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GREENWAY DEVELOPMENT AS A TOOL FOR ABANDONED RAILWAY ROUTE REVITALIZATION

THE CASE OF OLD ETHIO-DJIBUTI RAILWAY IN ADDIS ABABA

A Thesis Submitted to The School of Graduate Studies of Addis Ababa University in Partial Fulfillment for The MASTER OF SCIENCE IN LANDSCAPE ARCHITECTURE

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DECLARATION

I, the undersigned, declare that this thesis is my own and original work and has not been presented for a degree in any other university, and that all sources of material used for the thesis have been duly acknowledged, following the scientific guidelines of the institute.

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CONFIRMATION

This thesis has been submitted for examination with my approval as an Institute's advisor.

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This thesis is submitted to the Ethiopian institute of Architecture, Building Construction and City Development (EiABC) and to the School of Graduate Studies of Addis Ababa University in the Partial fulfillment of the requirements for the degree of Masters of Science in Landscape Architecture.

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GREENWAY DEVELOPMENT AS A TOOL FOR ABANDONED RAILWAY ROUTE REVITALIZATION; THE CASE OF OLD ETHIO-DJIBOUTI RAILWAY IN ADDIS ABABA

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

AACACTB	Addis Ababa city administration Culture and Tourism bureau
AACBCDA	Addis Ababa city administration Beatification and cemetery development agency
AACRA	Addis Ababa City Road Authority
AAMPRPO	Addis Ababa Master Plan Revision Project Office
ASOID	Addis Ababa and Surrounding Oromia Integrated Development
NYC	New York City
NYU	New York University
ORAAMP	Office for the Revision of Addis Ababa Master Plan
UNPF	United Nations Population Fund
UNESKO	United Nations Educational, Scientific and Cultural Organization

Abstract

Nowadays greenways are being used for different variety of functions which gives them multi-functionality. They are used by planner as a tool to increase environmental quality of landscapes, heritage conservation and revitalization, green corridor creation and protection of fauna and flora. It is recently being used to revitalize disused railway routes for public use. The research used the old Ethio-Djibouti Route as a case to investigates the potential of greenway as a tool for abandoned Ethio-Djibouti railway route landscape revitalization in the vicinity of Addis Ababa. For the better understanding of the physical and cultural experiences, key informants from the community of design and urban planning professionals were interviewed. In addition to these, representatives from responsible bureau in Addis Ababa city administration working on green development, heritage landscapes and the Ethio-Djibouti railway corporation were interviewed. Discussions were held also with people working and living along the route to get the intimate relationship of the public with the route. Direct observation of the case is held aby the researcher and notes were taken and maps were developed. the findings show that the basic concept of the greenway is understood by the design a and planning professionals, and the Addis Ababa City Beautification and Cemetery development and few local residents. At this stage, the old rial way route is degraded infrastructure stretching from the outskirt to the CBD of the city acting as a back yard to many neighborhoods. On the other hand, it is understood from the findings that the route has very strong possibility of becoming alternative green corridor and public recreation space in the city even if there are physical barriers, limited know how among the professionals, government offices and the local residents as a challenge. The strong public memory, linearity and non-physical social aspect of the route are positive values to revitalize the route with its historic sense while providing public services if programs are selected carefully and designed with involvement of the public. Finally, this research at theoretical level will contribute on how we can approach abandoned historic landscape revitalization and at a practical level, it presents an alternative approach to the application of landscape design in converting abandoned landscape in to useful public space.

Key words: Greenway; revitalization; abandoned railway; historic landscape

CHAPTER ONE: INTRODUCTION

1.1. Background

The 20th century is called the century of the urbanization. For the first time in world's history more than half of the world population is living in urban centers (*UNPF, 2007*) and by 2030 the urban population is expected to double. Urbanization and city development are the major pressures on the people and the environment they dwell in. When a country is at its dynamic economic development stage, what is seen as development measurement is mainly the physical change of the landscape in to infrastructures and built forms *(Samson, 2014).*

During this stage of development two things are always undermined and lost in the name of growth. These two things are the natural environment and the historical heritages existing previously on the site of the change. The natural environments are the soft amenities that make cities livable and comfortable. The historical heritages give meaning to the societies about their past and sometimes helps to guide current day today activities. One of the historic landscapes being a potential in urban developments is abandoned railways.

There were two great essays by the late professor at NYU, Tony Judt, about railways and their socio-economic effect on societies. The first one was "The Glory of the Rails" and second one was "Bring back the Rails" *(Tony Judt, 2010*.

Especially the first part of the essay gives details about the role of the railways in urban development. He showed how the cities and stations need each other. He also adds how the technology is growing faster due to the existence of the railways. More distant cities were brought closer to main cities and vibrant commerce was achieved. Economic growth was really hard and human life was difficult due to the hardship to move foods, goods and people in large *(Tony Judt, 2010)*. New city nodes were being created and more people are attracted to the stations. Especially those cities at the end of the railway lines were boosting. Hotels, hospitals, schools and other infrastructure were built. Lots of youths were attracted in searching for new life.

The second part of the essay talks how the railways died and revived again. The death was due to the change in ways of life of the people i.e. they start using private cars and the revival was due to the high cost of the oil used to run the cars. In the end he says, if we lose railways it will be a major loss.

Railways indeed played a great role in economic development of a country. But in addition to this there is social tie among different communities which is achieved due to the existence of railways (*Michał Kozicki, 2015*). Peter Laslett once referred to *"the world we have lost"*—the unimaginably different characters of things as they once were. The distance and difficulties societies faced to exchange goods and to prosper economically. He was trying to memorize the days before the railways. One thing to remember in using this type of historical landscapes is, in addition to the physical existence, there is rich memory of the time and emotional values which could be used to enhance the quality of life in the city. *"If we throw away the railway stations and the lines leading to them—as we began to do in the 1950s and 1960s—we shall be throwing away our memory of how to live the confident civic life'' (Tony Judt, 2011)*

All over the world there are disused railways due to the gage and the emergence of cars. Many have been adjusted by the immediate residents as alternative roads and paths in daily movements to shorten distances, or just for safety and quitter ways. Sometimes these lines will be visited by group of people who are just fascinated by the trains and railways. In fact, nowadays railways especially the old ones are becoming globally a touristic attraction site (Jaoa Sarmento, 2002)

1.2. Problem statement

Many urban landscapes and identities are marked by a built environment whose physical characteristics refer to a process of development stretching back over centuries. Individual monuments and landmarks, groups of buildings, street patterns and coherent ensembles inform us, of our cities' pasts, continuity of change through time, periods of ascendancy of remarkable events, or ruptures in the urban fabric as a result of conflict or transformation (ORAAMP, 2001).

Ethiopia as a country and Addis Ababa as a city are now on the critical stage of dynamic and rapid economic development. Addis Ababa as being the capital city and the major economic center hosting lots of local and international institutions, it is trying to show its growth through high rise buildings and infrastructure development. Meanwhile open and green areas have been consumed for housing development and historical heritages landscapes are dismantled in the name of redevelopment. This is happening because non-market benefits of such areas are not correctly valued (Mekonnen, 2008).

In addition to this, due to the consumption of the accessible open and green space to other developments and since the full benefits of the green spaces are obtained when fully accessed physically, Addis Ababa's' per capita green space coverage is very low which 0.32 m2 per person. The standard of per capita green space for Africa is 7 m^2 and that of the World Health Organization (WHO) is 9 m^2. To meet the WHO standards Addis Ababa needs additional 2430 hectare of publicly accessible green area on the current 97.3 hectare (*ASOID, 2014*).

Due to lack of awareness and the challenges of job creation in the city, some accessible parks and potential open spaces are given to private individuals to use it as a restaurant and bar or used by small scale enterprises as market, production space, and necessary space for plants. Some of the parks are not fully operational and the ones that are functioning do not have the necessary amenities a park needs. Currently the city is focusing on the riverside green development which will take lots of energy and capital to achieve it due to the pollution and the topography near rivers.

The abandoned Ethio-Djibouti railway is one of the long and linear open spaces found in Addis Ababa and other cities due to the mutual agreement of the two countries. It passes through historical villages and slum areas waiting for redevelopment to happen to them. Besides, being a historical relic, the railway line and the right-of-way adjacent to it could be a catalyst for local development to the communities. It gives new opportunity to be a new façade on which different activities will happen. The line and right-of-way could be more comfortable and easily convertible to give recreational value for the rest of the city residents. In addition to this the city is lacking bicycle lanes due to the topography and the traffic congestion. This abandoned railway routs have a potential to be alternative transport route for such non-motorized transport systems due to the technical slope of the rail lines and the adjacent right of way.

One of the contemporary approaches in such kind of abandoned railway landscapes is to revitalize them through greenway design approaches to give meaningful public services to the community. Therefore, this thesis tries to see the potential of greenway development as a tool to regenerate the life of the railway line and give new interface to the city where recreational service, microclimate control and new urban interface are achieved.

1.3. Objective of the study

1.3.1. General objective

The general objective of the study is to analyze greenways, their uses, potentials and challenges as a tool for abandoned railway route revitalization and propose design recommendations for the Ethio-Djibouti old railway route.

1.3.2. Specific objectives

The following are the specific objectives of the study.

1. To critically review the idea of greenways.
2. To analyze the existing conditions and future fate of the old railway route in the boundary of Addis Ababa.
3. Identifying the potential and challenges to use greenway development for the abandoned Ethio-Djibouti railway route revitalization.
4. Identify the communities' perception of the old railway route and historical significance for the Addis Ababa.
5. Propose recommendation and sample Greenway design on the Abandoned Ethio-Djibouti railway route.

1.4. Research Questions

In trying to understand the problem statement and give appropriate solutions, this thesis will try to answer the following research questions.

1. What are the basic concepts in greenway development on abandoned railway routes?
2. What are the parameters that make the old railway route appropriate for greenway development?
3. How does green way development enable to revitalize the abandoned railway route?
4. What are the benefits of giving new function to the abandoned Ethio-Djibouti railway route for the community?
5. What kind of green way planning will enable to revitalize the landscape of the abandoned Ethio-Djibouti railway route?

1.5. Relevance of the study

Historic landscape preservation and revitalization are among the critical steps in redevelopment plans in cities. Historical heritages and landscapes define a community in the future being as stimulant for identity creation and incremental growth. Green ways are one of the tools to achieve these two major aims in city development. They connect two and more neighborhoods and function as a linking line to natural systems, historical places, and contribute to microclimatic conditions of the areas they side with.

Therefore, assessing the potential of greenway development is critical to make revitalization of historical landscapes integral part of redevelopment of a city. The outcome of the research will enable the communities to have confident civic life by seeing their history. This will boost tier energy to add up on what has been achieved. In addition to this the historical landscape of the old Ethio-Djibouti railway route will be given new picture systematically while giving other functions to the city residents.

1.6. Scope of the study

The study will focus mainly on greenway development trends for abandoned railway routes revitalization. This will be thoroughly studied to make historical landscapes integral part of the future city's development. In addition to this, the study will examine the potential of greenways as catalyst for redevelopment of right of way of the old railway. Therefore, the study will also see the aspect of community enhancement through giving new function to the railway route and add quality of life for the city's residents.

The physical scope of the study will be the old Ethio-Djibouti railway route and its right-of-way starting from Legehar station to the boundary of Addis Ababa City at Akaki. This will be 0.03kilometer wide and 22 kilometers in length.

CHAPTER TWO: LITERATURE REVIEW

2.1. Greenways defined

Greenways are defined through the history of their development with different scholars. A number of greenway definitions have been offered, but a precise description is elusive partly because greenways take so many forms. Some greenways are recreation oriented, emphasizing trails, parks and even scenic drives. Some are principally for wildlife, striving to preserve habitat and routes of travel for animals. Others aim to buffer development and provide a strip of green relief in the urban fabric. Still others focus on cultural heritage and history *(Ahern, 2004)*

The Greenway concept usually refers to the special connectivity of different programs integrated to give networks managed for multiple purposes including ecological, recreational, cultural, aesthetics or other purposes compatible with the land use (*Ahern, 2004*). More than just parks or amenities, greenways represent and adaptation in response to the physical and psychological pressures of urbanization. Greenways especially the newest generation greenways also offer an important way to preserve history and educate the public (*Searns, 1995*).

A greenway is a long, narrow piece of land or a linear park, often used for recreation, pedestrian and bicycle user traffic, and sometimes for streetcar, light rail or retail uses. Greenways are distinct from green belts or green corridors. The term greenway comes from the green in green belt and the way in parkway, implying a recreational or pedestrian use rather than a typical street corridor *(Fruchter, 2014).*

Greenways are natural corridors set aside to connect larger areas of open space and to provide for the conservation of natural resources, protection of habitat, movement of plants and animals, and to offer opportunities for linear recreation, alternative transportation, and nature study. (*Alexander K., et al.)*

Fredrick Law Olmsted (*1822-1903*) developed the concept to include aspects such as environmental protection, preservation and conservation of heritage and landscape resources which have much in common with the modern definitions of greenways.

Charles Little in his book called "*greenways in America*" defined greenways as:

1. *A linear open space established along either a natural corridor such as river front, stream valley or ridge line or overland along a railroad right of way converted to recreational use, canal, scenic road or another route.*
2. *Any natural or landscaped course for pedestrian or bicycle passage.*
3. *An open space connector linking parks, nature reserves, cultural features, or historic site with each other and with populated areas.*
4. *Strip or linear parks designated as parkway or green belt. (Little,1990)*

In a more concise definition Jack Ahern defines greenways as *"networks of land that are planned, designed and managed for multiple purposes including ecological, recreational, cultural, aesthetic, or other purposes compatible with the concept of sustainable land use."* (*Ahern, 2004*)

2.2. Historical Development of greenways

The historical evolution of greenways could be traced back to eighteenth century where the establishment of parks gardens and boulevards started the first generation of green ways. Ceremonial routes and axis concepts brought the first-generation greenways. They evolved from more formal movement corridors that tried to reintroduce nature into the city (*Searns, 1995*). The visual pleasure and aesthetics were the major element of greenways at that time.

The second generation of greenways was trail-oriented, automobile- free corridors. Whereas many urban greenway corridors follow waterways including rivers, streams, shorelines, and canals, another type of corridor came on the scene abandoned railroads. Like drainage ways and canals, railroad corridors offer pre-established swaths through the landscape. The grades are gentle and, like drainages, the routes often go under or over barriers such as highways, creeks, steep hills or other obstructions. The track corridor provides the 'way' and the adjacent undeveloped, vegetated, strips of railroad ownership provide the 'green' (*Searns, 1995*). At this time park systems become as important tool for planning. Green belts as buffer zones were introduced in city planning *(Joao, 2002*).

Generation three and the current trend come in front on the second half of twentieth century due to deeper environmental awareness, greenways *(Joao, 2002*). In addition to serving human needs, which remains a vital aspect, the notions of land and resource stewardship are now integral components of this new iteration of the greenway concept. These new greenways pursue multiple objectives such as habitat protection, flood hazard

reduction, water quality, historic preservation, education, interpretation, and other purposes (*Searns, 1995*).

