Wolkite University

College of Engineering and Technology

Department of Architecture

SpatialCharacterization and Analysis of Street study

(*In thecase of Merkato; 'Chid-Tera')*

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Spatial characterization andanalysis of streetstudy

(in the case of ‘Merkato’; ‘Chid-Tera’)

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Executive Summary

Many city streets were created in a different era and need to be reconfigured to meet new needs. Street space can also be reused for different purpose based on the current need.Different eras bring different spaces programs to the street and if this programs are not managed in a way they will decrease the street qualities.[5]

Our city Addis Ababa is starting to be considered as a dead city because of different problems which include low quality of street. Before the city really die we need to consider ways to make a better and liveable environment.[5]
The existing situation of our city have major problems in street quality and our streets have to be reconfigured based on the spatial quality that the city need.

This study focus on Minalesh Tera, which is a part of the largest open market in the city of Addis Ababa, Merkato. Minalesh Tera contains around 5000 craftsmen and small enterprises recycling different recoverable wastes in to artifacts and other goods, which makes it the most influential recycling zone in the city. [4]
In Minalesh Tera the main evident problem is that the structural organization of the spaces doesn't meet the functional order of the street, which has created disordered spaces.

The research study how these interventions have neglected to consider the functional organization of the spaces and thus don't meet the spatial demand of the space and it proposes will have architectural solution by balancing the existing trend with a proper spatial organization to create a sustainable environment in terms of space.

Acknowledgment

First of all, I want to express my great appreciation for those who had helped me all the way to the accomplishment of this paper and I would like to extend my appreciation to all the craftsmans in Minalesh Tera for their welcoming behaviour on my site visit and analysis work.

I would like to thank all my advisor**Architect Wosen A.** you were nice to me and I have learned a lot from you very much. I wish God make so many like you.

What can you say to a friend who has been with you all the way in life adventure facing all challenges you have faced; sharing all happiness and sorrows. If you get the right word of acknowledgement say it for me to**EngineerHamdyihun Jemal**.

Austaz Beshir, my spiritual teacher, thank you very much for supporting and believing in me, trust me inshallah I will never disappoint you.

I want to express my gratitude to my parents. You are nice bow. You have bent hard to shoot me (arrow) far to my dream, just thank you.

Hey sisters and brother I didn't forget you and I will not. Thank you very much for the respect and believing me.

Finally, for those who are not a student of architecture (not a student at all) but a good friends, with whom I shared my challenges I just want to say **Thank You**.

- At last not the least but my best thanks to provider of present … **'ALLAH'**

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CHAPTER ONE

1. INTRODUCTION

1.1 Historical development of Minalesh Tera

Since the establishment of Addis Ababa is the open market currently known as "Merkato" has existed. It gained its name during the Italian occupation. Minalesh Tera, which is one of the unique parts of Merkato, was established during the Dirge regime. [4]

Citizens in that time acquired grains and sugar from the government for cheaper prices using coupons. When they wanted to exchange their commodities for other products or for currency they went to Minalesh Tera. The name also originated from these activities because people asked each other what products they had for sale (Minalesh- what do you have?). Some traders also established residence near this area and started collecting leftover materials from other places in the city and converted them to other products for sale. This is how the recycling history of Minalesh Tera originated. [4]

1.2 Problem Statement

The existing type of roads in Merkato have low qualities of street compared to qualities that the streets they really need.

In the case of ‘Minalesh Tera’ has the biggest problems in terms of infrastructure and shortage of space for working, selling and storing. The street quality is not suitable to the quality needed to the site.

The unique spatial qualities are not considered in the existing street type of street so there is lack of understanding qualities that make the street unique.

There is no guideline to control upcoming threats in the streets which will have a bad influence in the streetquality.

1. 3 Objectives

1. 3.1 General objective

- Analysing the spatial qualities of ‘Chid-Tera’ street to make it more suitable to the functionand create good condition of the site(street) into a settled and safe environment by providingappropriate space for working, exploring, selling.

1.3.2 Specific objectives

- ✓ To investigate and analyse the land use and land cove feature of the current situation chid-tera Street
- ✓ To identify major neighbourhood linkage between areas and propose better alternative to maximize their potential and minimize the problems
- ✓ To indicate or provide some alternative design solution and design guidelines of street for ‘Chid-Tera’ in favour of better landscape management

1.4 Research Questions

- What are the major spatial qualities of ‘Chid-Tera’ street?
- What are the major characteristicsof theneighbourhood sites?
- What type of street type ‘Chid-Tera’ really needs?
- How to assist designers in the fine-tuning the site with a better understanding of how people distribute themselves in the space?

1.5 Significance of the study

- ✓ This research has been maximizing the potential usage of ‘Chid-Tera’ street according to the functions and the quality needed in the specific area (‘Chid-Tera’).

This thesis project investigates an alternative approach in the design of Minalesh Tera area instead of the current method of implementation proposed by the government. A method that doesn’t disturb the existing network of activities but also provides the necessary spatial and programmatic needs of the sellers and the users.

1.6 Scope of the study

The project will research on market places and the streets of Minalesh Tera. Therefore, the scope of the research will only focus on landscape features of Minalesh Tera.

This thesis analyses spatial and social forces that shape the Minalesh Terastreet experience at the scale of thelocality. By performing a detailed study and analysis of the streetspatial qualities.

I will try to shed new light on the social life of different types of streets, and suggest ways in whichthe stimuli for these social lives can be understood and used to formulate design guidelines for streets inAddis Ababa cities that are currently undergoing similar transitions in their development.

1.7 Limitation of the study

Lack of relevant and well organized data in the municipality and other sources, time constraint to analyse and interpreted the collected data, distance between the study area and the person who prepared the study, severe financial constraint for material, transportation, and other costs, lack of electric as per required were some of the limitation while I did the project

CHAPTER TWO

2. LITRATURE REVIEW AND CASESTUDYS

2.1 LITRATURE REVIEW

2.1.1 Introduction

“Street” can be defined as one of the crucial components of the city and itis the most impressive one of the urban character. Jane Jacobs emphasized on theimportant role of streets in creating image about a city also she noted that street is anunavoidable urban space (Jacobs, 1961). People experience a city by passing throughits streets. We see, feel, and perceive the information demonstrated along the streetwhen moving through it as pedestrians, and then we have cognition about the city. [1]

“Street” acts like a showcase for a city where visitors firstly impressed byand judge about the city whether he or she will like or not. “Pedestrian streets” as atype of urban space are known by people as linear three dimensional spaces. Theypass through the street and they will familiarize with spaces shaped by buildingfacades, types of trees, sidewalks and different elements. Thus, the design of“street” has influenced on users greatly, and will make the people’s imageof the city’s feature.[1]

2.1.2 Definition of the Street

“The only legitimacy of the street is as public space. Without itthere is no city.” (Jacobs, 1961).

- ✓ Street is defined by Oxford English Dictionary as “a road in a town or village, running between two lines of houses; usually including the sidewalks as well ascarriageway”

A street can be described morphologically,
i.e. “A linear space between buildings” or regarding its use: a “setting in which a specified set of activities occur” [2]

Mainly, this description has considered street asa road and place that cannot be seen separately from the situated buildings along it.In street definition, it is significant to focus on paving because the word “street”derives from Latin “sternere” which means “to pave” (Kostof, 1992; pp: 190). [2]

- **Carmona (2007) defines street as threedimensional spaces which are situatedbetween two lines of neighbouring buildings on both sides.[2]**

2.1.3 Function and Form of Street

Street can define the city by facilitating spaces for socio-economic activities and by signifying the outdoors (Jacobs, 1993). In respect to impressive role of street in the city, Jane Jacobs (1961) described streets and their sidewalks as the most critical components of the public space. **Accessibility** and having **opportunities to socialize** are mentioned as two important activities and people get advantage of the street for transmission and for interacting each other through of meeting, shopping and greeting.[2]

Streets utilize social interactions in terms of contact, awareness and cohesion. In a differentway, streets create chances for short-term, low-intensity connections that form several kinds of transactions with other people in a relaxed condition. [1]

As a whole, it could be mentioned that streets are the vessels of cities and their being successful can refer to how they are linked with local facilities and the whole city. Over the decades the design of streets has usually concentrated on vehicular moving, but actually, streets have many other capacities as well. They are essential units of city and extensively have impacts on the overall quality of life of people.



Figure 1 Form of Street

It has some basic functions as:

- Circulation, for all groups of users (pedestrians, cyclists and vehicles);
- Movement access;
- Access to buildings, light equipment and ventilation system;
- A route for facilities
- Storage space, mostly for automobiles;
- Public space for human activities; everything from marching and gatherings to provide various kinds of opportunities.

The form of the street also could be described in terms of scale, proportion, contrast, rhythm or connections to other streets and squares.

- Regardless of followed analysis, the street has two significant characteristicsparticularly related to form; it is, simultaneously, both path and place. [2]

2.1.4 Great Street

2.1.4.1 What is Great Street?

There is a remarkable difference betweenstreet and road. One of the main difference between street and road is the existence ofthe road characteristic that is incompatible with the street. This difference can beconsidered as fast-moving traffic along with its engineering needs. [2]

- Difference between street and great street

STREET



Figure 2Street Feature, Source: Google Maps
Source: Google Maps

GREAT STREET



Figure 3 Great Street Feature, Source: Google Maps

- Blank Walls
- A Wide Street
- Fast Moving Traffic
- Narrow Sidewalks
- Activity and Interest
- A Comfortably Scaled Street
- Slow-Moving Traffic and On-Street Parking
- Ample Sidewalks

2.1.4.2 QUALITIES OF A GREATSTREET

- Attractions & Destinations
- Identity & Image
- Active Edge Uses
- Amenities
- Management
- Traffic, Transit & the Pedestrian
- Protects Neighbourhoods



Figure 4 Qualities of Greate Street, Source: Google Maps

2.1.4.3 Key Characteristics of Great Street

The key characteristics to look for include:

- Great streets are representative of their place.
- Great streets are green and facilitate place making.
- Contribute economic vitality of the city.
- Provide mobility they are functionally complete.
- Allows peoples to walk comfortably and safely.

1. **Great Streets Are Representative Of Their Place**.

A Great Street reflects the neighbourhood through which it passes and has a scale and design appropriate to the character of the abutting properties and land uses. [2]



Figure 5Great Streets Are Representative Of Their Place, Source: Google Maps

Best practice: New York City public spaces

The New York city uses temporary materials to activate public space and create better bikeway through the city planters, seating areas etc. for helping to realize public support for full scale capital implementation.



Figure 6 Best Practice –Union Square, Source: Google Maps

2. Great streets are green and facilitate place making.



Figure 7 Great Street are Green, Source: Gehl Architects



Figure 8 Great Street facilitate place making, Source: Gehl Architects

3. Contribute Economic Vitality of The City.

- Great Streets facilitate the interaction of people and the promotion of commerce.
- They serve as destinations, not just transportation channels.
- They are good commercial addresses and provide location value to businesses that power the local economy. [2]



Figure 9 Great Streets Contribute Economic Vitality of The City, Source: Gehl Architects

4. They Are Functionally Complete

Great Streets support balanced mobility with appropriate provision for safe and convenient travel by all of the ground transportation modes:

- Transit,
- Walking,
- Bicycling,
- Personal motor vehicles and freight movement. [2]

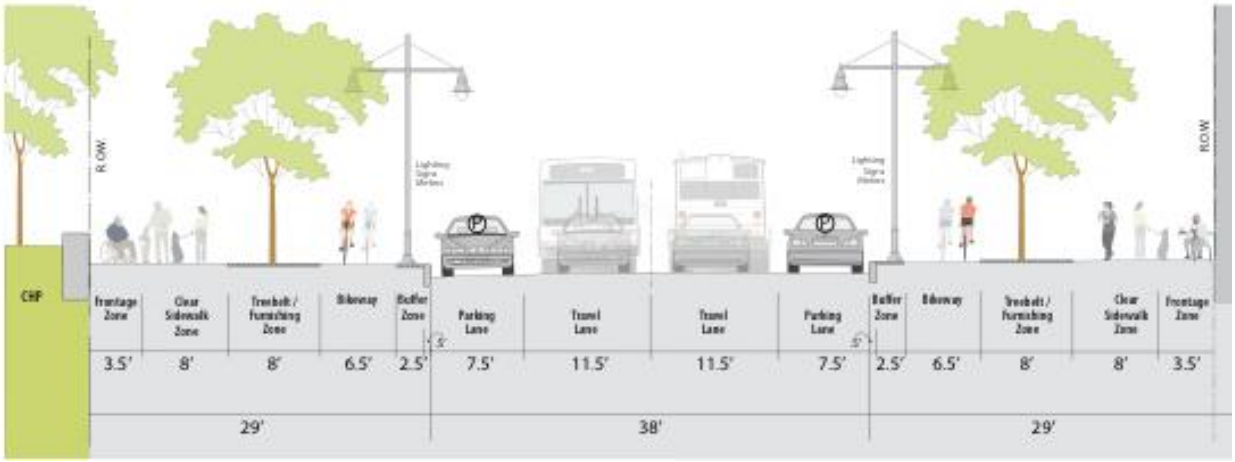


Figure 10 Great Streets are Functionally Complete, Source: Gehl Architects

5. **Great Streets Are Green**

- Great Streets provide an attractive and refreshing environment by working with natural systems.
- They incorporate environmentally sensitive design standards and green development techniques, including generous provision of street trees and other plantings and application of modern storm water management practices. [2]



