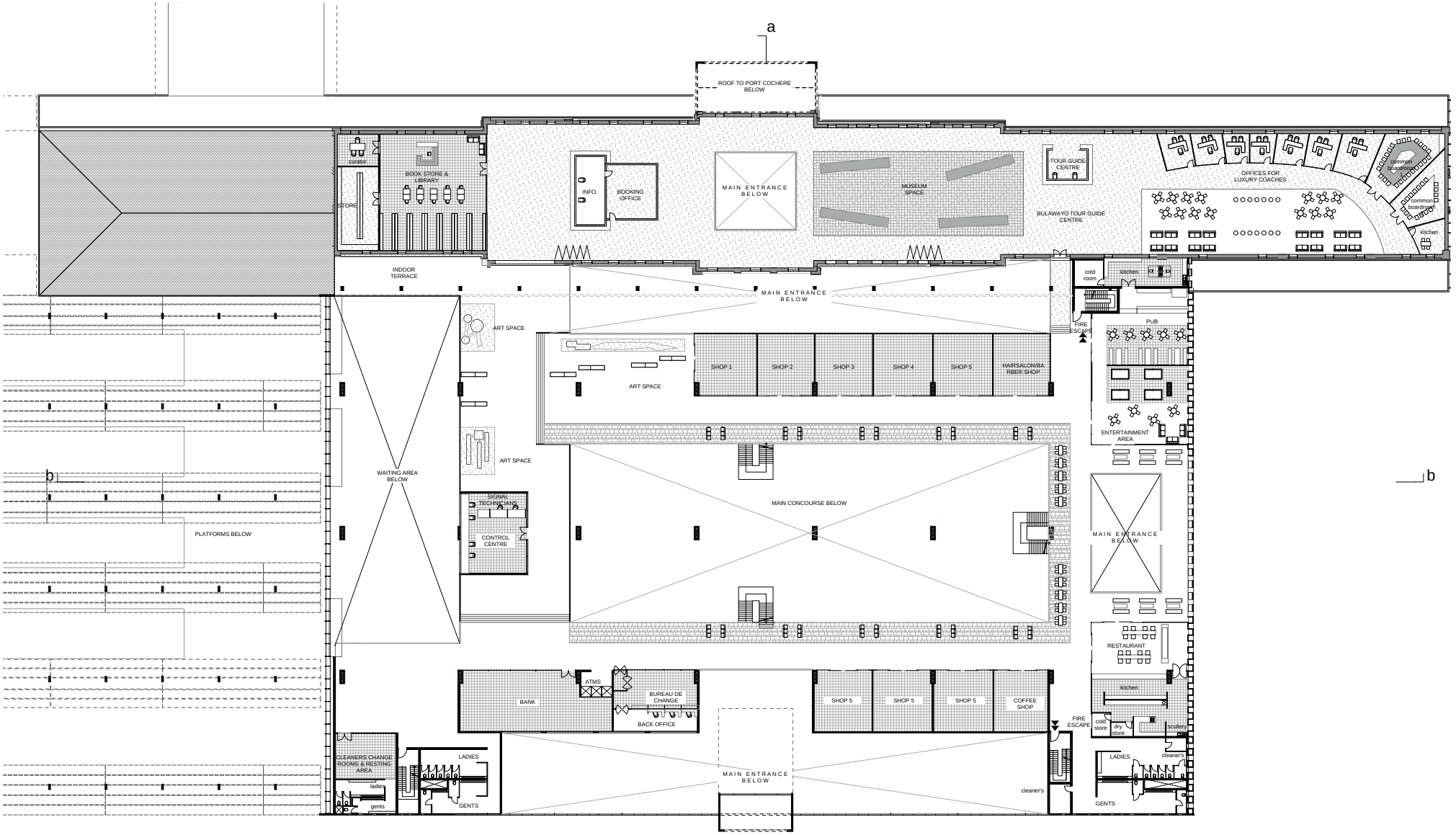


7-5

ground floor plan

0 50

circulation - ground floor plan



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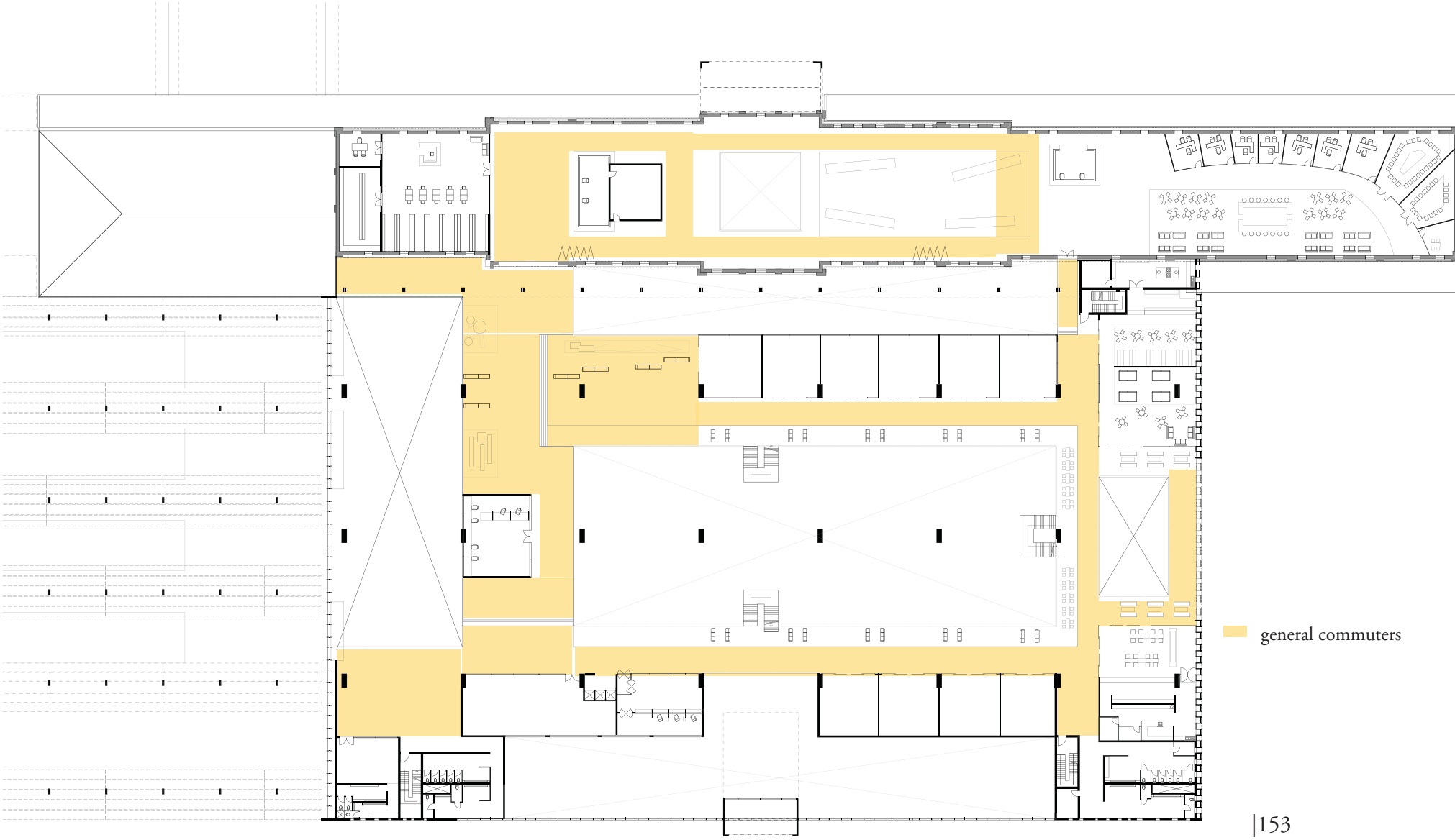
first floor plan