2.3. Social and Cultural use of greenways

Greenways can fulfill a multitude of social and cultural functions, not the least of which is for linear forms of recreation such as walking and bicycling *(Gobster, 1995).* Greenways are now seen by many as more than amenities for beautification and recreation. This thinking helps provide a new perspective on greenways and their potential to serve both humans and nature (*Searns, 1995*).

Jack Ahern put the strategic advantages of greenways in three categories. The first one is their spatial efficiency. Since greenways are corridors, they can accommodate resources in concentrated and list amount of area. The second advantage is their political support. They can provoke political support since they have diverse interest. The third advantage is connectivity. The connectivity is expressed in cultural, ecological and physical terms (*Ahern, 2004*).

Considering that a greenway's landscape and associated resources are "Explicitly and intentionally located in proximity where people live and work (Ahern 2004,)", the social and cultural infrastructures are just as important as the ecological infrastructure of the greenway. The unique social and cultural identity features become important influences for forming overall sense of place for the surrounding communities *(Fruchter, 2014).*

More importantly, greenways put people in touch with the natural environment, and, it is hoped, foster new values and attitudes. Finally, a greenway is a 'place', albeit a linear place, that is an amenity offering solace and opportunities for exploration and plays, sometimes adorned with special architecture or furnishings, and with a sense of nature preserved, restored or interpreted threatened ecosystems (*Searns, 1995*).

The designation as a greenway implies that the landscape serves a special role within the surrounding community. Greenways become identified for their important role in providing nearby recreational opportunities and access to nature as well as for providing common ground for people to connect.

Greenways positively "influence patterns of social interaction within and between neighborhoods" and can realize significant benefits for social connectivity, "especially where they link together diverse populations" (*Hellmund et al, 2006*). Often times a greenway is formally designated for having historical significance as well. Just as with its ecological

framework, a greenway's natural resources are at the core of its historic and cultural framework. Considering these resources have endured the test of time, features such as woodland forest, vegetative areas, and geological forms can be the most cherished within a greenway's cultural and historical framework (*Searns, 1995*).

Greenways, and their predecessors-the axes, boulevards and parkways-have offered a way to provide a counter-balance to urbanization in an affordable way. Affordable, because linear parks and greenways require a relatively small amount of land when compared with large non-linear open spaces to accomplish their objectives. Also, they can be woven into the urban fabric with minimal disruption. The fact that they are an appropriate; economically feasible and adaptive response will help sustain and expand the greenway movement (*Ahern, 2004*).

2.4. Greenways as Recreation and alternative accesses routes

When developed with bicycle-grade trails, trails separated from roadways with a surface suitable for riding comfortably on narrow-tire bicycle-greenways can attract diverse users across a range of activities and seasons. Besides walking and bicycling, these trails host jogging, rollerblading, horse riding, cross-country skiing, and other activities, and they provide a safe, enjoyable setting for such individuals and groups as older adults, parents with babies in strollers, and wheelchair users.

The recreational potential of greenway trails is underscored in metropolitan areas, where large tracts of open land are scarce and often too expensive to purchase for public use. In these settings, open space planners have identified greenways in the form of stream corridors, power line rights-of-way, street boulevards, and abandoned railroad corridors as the next generation of public open space *(Little, 1990).*

The greenway's power to become a connective thread for surrounding community fabric is strengthened by its network of trails. These trail systems provide non-motorized transportation with the unique rural, natural character of greenways much different from the typical hard pavement often associated with other alternative transportation networks. They not only enable accessibility to a greenway's natural areas for hikers and bikers while promoting environmental appreciation, but also have become an important form of alternative transportation for urban and suburban communities that create connections to greenway destinations, as well as outside destinations of surrounding communities *(Gobster, 1995).*

2.5. Historic landscapes conservation

The definitions of historic landscapes are always interchangeable with cultural landscape. While any landscape that has been deliberately modified by humans is a cultural landscape, only those cultural landscapes that have a deep connection with the history of the community and are valued by the community can be identified as ‘cultural or historic heritage landscapes.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) have three categories for the types of cultural landscapes. The first one is designed landscapes which are the “clearly defined landscape designed and created intentionally by man.”

The second categories are Organically Evolved Landscape that “results from an initial social, economic, administrative, and/or religious imperative and has developed in its present form in response to its natural environment”. Within these category two sub-categories are identified:

a) Relict landscape, “in which an evolutionary process came to an end at some time in the past”, and for which “significant distinguishing features, are, however still visible in material form.”

b) Continuing landscape which “retains an active social role in contemporary society closely associated with the traditional way of life, and which the evolutionary process is still in progress.”

The third category is Associative Cultural Landscape – which is “justifiable by virtue of the powerful religious, artistic, or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.”

The notion of heritage and preservation is now broadening to be inclusive of any historic heritage to be in protection. One dimension of the historic landscape preservation is historic urban landscape. In 2011, UNESCO released the Recommendation on the Historic Urban Landscape.

According to the Recommendation, the historic urban landscape is the urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of “historic center” or “ensemble” to include the broader urban context and its geographical setting. This wider context includes notably the site’s topography, geomorphology, hydrology and natural features, its built environment, both historic and contemporary, its infrastructures above and below ground, its open spaces and

gardens, its land use patterns and spatial organization, perceptions and visual relationships, as well as all other elements of the urban structure. It also includes social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity.

To put it in another way, historic urban landscape refers to the sum of historic cities' natural and cultural, tangible and intangible features and elements that interact with each other; it encompasses aspects such as natural system, land use, topography, and geomorphology, ecological structure, vegetation and water, visual structure, social function, architecture and structure, and so on; these elements express and record the view of nature and interest appeal in various cultural models; historic urban landscape is the bearing system of urban values. In this landscape system, heritage sites are only one of its elements. Today, urbanization is developing rapidly; thus, it is exactly the right time to study on the conservation of historic urban landscape (*Guoping, 2009*)

2.6. Greenway Development and historic landscapes

Greenways connect cultural resources into a type of network or system that has greater value and higher use than the sum of the constituent parts as a kind of landscape synergy. Cultural landscape resources are increasingly recognized for their interpretive and recreational values. Linking these resources makes them accessible to a larger region of users, and, through multiple uses, realizes compatible uses within a single greenway *(Fruchter, 2014).*

Compact development, which utilizes smaller lots, preserves valuable natural resources and open space is the current trend in the world. Housing is situated in compact areas to minimize footprint, which is a critical consideration within the context of valuable greenway landscapes *(Milder, 2007).* Clustering housing sites and streets away from priority historic areas prioritizes land conservation while maintaining economic feasibility of subdivision development. By promoting and enhancing green spaces and common community areas, conservation development improves the social and recreational opportunities in that community. As with mixed-use and compact design principles, clustering development also reduces infrastructure and construction costs, such as, water and sewer lines *(Arendt, 2010).*

Communities developed using greenways as the underlying framework have unique character and identity. Compatibility between the community and greenway is ultimately achieved by sense of place. Sense of place or *image ability* is defined as the quality that makes a community "distinct, recognizable and memorable *(Clemente, Ewing 2013*)". Historical and cultural context is important in the definition of place and landscape image, especially in the case of heritage greenways. A design that is sensitive to and provides a perceptible link to the distinct physical environmental, cultural, or historical context of the greenway will contribute to fostering a sense of place and image of the community.

Not only were green ways aimed at improving urban leisure spaces and preserving the visual quality of urban landscape but, as multi-purpose spaces, they include dimensions such as environmental conservation, heritage preservation, protection of cultural diversity and public participation in the initiatives and strategies of development and landscape conservation (*Ahern, 2004*).

2.7. Contextual review

Many urban landscapes and identities are marked by a built environment whose physical characteristics refer to a process of development stretching back over centuries. Individual monuments and landmarks, groups of buildings, street patterns and coherent ensembles inform us, of our cities' pasts, continuity of change through time, periods of ascendancy of remarkable events, or ruptures in the urban fabric as a result of conflict or transformation. However, Lack of awareness and attention has let the historical structures deteriorate. Many characteristics and priceless buildings have been transformed losing their original features and values. Moreover, priority of social and economic issues such as, poverty reduction, investment attraction etc., are posing the dilemma of choosing between modernization and preservation (*ORAAMP, 2001*)

In understanding of this problem, the office for the Revision of the Addis Ababa Master Plan has prepared a planning regulation for the selected and registered historical elements and areas of the city (*Mekonnen, 2008*). This will create good environment to include landscape heritages to the city in addition to the building heritages. According to the analyzed international policy measures and regulations regarding preservation of cultural built up heritage of a nation, three steps are mandatory i.e. the first is selection of cultural heritages to be included in the list of preservation, the second is to prepare the preservation schemes for

those included according to their level of importance and the third is to practice the planned plan of action (*ORAAMP, 2001*).

The following selection criteria which were already used the master plan of Addis Ababa City:

- Historical and cultural significance;
- Age of structures and sites; and
- Architectural value.

Based on the above three selection criteria the 150 heritages were adopted and proposed to be preserved by the revised Master Plan and acknowledged legally. Out of these, the above listed 35 historical churches and mosques, 26 historical former public buildings, 73 residences of former dignitaries, 17 monuments, caves, bridges and 6 historical sites were officially accepted.

The master plan regulation regarding historic open spaces has forwarded the following regulations.

- Permanent structures which violets the original intended purpose should strictly be forbidden,
- Most of the historical sites that are used as a ceremonial place occasionally apart from the original use of the area it could be used for functions, which does not need permanent structures like Sunday markets, bazaars and exhibitions.

These kinds of regulations give opportunities to think historical urban landscapes to be revitalized with new approaches while preserving them.

2.8. The significance of the old Ethio-Djibouti Railway

The following three common effects of railways on communities that pass by have been observed during construction, full Operation, and its disuse of the old Ethio-Djibouti Railway. Firstly, that the seismic shift in the rural/urban balance of the population was facilitated by the railways. Secondly, that this exodus was driven by young single people in search of better wages and brighter opportunities. A third view is that railways stimulated economic activity in rural communities in close proximity to a line, particularly if they enjoyed a favorable geographical location. (Stewart Beardsley, 2004)

The railway has done its effect during construction phase, operating phase and while it stopped giving the service. The impact was different at each stage. Being the mega project of the time, during the construction time, it has shown the new possibilities of the transport sector. It was well studied before it was applied and it was agreed not to touch the water and the small communities it passes by as well as their living areas. This being sensitive to not displace already settled community after long time movement from place to place for their animals.

The other effect is on the economic development of the communities around the area. It has both positive and negative effect. Most of the local communities together with the others from different countries and regions of the country were able to generate income working on the construction. Local clans used their camels to carry equipment, steel, water and food and other materials needed for the work. Others especially from the central area of the country were getting salary's being guards for the workers (Prof. R. Pankhurst, 2005)

On the other hand, the construction of the railway has been as treat for the caravan trade route carriers. They understood the danger of losing their jobs and incomes when the railways are finished and tried to destruct the construction by attacking at different times. They all declared that their livelihood depended on the continuance of the traffic by road, that the railway would ruin them, that if the work be persisted on, they would be prepared to resist.

Another huge effect was the birth of well-planned town of Addis Harar near a village called Dire Dawa which was the end station of the first phase. Later the name was changed to Dire Dawa not to confuse it with Addis Ababa and Harar. Since it is the first planned town at the time, it gave a picture about urban planning for the coming cities like Bahir Dar. It was designed by the French engineers working for the railway company at that time. The city was well equipped with paved roads, electricity, water, telegraph and post office which other cities at that time didn't have. The city was planned for the train workers as residence since it was the terminal station of the first phase due to the bankruptcy of the company which was the result of four main reasons. The first one is the attack from the Issa and Afar people. The second one is due to little popularity among the traders who continued to carry their merchandise on animals due to the lack of feeder roads to the line. The third one is the quality of workmanship during the construction of the rails which halted movement each time. The fourth one is the huge amount of corruption during construction. It could have taken 20,000-

30,000 francs by kilometer of construction but it was asked by the contractors up to 65,000 francs by talking about the compensation paid to the resistants of the project from local people.

After the second phase started being constructed, different nationalities were interested in the city and started to settle. Greeks, Armenians, Arabs, Indians, French, Italians were among the major foreign citizens to settle in the city. Immediately it took the second places of cities being the economic center of the country next to Addis Ababa. Harar which was supposed to be the station city was connected with road to share the fruit of being next to the train.

During its full operation time of the railway, the major effect was the economical aspect of the country. Imported export items increased by ten-fold and being transported quicker to the port and to the capital Addis Ababa. The life in Dire Dawa was especially vibrant which attracted other citizens from different worlds to settle there. Different infrastructures started to immerge following the stations. Hotels and restaurants were opened at Aicha, Afdem, and Mojo (*Prof. R. Pankhurst, 2005*).

The socio-economic growth has result in general knowhow of other issues like the establishment of workers union of the railway. Socio-Economic legacies of the foreigners in the city of Dire Dawa are shown in table below.

Legacy	**Infrastructures and Facilities**	**Industry, business, and institutions**	**Religious Institutions**	**Others**
French	Alliance Francaise school (1908), Railway Hospital (1911), Railway station & workshops (1902), City Master Plan, French/Djibouti consul, Facilities: Railway, Road & Ox-Carts. Sport club, Alarm Bell, Postal service, Water supply (pipe line), Telegraph Electricity (Generator)	St. Alazar Printing press (1908), Mekonen bar and Hotel,	Augustine Catholic Church (1908)	French Language

Greek	Gololakos (Greek) School (1919), Architecture and Paintings	Continental Hotel (1906)	Catholic Church (1926)	
Arab	Architecture	Trade: Shops/Market	Mosque,	language, dressing, sweet foods (Mushebeck, Bakilwaba, & Fetira
Armenia			Armenia Church (1935)	
India	Mahajan School (1928), Hindu Crematorium & Architecture			Trade

Table1. Socio-Economic legacies of the foreigners in the city of Dire Dawa, Source: Mesafint Tarekegn & Zenebech Admasu

During the occupation of Ethiopia, the Italians wanted to construct the following lines: Addis Ababa–Desse–Addigrat– Massawa, Desse–Assab, Desse–Gondar–Om Ager and Addis Ababa– Dollo–Mogadishu, but none of these lines was ever built.

The railway began a long period of decline following the WW II. Traffic on the railway dropped in half from 1953 to 1957, as road transport began to compete for cargo. The Ogaden War of 1977-1978 dealt a further blow to the railway, as Somali troops invaded Ethiopia and captured the railway as far as Dire Dawa. Portions of the railway were blown up in the war, and railway operations were again cut in half. After the war ended, the railway continued to decline from a lack of maintenance and attacks from rebels such as the Ogaden Liberation Front (*Michał Kozicki, 2016*).