Figure 11Great Streets are green , Source: Google Maps

6. **Great Streets Provide Mobility.**

- Great Streets strike an appropriate balance among the three elements of modern mobility:

1. Through Travel,
2. Local Circulation And
3. Access.

The right balance varies with the function of the street and the character of its neighbourhoods and abutting properties. [2]



Figure 12Great Streets Provide Mobility, Source: Google Maps

7. **Allows Peoples To Walk Comfortably And Safely.**

- The pedestrian environment on, along and near the street is well-designed and well furnished.
- The relationship between the street and its adjacent buildings is organic, conducive to walking, and inviting to people. [2]

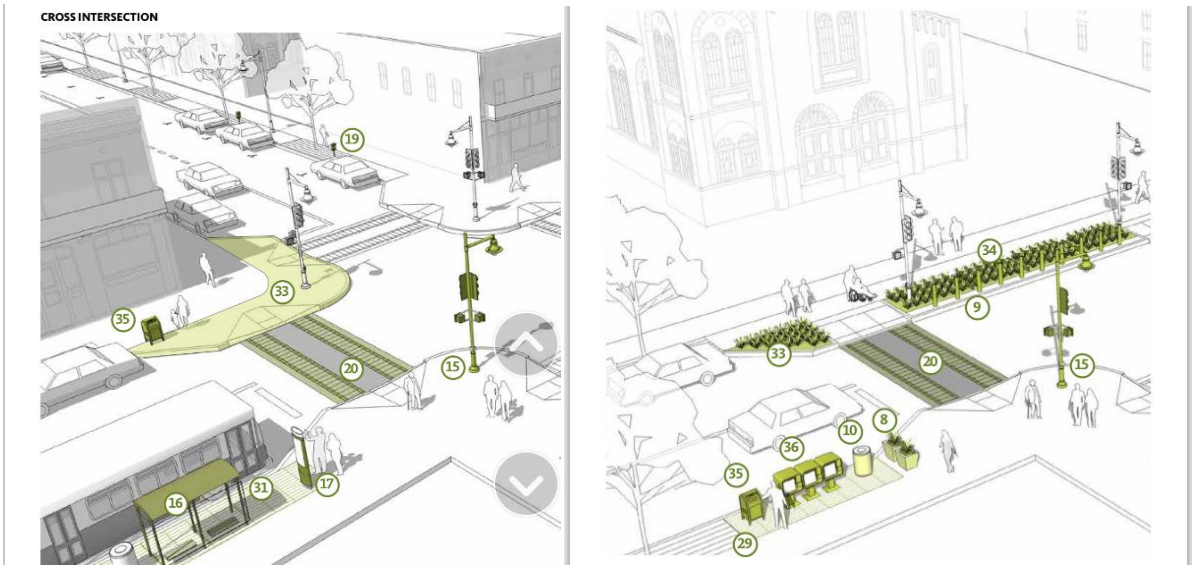


Figure 13 Great Streets Allows Peoples To Walk Comfortably And Safely, Source: Gehl Architects

NOTE:-Many city street were created in a different era and need to be reconfigured to meet new needs. Street space can also be reused for different purpose such as park lets bicycle parking an pop up cafe



Figure 14 Upgrading Streets , Source: Gehl Architects

2.2 CASE STUDIES

Great streets can be applied to many differenttypes of streets—commercial streets with lots ofpedestrian activity, narrow streets or alleyways,high traffic volume streets, squares and streetintersections-only, low traffic volume residentialstreets, and streets acting as linear parks, toname a few.This section of the report highlightsexisting examples in three types of streetscommon in urban areas

- **New Road in Brighton, England** as an example of a Commercial Streetwith Lots of Pedestrian Activity,
- **Exhibition Road in London, England** as an example of a HighTraffic Volume Street, and
- **Market Square in Pittsburgh, Pennsylvania** as an example of aSquare and Intersection.

The main criterion used for selecting these casestudies were that the designs were inspiring, the street type was common in American cities, andit had design elements that could be appliedelsewhere.

While these case studies areunique to their specific location and arguablycould not be replicated successfully in theirentirety, it is still helpful to look at success storiesand extract aspects of the designs that could besuccessful in other locations as well.

Commercial Street with Lots ofPedestrian Activity

A common street type in is a small- to medium-volume commercial street characterized by shops and restaurants that has high volumes of pedestrians anda example that is most inspiring is New Road in Brighton,England.

High Traffic Volume Street

Another common street type is a high traffic volume street that may include public transportation, such as buses and streetcars.

Squares and Intersections

Shared streets can also be applied to streetintersections and squares, extending slightly onto surrounding streets to serve as the gateway into the shared street. Conventional intersections often end up serving as a thoroughfare, with speeding drivers anxious to make it through the green light. As a result, intersections can be particularly hostile to pedestrians. Yet, there is a lot of potential for place making in squares and intersections.

2.2.1 New Road: Brighton, England

Designer: Gehl Architects

Constructed: 2007

Right of Way: ~47 feet

Cost: $2.49 million (£1.75 m)

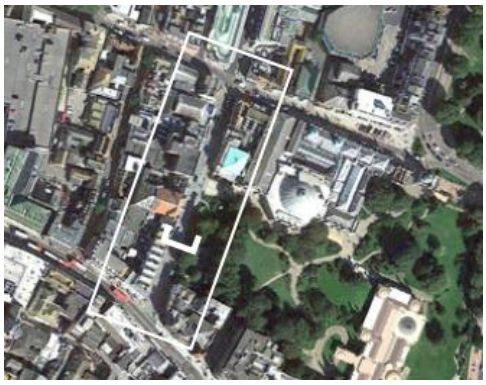


Figure 15 New Road: Brighton, England **, Source: Google Maps**

Overview

New Road is one of England's first shared streets. Gehl Architects redesigned this main street in central Brighton as a flush street that permits all modes of transportation, but is primarily intended for, and used by, pedestrians (Community Design + Architecture 2013).

Brighton's Royal Pavilion and its Gardens bound the street on the eastern side, and the western side has numerous shops, restaurants with outdoor seating, a theatre, a few offices, and a church.

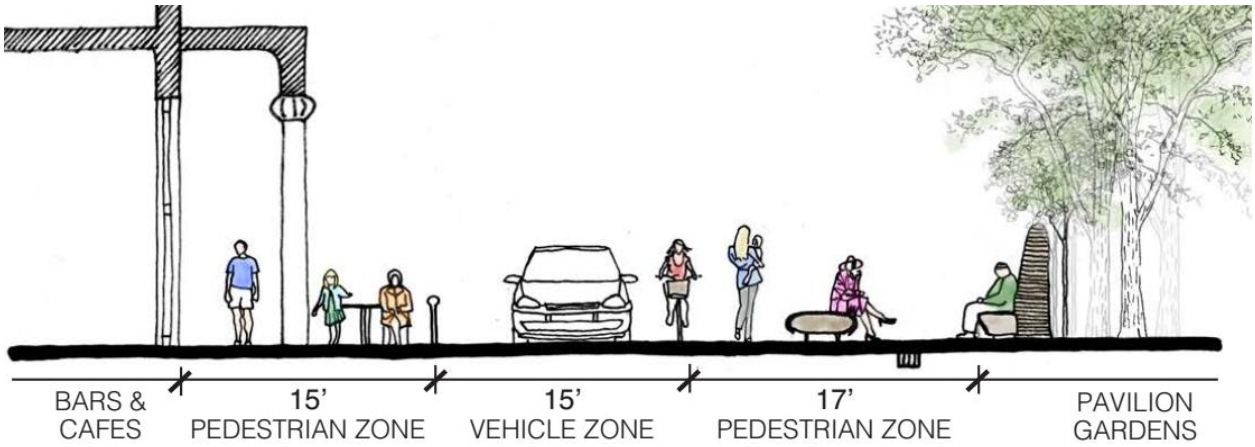


Figure 16 New Road: Brighton, England street section**, Source: Gehl Architects**

Key features

New Road successfully utilizes different paving materials and furniture placement to delineate informal zones. As discussed earlier, the linear drainage system marks the zone for sitting; long grey stones intermixed with multi-coloured paversmark the zone for pedestrians to walk on the eastern side; linear black and white stones mark the transition to the pedestrian zone on the western side; and light grey pavers mark the zone for café seating and for pedestrians to walk on the western side.



Figure 17Variety of different users. Source: Gehl Architects

New Road also offers beautiful, unique, custommade wooden benches that create a distinct sense of place and invite people to linger on the street. They are so successful because the design speaks to how people use the street and to the adjacent land use. The benches also inherently encourage everyday citizens to take ownership of the street by putting more "eyes on the street" (PPS 2015, *What is Place making?*) It is arguably one of the best place making initiatives in a shared street to date.

BEFORE



Figure 18 New Road: Brighton, England before design**Source: Gehl Architects**

AFTER



Figure 19 New Road: Brighton, England after design**Source: Gehl Architects**

2.2.2 Exhibition Road: London, England

Designer: Dixon Jones

Constructed: 2011

Right of Way: ~78 feet

Cost: $41.3 million (£29 m)



Figure 20 Exhibition Road: London, England, **Source: Google Maps**

Overview

Exhibition Road is a main street in central London that is lined with popular museums, such as the Natural History Museum and the Victoria and Albert Museum, shops, restaurants, and offices. The street attracts roughly eleven million visitors each year. A half-mile section of the street was redesigned in 2011 because it was difficult for pedestrians to cross the busy street, as there were few crosswalks, and many felt the street's appearance was "cluttered, unattractive and not very worthy of its prestigious institutions".

Today, Exhibition Road is a shared street, though it continues to serve as a through route with a 20 mph speed limit for transit and two-way car traffic. Some segments carry up to 1,000 vehicles per hour.

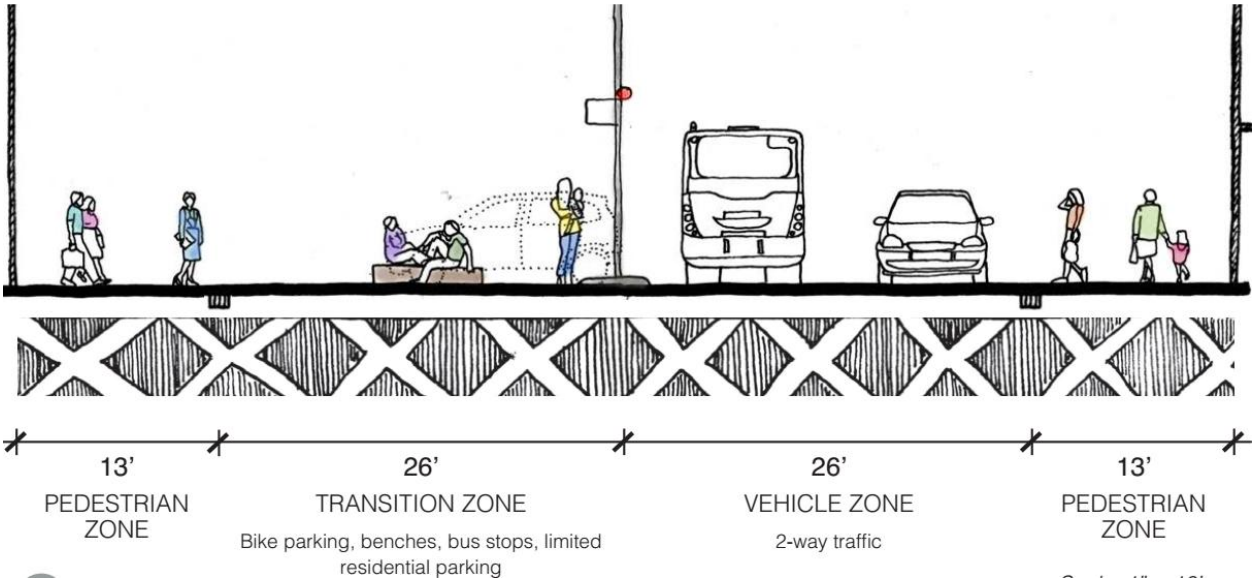


Figure 21 Exhibition Road: London, England section**Source: Gehl Architects**

Key features

Even though Exhibition Road is a busy street, it still delineates zones. In the busiest section of the redesigned corridor, there are four meter wide pedestrian zones on either side of the street, and in the centre, there are two lanes for traffic and an eight meter wide "transition zone". Exhibition Road's striking black and white paving speaks to the nature of the adjacent museums by serving as a piece of art in its own right and a bridge between the museums. Unlike other shared streets, the paving is uniform from edge to edge and does not change from one zone to the next.