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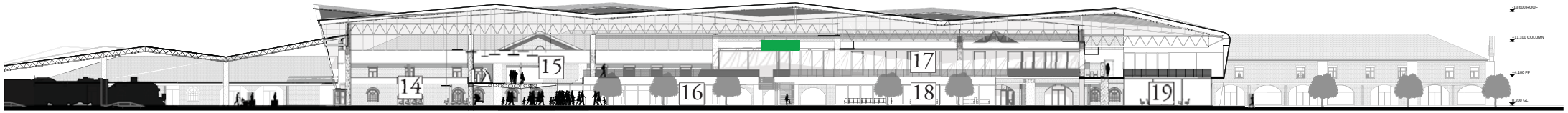
circulation - first floor plan

section a-a

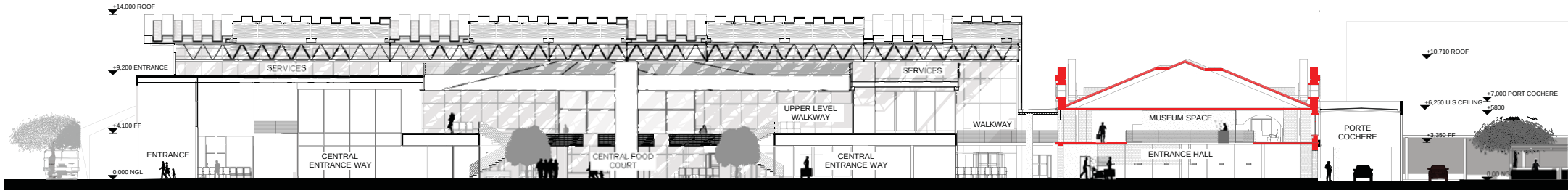


section b-b

0 50

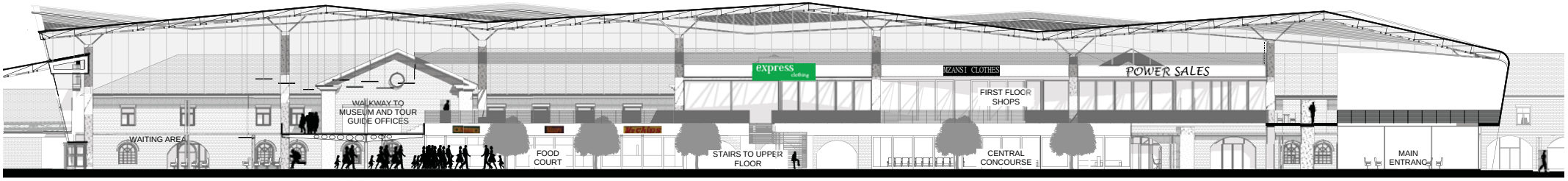
1. ENTRANCE
2. CENTRAL ENTRANCE WAY
3. SERVICES
4. CENTRAL FOOD COURT
5. UPPER LEVEL WALKWAY
6. CENTRAL ENTRANCE WAY
7. WALKWAY
8. MUSEUM SPACE
9. ENTRANCE HALL
10. PORTE COCHERE
11. FRESH FOOD VENDORS
12. OFFICES
13. TAXI RANK/ DROP OFF POINT
14. WAITING AREA
15. WALKWAY TO MUSEUM AND TOUR GUIDE OFFICES
16. FOOD COURT
17. FIRST FLOOR SHOPS
18. CENTRAL CONCOURSE
19. EAST ENTRANCE