This has halted the fortuned growth of the station towns which popped due to the railway. Only those which are found both on the highway road and the train line continue to prosper. It took longer time by cars to transport the imported and exported goods. This has its own effect on the economy of the country as whole.

Fig. 1. The abounded station at Addis Ababa (Source: https://www.aurecongroup.com/)

2.9. International Case studies of greenways on rail tracks

This section analyzes three greenways on abandoned railways in different cities to get detailed information helpful for the research on the Ethio-Djibouti old railway route. It is not uncommon for abandoned railway lines to be converted into parks and gardens. We can find several conversions of such railway infrastructure into successful linear parks. The green ways studied in detail are Promenade Plantee in Paris, Highline in New York and The 606 in Chicago. These greenways represent variety in scale, geographic location and function. The study will give the picture of how these projects are successful.

Planning and implementing of greenways could be complicated based on the scale, location and intended functions. Most of the time the initiation of such kind of greenways on abandoned railways come from individual supporters of the railway routes. But the application of the designed and planed functions and conversion of the routes is achieved though high commitment of the government officials.

2.9.1. Promenade Plantee, Paris

The Promenade Plantée is a linear greenway spanning 4.7 kilometers in Paris on the disused railway route of Viaduct Daumesnil. It has elevated, on the ground and finally tunnel features which makes it more vibrant and enjoyable.

Fig. 2. Image of promenade Plantee. Source: www.hipparis.com

The rail traffic on the route stopped in 1969 and it was vacant until the late 1980s. At the mid of 1990 the city of Paris converted this abandoned railway route in greenway which has a pedestrian walkway called the Promenade Plantée. The 3-mile linear park, designed by Philippe Mathieu and Jacques Vergely, is lavishly planted and offers stairs and elevators for access. Retail spaces, designed by Patrick Berger, were created in the spaces under the masonry arches supporting the structure.

The viaduct, the cut and the tunnel give unique experiences and different program integrations. The project as a whole helped revitalize the surrounding neighborhood, inspiring new residents and businesses to come to the area.

Fig. 3. Map of Promenade Plante showing the three features. Source: www.brandsandfilms.com

The greenways together with surrounding public places provide different activities to the public coming to visit. The greenway introduction has boosted the local activities.

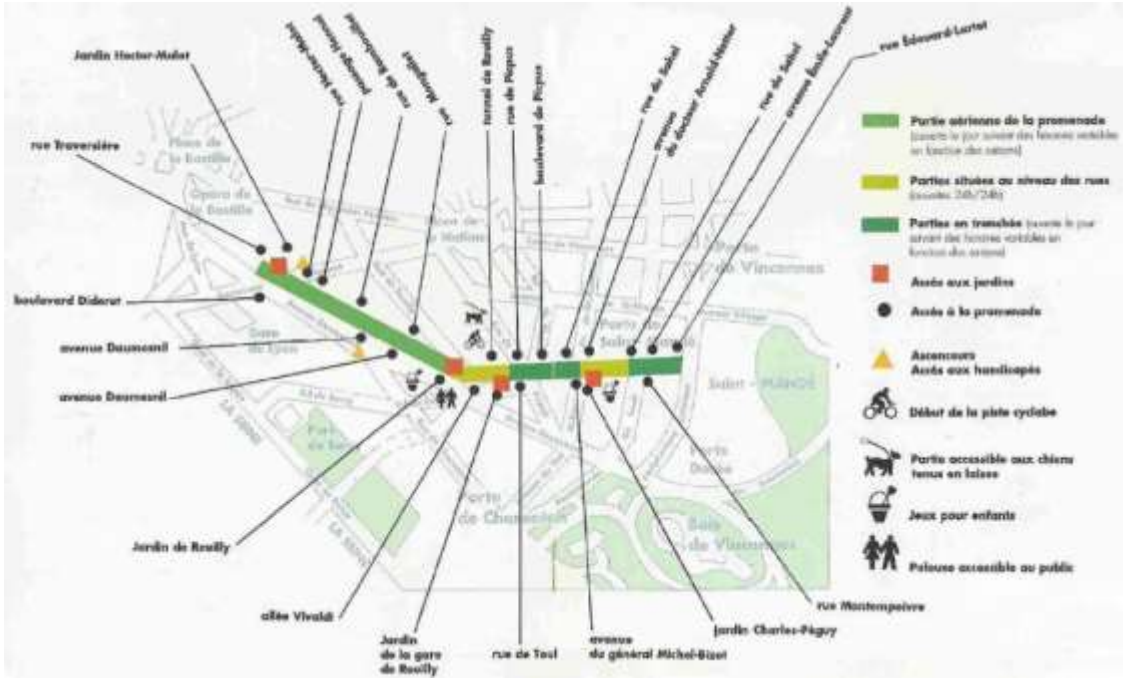


Fig. 4. Map showing different activity spots on Promenade Plantée. Source: www.pinterest.com

Fig. 5. Promenade Plantee greenway on the Viaduct. Source: www.theguardian.com

Fig. 6. Images of Deferent elements of the Promenade Plantée, Source: www.brandsandfilms.com

2.9.2. Highline Park, New York

In 1934 the High Line railway project opened on the west side of Manhattan in New York City (NYC). As a riveted steel elevated rail line, the High Line allowed for the delivery and collection of goods to and from nearby factories avoiding the need for loading and unloading activities to occur on the busy and congested streets of the city. The rail project extended for 21km, passed through several factory buildings and removed any need for at-grade rail crossings due to its elevated construction. With the advent of interstate trucking in the 1950s throughout the USA the volume of goods moved by rail declined resulting in the High Line becoming redundant.

Fig. 7. Entry point at one end of the Highline, Source: www.highline.org

Considered by some to be an eyesore and others to be an obstacle for redevelopment in the western part of Manhattan moves were afoot to demolish the rail structure in the 1990s. However local residents living close to the High Line formed a group – 'Friends of the High Line' –and advocated for the preservation of the elevated rail line and its conversion into a public linear park or 'greenway' similar to the Promenade Plantée in Paris. As a result of growing community support for the concept of an aerial greenway the NYC government agreed to retain the rail freight infrastructure and committed $50m to establish the High Line Park in 2004.

Today the High Line Park extends for 1.6km with its proposed Phase 3 resulting in a greenway 2.3km long. Whilst the public park or greenway is owned by the City of New York its maintenance, operation and public programming of activities and events is undertaken jointly by the not-for-profit 'Friends of the High Line' and the City Department of Parks and Recreation.

The High Line project continues to be an important catalyst for urban renewal in the Chelsea and Meatpacking Districts of NYC, as well as becoming a popular local resident and tourist attraction.

Total Surface Area: 296,000 square feet

Total Acreage: 6.7 acres

Total Length:
1.45 miles without Post Office spur
1.52 miles with Post Office spur

Columns: approximately 475
Buildings Traveled Through: 2
Buildings Traveled Over: 13
Building Sidings: 9
City Blocks Crossed: 22
Publicly Owned Lots Traversed: 2
Privately Owned Lots Traversed: 31
Total Street Crossings: 25
Maximum Width: 88 feet
Minimum Width: 30 feet
Rail Easement: 20 feet above the track
Load Capacity: 4 fully loaded freight trains
Height: 0 feet to 29 feet above grade
Materials: Steel frame, reinforced concrete deck, gravel ballast, metal handrails

Fig. 8. Highline route before intervention. Source: www.highline.org

Fig. 9. Existing land use near the line. (Source: www.highline.org)

General conditions of the route before intervention were

- Un used since 1980
- The upper deck has grown plants and look like green carpet
- Based on 1999 engineers' inspection, the structural integration is still very good.
- Most of the zones that the rail passes are for light manufacturing industries.

Fig. 10. Historic photograph of the rail line passing through industrial buildings. Source: www.highline.org

2.9.2.1. Design Approach

The following critical points are strived to be achieved by the design.

A. CHARACTER: Sense of Place and History

The basic characters of the former railway elements are incorporated on the new design not to lose the distinctive character of the rails.

Fig. 11. Alignment of High Line Project with stair and elevator access points. Source: www.highline.org

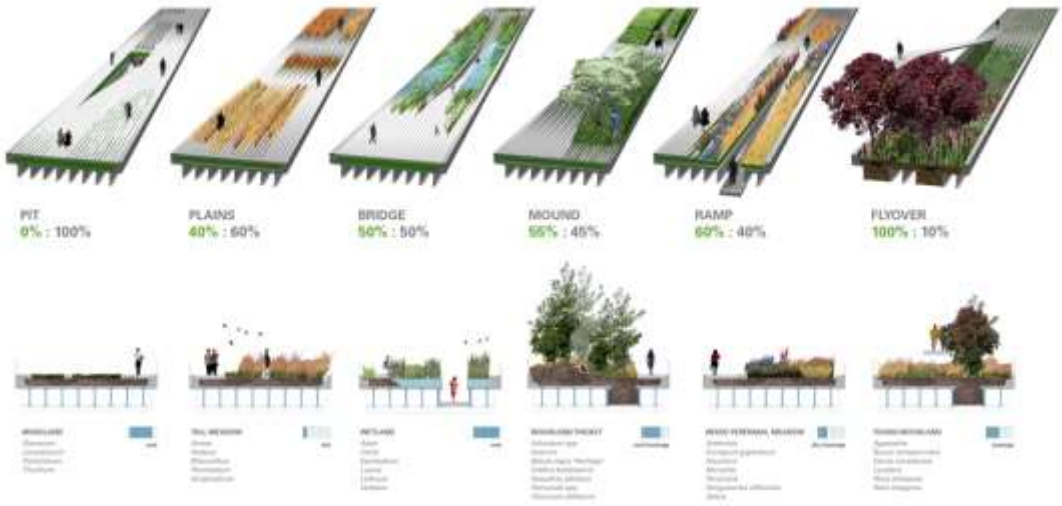


Fig. 12. Diagrams showing different interventions, source: www.highline.org

Fig. 13. Art Deco detailing of the rail infrastructure has been restored. Source: www.highline.org

Fig. 14. Rail track retained and exposed. Source: www.highline.org

B. CONTINUITY AND ENCLOSURE: Clarity of Form

The views and different experiences from the rails are incorporated on the new design and applied to give existing senses but different perceptions.

'Windows' to the city traffic and pedestrian movement were created on the intersection of the railway and the roads to observe and enjoy pedestrian movement and activates on the roads. This ability to look down as well as look out from an aerial walkway enhances the character of the place as well as an appreciation of the complexity of the surrounding urban forms.

Fig. 15.. Views from the High Line. source: www.highline.org

Fig. 16. Crossing of 10th Avenue at West 17th Street – watching the world go by. source: www.highline.org

Fig. 17. The use of the High Line as a place to sit, cool off, meet friends and relax is enhanced by its planting, furniture and elevated position above the noisy streets below. Source: www.highline.org

C. QUALITY OF THE PUBLIC REALM: Sense of wellbeing and amenity

This project is designed to be truly for people. It's safe, car free and comfortable greenway which attracts the locals and visitors out of the city. The well-furnished landscape and the walking route have contributed a lot for this success.

The material choice for seating and walking and the plant species selection has helped the route to be unique in creating the sense of wellbeing of the users. In addition to this space of coffee and drinks gives it home feeling.

Fig. 18. The 'Chelsea Thicket' – buildings and planting frame the vista along the walkway. Source: www.highline.org

Fig. 19. Cafés, bars and food outlets along the High Line activate the place. Source: www.highline.org

Fig. 20. The choice of materials, coolers and finishes adds to the high-quality amenity of the High Line. Source: www.highline.org

Fig. 21. Illustrations of peel-up options, source: www.highline.org

Fig. 22. Diagram of the highline route with access points, source: www.highline.org

D. EASE OF MOVEMENT: Connectivity and permeability

Promoting walkability is one of the objectives of most greenways. The high line being linear and addressing long distance, it is safe alternative to walk and access work places, shops and other facilities.

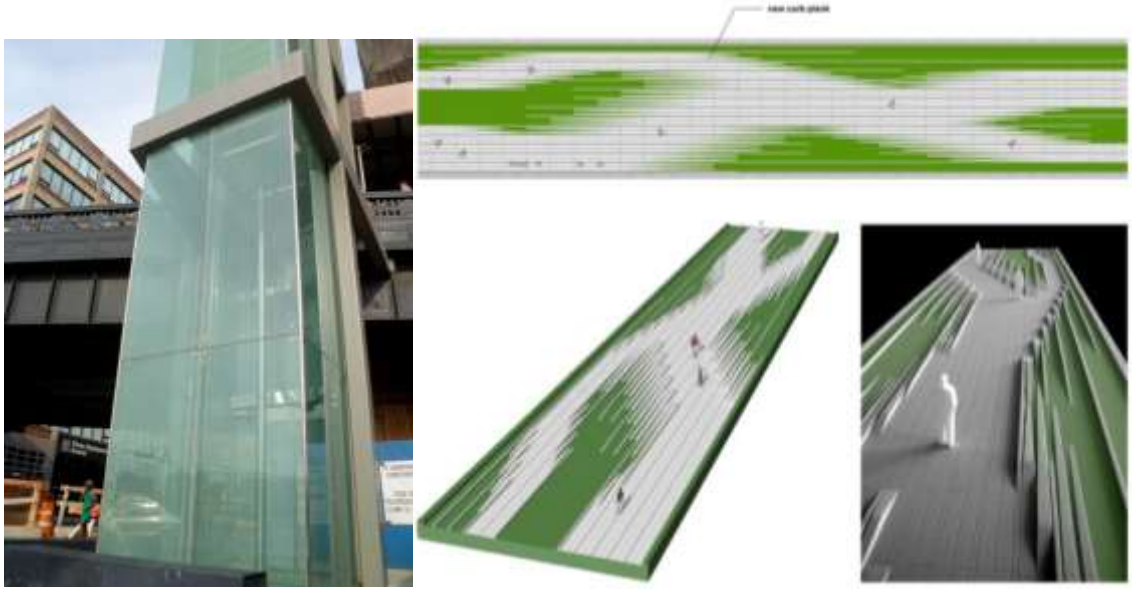


Fig. 23.. Glazed elevators facilitate access for persons with mobility problems. Source: www.highline.org

Fig. 24. Uniform use of aggregate concrete pavers enhances ease of movement and creates a sense of visual unity in the design. Source: www.highline.org

E. LEGIBILITY: Ease of Understanding

The linear quality of the High Line edged by iron balustrading, multi-level buildings and attractive plantings help define the walkway as an elevated urban place. It is a legible and easily navigable route to traverse.

Fig. 25. Buildings of architectural significance align the High Line route. Source: www.highline.org

Fig. 26. Heritage buildings viewed from the High Line. Source: www.highline.org

F. ADAPTABILITY: Ease of Change

Greenways designed for the public spaces should be adaptable to different activities that the community runs at different time of the year. One of the positive attributes that the highline has is its flexibility to accommodate different activities at different seasons of the year. Art and craft markets, cafés, bars, food kiosks, festivals, gardening programs, musical events, cinema nights, snow sculpting competitions, tours of the High Line and other programs activate the place throughout the calendar year.