The street also features vertical, black drains and ribbed ("corduroy") paving to alert blind users that they are reaching the edge of the pedestrian-only zone.

BEFORE



Figure 23 Exhibition Road: London, England before design**Source: Gehl Architects**

AFTER



Figure 22 Exhibition Road: London, England after design **Source: Gehl Architects**

- The street design has not adequately slowed vehicles down at all times of day or on all sections.

Vehicular traffic creates "eyes on the street" when there are fewer pedestrians. So it is possible for a street to function well as a shared street at certain times of day and act as a more conventional street with freeflowing traffic in the evenings, though this may or may not be the case on Exhibition Road.

2.2.3 Market Square: Pittsburgh,

Designer: Klavon Design

Constructed: 2010

Right of Way: ~48 feet

Cost: $5 million



Figure 24 Market Square: Pittsburgh **, Source: Google Maps**

Overview

Market Square is one of the first and most well-known shared streets in the United States. Vehicles and buses are no longer permitted to drive through the square; buses were redirected onto other streets, and automobiles from Forbes Avenue and Market Street are only permitted to travel counter-clockwise around the perimeter of the square. The perimeter road is a shared street, so there are no curbs or road surface markings (i.e. striping), and there is minimal signage. Motorists around the square drive slowly, and motorists and pedestrians navigate the space via eye contact. There are numerous cafes and restaurants around the perimeter of the square.

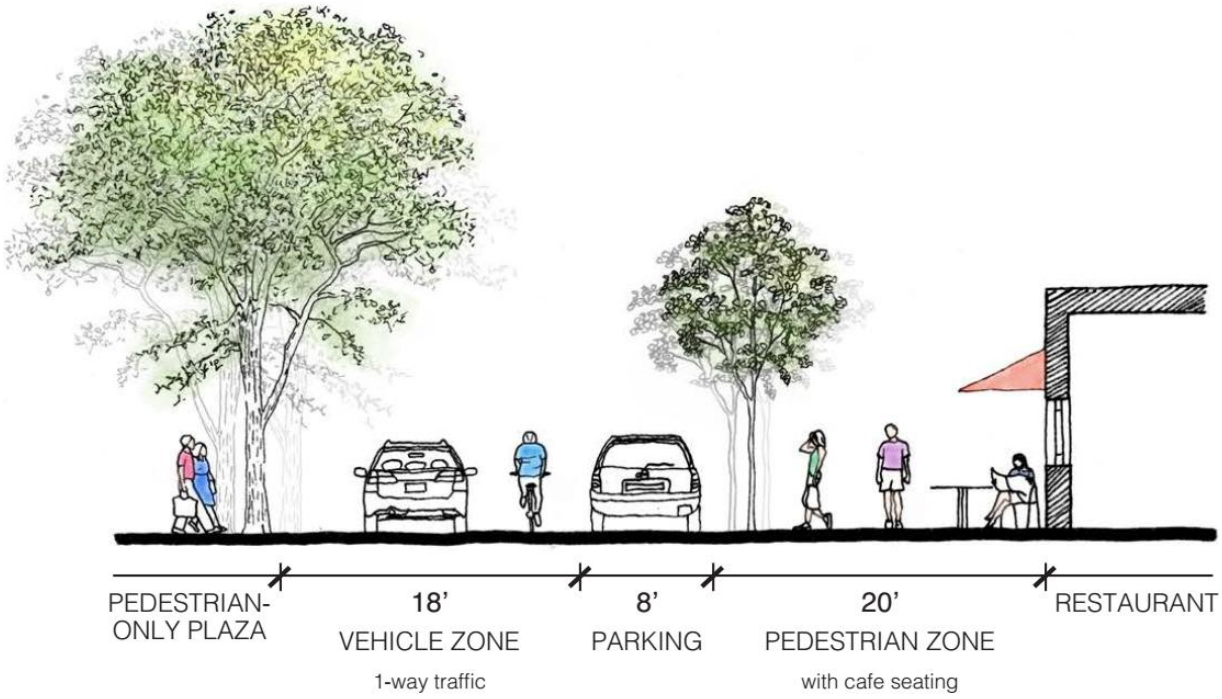


Figure 25 Market Square: Pittsburgh street section**Source: Gehl Architects**

Key features

Like other successful shared streets, Market Square utilizes different paving materials and furniture placement to delineate informal zones. (See *Figure 3* and *Figure 6*.) The street reconfiguration also preserved the square itself for pedestrians. The square is designed to be flexible and serve a variety of different uses. The square features movable café seating, which is very popular with downtown professionals at lunchtime, and it hosts numerous events throughout the year, including a weekly farmers market, Yoga in the Square, Dancing in the Square, a night market, and more.

BEFORE



Figure 27 Market Square: Pittsburgh before design**Source: Gehl Architects**

Source: Google Maps

AFTER



Figure 26 Market Square: Pittsburgh after design **Source: Gehl Architects**



Figure 28 Market Square: Pittsburgh existing situation**Source: Gehl Architects**

CHAPTER THREE

3. APPROACHES, MATERIALS AND METHODS

3.1 Data Collection Method

The data for this research was collected by contacting the primary sources of data like local/municipal authorities directly and doing a deep level of research by collecting, Studying and analysing academic researchers conducted specifically for focused on Merkato, in the road from Chid-Tera to Amede-Gebeya

3.2 Type of Data

The study was conducted by gathering two types of data the primary data and secondarydata.

A. The primary data

was collected by interviewing the community, government officials and direct observation.

B. The secondary data

Relevant secondary sources were also being consulted. Particularly, data and literatures, including published reports, and unpublished Sources from different books, previous research papers, publicized government policy and strategies, Federal InstitutionsAddis Ababa city Administrations, ORAAMP (Office for the Revision of Addis Ababa Master Plan) documents, and the academia was extensively used. Moreover, best practices from developed and developing are discussed.

3.3Sampling Technique and Sample Size

The study was conducted on road from Chid-Tera to Amede-Gebeyaarea‟ around Merkato. In order to undertake this research, judgmental sampling technique has been undertaken. Chid-Terais highly dense populated and crowded traffic. One of the reasons for its rapid crowded area is more accessible and central part of the market.Target groups have been identified as residential and commercial units. Also the paper to get reliable data by observing the environment and market place” By thetechnique of Trans walk sampling

3.4Analysis Technique

- The analysis begins on the wider city scale and investigates the relationship between the core city centerand its surroundings.
- The City scale analysis has three focal themes – Districts, Movement and Neibourhood.
- The second part of the analysis begins to focus on the inner city and is therefore called Local scale. The focal themes in this part is the Spaces usage.

The second analysis (Local Scale) has beenanalysed

- Analysis of the spatial qualities in chid-tera street

The first stage is identifying the spatial qualities of the streets and their effect

The spatial qualities which will be assessed are in this paper are:-

- Analysis of space usage

- Street itself
- Walkway
- Unique characteristics of the local site

CHAPTER FOUR

DATA COLLECTION AND ANALYSIS

- The analysis begins on the wider city scale and investigates the relationship between the core city centreand its surroundings.

4.1 CITY SCALE ANALYSIS

- The City scale analysis has three focal themes – Neibourhood, Districts and Movement.

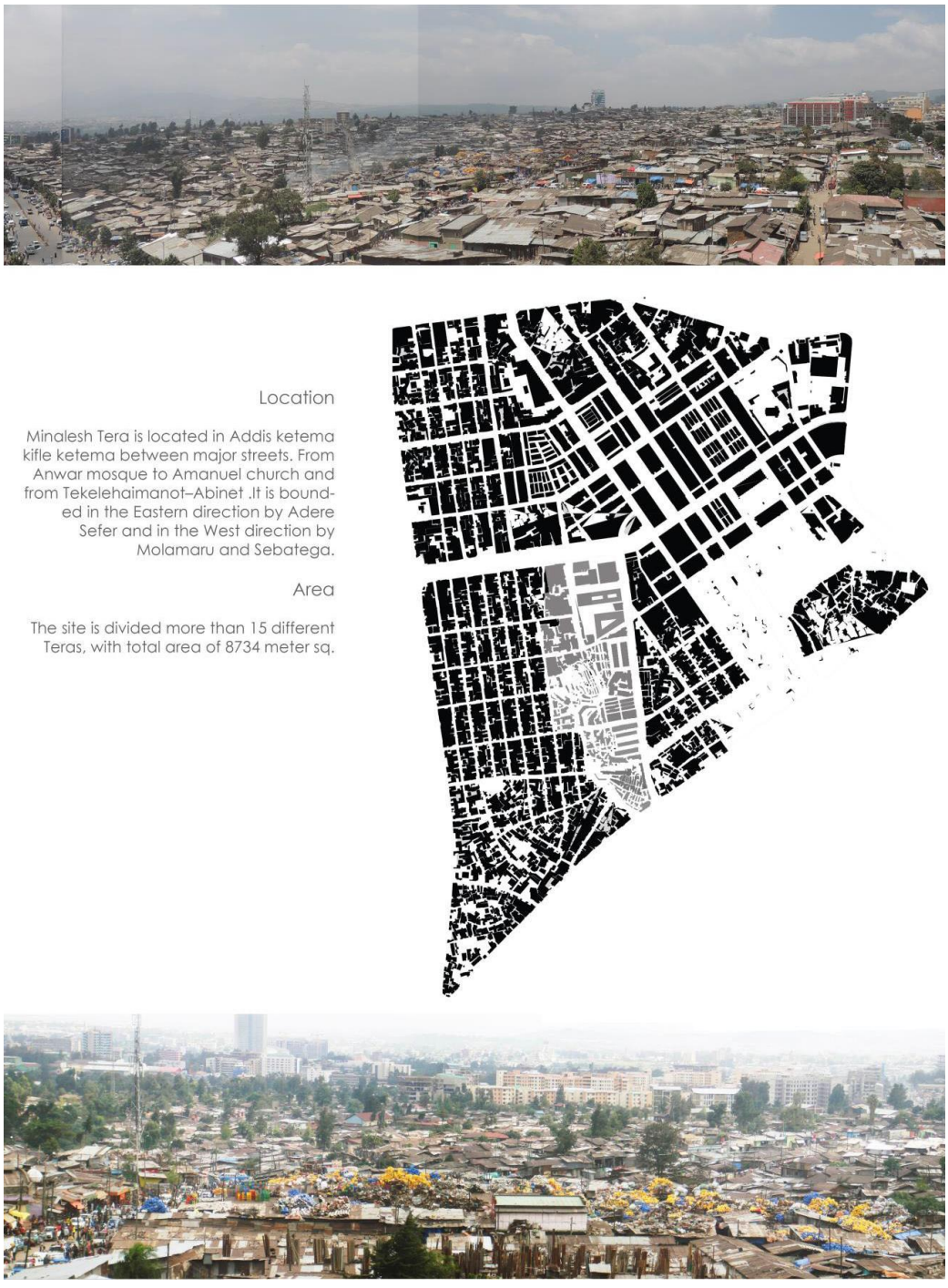


Figure 29 Panorama view of Merkato Source: Taken by the author

4.1.1 Neibourhood/Landscape/

4.1.1.1Morphology



Figure 30 Morphology Map Source: Done by the author

4.1.1.2 SteertNetwork &Block



Figure 31 Road Map Source: Done by the author

4.1.1.3 Land use



Figure 32 Land use Map Source: Done by the author

4.1.1.4Topography



Figure 33 Topograph Source: Done by the author

3.1.1.5 Riverfront

The river that passes through this site became the partition between the residential and the commercial aspects of the site. The river was also the used as a damping site for waste material, which is still exhibited today.