7-9



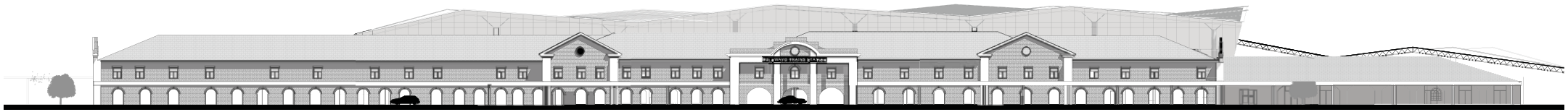
section a-a

0 50

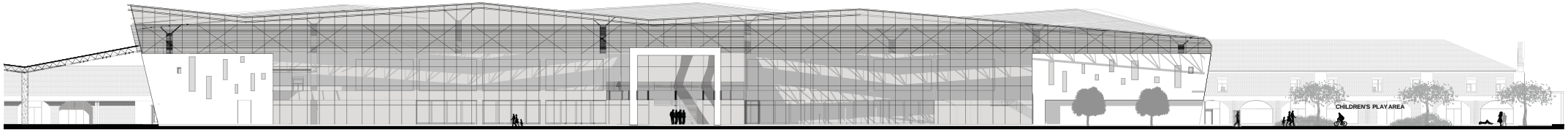


section b-b

0 50



north elevation



south elevation

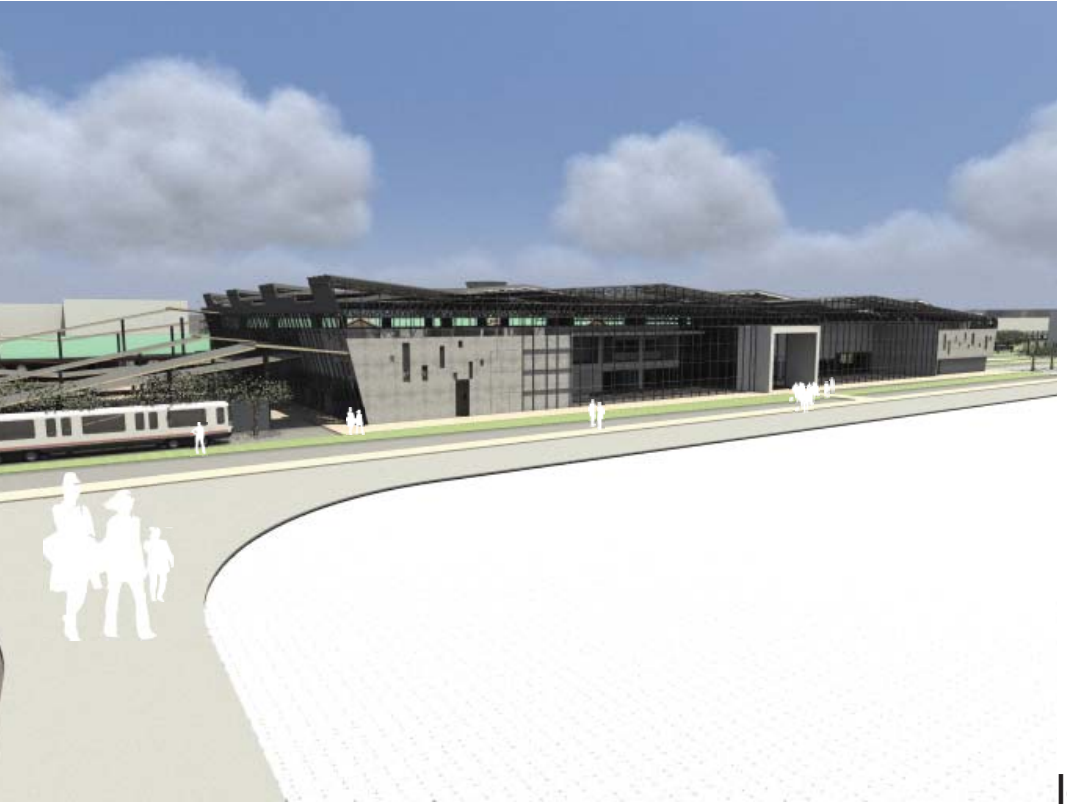
0 50

east elevation

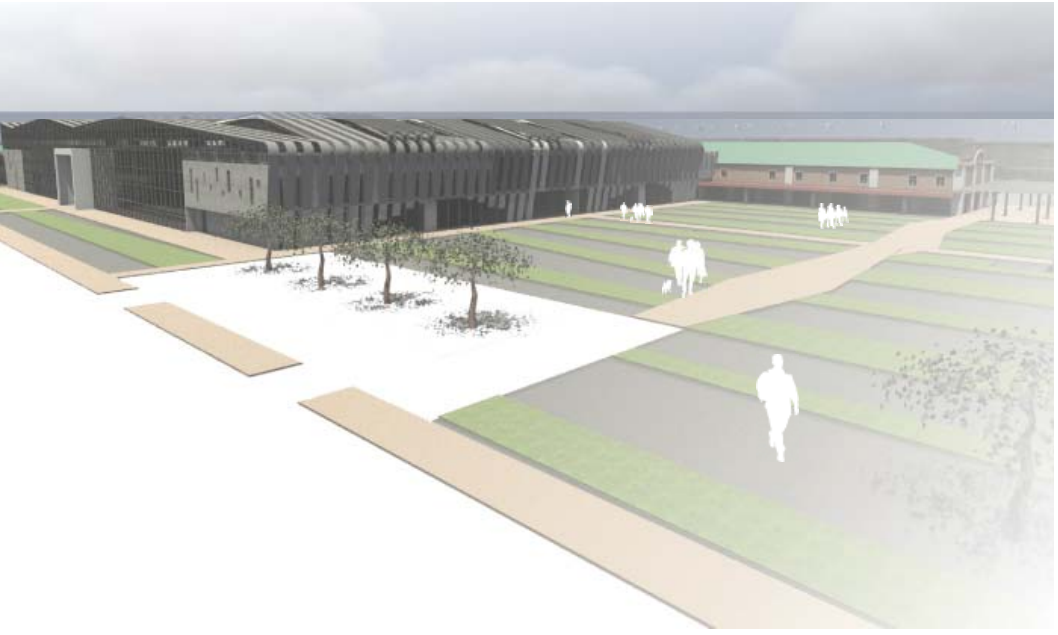