Fig. 27. Kids art programs at the High Line, Source: www.highline.org

Fig. 28. Film nights at the High Line. Source: www.highline.org

Fig. 29. Dance performance on the High Line. Source: www.highline.org

Fig. 30. Food and wine events. Source: www.highline.org

G. SUSTAINABILITY: Environmentally, socially and economically

The concept of rehabilitating the line has scored double advantages. The first one is avoiding the energy lose and environmental effect while demolishing the line and the second one is the planting done on the route has positive effect on the environment that is existing.

In addition to that the project has added value of life by being leisure and recreational spaces. According to the High Line website 3.7 million people visited the park in 2011 of which 50% were New Yorkers.

Fig. 31. Example of an organized walk along the High Line Source: www.highline.org

Fig. 32. Small bars contribute to the economics of the High Line. Source: www.highline.org

Fig. 33. Location of some of the development projects approved since the opening of the High Line in 2004. Source: www.highline.org

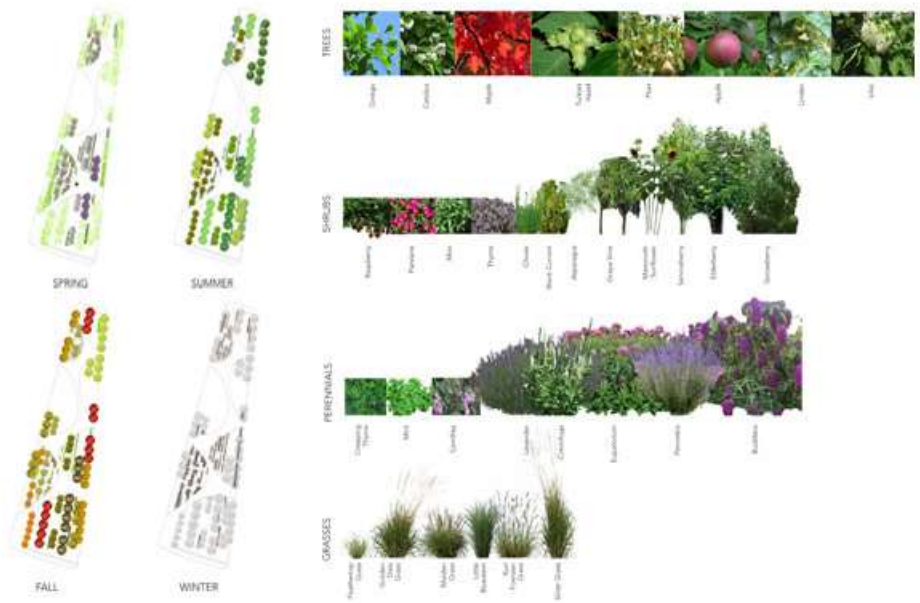


Fig. 34. Planting design of the high line, source: www.highline.org

2.9.3. The 606, Chicago

This project is one of the greenways achieved through the concept of converting dysfunctional urban infrastructures like old railways in to new public realm. This greenway is developed by transforming the former Bloomingdale Line, an elevated railroad, into a linear park and multi-purpose bicycle trail. The name is then given by taking the three digits of the city's postal code.

Fig. 35. Map of the 606. Source: walking the 606

The 606 provides uninterrupted, grade separated, safe lanes for recreational bikers and gives also distinctive pedestrian experience. The generous seating places with perimeter plantings together with its strong street presence, raised landscape and commanding views are the foundation of the greenway. The nearby accesses parks along the route are vital in providing supportive programs and flexible spaces. This combination of direct connection, leisurely enjoyment, and street level park connections contributes to a more vibrant public realm along Bloomingdale Avenue.

Being 4.34 kilometers, the route connects to different experiences that give life to the city and the route itself. Arterial roads, parks, private buildings, historic boulevards, bus and bicycle lanes are the major ones that relate the physical and social history of this impressive piece of civic infrastructure.

Fig. 36.View from buildings of The 606. Source: walking the 606

Creating the vision

Open space shortage

The main driving agent for this project to be incepted is the low open space per capita of Logan Square, a neighborhood including the Bloomingdale Line. The stress of the absence of open space has leaded the City's proposal to convert the Bloomingdale Line to a park and include it in the 2004s' Logan Square open space Plan.

Like Friends of Highline, Friends of the Bloomingdale Trail was created to enhance community support for the project. This has helped full support of the individuals and city administration.

Public Charrette

There was four days (October 1-4, 2011) public gathering to discuss issues ranging from the major programs to be included in the intervention up to the smallest landscaping and art installations. The charrette included site visits, open house meetings and small groups discussions and 200 people have participated. More than 500 community members attended one or more meetings and others kept track of the progress online and they were giving feed backs. This remarkable level of input laid the groundwork for a deeper community involvement in the 606 that continues to this day.

Fig. 37. Public Charrette ideas, Source: walking the 606

Fig. 38. Site Conditions of The 606 Preconstruction, Source: walking the 606

Design approach

The lifted landscape

Since The 606 is supported by concrete unlike highline which is supported by steel, the design tries the original construction technique by lowering the path and exposing retaining walls. In addition to that the designer approached manipulating the landscape as a tool to create different viewpoints, to increase special and ecological varieties and facilitate access to the elevated landscapes.

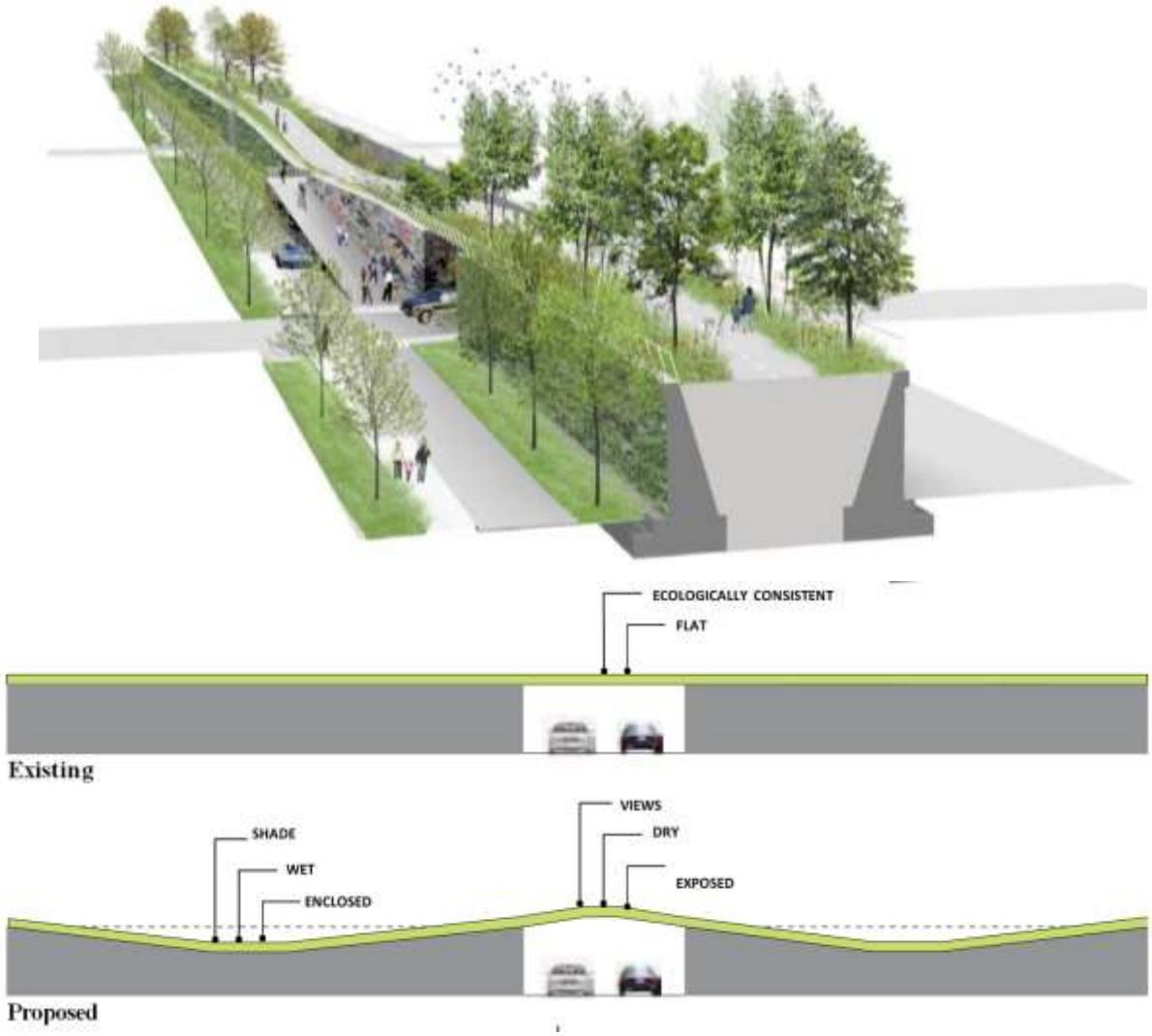


Fig. 39. Diagrams of the design approach, Source: walking the 606

Path design

Safe and convenient for cycling, walking, and running is achieved by the sites grade separation. Pedestrian only routes give more exploration and relaxation without the fear of the bicycles. A shared-use path – The Bloomingdale Trail – connects the length of the 2.7-mile-long site. The central3.6-meter portion is used by cyclist and the external zone is only for pedestrian. The speed of bicycle traffic has been moderated through horizontal and vertical curvature and changes to the perceived path width.

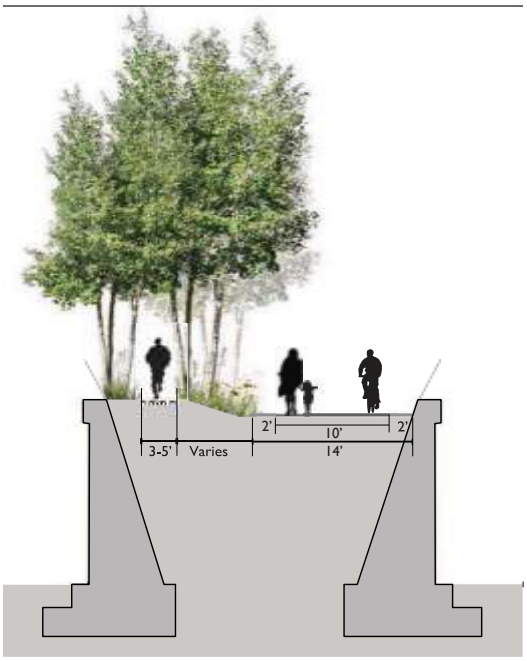


Fig. 40. The side walkways designed, Source: walking the 606

Planting

Continuity + diversity

Linear routes will be boring unless they are treated with well-designed plantings. Planting on The 606 was done with series of themes and variations intended to enrich the experience of moving along a linear path. Dense and diverse vegetation are applied to create hipper nature on the narrow corridor. Continuity is provided by a relatively consistent use of perennials, grasses and sedges as well as by the repetition of certain planting types including the Urban Savanna, Hanging Gardens, and Evergreen Spires. By contrast, distinctive planting events – the Poplar Thicket and Sumac Tunnel for example – work in concert with changes in topography, microclimate, and spatial enclosure to create variety along the length of The 606.

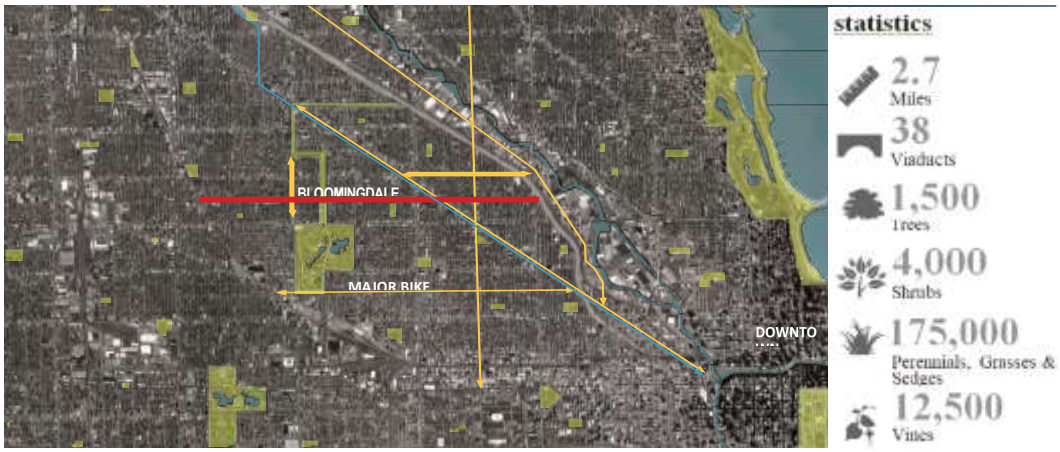


Fig. 41. Facts in number of plantings on The 606, Source: walking the 606

Fig. 42. Planting design and proposal of the project, Source: walking the 606

Structure

Repurpose + Reshape

Keeping the character of the old route is one critical measure when designing and converting old railways. Therefore, honoring and keeping the unique physical attributes of the 606 was one of the design teams' approach. In line with this checking the integrity of this 100 years old structure is crucial for the safety of the users. Rather than attempt to make the entire structure appear new, the team embraced its industrial ruin-like quality and chose to re-use existing elements wherever possible.

Fig. 43. The structural elements, Source: walking the 606

CHAPTER THREE: RESEARCH METHODOLOGY AND METHODS

3.1. The research sites

The researcher used the old Ethio- Djibouti railway route as case for this research. Under the circumstances it passed through these years, the old Ethio-Djibouti railway has served the country in its socio- economic development. It was an eye opener to the advanced transport systems because even cars were not that much introduced to the country. It has served the purpose it was built even if the life time was short due to lack of maintenance and other territorial challenges.

Especially in creating modern Ethiopia, the effect was huge. It has brought the idea of urban planning, the importance of infrastructures in a city, and peaceful coexistence of different communities were achieved. New business ideas were also introduced.

But understanding this huge linear historic landscape lying from eastern part of the country up to the center is not considered at all. Especially the new railway construction has taken most part of it and other encroachments of the open fields of the stations are being eaten up which could be potential spaces as alternative green way development.

The physical scope of the study area is 0.03-kilometer-wide and 22 kilometers in length covering the distance between the Leghare station and the boundary of Addis Ababa City at Akaki. The elevation difference is 298 meters and has 8.4% and 1% maximum and average slope.