Figure 34 River Source: Taken by the author

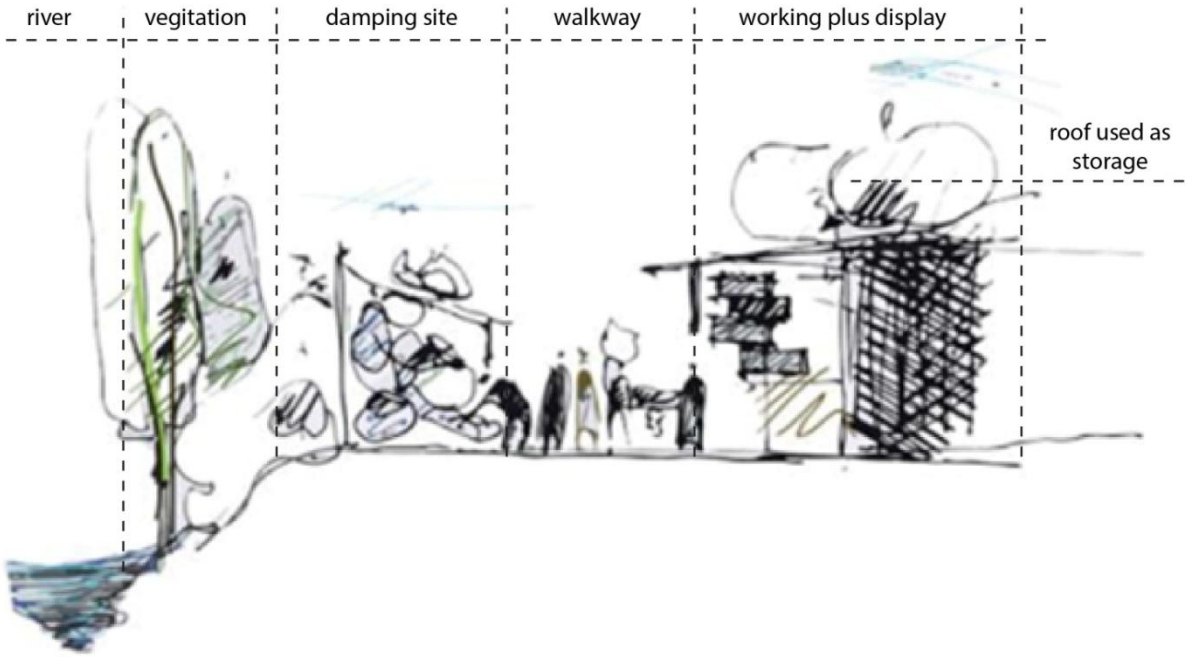


Figure 35 River front condition Source: Done by the author

MAJOR PROBLEMS

1. **Disconnected green space**



Figure 36 Problem of green space

2. **Unconstrained connection and uniform conditions along the River front**



Figure 37 Problem of river front

3. **Sparse and inconsistent tree plantingfeature dv**



Figure 38 Problem of planting

4.1.2 Districts

When we say districts, districts are areas characterized by common characteristics and when wesee merkato as being the biggest open market found in Africa there are a lot of products or goodsthat are found in merkato and there are a lot of districts that are found in Merkato

And when we talk about districts, districts must be bold identifiable they must speak out theiridentity and when we come to merkato, merkatos districts are mainly known by the items theysold on the zoned area and they have their own local names like ‘frash tera’ where all this sleepingcomforts are sold or ‘military tera’ where most military stuff are been sold and as a district theyhave their own zones where we can find a lot of the same products are been sold in one areawhich is a good thing and as a whole site district area there are two districts one which is the undeveloped part which the old settlement is still found and the new developed one which there area lot of high rise buildings are found[4]

- But the big question is how visible are this districts can we easily identify them how can weeasily find them?

The real problem starts when we ask this questions cause when we ask thisquestions we will see the problems when we see merkato there are hundreds and thousands ofthings that are been sold in merkato starting from streets to big malls and as a district are thisitems that have been sold in the area identifiable No because the items that are been solddoesn’t have their own proper district edges they just sell their products in same places like mostof them do for example in the same row you can find ‘Atana tera’ where most wood products arebeen sold and key tera where Keyes are been sold next to each other where there are noboundaries or edges that separates the two items and that made it to lose the identifiably of thedistricts.

And the second questions where are the districts easily accessible as I’ve mentionedearlier there are almost more than 30 locally named districts that are found in merkato and whenwe see the accessibility of the districts we cannot easily access them even find them as adistrict they do not standout and the settlements are even hard we cannot easily find and identifyone district to the others because there are no visual guide lines that let you know which districtsells what product and to find them you just have to find your way into by asking locals thatknow the places and the districts have no boundaries or edges and doesn’t have boldness theyhave no visual guides to them and this made them an recognizable

4.1.2.1 "Teras"

Tera is the local name for an area specialized in selling a type of item, they are grouped into densely zoned areas, usually in combination of morphologic street blocks.

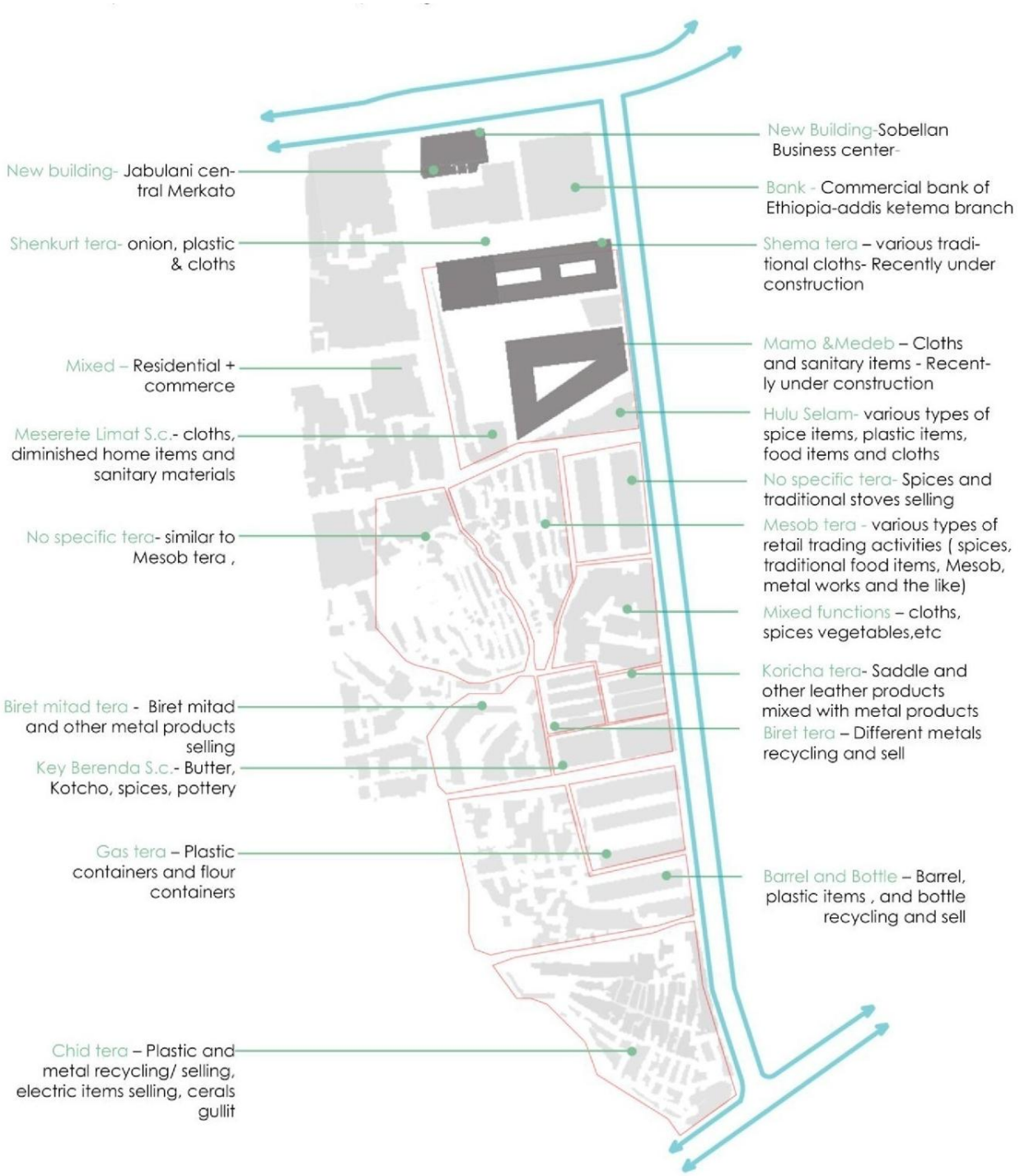


Figure 39 Different types of Teras in the site Source: Done by the author

MAJOR PROBLEMS

1. Lack of clear districts

Within the city, however, the sense of place is less clear residents perceive their city as a collection of districts, each with distinctive differences. Some areas are well defined, while others overlap. Where districts lack identity and clear boundaries, visitors find navigation confusing.

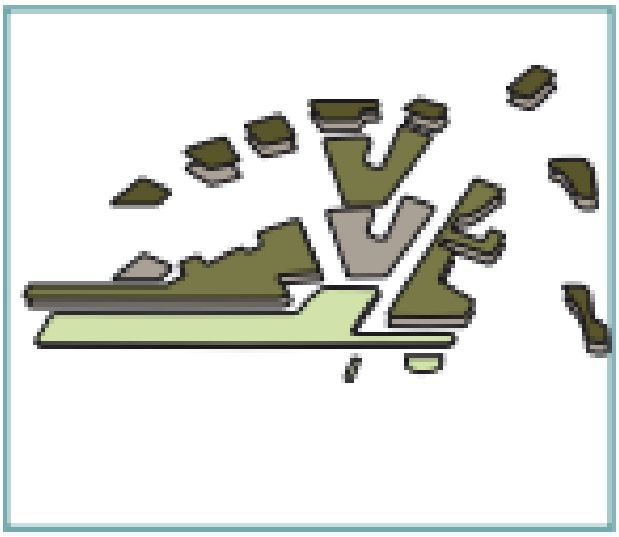


Figure 40 Problem of Clarity of District

2. Disconnected city areas

Many of the peripheral districts of the city, particularly those built in the mid-20thcentury, show higher levels of deprivation. Local studies show that these districts often lack a sense of place, are disconnected (physically and culturally) from the city, the seafront and other landmarks, and have limited connections to major transport routes.

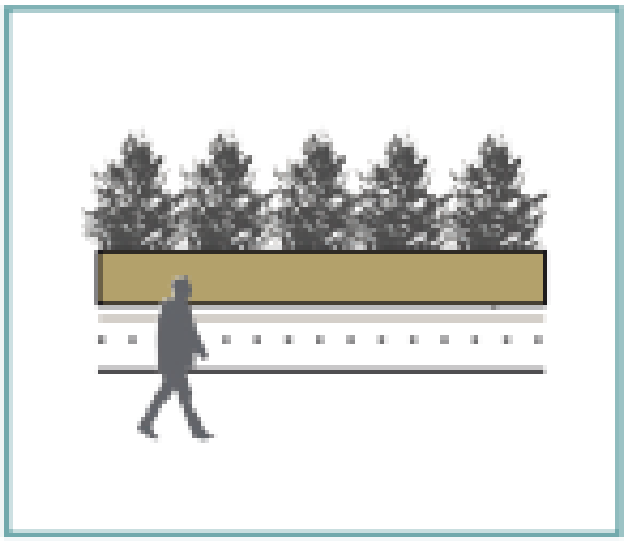
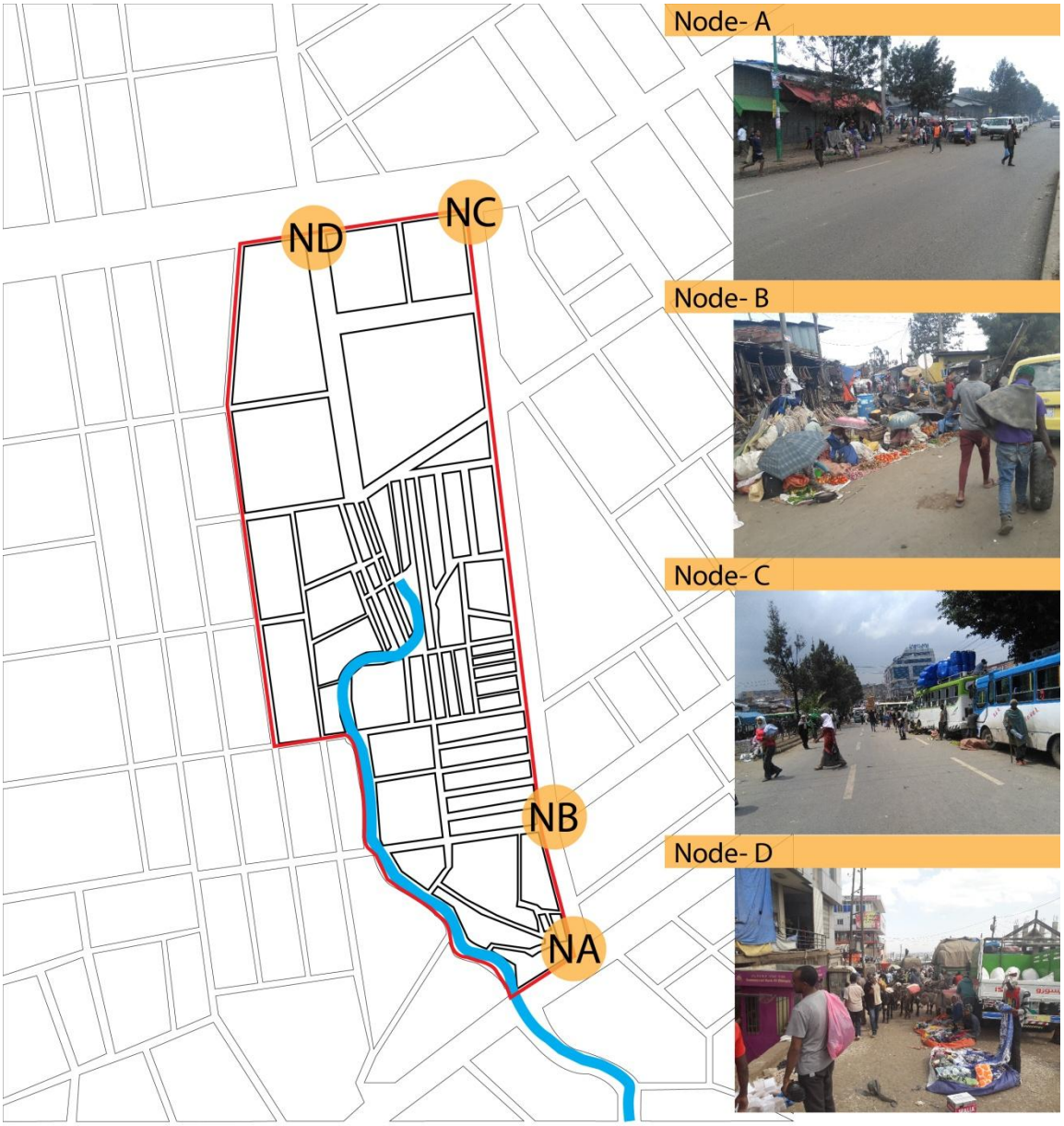


Figure 41 Disconnected Areas

- Disconnection of districts dueto topography, infrastructure corridors and development oflarge estates

4.1.2.2Nodes

Nodes are the strategic foci into which the observer can enter, typically either junctions of paths,or concentrations of some characteristic when we see the topography of the site there are suchstreet junctions that meet up with each other and there are almost four nodes that we can find inwhen we inter the site and there is only one we can find at the site which is formed by theintersection of two local roads.