0 50

looking onto north entrance

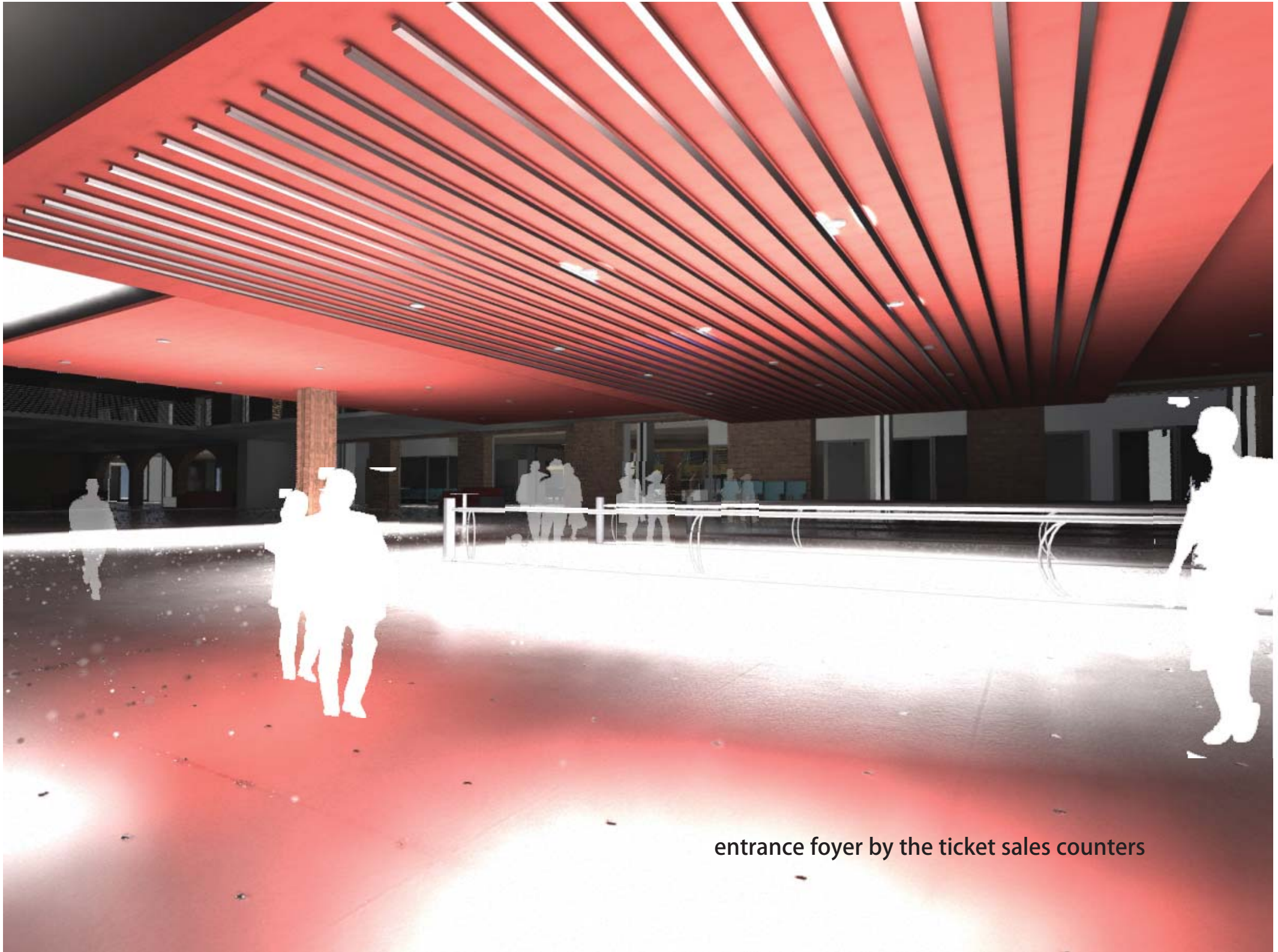
7-14



looking onto south entrance



looking onto west entrance



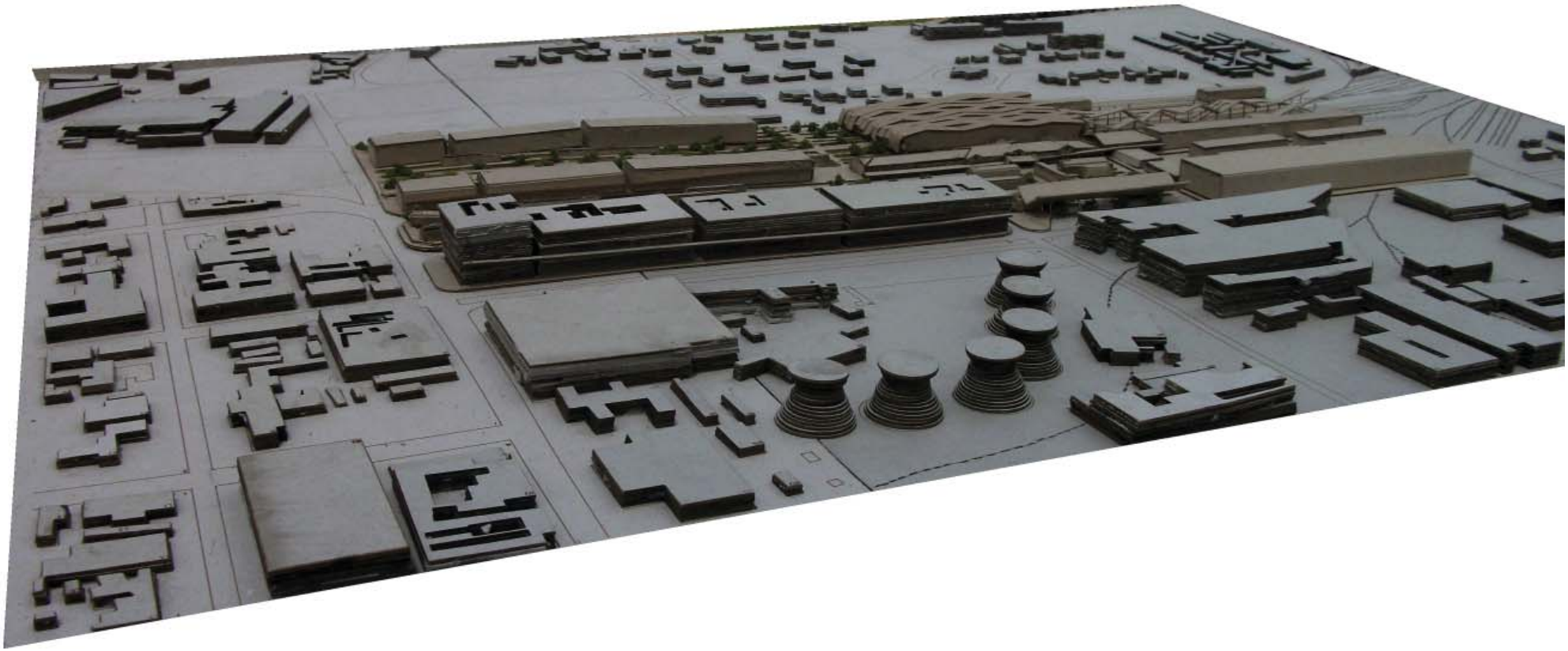
entrance foyer by the ticket sales counters