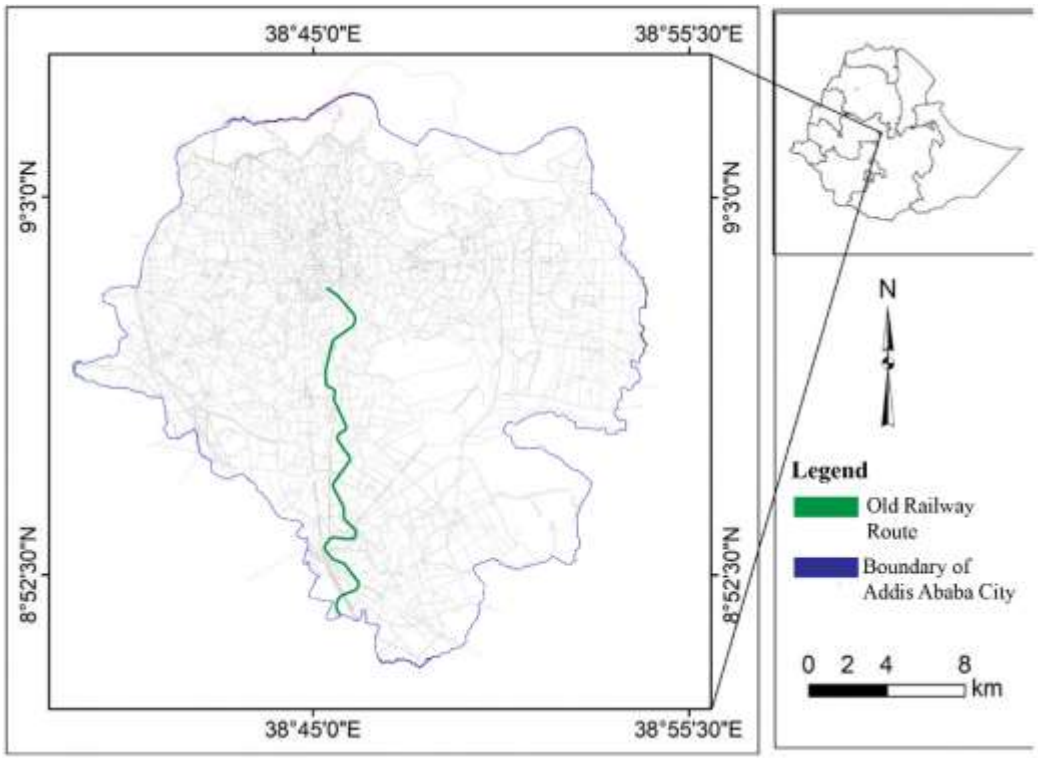


Fig. 44. The old Ethio-Djibouti railway Route with in the Addis Ababa City boundary.

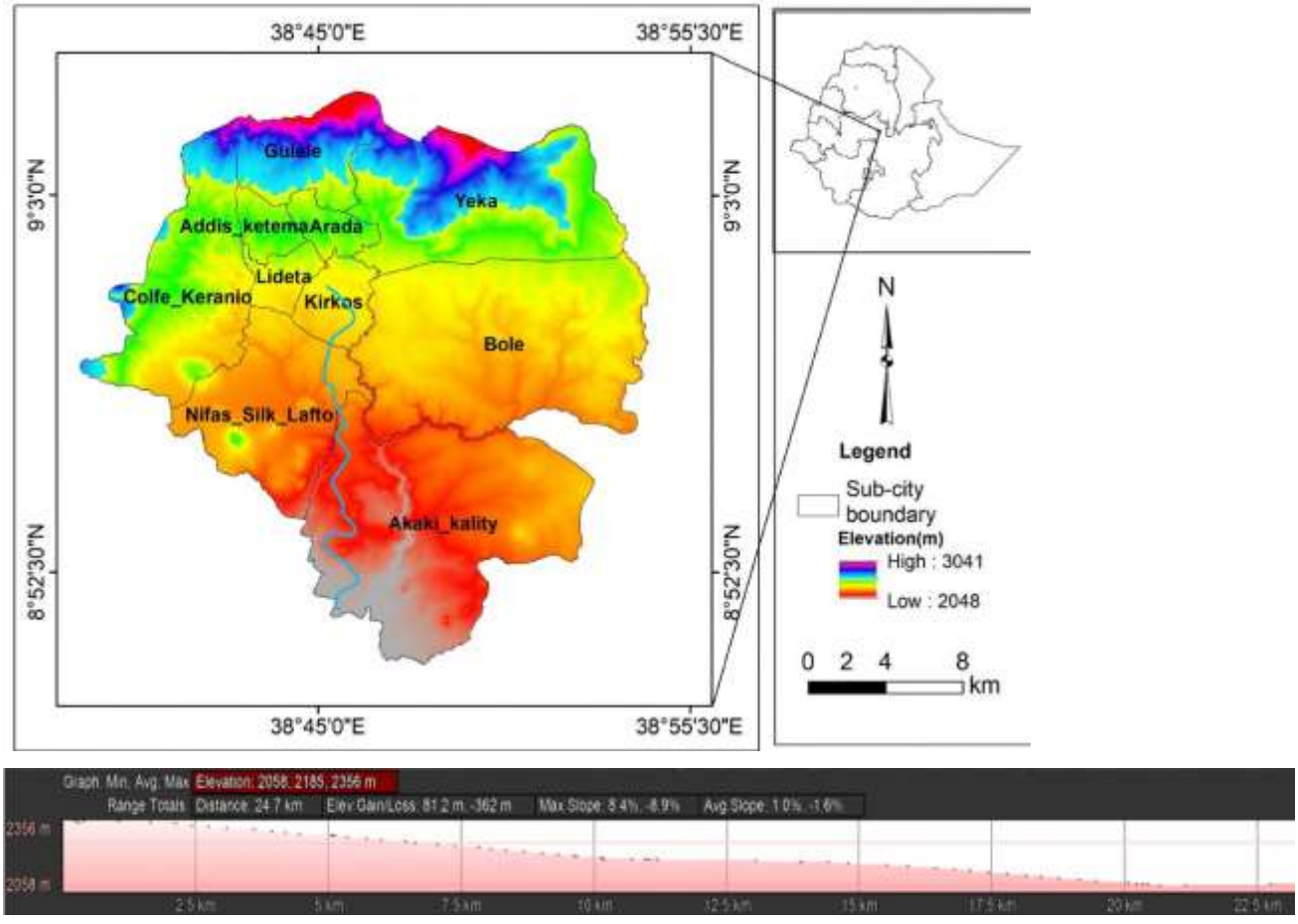


Fig. 45. The old Ethio-Djibouti railway Route elevation range.

3.2. Data Collection methods

Data from primary and secondary sources are taken in the form of direct observation of the old railway route, interviews of people living along the railway and questionnaires for design professionals are used to get the perception of the public and the professionals. Parameters extracted from the review of documents and international greenways developed on old railways like promenade plantee, highline and the 606 are used to take notes while test walk and diary keeping.

3.2.1. Primary data sources

Interviews: In-depth interviews have been conducted and questionnaires were distributed to key informants and carefully notes were taken. Different groups of the society like professionals, local residents living beside the railway, government officials related to green development and conservation have been interviewed to get their perspectives.

31 professional architects and urban planners were selected based on their educational back ground to get the picture of the professional perspective. They were provided an email-based questioner. To enhance the professional views, the researcher has conducted independent and in-depth interview with 3 professional who has most experience on conservation and preservation of historic buildings and spaces. 17 local residents living and working along the railway route are selected based on work type, age and activity they are doing on the railway route. Two groups of three people are part of this number. The discussion was group based and their reflections are presented as a single person. The age of the interviewee ranges from 22 up to 67 years with minimum stay 5 months and maximum of 40 years. Most of the people participated in the interview know the railway route functioning. 3 representatives of three governmental offices were selected for interviews based on their role in planning and management of greenways and conservation of historic places of the offices.

Direct Observations: Direct observations including photos and test walk notes were critical in supporting other information gained through questionnaire and interviews. To understand the current situation of the old railway route and future assumptions a test walk was done on 75% of the route and the information is compared within the route at different locations. The rest 25% has the same character and redundancy of function and public activities occur. During the test walk diary was recorded and different actives are mapped.

Mapping was one of the tools used to identify critical spots in planning different activities on the proposal. Different land uses and existing activity areas are mapped to relate them with future master plan and green corridor proposed for the revitalization. Google earth images and masterplan of the city was overlayed with physical observation to analyze current situations and to see future possibilities of the route. The other tool used was photographing which is also helped the researcher to compare and contrast different existing situations at different locations along the route. These photos are used latter with photo essay together with observational notes.

Test walks and keeping a diary is used as another tool to explain and clarify hard quantitative material or data qualitatively since it is done with more detail than in quantitative. The researcher walked around observing the route on different days and registered details about the problems and potentials, interferences and/or diversions on the railway route.

3.2.2. Secondary data sources

Documents: Government office documents and scholarly articles were the main documents that were accessed to get information about the current situation of the old railway route and its future fate. Local planning documents from A.A. City Beatification Bureau and A.A. City Planning Office are retrieved and analyzed.

Electronic Sources: Electronic sources are used to gather additional information on the old railway route and on the international cases on other cities. Different websites were very helpful in accessing information like the friends of the highline website and others. Perceptions of the public are read on different blogs created for the greenways created on old railways around the world.

3.3. Sampling method and Sample size

The researcher has used key informant sampling to select interviewee and professionals for the interviews and questionnaire. This sampling method is used since the research was qualitative and to get knowledgeable about or have the experience with such type of phenomenon.

Based on the sampling method, a total of 54 key informants were considered for the research. Among the 54 considered key informants, 34 of them are design, planning and conservation professionals considered by the researcher knowledgeable and have experience

about green way development and abandoned railway management. 3 of the key informants were individuals representing Ethio-Djibouti Railway Corporation, Addis Ababa city Administration Culture and Tourism Bureau and Addis Ababa city Administration Beatification and Cemetery development Agency. The rest 17 of key informants were selected among the local residents engaged with different activity along the railway route.

3.4. Data Analysis and Presentations Methods

Combination of qualitative and quantitative technique is used for the study where the majority is done with qualitative technique. Quantities here show only the percentage of different groups on an idea that is raised on questionnaire. The qualitative aspect is highly used because the study focuses on people ideas, reactions, feelings and experiences of such spaces. The study is done qualitatively through direct observation taking notes, interpretation of photographs taken on the site, face to face questionnaires filled out by the researcher, interviews supported by qualitative data extracted from an email-based questionnaire.

This method has helped the researcher to perform an in-depth study of Old Ethio-Djibouti railway route, and revealed information that would not have been able to be obtained using more analytical methods.

Since Most of the data is qualitative framework analysis is used to analyze the data. Framework analysis is the one where findings are examined with a pre-defined framework, which reflects the aims, objectives and interests of the research. The frame work is defined already with objective of the study. Therefore, using the objectives as framework, data obtained from mapping, test walk and keeping a diary, photographing and data from questionnaires and interviews were matched with patterns and data from different literatures and case studies break down to produce themes and findings.

The observation from onsite data is compared and contrasted with the international cases to get the similarity and differences which was helpful to give recommendations and conclusions. In addition to the qualitative explanations, descriptions and elaboration; some quantitative data are explained using charts.

The result is then presented through bullets, charts, maps, photo essays and drawings on the proposals.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1. Email based questionnaire Responses of design professionals

4.1.1. Basic concept of greenway development

Even if the respondents were selected by their educational background out of the total respondents 60% are familiar with greenway development. The responses given show that there are many ways to define greenways and the understandings of the professionals vary from green strip to interconnected green network.

As we have seen from the literature review, the definition of green ways is wide and all of the definitions given by the respondents fall in one or the other of the definitions given by different professionals. For some it is narrow corridor of green spaces on side of roads and railways usually functioning as buffer space to roads or as recreational space. For some it is connected green areas with green corridors to have good ecological continuity. In other words, it is a strip of land or road in urban area set aside for recreational use or environmental protection.

In addition to these greenways could be simply green infrastructures where we could have porous layers, trees, green spaces, street furniture, jogging ground specifically designed to entertain such activities for communities. It is one important element of Urban Design to facilitate livability of cities and citizens which creates good environment and friendly development. It is a tool as well for rehabilitation of existing landscapes that are not maintained well and abandoned transport infrastructures.

The respondents were asked to what they relate greenway when they hear it. From the total respondents 73.3 % said to green corridors. 60% of the professionals relate it to Rivers and 53.3% of them to public recreations. Bicycle lanes and jogging tracks were among those in which green ways were related to with 36.7% and 26.7 respondents respectively.

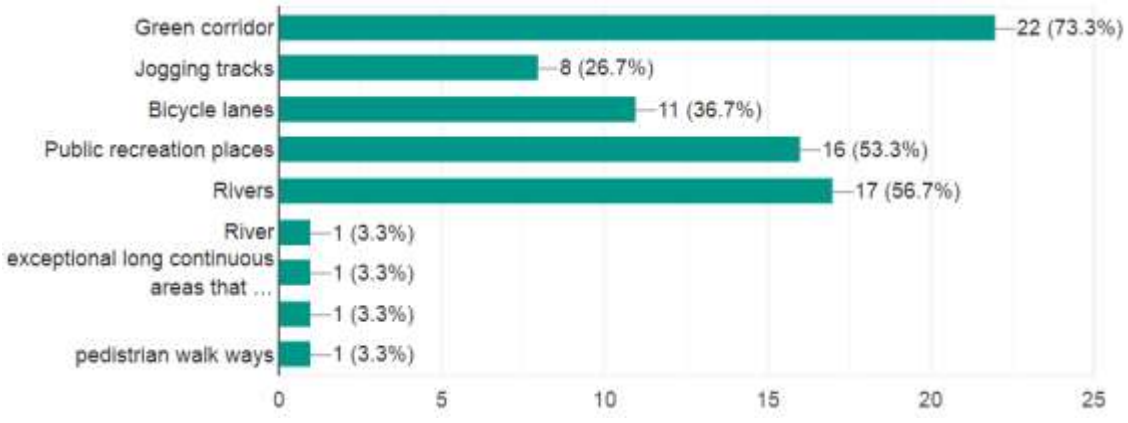


Fig. 46. Association of green way development.

From the responses of the respondents, we can clearly see that greenways and green corridors in any form are related things. In addition to that most of the professionals believe that the concept of green way development is not yet clear among the professionals. The response shows that 33.3 % said that the perception of the design professionals toward green-way development is poor 23.3% said it is very poor. 26.7% responded that the professionals have moderate perception of green way development.