Node	Location	Characterstics
Node- A	Node-A is where the road to Merkato and the road to abente meet	- Taxi station - Moter Transport
Node- B	Node-B is where the road to Merkato and the road to Bayush Mesjid meet	- Wezader Space - Moter Trransport
Node- C	Node-C is where the road to Merkato and the road to Amede Gebeya meet	- Taxi station - Entrance to the site
Node- D	Node-D is where the road to Merkato and the road to Shnkurt tera meet	- Unloading Space - Animal Parking & High wezader activity

Figure 42 Node Map Source: Done by the author

All junctions are potential nodes, but they should not all be given equal significance. Theappropriate degree of emphasis for each node depends on three main factors:

- The functional rolesof the streets forming the junctions: The more important the functional role, the greater the spatial emphasis required tomaintain the congruence between legibility of use and legibility of form

- The activities in the adjacent buildings: for the same reason, the more publicly relevantthese are, the greater the spatial emphasis required

- The expectations set by other nodes within the district concerned: these establish avocabulary from major to minor nodes, within which the new one should fit if its relativeimportance is to be grasped easily by its users.

MAJOR PROBLEMS

1. **No or poor gateway feature/ welcome**



Figure 43 Problem of gateway

2. **Lack of function and poor information by nodes**

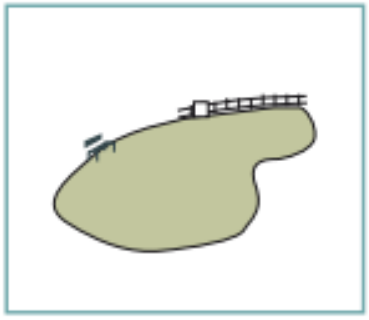


Figure 44 Problem of information by the nodes

4.1.2.3Landmarks

Landmarks are external points of orientation visually easy identifiable physical objects in theurban landscape when we see merkatos land marks the there this two uses of land marks one isthat where the locals use it the district as a land mark and the other there are some well-knownland marks to the area

According to the questioner's that were handed out most of the well known areas that serves as land marks of the area are the following bellow

- 'Ytekememech' Restaurant
- 'Mierab' hotel

4.1.5.1 Landmarks visibility

According to questionnaires‟ and interviews When we see the visibility of the land marks on merkato most of the land marks they cannot be easily identified or easily spotted they are not visible most of them didn't get the emphasize they should get from being a land mark most of them are not clearly visible we cannot spot them easily and according to the questioners gathered most of the land marks have poor output cause most off the landmarks that the people mentioned were not visible the paths does not communicate or emphasizes the land marks

MAJOR PROBLEMS

1. **Inconsistent provision of legible features between city centre and motorway**

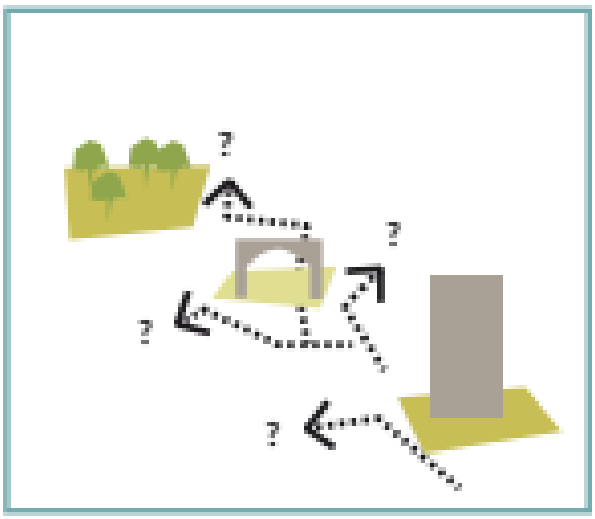


Figure 45 Problem of landmark visibility

4.1.3Movement

The site have two arterial roads that get youin and out of the area the first one or the upper one comes from ‘anwarmesjid’and leads to ‘sebategna’ and the other one is the road that comes from ‘teklhaymanot’and leads to ‘abnet’.



Figure 46 Movement Analysis Source: Done by the author

MAJOR PROBLEMS

1. Characterless main corridors

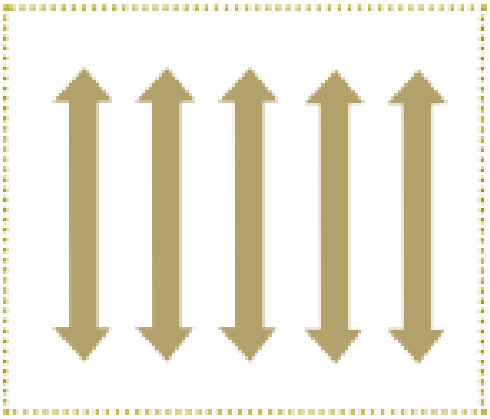


Figure 47 Characterless corridors

2. Parking mainly located in City Centre

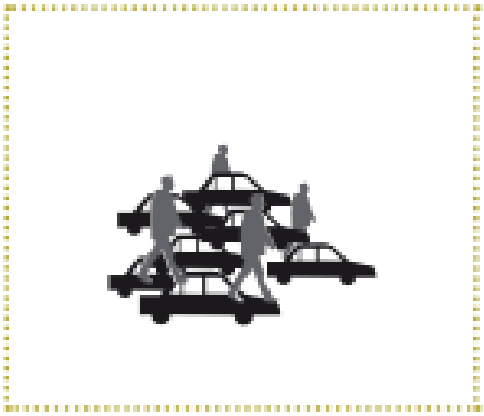


Figure 48 Unsegrigated parking

3. Lacking or unclear destination signage

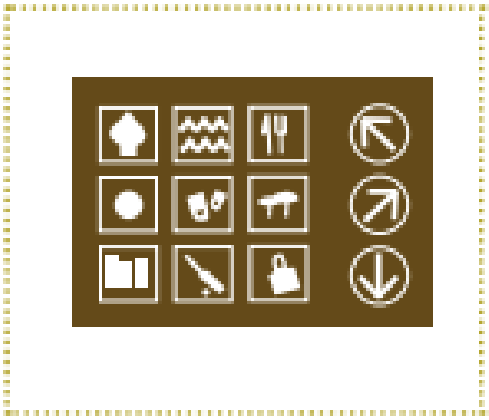


Figure 49 Lack of signage

4. Walking and driving network isincomplete

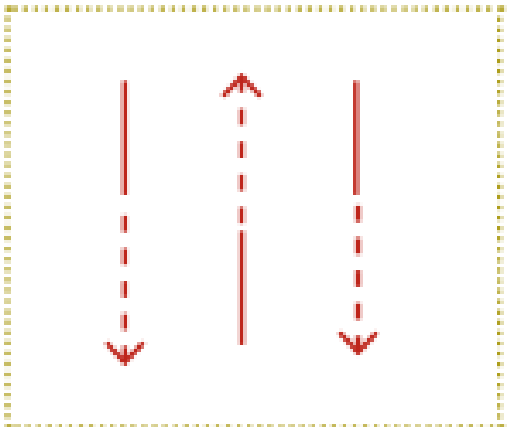


Figure 50Overlaping of Space

5. Poor destination signage creating confusion and congestion

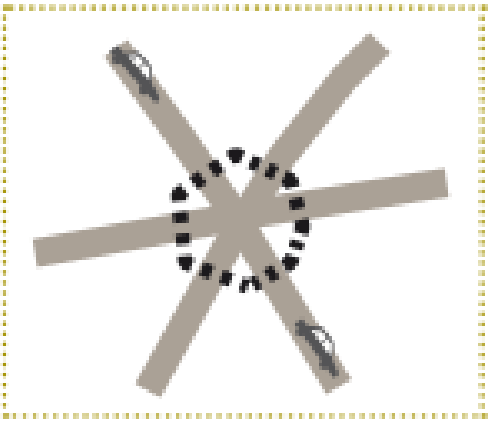


Figure 51 Uncleare signage

4.2 LOCAL SCALE ANALYSIS

Analysis ofSpatial Qualities of Chid Tera

- I have classified the site into three major zones

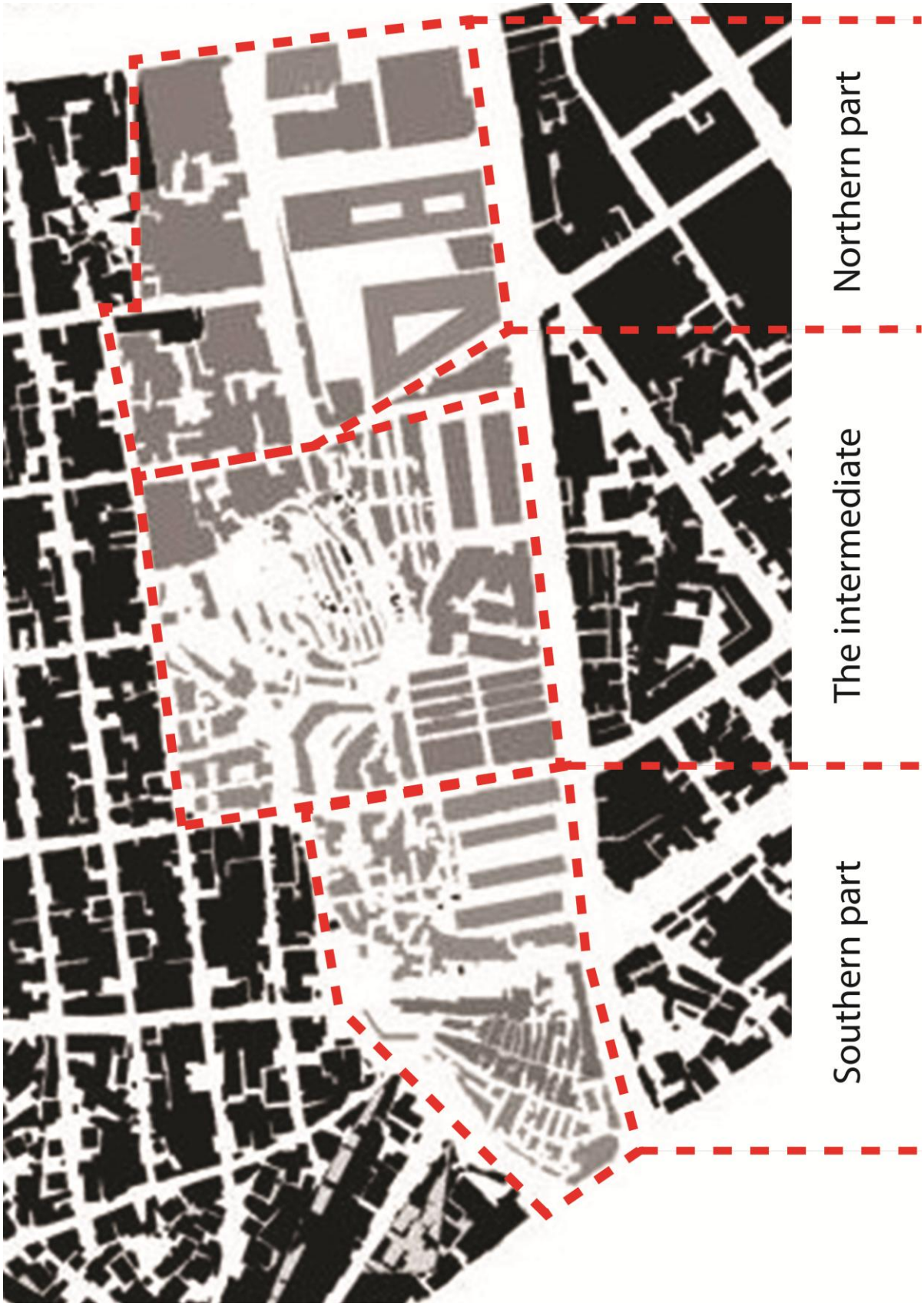


Figure 52 Classification of site for Analysis Source: Done by the author

4.2.1Northern part

This part of the Minalesh Tera is more organized and some of the shops are stone structures, which are properly designed and divided into different programs.