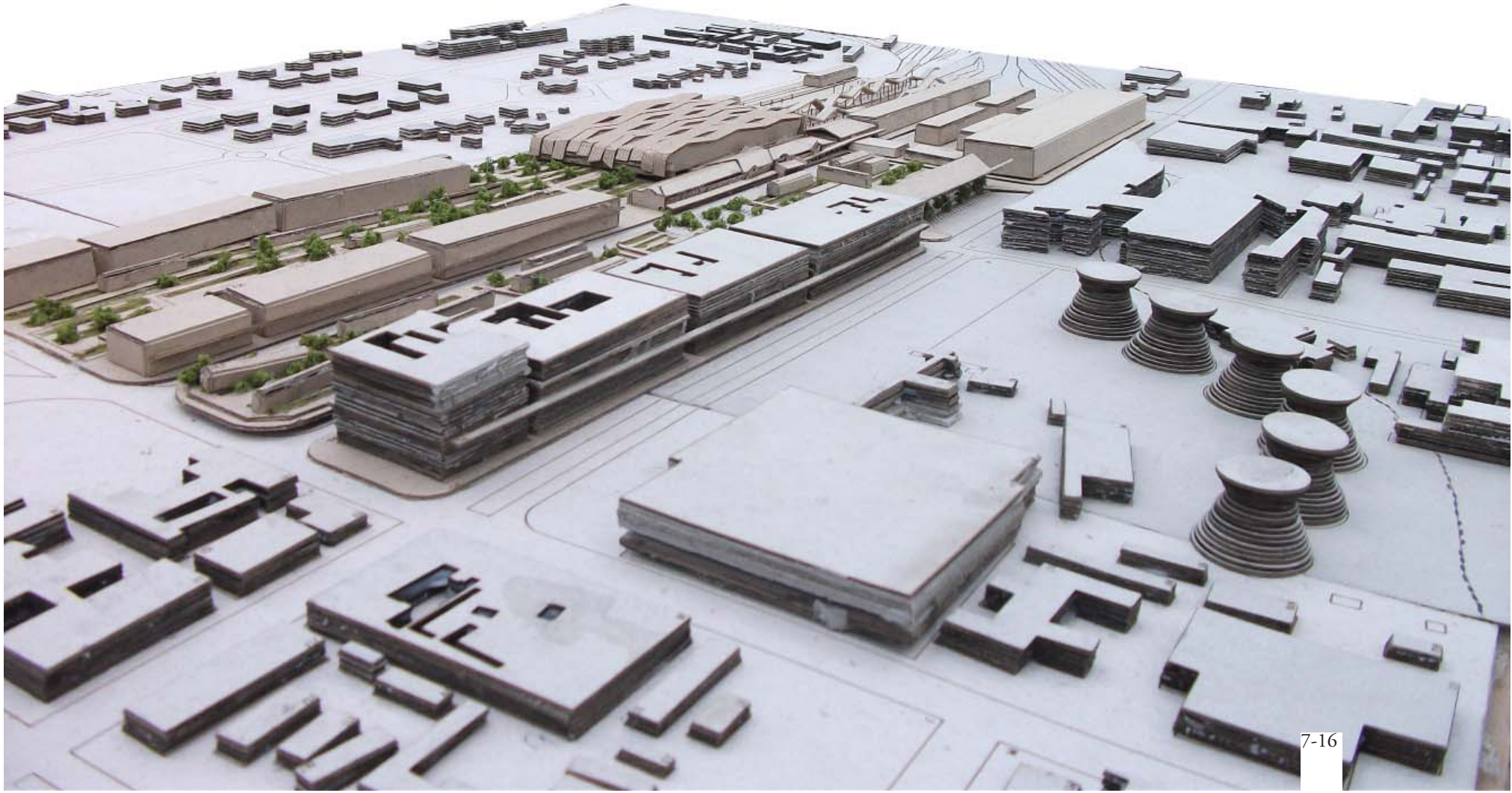
main central shopping space

upper floor shops

main entrance hall

main waiting area





7-16

CHAPTER 8

TECHNOLOGY DEVELOPMENT

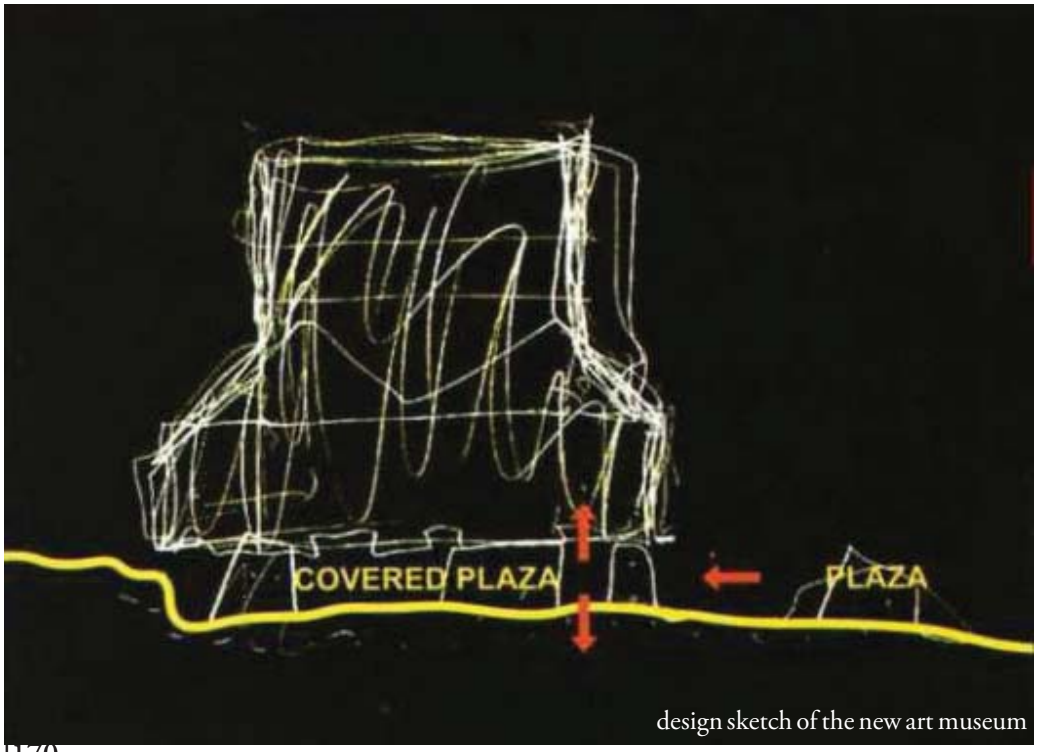
introduction

The technology exploration in this chapter will look at how old buildings are attached to new buildings and an exploration of ideal building technology used the two to read as one entity. The identity of anything with historic value should always be preserved with as little interference to the building as possible. The manner in which the author redesigned the station centred on making sure the new train station did not take over the value of the old but created a seamless time-line between the old and new train station.

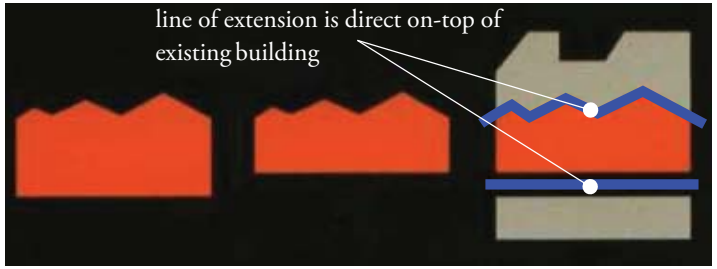
The study in this chapter will look at the ways in which old buildings have been accommodated into their new counterparts, how material usage, thresholds, movements and spatial treatments respond to the functions within the both old and new buildings.

structure and materiality

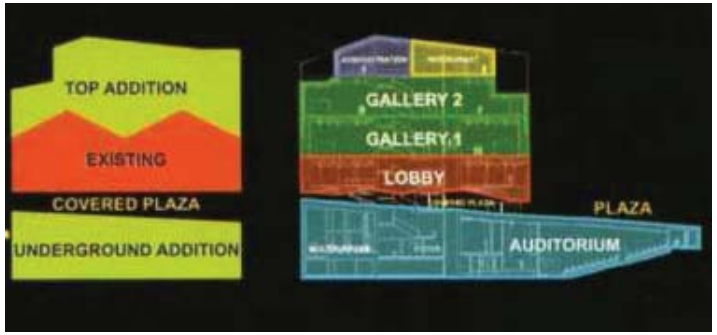
The materiality of new buildings do not necessary always have to be a direct copy of the old building but they speak to each other to become a new language for its type. Caix Forum in Madrid, Spain was an old ...and transformed into an art museum. The architects Herzog and de Meuron redesigned the building by gutting all interior spaces and demolishing the roof leaving behind an empty shell for them.



design sketch of the new art museum



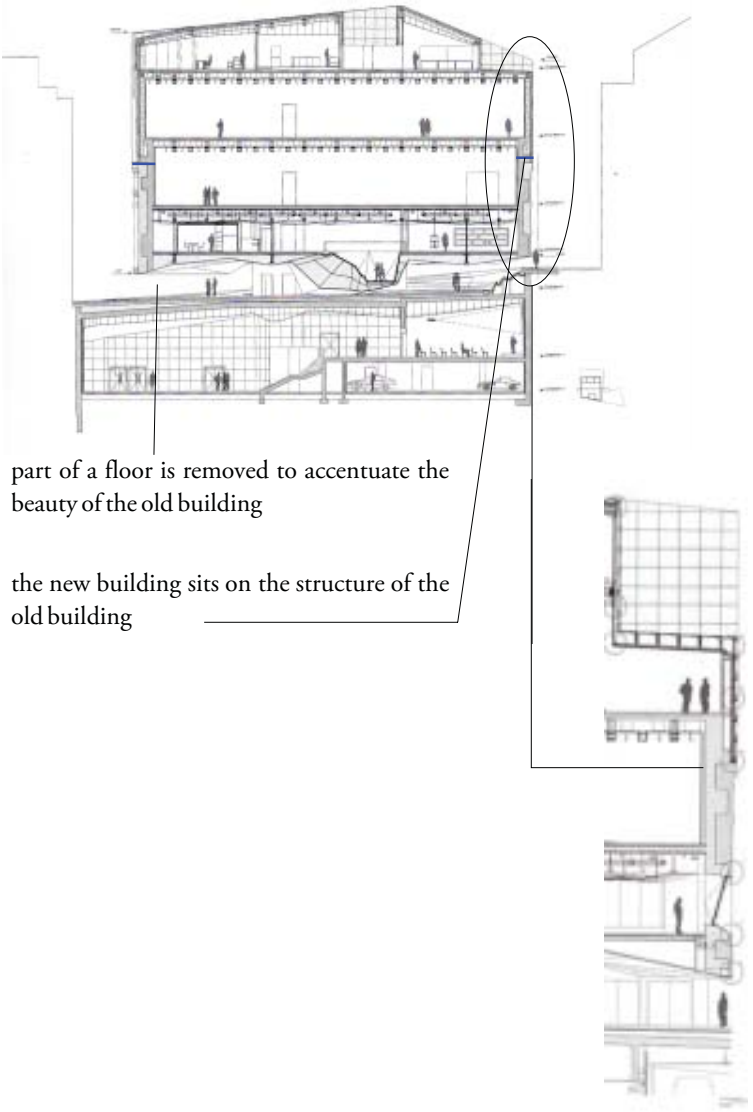
design process of building extension



building programme

8-0. sketches show the process of adding the new building to the existing structure