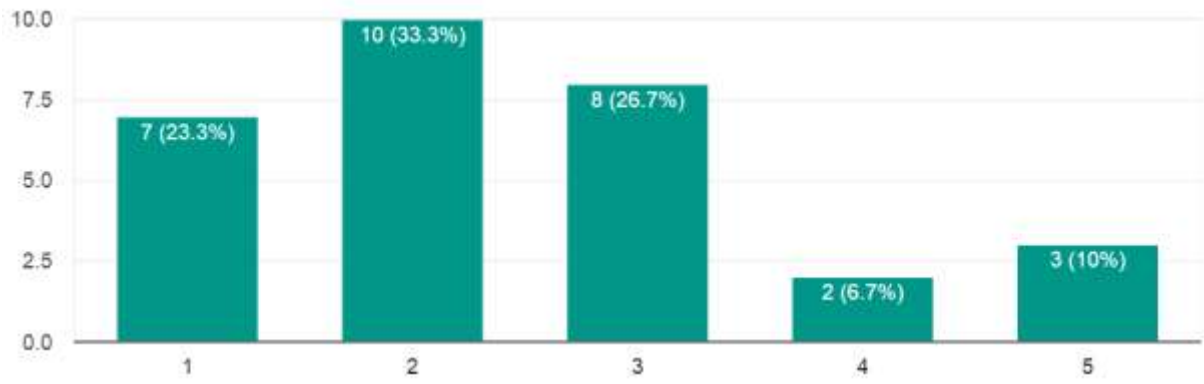


Fig. 47. Perception of the design and planning professionals towards greenway development (Note: 1=Very Poor 2=Poor 3=Moderate 4=Good 5=Very Good

Among the respondents only 43.3% know a place in the city dedicated for greenway development. Most of the places they mentioned are at proposal level. But we can see that the places mentioned are a potential for greenway developments. Their proposals are either canceled or waiting to be developed. Some of the greenways mentioned actually exist but they are not fully developed. From the response we can clearly see that most of the professionals haven't heard any place being dedicated for greenway development which indicates the gap between the development and creating knowhow for the public by revealing information about the project. During the writing of the results of this research the greenway development along the river from Ghion Hotel to Entoto (Shegern Maswab) was being advocated by many medias and the respondents of the questionnaire might noticed it and the result could have been different.

Kebena River, Entoto Mountain, Africa Park located along side Hilton Hotel, Green corridor from Yetebaberute to Safari at CMC, most principal arterial streets capes, Ethio-Djibouti Old rail-line way line, Churchill street, Proposal of the river buffer green development behind the Ghion as part of the main city center development are the greenways mentioned by the respondents.

Greenway development sites are selected carefully by different criteria set based on the urban design and planning principles, ecological, social and economic benefits and based on the master plan of the city. Among the respondents most of them mentioned that accessibility for all age and income group, connectivity with different land uses, place making ability, acquiring physical and biological attributes like landscape, flora and fauna, safety, sustainability, distribution in the city should be the criteria for selecting sites in regard to greenway development. We can conclude from the responses that the Function (Program) of the Space, the location (in an urban environment) and Linearity, the significant value (Historic, economic and environmental) of the space are the basic criteria for developing a site into greenway.

4.1.2. The old railways existing conditions and future fates

From the total of the respondents 66.7% have experienced the old Ethio-Djibouti railway rout by foot, by car, by bicycle or by train.

The railway route is mainly accessible by foot. We can see this from result of the questionnaire that from the total respondents 90% has the experience by foot. It has now different obstacles to be accessed fully by any other means. But there are portions changed in to road and run parallel to the road in which 45% responded by car. Only 5% experienced it by bicycle and 15% by train. Being accessible by foot at this stage where there is no sign of intervention gives a promising statement that if developed in to greenway, the line could be a successful example in the city.

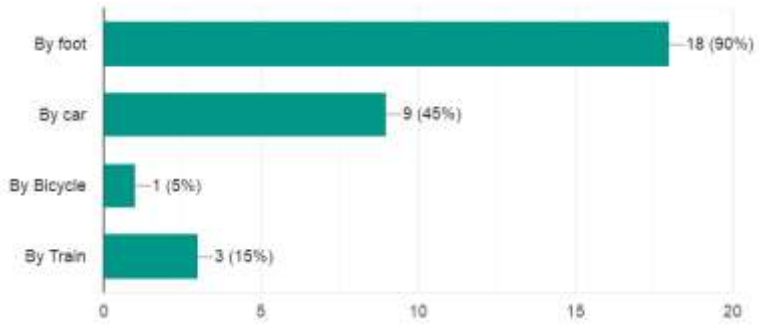


Fig. 48. Means of experiencing the old railway route.

Unique experience of a public place is what makes a good impression to the user and create place character in urban setting. One of the questions raised for the respondents was their experience of the old railway route. Most of the respondents express their feelings of the

experience as the route being empty, dead, forgotten and a place where garbage is dumped, natural shrubs uncontrollably grown over and not comfortable to walk at the moment.

But almost half of the respondents feel it was very interesting experience. For some of them it was one of thrilling experience because it showed the history of the old verses the new jungle of concrete. If revitalized it could be the breezing lung for the city and to give the user walking experiences and other activities. Other found it be quite interesting, romantic, historical and linear with potential of being walkway corridor if managed well

For one site to be considered as heritage site, the site should have attained enough age, social, economic, cultural and environmental significance. From the total respondents, 93.3% of them acknowledging the Old railway route as historic landscape. They mentioned the age of the structure which is over 100 years, being the first in its kind and pioneer, being the grand project of the time, connecting different cultures, cause for new cities to emerge with modern planning, and being a public memory as reasons for their believe that the railway route is a heritage landscape.

Even if most percentage of the respondents said it is heritage landscape, only 50% believe that the route will be conserved in the future. The reason they give is the same reason they give for the route being a heritage landscape. The age, historic value, connecting different neighborhoods, passing through different forms of land, the changing perception of the government offices towards heritages, attached public memories were some of the reasons that they hope it will be conserved.

On the other hand, 20% the respondents said it will be demolished because of the trend of the city's redevelopment by demolishing the historic buildings, Poor historical preservation practice, the perception of people and professionals about green way development is weak, some portions of the route are being demolished for road and other infrastructure development and the sites are not functioning currently.

From the total respondents, 16.7 % of them said it will still be neglected due to different reasons like it has been forgotten until now, has been interrupted at different spots with new roads and some constructions and there is no current news about the future fate. One response pointed out that the combination of the tree above options might happen to the route. Given its length and location, there are potential areas for conservation and historic development like the station area, there are places for conservation though functional change

like the existing market area, and partly it will stay as a backyard parts are inaccessible and be ignored and parts be demolished and integrated with the surrounding development. It will be economically not feasible to develop the whole length now. Among the responses brownfield development and difficult to guess were included.

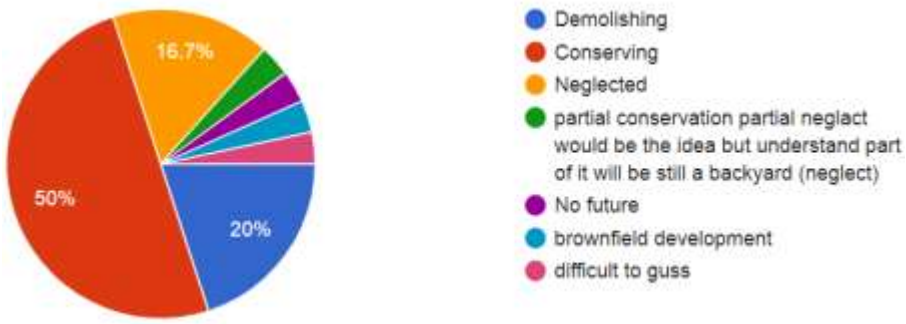


Fig. 49. Future fate of the old railway route.

From the total respondents 73.3% rated the importance of the railway route at functioning time as very important to the city and 20% rated it as important. At current disused stage the old railway route is rated by 40% of the respondents as not important at all and 26.7% of the respondents rated it as very important still. 16.7% of them believe that different reasons could make the route important or not important. They rated it 3.

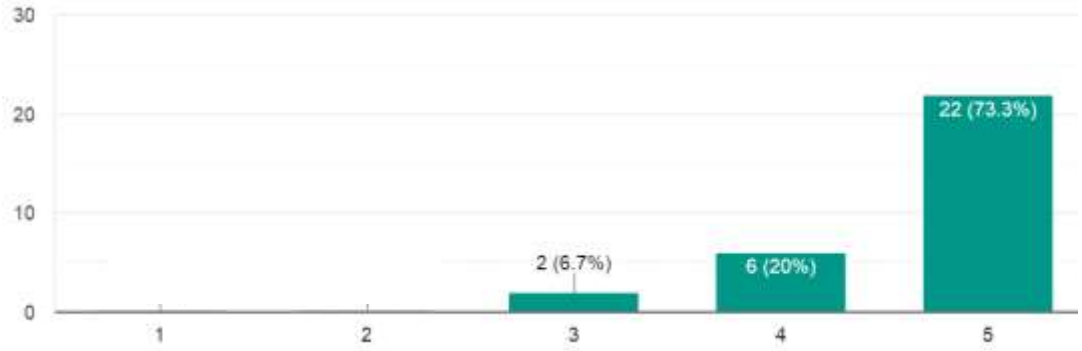


Fig. 50. Importance of the old railway at functioning stage for the city (Note: 1 being the not important at all and 5 very important).

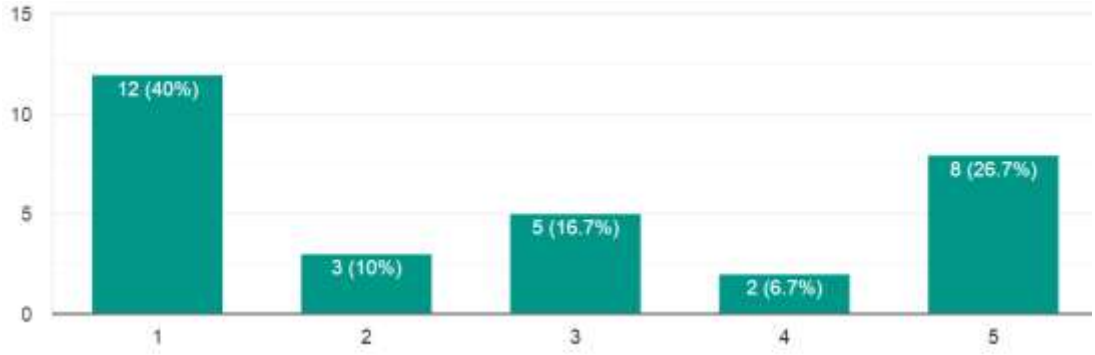


Fig. 51. Importance of the old railway at disuse stage for the city (Note: 1 being the not important at all and 5 very important)

The other issue raised was if the old railway route is negatively affecting the city's development at current stage and majority of the respondents said it is not affecting. The reasons they gave are, it is abandoned, it is rather a potential not used, and it is keeping the history and has positive social, economic and political impacts. The other 23.3% of the respondents think it is negatively affecting the city by being an obstacle to development, disturbs activity versus space flow of the city center since it passes through the center of the city, it is a dump fill, it created large block and became a barrier between neighborhoods.

One respondent specifically responded that "*It seems it is prey to 'don't ask, don't tell' policy or treaty between the two countries. It is now a 'dry river' disconnecting the city, regressing urban development on its frontier."*

From the total respondents 16.7% of them said maybe it may affect negatively depending on how it is used. The route by itself is an opportunity for the city of Addis Ababa and any development intended to be made near the routes shall be viewed proactively. Those areas used for dump fill are negatively affected and others used for marketing and urban agriculture are positively affected. Therefore, it depends on each activity portions the effect is different.

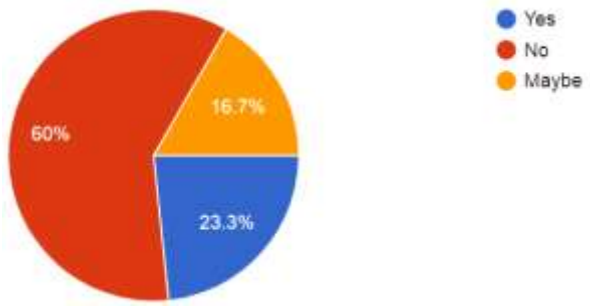


Fig. 52. Effect of the old railway on the city at current stage.

Respondents were asked what kind of advantages will be attained if the railway route is used for different functions. The major advantages the rout gives if revitalized are social, economic and environmental benefits.

Social advantages are serving as place of refugee from chaos city life, lung of city and alternative public space, adding a value to the city by increasing aesthetic value and livability. It will serve also as health and physical fitness center encouraging people to bicycling and

jogging. Being an example to see alternatives ways to revitalize and preserve historic sites at other locations in Ethiopia. Last but not least, it will *serve as* a demonstration site for academic and research activities.

Stimulating the neighborhoods and creating jobs, bringing market opportunities for the people living along the route, tourism attraction and bring sustainable economy to the city are the major economic advantages the project will bring if revitalized. In addition to these, time and resource will be saved by using the existing resources.

Respondents added that environmentally, considering its location and strategic stretch, it will add to the urban breath we seemingly are not concerned anymore but paying the price. In addition to this, it will contribute to environmental protection, create better ecological connectivity, provide ecosystem services, creating clean and quality public space and promote linkage with other neighborhoods.

One of the measurements of the success of a greenway is the appropriateness of the programs installed in it. To come up with better program choices, most of the time planners and designers of the greenways together with committees will run public charrette. For this research respondents were asked to choose their program suggestions. Most of the respondents suggested green corridor as a program for the future development of the old railway route. From the total respondents 79.3% recommended this green corridor. 41.4% of them recommended jogging trucks and bicycle lane to be developed as programs on the route. One program might not be sufficient for the whole route and combination of the major ones could be applied in synchronized way.

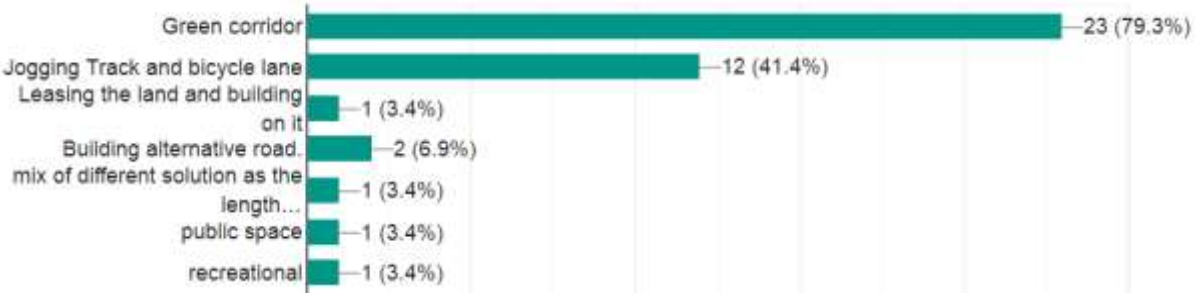


Fig. 53. Suggested programs for the old railway (Note: Green corridor refers here only green aspect without the social uses).

Historic landscapes have different advantages as mentioned above. Respondents were asked if revitalization of the old railway route could bring local development and 80% replied

yes it will bring. Their reasons are, it attracts tourism, it will attract new investments along the corridor, it can foster eco-tourism, economical health recreational advantages, it attracts visitors there by encourage local economic development and enhance interaction of people with varied background and social status. If upgraded and better linked, it will initiate a unique local development along its course, even inclusive of the station - now devoid of life at the epicenter of the city. It will bring infrastructure induced redevelopment for the surrounding areas. Among the respondents 16.7% replied the effect depends on the frame work of the development therefore it may or may not bring economic development and the rest believes it doesn't have.