One of the main activities in this area is Onion selling space. Scrap metals and reinforcement bars are sold or converted to housing equipment's like "Birtmetad" which are used for cooking.

- There is also some boutiques most of them found inside the buildings
- The other interesting activity is the 'gulit' and venders that uses the space for selling their items
- Separate from these activities in this area other products such as, grains, chicken and traditional clothing are sold.

Street function

The dense activity from shnkurt tera have major influence in the road pushing the programs to the left side creating in the main road for example individuals doesn't walk in their walkway b/c the walkway space is taken by the shops as a display and store.



Figure 53Main Street parking usage of space

Walk Way

- The walkway space is blocked by different programs so individuals circulate in the middle of the asphalt road which creates chayote in road making it uncomfortable.



Figure 54blocked walkway by different activities

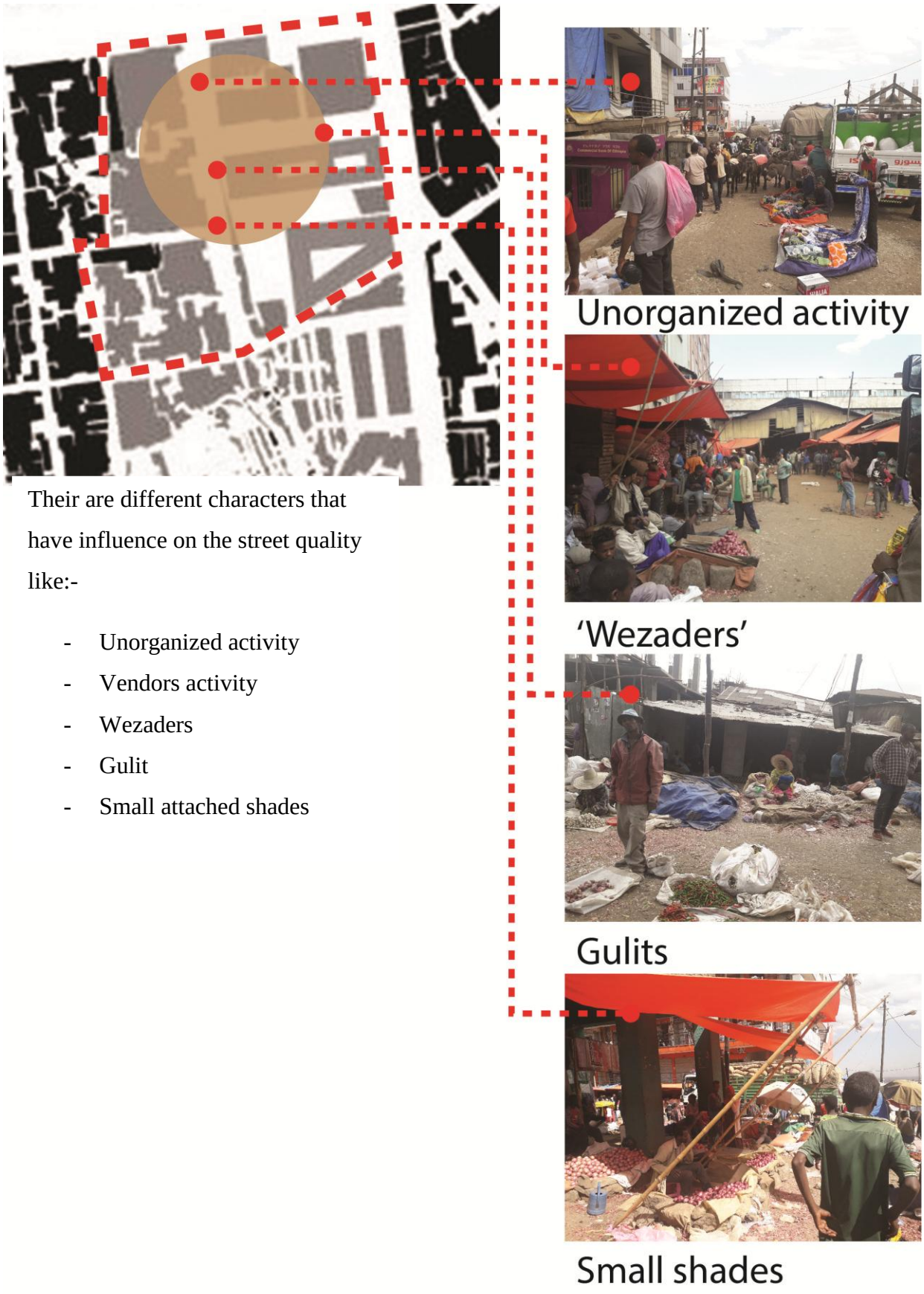


Figure 56 Influence from market Source: Done by the author



Figure 55 Walk way for display Purpose

‘ShnkurtTera’ Analysis



Their are different characters that have influence on the street quality like:-

- Unorganized activity
- Vendors activity
- Wezaders
- Gulit
- Small attached shades

Figure 57 ‘Shnkurt Tera’ Analysis Source: Done by the author

Unique Characteristics

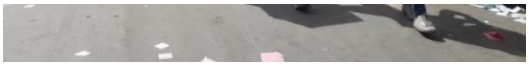
1. Animal parking 2. High ‘wezader’ activity



Figure 59 Animal Parking Space Source: Taken by the author



Figure 58 Wezader Activity Source: Taken by the author



4.2.2Intermediate Part

This part has two main characters;

- The first is the storage spaces for the different types of plastic and bottle containers that are sold to plastic and Glass recycling factories.
- The second is the large metal recycling area where metal scraps and clay are used to make traditional stoves such as “Medeja” and “Metade”. Other products of metal are also produced here like cloth washing basin (“Safa”), grain mesh (”Wenfit”) and fero.
- The other distinguishable characters of the area is the preparation of ‘kocho’ to be sailed and selling of ‘kocho’.



Figure 60 Products in the Intermidiate part Source: Taken by the author

Walk way/Recycling area/

In this Site Regarding to the process of the products there is an integrated system whereby when a recyclable object is dismantled and the different parts are sharedbetween the different production processes.

- Most of the production process is done in the walkways.

In another case there could be a continuous flow of different activities to produce a single product.

For example: - The production of traditional stoves has two main separate processes, the clay panel production and metal part that holds the clay.

These two processes are done separately done by different craftsmen but in the end are put together and sold as one object. Just like this other processes are also interdependent which makes the system uniquely efficient.

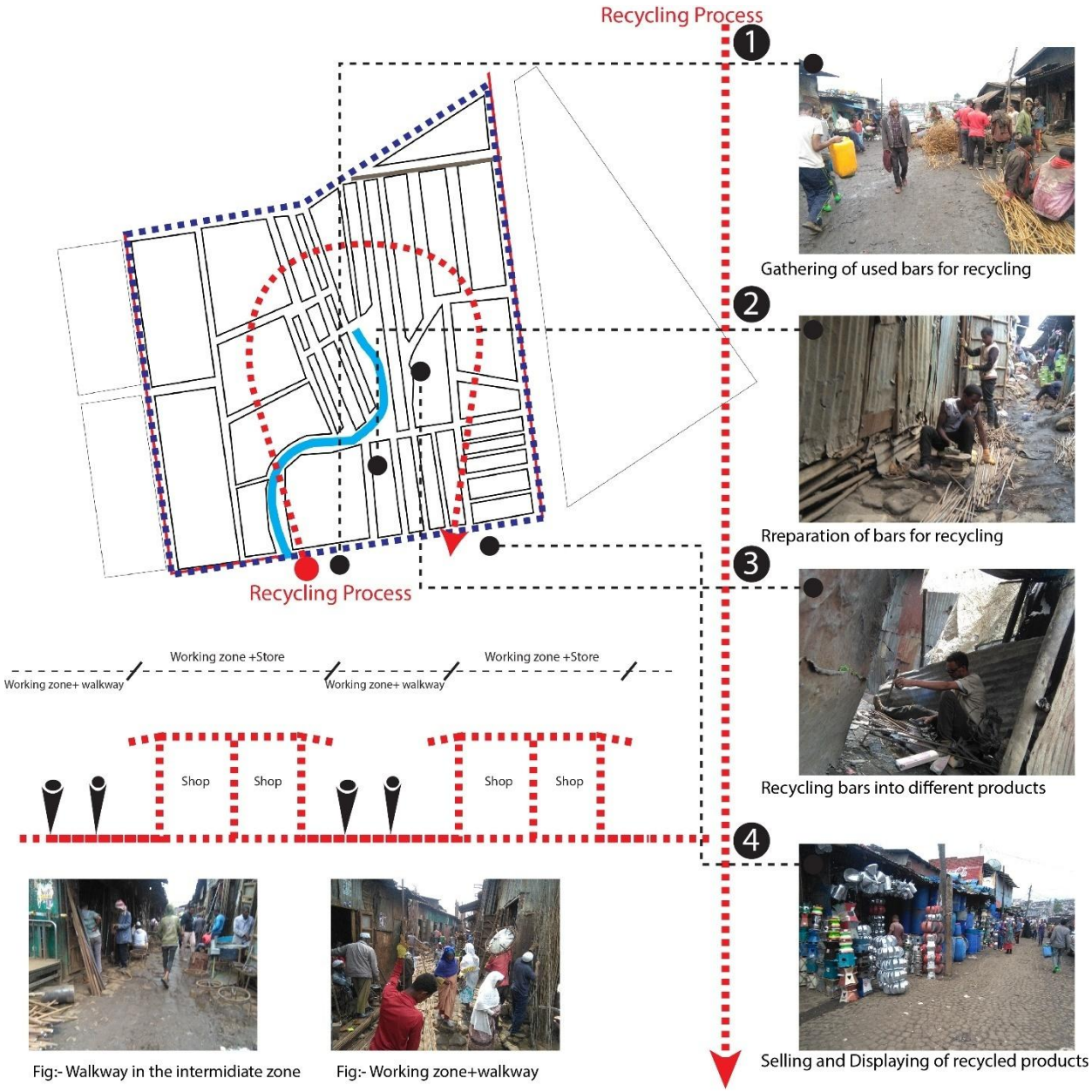


Figure 61 Recycling Process in the intermidiate zone Source: Done by the author

Unique Characteristics

1. Recycled products

In this site the major unique character is that most of the products are recycled by using local materials.

Regarding to the process of the products there is an integrated system whereby when a recyclable object is dismantled and the different parts are sharedbetween the different production processes.

- The production of this products are done in the road interfering the circulation
- In another case there could be a continuous flow of different activities toproduce a single product. For example: - the production of traditional stoveshas two main separate processes, the clay panel production and metal partthat holds the clay. These two processes are done separately done bydifferent craftsmen but in the end are put together and sold as one object.