8-1. to double the museum's volume, a rustic steel cladding to blend with the old building's old brick. The new structure sits on the existing building though supported by the well hidden steel structural system. (Etherington 2008)

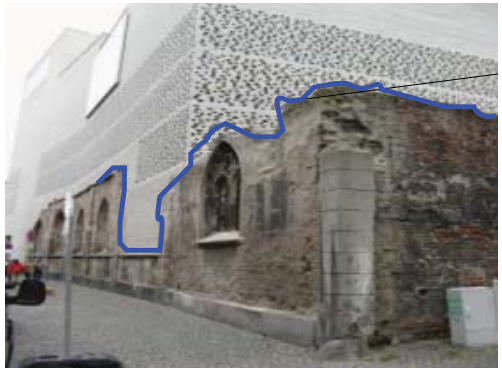


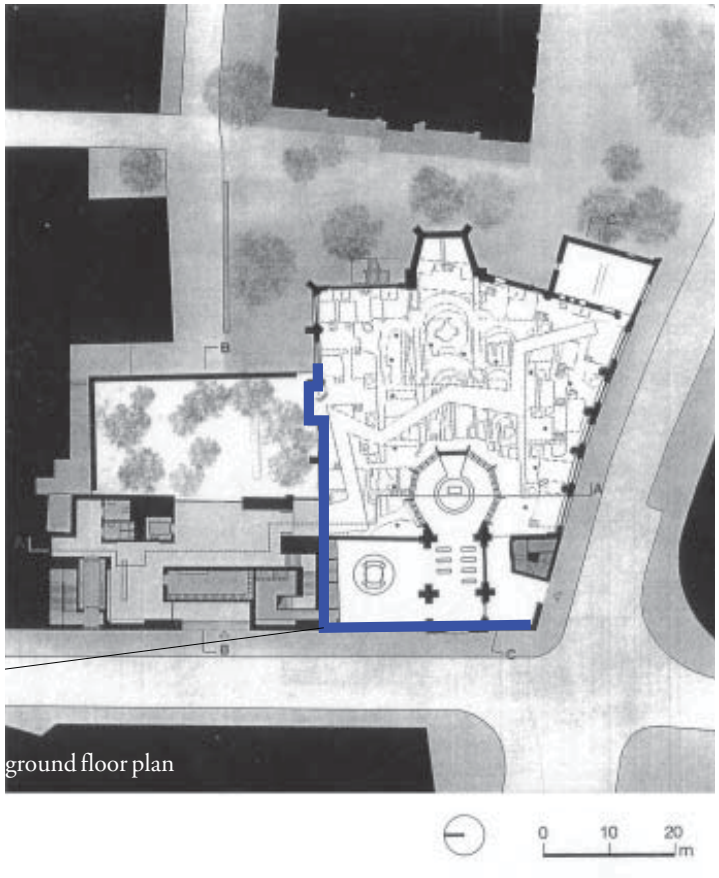
8-2. the section through the building the shows how the cladding system starts on the thick brick facade separating the two worlds created above ground and below ground. (Etherington 2008)

movement and spatial influences

Architects are often tasked to respond to existing demands through creating subtle discontinuity between old and new spaces. This example portrays one of the greatest works of Peter Zumthor in the Kolumba museum in Cologne, Germany in 1997. Zumthor was tasked to create a museum for the accumulation of archaeological and historical relevance on existing ruins of chapels of historic value; providing for a new access to them within the new structure. The brief was to elaborate on the existing to create anew ; a work of preservation, extension and a new development. He cleverly enhanced the site's archaeological character by merging the old ruins into the new through the use of material along arteries of movement and contemplation, lighting

The transition between street and interior occur through glazed partitions, once inside the movement within each space is defined by the interplay of height change, austere materials use of natural materials of wooden furniture to the monastic style of the masonry walls as part of the brick wall.





8-3. the building and ground act as background for the remains of the church walls and activity of the people in the courtyard whilst the new building sits on the old sacristy. (Entry 1197 1997)

Spatially, the new building acts as a continuation of the old. The infernal spaces still reflect the identity of the old and the idea of reference is never lost as you walk into each room.

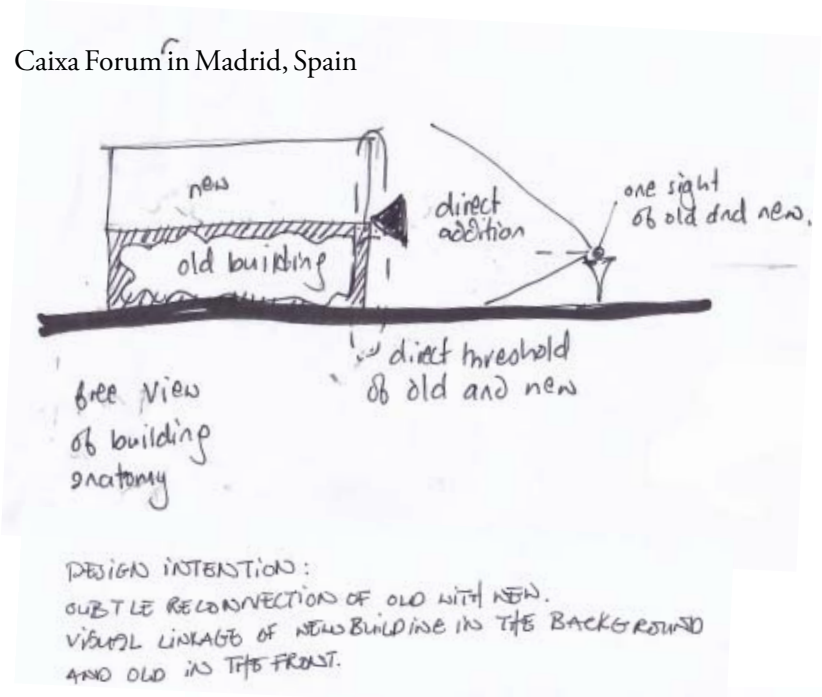
The connection of old to new is heavily linked to the subtle (and respectful) blend of material to the ruins of the chapels; how they have become part of the street facade and gelling into one place. This project demonstrates how the existing has the ability to produce the new.

the new structure plays the role of completing the ruins defining the lower walls

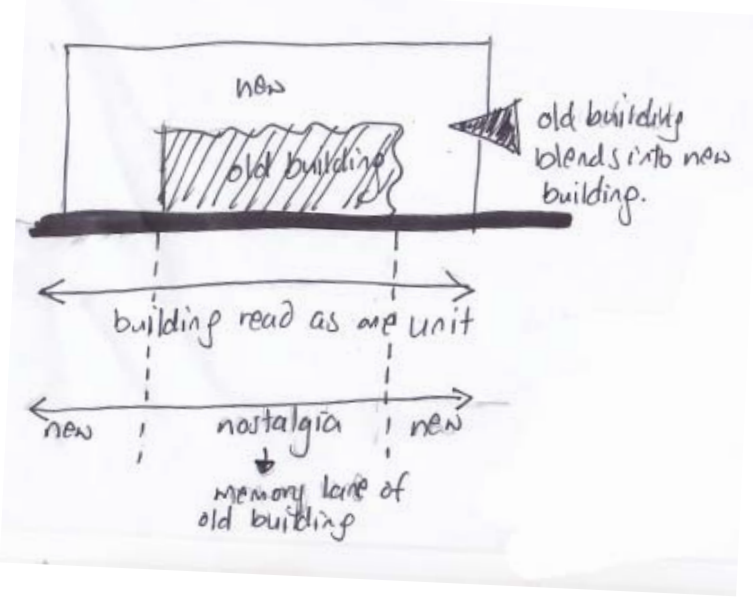
8-4. main view from the entrance and inside the main foyer