The other benefit asked was economic benefit and 90% of them replied it would have since heritages always have economic implications. Direct income will be collected from the visitors, the local community will have opportunity for market, eco- tourism will expand, small scale industries will initiate, promoting history can induce different function that promote business. With this and other reasons the old railway heritage will bring economic development parallel with local development. Among the respondents 6.7% replied the effect depends on the frame work of the development therefore it may or may not bring economic development and the rest believes it doesn't have.

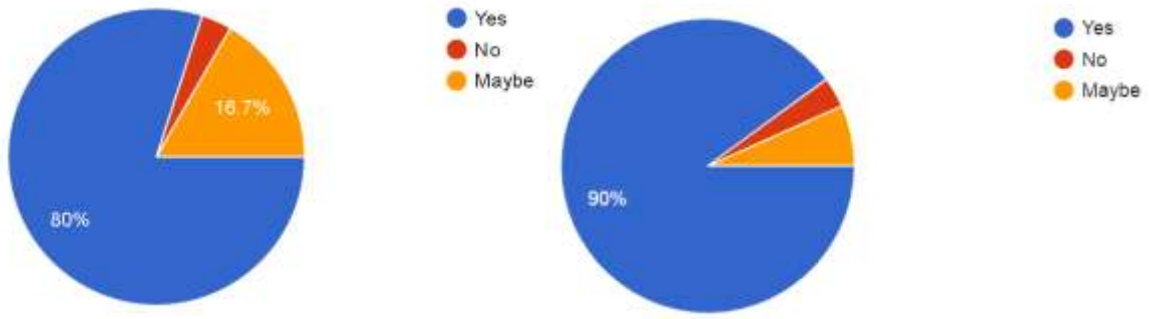


Fig. 54. Local development and economic benefit of revitalizing and using of the old rail way route as historic heritage respectively.

Respondents were asked to choose three most positive effect of revitalize and using of the old rail way route historic heritage and 80% said preserves history and creates jobs with equal percentages and 70% said it attracts tourists and visitors. Among the respondents 56.7% said it will create attractive environment for the residents living along the route and 53.3% think it will nurture identity of place. The other 33.3% said it will improve the market for local products.

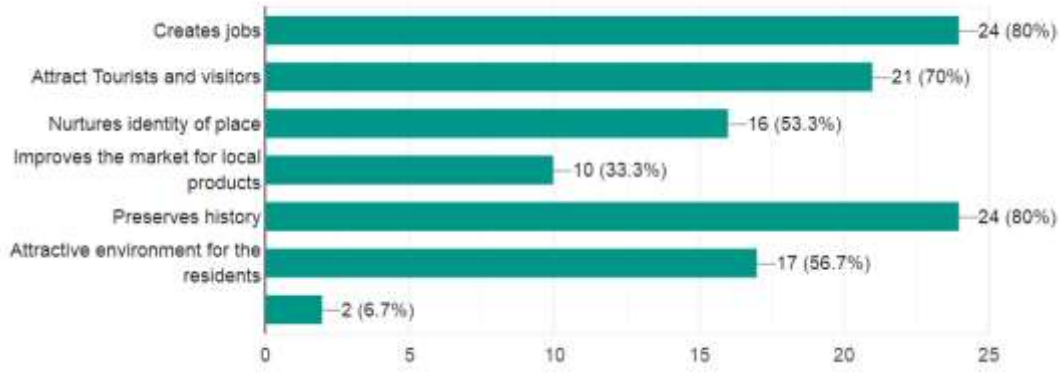


Fig. 55. Three most positive effect of revitalizing and using of the old rail way route historic heritage.

Respondents were asked to rate the importance of revitalizing the old railway route and 76.7% think it is very important. 16.7% said it is important.

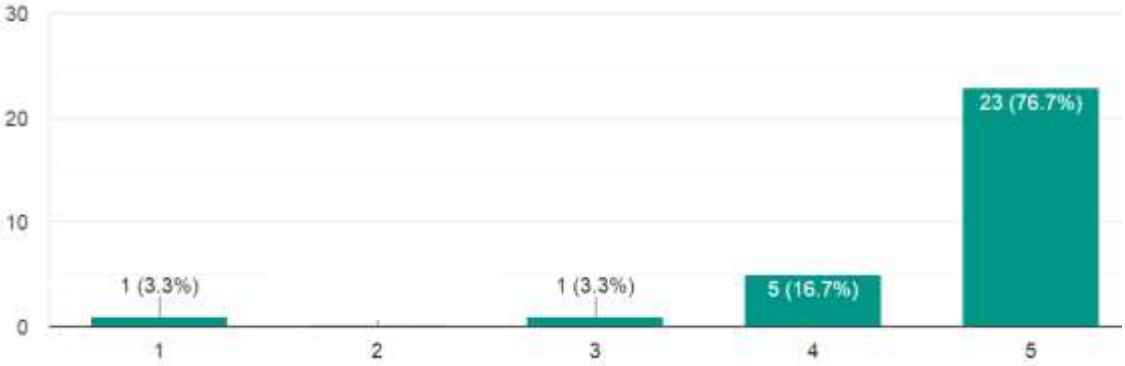


Fig. 56. The importance of revitalization the old railway route (Note: 1 is not important at all and 5 is very important

When we think of conservations of heritages, there are actors involved in the process. And the outcome depends on the concern to the heritage of these actors. Respondents were asked to select the three most relevant actors in the conservation and use of the old railway heritage assets. Among the choice's restoration professional, local authorities, tourist agencies, universities and local residents were selected by 73.3%, 70%, 56.7%, 53.3%, and 50% of the respondents respectively. Public owners, managers of historic assets, Privet owners and cultural workers were also among the selection by respondents to be important actors in conserving heritages.

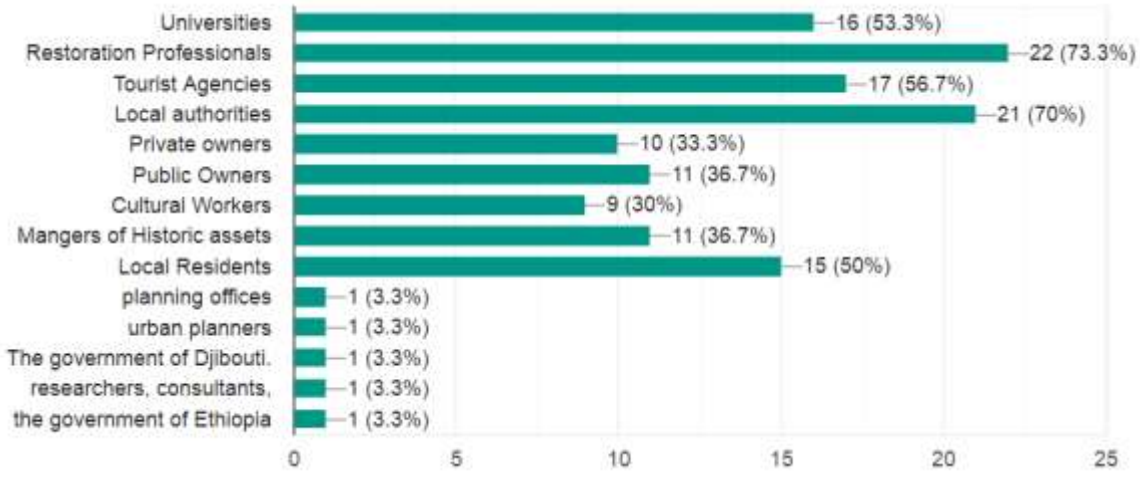


Fig. 57. Three most important actors in conservation.

4.1.3. Potential and challenges to use greenway development for the abandoned Ethio-Djibouti railway route revitalization

Different tools are used to regenerate one's heritage landscapes and sites. Among them the current trends for industrial areas and rail tracks are greenway development. 86.7% of the design and planning professionals believe that greenway development enables to conserve historic landscapes. Their reasons are introduction of innovative ideas that support the historic nature of the site, considering the social, economic and environmental attributes of the entire route and serve areas of sustainable retrofitting/transformation of idle public space into more vibrant historic site, nature is one way of conservation places and green is one way of implementing sustainability. They also said it can be applied easily without affecting the historic elements. The other 13.3% said it depends on the design and final proposal.

Urban spaces like the old railway route are being revitalized through different means which will go coherently with character, history, adoptability and public significance of the spaces. Most of the respondents choose changing the route to public recreation place as strategy of revitalizing it. From the total responses 90% said this. 35% of them suggested that it will be good to make the route green place as conservation tool and 20% said it is better to keep it as it is without any functional change. The other 20% suggested to develop new land uses so that the routes will be changed in to useful lands use.

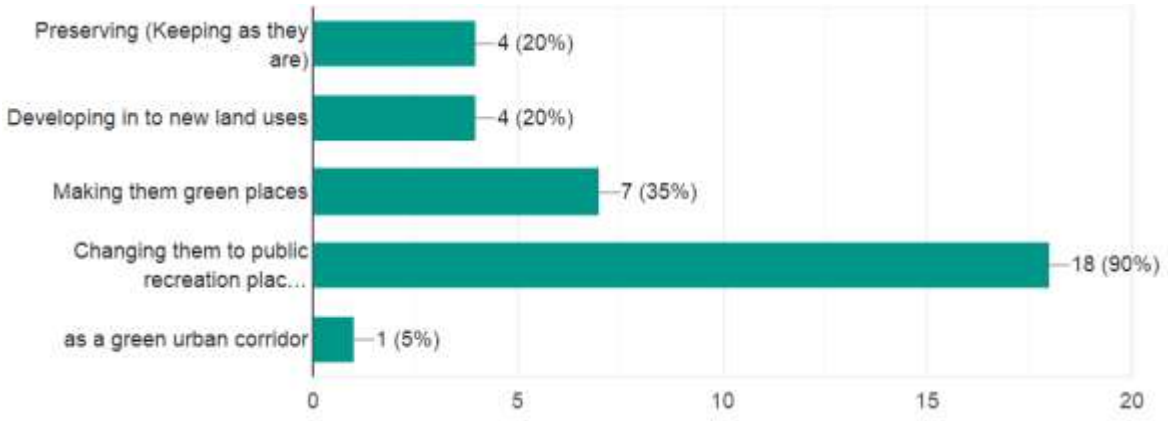


Fig. 58. strategies for revitalizing the old railway.

Relationship of greenway development and historic landscape revitalization was one of the issues raised in the questionnaire. From the total respondents 30% rated 5 and 40% 4 which indicates that historic place revitalization and greenway development are interrelated. The other 20% rated the relationship as they have fair relationship and 10% believes they don't have any relationship.

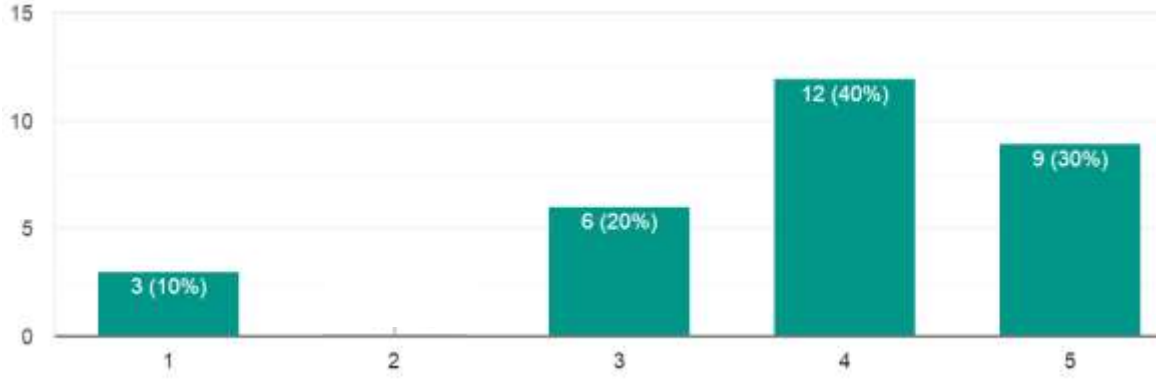


Fig. 59. Historic place conservation and greenway development relationship (Note: 1 is the lowest relationship and 5 is the highest)

Historic preservation, alternative route, access for disable people, nature education, tourism and business development, public recreation, health and fitness, and preservation of open space are among the benefits of the greenway development. Respondents selected the three most important green-way development benefits on the old railway route as following. 80% selected historic preservation as the most important benefit and 66.7% selected public recreation. Among the respondents 60% chose tourism and business development and 53.3%

preservation of open. Access for disable people, nature education and health and fitness were chosen as important greenway benefits by 20% of the respondents each.

Fig. 60. Three most important green-way development benefits.

When the greenway devolvement benefits are rated individually by the respondents, historic site preservation, public recreation and open spaces preservation got 5 in the rating scale by 60 % of the respondents each. Health and fitness and nature education got 5 in the rating scale by 40% of the respondents and Tourism, Business development got 5 in the rating scale by 51.9% of the respondents. Alternative transport route got the lowest rate which 3 compared to other benefits by most of the respondents. From the total 37.5% rated it 3 and only 16.7% gave it 5 in the rating scale.