2. Kocho Tera

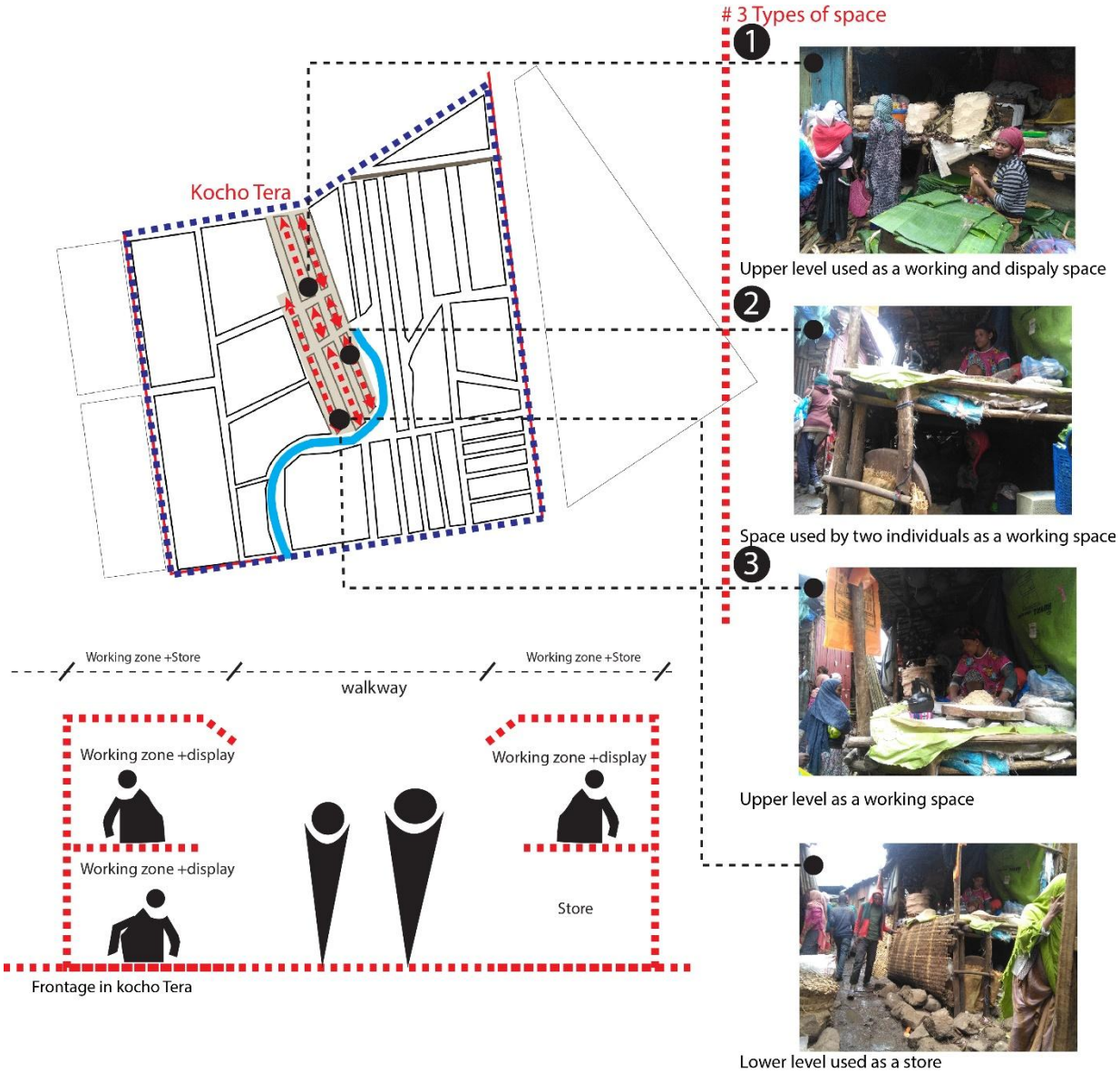


Figure 62 'Kocho Tera' Analysis Source: Done by the author

4.2.3Southern part

This part is mainly along the lower part of the adjacent road.

The main features of this area are electronic and cable repair activities for different objects such as radio, generators, stoves and old corrugated iron sheet are sold.

- The other distinguishable characters of the area are the central zone doesn't have a dense activity because it is used as a storage space for recyclable products.
- The shops use the roofs as a storage space until it is goes to factories.



Figure 63 Roof As Storage space Source: Taken by the author

Regarding to the process of the products there is an integrated system whereby when a recyclable object is dismantled and the different parts are shared between the different production processes.

In Minaleshtera, around 5,000 traders and recyclers (both formal and informal) activate trading and manufacturing/recycling activities. In short the site is highly active and characterized with mix of commercial area (both working and selling). The river near byMinalesh tera serves primarily for waste disposal and recycling activities are vibrantlyundergone in the area. Regarding ownership pattern and condition of structures, mostdilapidated and government owned structures.[4]

Street Use

The street is mainly used as a display space for the recycled products.

Most of the activities alongside the road are organized shops where second hand materials are sold. On the other hand the activities along the riverside are cluster of small units that process metal.



Figure 64 Street usage Source: Taken by the author

Walk way

- The walkways are mostly used as working space and storage for recyclable products.



Figure 65 walk way use Source: Taken by the author

Unique Characteristics

1. ‘Kurales’ - recyclable collectors

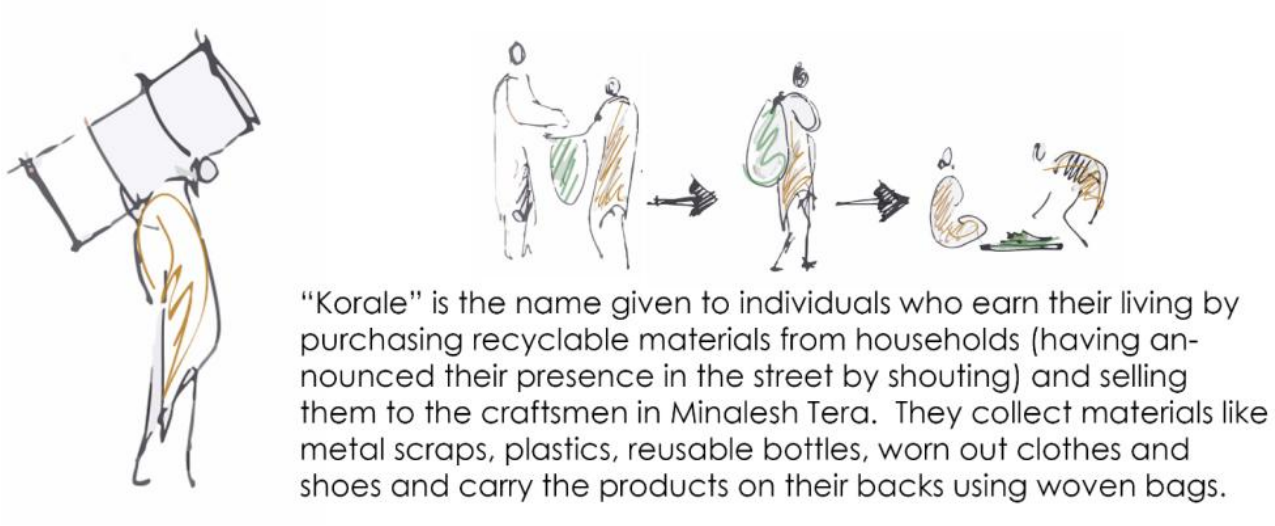


Figure 66 ‘Kurales’ Activity Source: Done by the author

4.3 Other Spatial Qualities

4.3.1 WeekendActivities

In Minaleshtera, around 5,000 traders and recyclers (both formal and informal) activate trading and manufacturing/recycling activities. In short the site is highly active and characterized with mix of commercial area (both working and selling). The river near byMinalesh tera serves primarily for waste disposal and recycling activities are vibrantlyundergone in the area. Regarding ownership pattern and condition of structures, mostdilapidated and government owned structures.

In Sunday the main road will be used for different type of activity as a selling space for vendors. The site gained another local name only for that day “Selbaj Tera”[5]

WeekendActivity Analysis

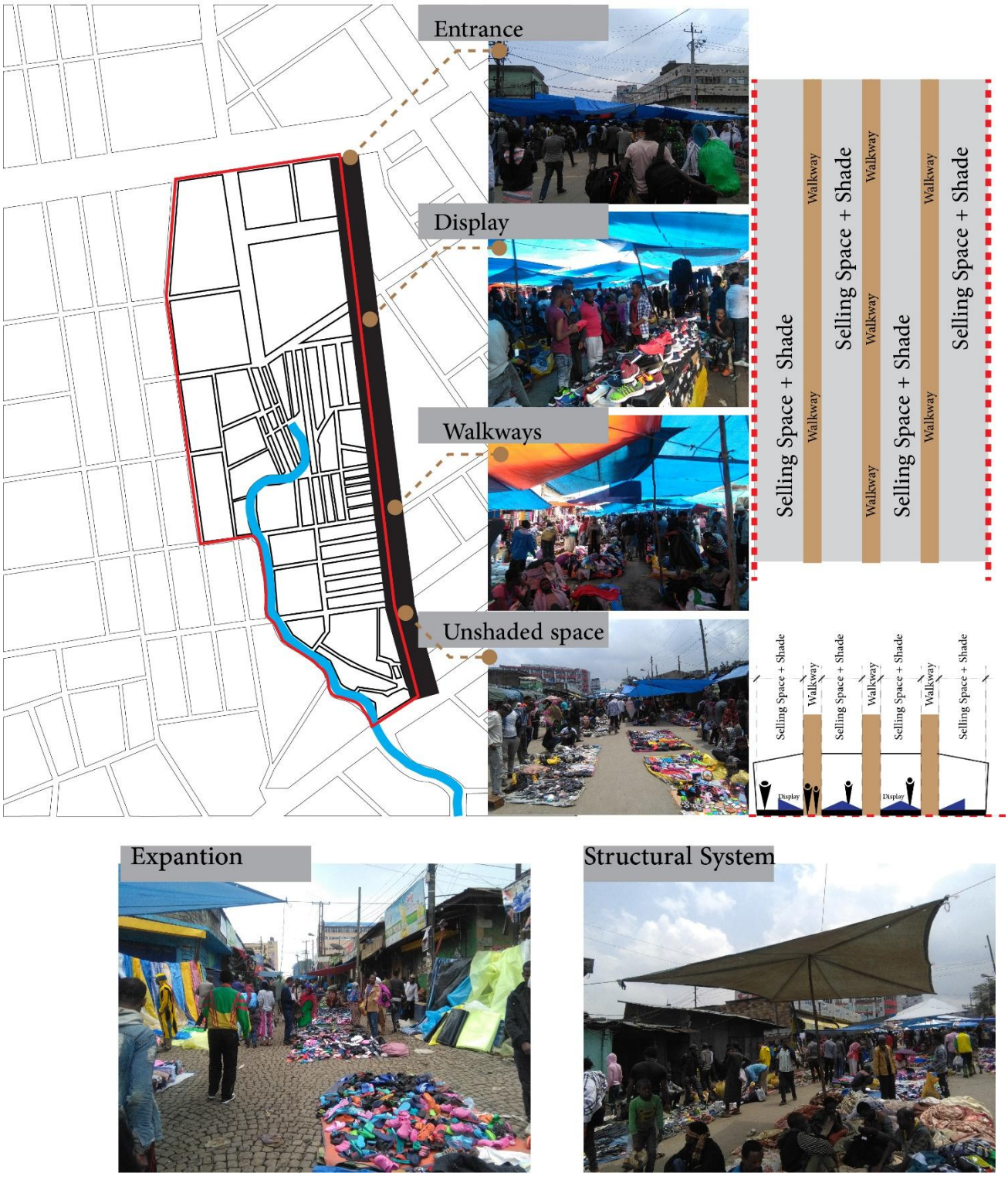


Figure 67 Analysis of weekend actvity Source: Done by the author

- The vendors activity is increasing which lead to the expansion of the site which forces using some internal pedestrian

CHAPTER FIVE

5, MAJOR FINDINGS

- **CITY SCALE**

District

There are over 15 types of districts that are named for the items which is sailed in districts and have local name Tera

- Some areas are well defined, while others overlap. Where districts lack identity and clear boundaries, visitors find navigation confusing.

Movement

The site have two arterial roads that get you in and out of the area the first one or the upper one comes from ‘anwarmesjid’ and leads to ‘sebategna’ and the other one is the road that comes from ‘teklhaymanot’ and leads to ‘abnet’.

- There are different types of activities in the site like animal transportation,wezader transportationand vehicular
- This different types of movement are not organized well.

- **LOCAL SCALE**

Northern

This part of the Minalesh Tera is more organized and some of the shops are stone structures, which are properly designed and divided into different programs.

Intermediate

This part has one main characters which is the recycling space. The recycling process take place inside the site and display their products in the edge.

Southern

This part is mainly along the lower part of the adjacent road.

The main features of this area are electronic and cable repair activities for different objects such as radio, generators, stoves and old corrugated iron sheet are sold.

- The other distinguishable characters of the area are the central zone doesn’t have a dance activity because it is used as a storage space for recyclable products.
- The shops uses the roofs as a storage space until it is goes to factories.

CHAPTER SIX

6. CONCLUSION & RECOMMENDATION

CITY SCALE

- **Landscape**

Overview of current and proposed conditions

Currently...



Figure 68Disconnected green space

Proposed...

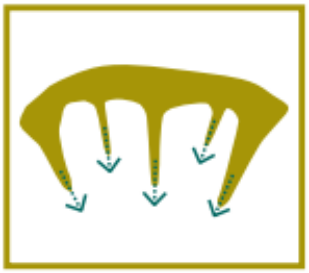


Figure 69Develop a network of green fingers'



Figure 70Sparse and inconsistent tree planting



Figure 71Plant 10.000 trees in 10 years to enhance green finger



Figure 72Constrained connection and uniform conditions along the riverfront



Figure 73Create access points along the whole seafront with a range of activities

Develop a network of green fingers

Extend the network of green spaces, linking thefragmented fingers of remnant woodland and fieldsby careful design of roadside planting and open spaceedges.

- Connect the city with its natural context, and reinforcegreen corridors through the city to make coherent andattractive routes for driving, walking and cycling.



Figure 74Develop a network of green fingers

Plant 10.000 trees in 10 years

Implement a tree planting strategy,planting a set number every year to ensure the futurecity has a strong green infrastructure



Figure 75 Tree Planting

River accessibility & a variety of environments

Reconnect the city with its world class seafront. De-clutter streets leading to the seafront to open up views.