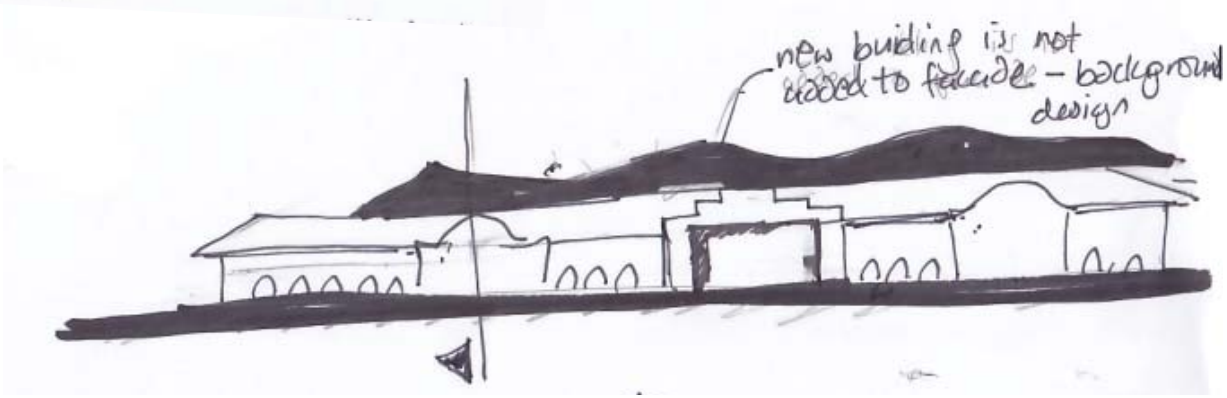
analysis of examples

Caixa Forum in Madrid, Spain



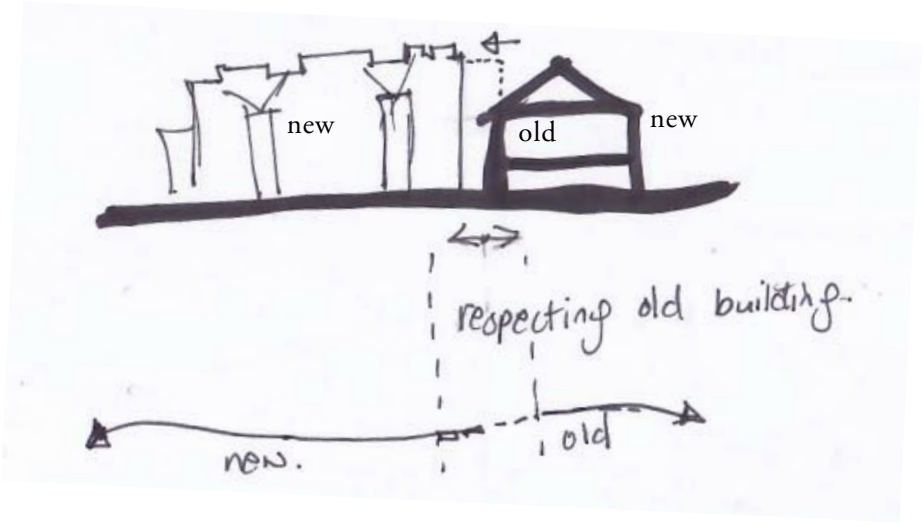
Kolumba museum, Cologne, Germany



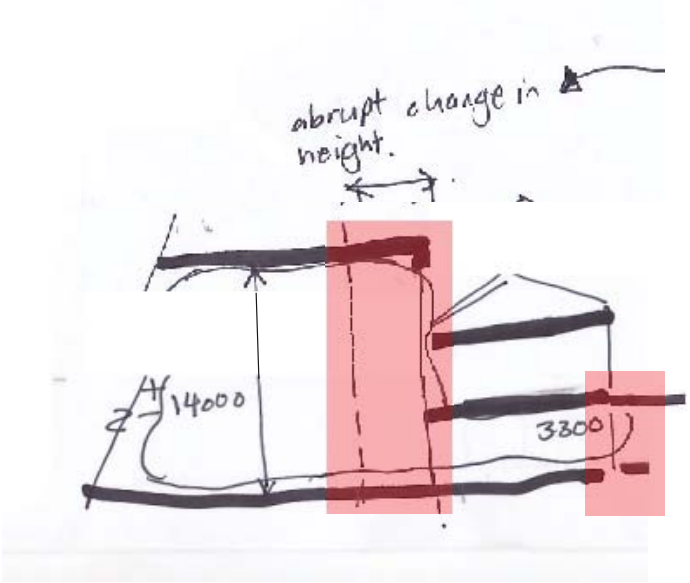


8-5. analysis of examples

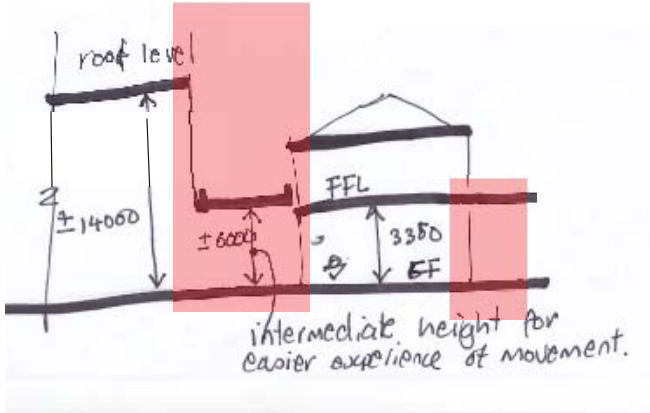
cross sectional sketches



8-6. cross sectional sketches of the old and new station

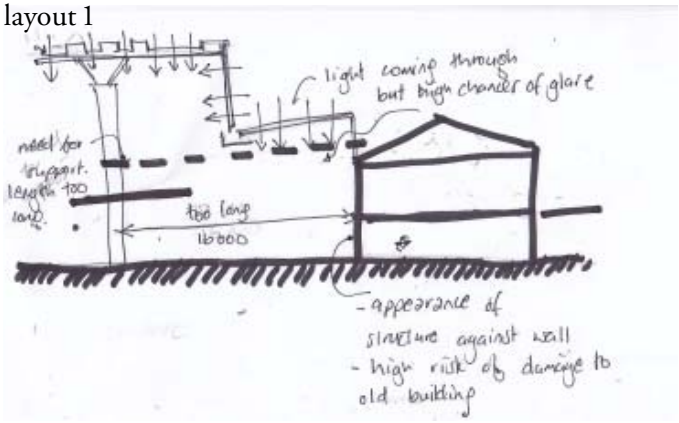


areas of important transition



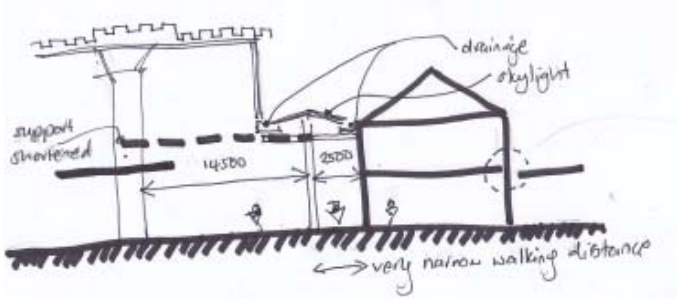
structural analysis

layout 1

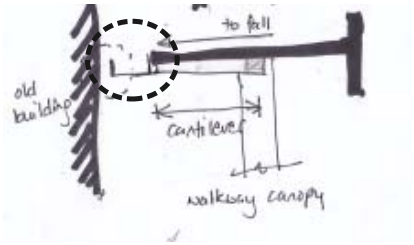


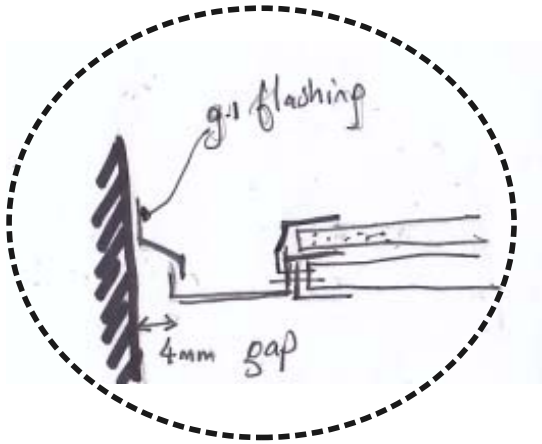