- Develop the variety of places and conditions available on the riverfront to suit a wider range of users. Improve environmental conditions on the riverfront by providing shelter and protection.

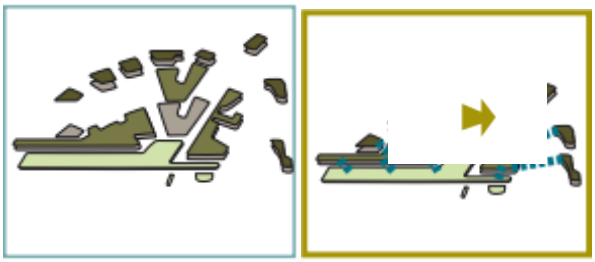


Figure 76 River accessability

- **District**

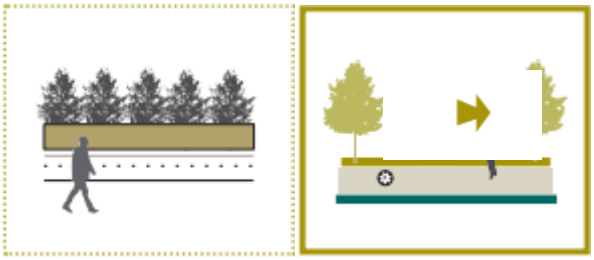
Overview of current and proposed conditions

Currently...Proposed...



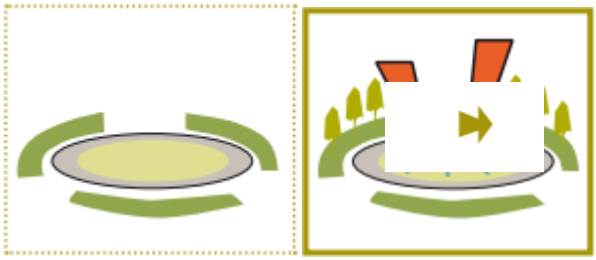
Disconnection of districts

Create improved connectionsbetween districts



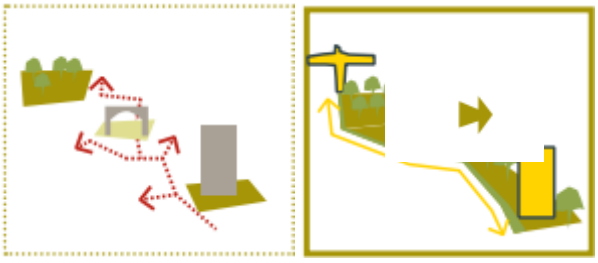
Poor public environment withracetrack streets

Design safe and attractiveneighbourhoods



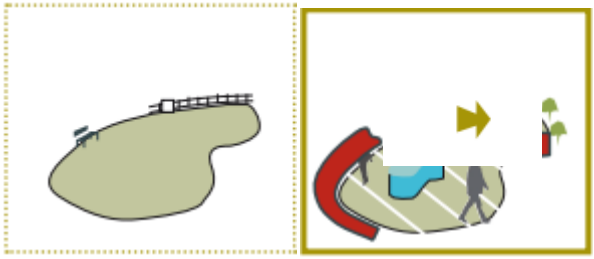
Non existing city gateways

Commission welcoming gateway by artwork lighting or landscaping



Inconsistent provision of legible features

Improve landmark features andcreate a distinctive features



Lack of function and poor information by nodes

Make the nodes attractiveand improve facilities

Districts strategy

Improve the mental map of the city. Celebrate arrival in the city by strengthening the identity of gateways and entry points

Simplify road corridors by de-cluttering and introducing consistent roadside treatments. Highlight landmarks and special buildings through de-cluttering and lighting. Identify viewing corridors, improve vistas and extend public art provision to develop informal legibility within the wider city. Close to the riverfront, reinforce the presence of the river, through de-cluttering streets and opening views.

Create improved connections between districts

Introduce well-lit, safe links between outer districts and the city centre. Develop new housing which overlooks edges and greenspace, bringing activity to green corridors. Encourage permeability by re-opening blocked off roads into peripheral estates, combined with traffic calming and integrated security measures.



Figure 77**Improved connections between districts**

Design safe and attractive neighbourhoods

Reorganise out-of-date housing areas to bring people and pedestrians into balance with vehicular movement. Open up isolated districts with carefully designed, safe new routes. Introduce traffic calming to make streets more pedestrian friendly. Organise a clearer hierarchy of public space, and ensure that new development overlooks and animates an active public realm to improve passive surveillance.



Figure 78safe and attractive neighbourhoods

Commission welcoming gateway artwork

Commission large scale artwork projects at entrances to the city to mark arrival points, and celebrate the creative and pleasurable characteristics of merkato. Integrate these interventions with new signage connecting the periphery with the city centre.



Famous gateway **Angel of the North**
Newcastle, UK



Ring Road bridge as gateway to city
Manchester, UK



Mersey Wave
Liverpool, UK

Figure 79welcoming gateway artwork

Improve landmarks and create a distinctive skyline

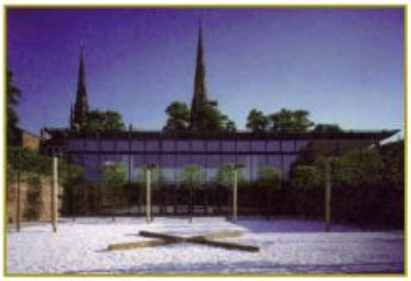
Enhance intuitive way-finding within the City by exploiting the existing topography, townscape and natural features. Introduce a hierarchy of landmark elements.



Turning Torso in harbour redevelopment
West Harbour Malmö, Sweden



Illuminated, asymmetrical landmarks
Bristol Quayside, UK



Cathedral spires in clear setting
Coventry , UK

Figure 80landmarks and a distinctive skyline

Make the nodes attractive meeting places

Improve the gateways to the city. The “nodal points” ofthe city, where people change modes of transport andwhere people meet, should be improved to present apositive welcome to merkato.



informative signage
Bristol, UK



generous seating and activity area
Schouwburg Plein, The Netherlands



multifunctional station space
Museum Plein, Amsterdam, The Netherlands



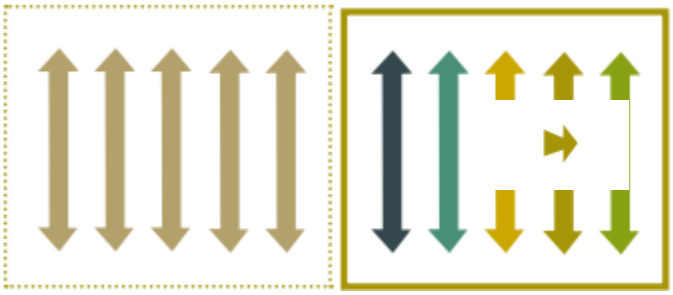
modern fingerpost
Bristol, UK

Figure 81nodes as attractive meeting places

Movement....

Overview of current and proposed conditions

Currently... Proposed...



Characterless main corridorsSegregate the street based on the characters



Parking mainly located in CityCentreRelocate city centre parking

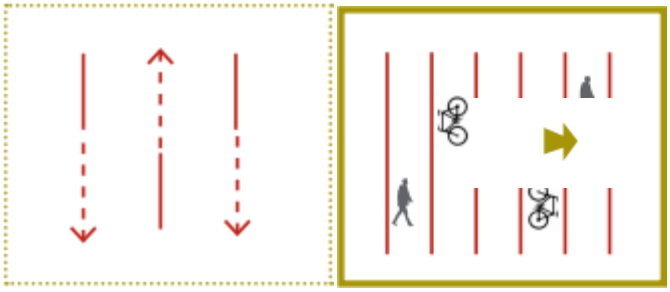


Kocho-Tera

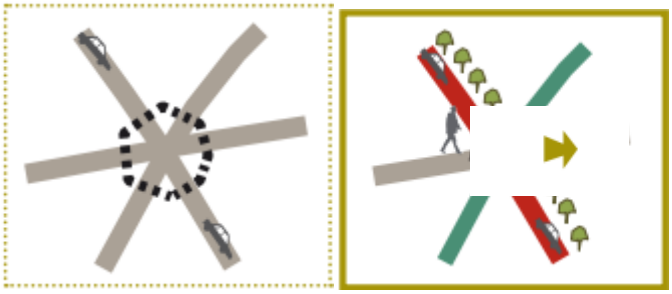
Doro-Tera

Shinkurt-Tera

Lacking or unclear destinationsignageImprove wayfnding with simplifed destination signage.



Walking and cycling network isincompleteBuild walking & cycling prioritynetwork



Poor destination signage creating confusion and congestionImprove junction design andsimplify pedestrian crossings

Give arrival routes individual character

Customers arriving in merkato usually have at least a basic understanding of the. Wayfinding should build on this simple "mental map". Most arrival routes into merkato are direct, following valleys or the seafront, and are therefore inherently legible. Planting schemes, lighting, verges, edges, screens androad markings should reinforce the "mental map"



Edge details and good lighting
Arhus, Denmark



Powerful streetscape
New Islington, Manchester, UK



Planting with seasonality
Liverpool, UK



Vertical elements give variety
Forest Garden, Germany

Figure 82arrival routes

Relocate city centre car parking

Introduce new car parks located at the edge of the citycentre that are well-integrated with the surrounding city.

Reduce long stay parking in the city centre, encouragingcommuters to seek alternative, public transport. Balancereduction in city centre parking provision with new parkand ride systems for commuters from outside the city.



Hi tech parking system
Volkswagen, Wolfsburg, Germany



Ground condition of parking garage
*Schouwburg Plein, Rotterdam, **The Netherlands***



Modern underground garage entrance
Barcelona, Spain

Figure 83car parking

Improve destination signage

Signage at the edge of the city should introduce the keydestinations. Repeater signs should reassure visitors, andallow them to make early route decisions. Parking signsare normally guides to city centre car parks. These couldbe better organised to direct people to car parks outsidethe inner city centre and should show convincing information on walking distance in minutes to destinations.



Electronic message signage
Highway, USA



Attractions/ pictogram map
London Thames, UK



Indication of walking time to
London, UK

Figure 84destination signage

Create walking and cycling priority network

The streetscape should be de-cluttered and simplified, toensure that the surrounding city is visible, and the streetsare easier to "read" for pedestrians, cyclists and vehicleusers. Identify remaining gaps in the existing networkand overcome them to achieve continuity. In this context good value can be achieved by implementing quitesmall schemes to overcome particular difficulties in anotherwise continuous route.



Generous space for cyclists
Copenhagen, Denmark



Pleasant pedestrian routes
Copenhagen, Denmark



Countryside leisure network
Oxford, UK



Clear indication of function
Copenhagen, Denmark

Figure 85walking and cycling priority network

Improve junction design and simplify crossings

Address the confusing and hostile pedestrian environments at the main multi-way junctions such as Preston Circus, Vogue Gyratory and Seven Dials. Reorganisethe streetscape at these locations to manage directional choice and information overload. Integrate surface materials, lighting, colours, road markings and signage to create coherent and legible junctions. Consider introducingshared space crossings.



Raised pedestrian crossing
Copenhagen, Denmark



Unifying surface treatment
Copenhagen, Denmark



Protected, level pedestrian movement
Barcelona, Spain

Figure 86**junctiondesign and simplify crossings**

LOCAL SCALE

Overview of current and proposed conditions

Current...

- The existing situation shows that the type of the street is not compatible with the street type needed

Proposed…

So understanding the special features of the street and design them based on the quality that the street need

CONCLUSION

The case studies mentioned above provide design inputs and alternative means of seeing the critical issues in this thesis project, the main being of the formalization of an organic open market to the current living standards. In the first case study one can see how a market can be reconstructed and at the same time can keep its unique identity and key features.

Appendixes

Quaternary

የአርክቴክቸር ትምህርት ክፍል

ለመመረቂያ ፅሁፍ የሚውል የማክ ጥናት ማጠቂያ ቅፅ

ለማገደኛ

1. ይህን ማገድ ለምን ያክል ጊዜ ተጠቅሟበታል? _____
2. በምን ሜልኩነውእየተገለገልክበት ያለኸው? _____
3. ማገዱ ምቹ ነው ብለህ ታስባለህ?_____
   _____
4. የማገዱን ደረጃ ያወርዳሉ ብለህ የምታስባቸው ነገሮች ምንድን ናቸው?
   _____
   _____
5. ቢስተካከል ብለህ የምታስበውነገር አለህ? ምን ምን? _____

ለአገልግሎት ሰጭዎች

1. ስራ? _____
2. ማገዱ ምን ያክል እያገለገለህነው? _____
3. አካባቢው ለስራ ምቹ ነው? ምክንያት? _____
   _____
4. አሁን ባለውማገድ ደስተኛ ነህ? ምክንያት? _____
   _____
5. የማገዱን ደረጃ ያወርዳሉ ብለህ የምታስባቸው ነገሮች ምንድን ናቸው?
   _____
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6. ቢስተካከል ብለህ የምታስበው ነገር አለህ? ምን ምን?
   _____
   _____

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