In this layout the 16m distance between structural support is too long to support the skylight above

layout2



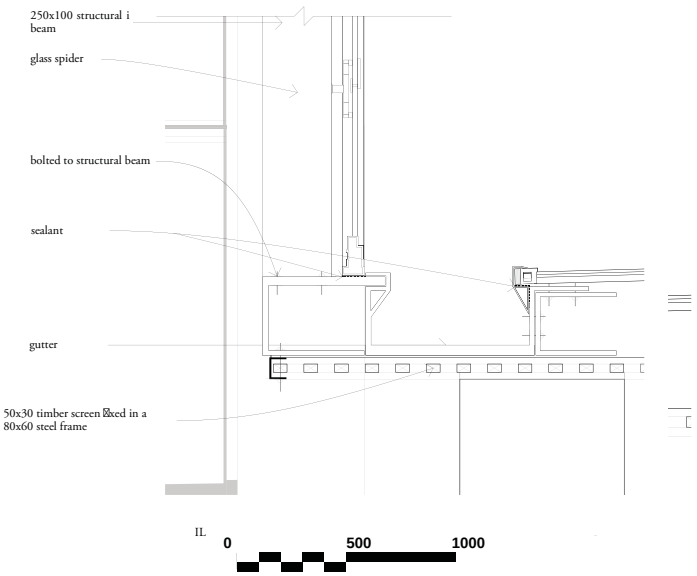
The16m distance has been divided into two sections allowing for a cantilevered structural system.





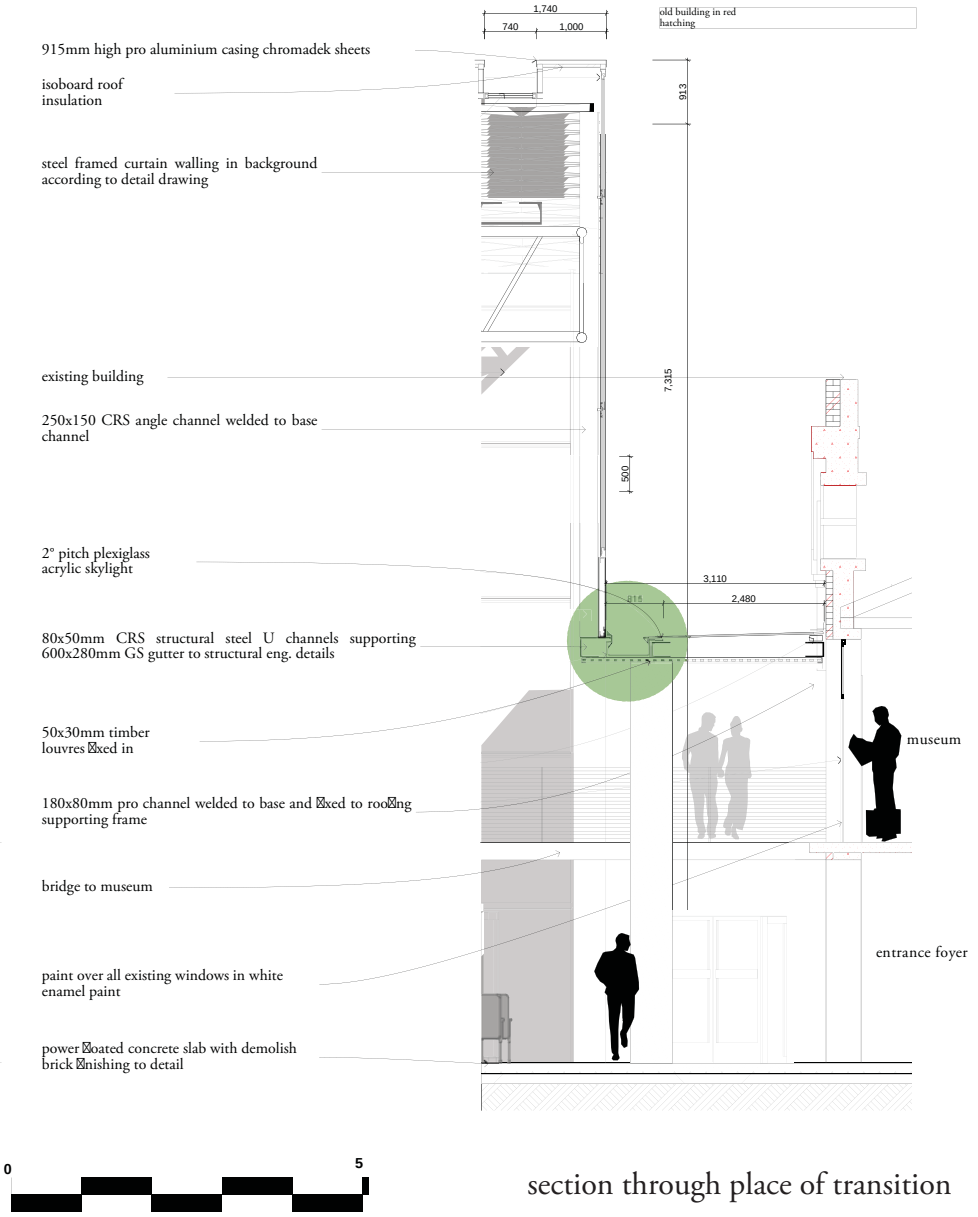
8-7. sketches showing structural analysis of transitional space

final sketch details



detailed section through steel gutter and roof light

8-8. final sketch details of transitional space



section through place of transition

CHAPTER 9

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