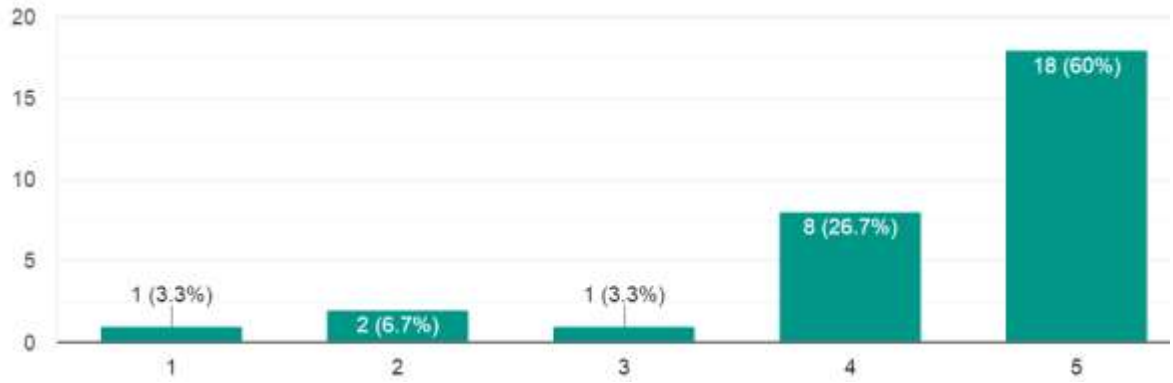


Fig. 61. Historic sit preservation (Note: 1 is the lowest importance and 5 is the highest)

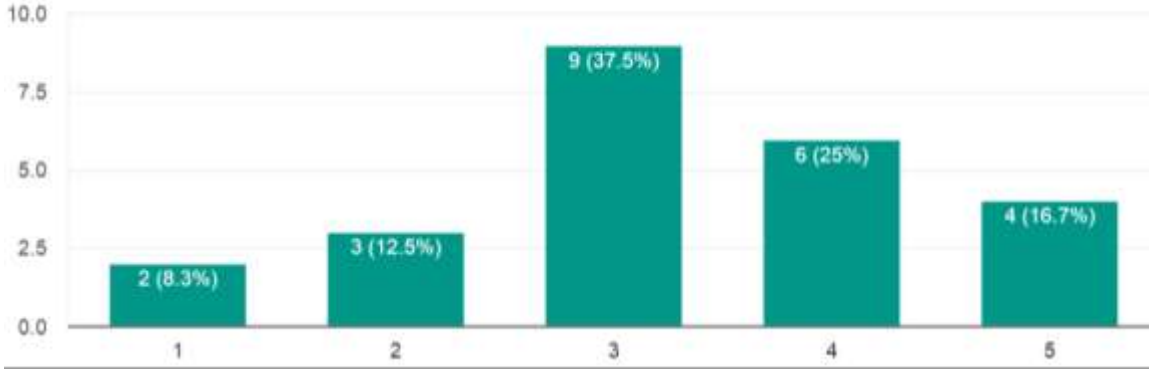


Fig. 62. Alternative Transport route (Note: 1 is the lowest importance and 5 is the highest)

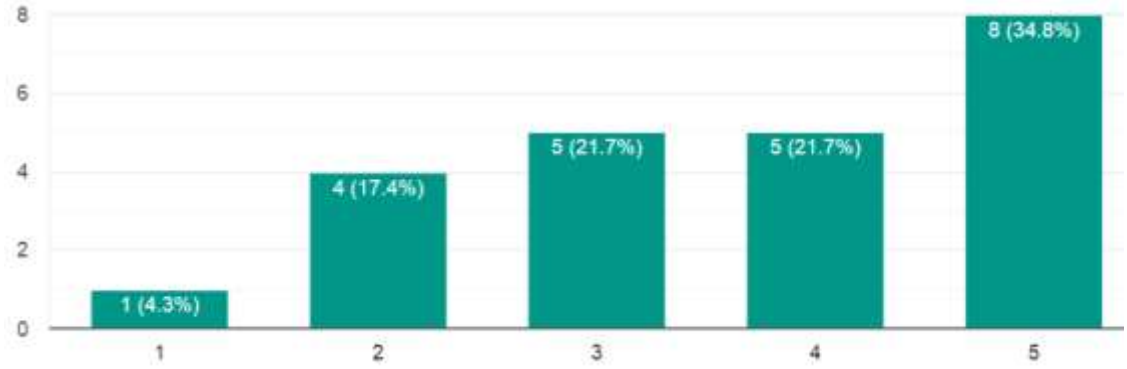


Fig. 63. Access for disable people (Note: 1 is the lowest importance and 5 is the highest)

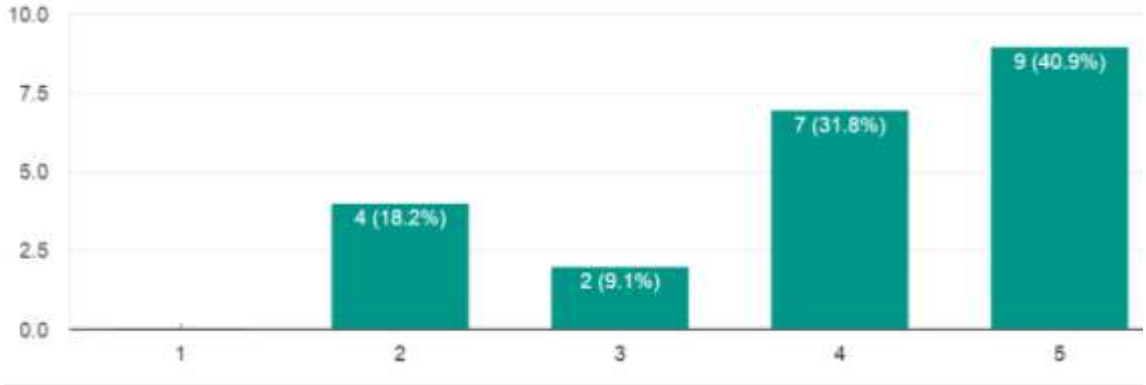


Fig. 64. Nature Education (Note: 1 is the lowest importance and 5 is the highest)

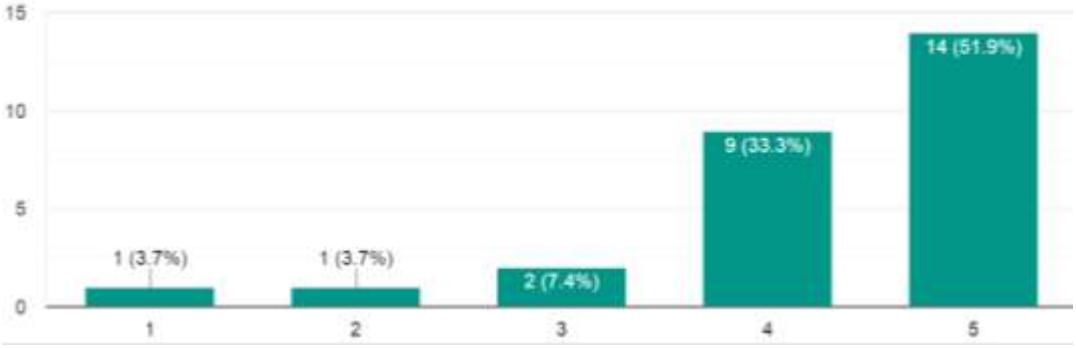


Fig. 65. Tourism, Business development (Note: 1 is the lowest importance and 5 is the highest)

Fig. 66. Public recreation (Note: 1 is the lowest importance and 5 is the highest)

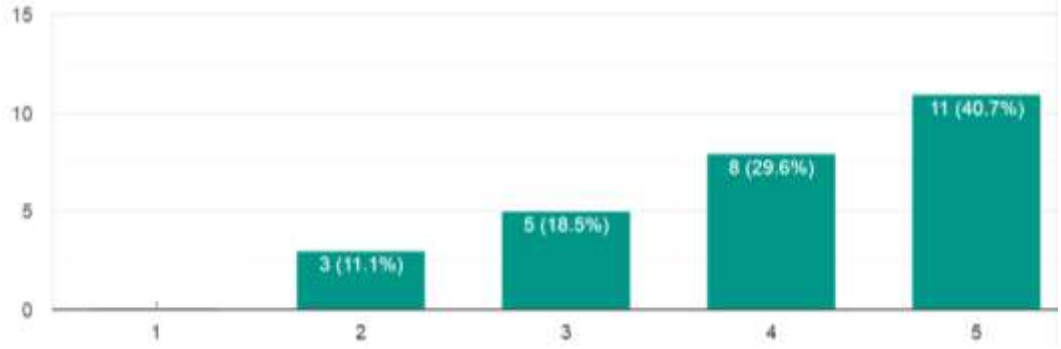


Fig. 67. Health and Fitness (Note: 1 is the lowest importance and 5 is the highest)

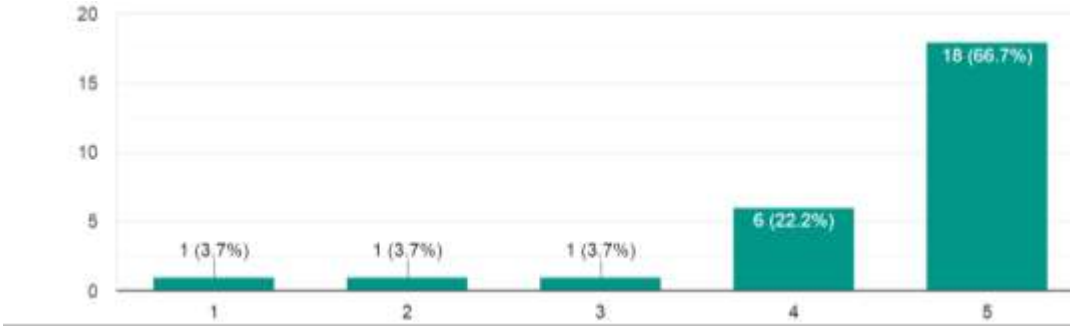


Fig. 68. Preservation of open spaces (Note: 1 is the lowest importance and 5 is the highest)

Interventions always have its drawbacks and it will not be 100% positive. Design and planning Professionals were asked to choose three most negative effect of revitalize and using of the old rail way route historic heritage and 38.5% responded noise, planning restrictions and increase of prices of products and services along the route with equal percentages. 26.9% said too many restaurants, bars, clubs, and shops discouraging residential use. Among the respondents 7.7% said it will cause environmental degradation and all of the above could be negative effects.

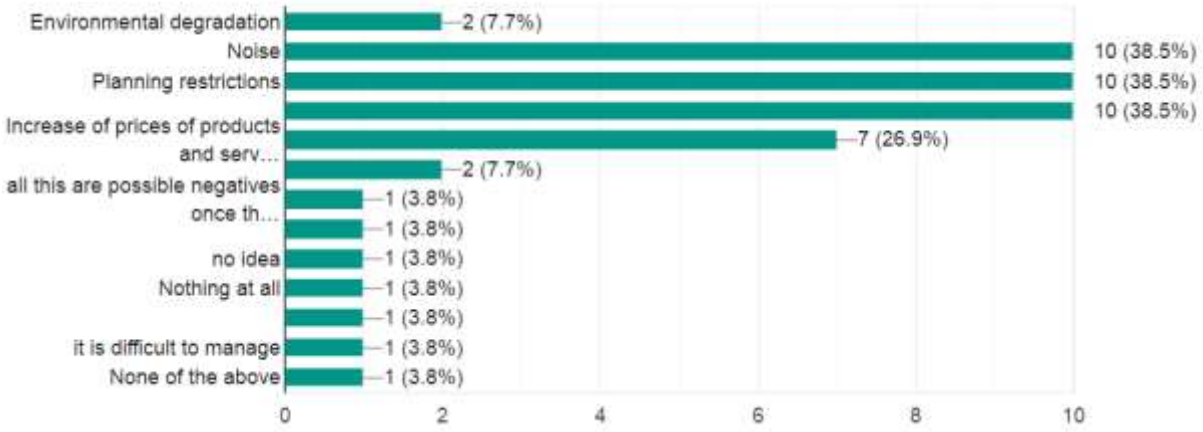


Fig. 69. Three most negative effect of revitalizing and using of the old rail way route historic heritage.

As we can clearly see in the city's redevelopments, changing one space into other functions by itself has its own disadvantages. Respondents expressed out their fear that street vendors might overcrowd it, excess open market could be installed and there might be to many functions. In addition to these it needs initial capital and requires evacuation of some people and resistance to change from the public and government officials on the initial stage might happen.

The success of a greenway development is measured after the opening of the project. How often people visit it and their experience gives the picture. From the total of the respondents 55.2% said they will visit the old railway route sometimes if it is developed as green way development. 20.7% and 5% said often and always respectively. The other 10.3% and 5% said they will never and rarely visit respectively the old railway route if conserved by greenway development.

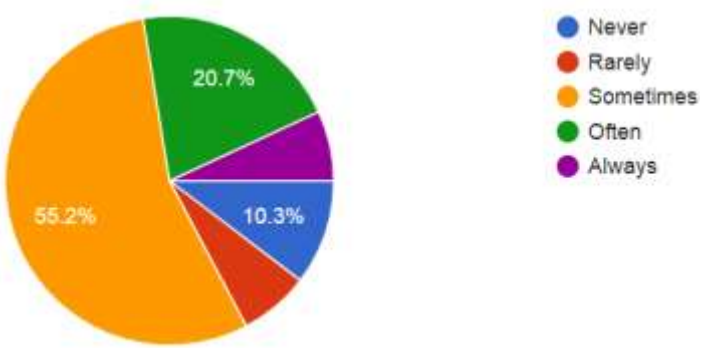


Fig. 70. Frequency of visit if developed in to greenway.

4.2. Interviews

4.2.1. Communities' memory of the old railway route and historical significance.

The experience they have ranges from hearing only the sound to growing intimate to the rails and taking part in contraband items receiving and stealing. The woman selling the cereals until now said that the sound and the contraband activity are her memories. She will sit near the rails to sell the cereals and when she hears the sound she will go far away until it passes and come back when it passes. one of them said that "*I remember the contraband activities on which people dress a lot of clothes at a time and look very fat people. Some will arrange people to receive what they brought so that they will not be taxed. I remember names like special cargo for the Emperor Hailesilassie and families, Fillance (Costumes agent), Ateray (People cargo), Faltu (Goods cargo), Dafteran (Ticket checker), Doji (Direction changer). We as a kid used to put coins so that they will be smashed by the train, hear the approaching train by putting our ear on the rails and observe the vibrations, take and run the contraband goods.*

Most of the people mentioned the contraband activities which were done by dressing a lot of clothes together or throwing items to their relatives who are ready before the train reaches the neighborhood. Others mentioned the accidents on people and animals. During rainy seasons, train stacks in the mud sometimes and they have sand in front to poor it on the two rails. A pensioner summarizes the memories saying that "*people giving greetings, the sound of the train, the alarm of the clock which is heard lots of kilometers away, the grazing animals beside train line, the contraband activities and kids running following the train."*

Most the respondents have experienced the route on foot. Only two of the respondents have travelled by train on the route. Most of the people use the route currently on daily basis to go to work and come back home. Some of them use it twice a week, since they work on the local market that existed for a long time on the route. The main reason they use rail route is for work like selling clothes and plants. There were few people that said they use it to hang out with friends and enjoy the walk on the rails.

As of what they think the future fate of the rail route, most of the respondents believe it will be converted to road or buildings will be built on it. Some of them said it will be functioning again or will be LRT since they heard a rumor from families and friends. The next issue raised for discussion was what they want to see on the route in the future. Almost all of them responded based on their benefit. Those who sell products on the market want it to be better and organized market with better shops. Others said they would like to see modern buildings and road so that their business will be exposed and noticed. Some of them think that if the train starts again it will initiate their neighborhood. Therefore, they wanted a functioning railway for the future. If it is transport it will help to solve the transport problem and give additional support for the LRT.

Currently there are different varieties of activities that are being done on the railway route that the respondents mentioned. The following are the major ones;

- People sit down and take air. Some of them use it as alternative route to walk from home to work and vice versa.
- At some places there are people who sell their products. Therefore, at some points it is local market which is held twice a week
- Theft is one activity if we see it as activity.
- Brides and artists do some clips and photo shots for wedding being held on the rails.
- People use it to sit down and chat since there is no car movement. They use it to sit and chew chat. Most of the peripheries are chat houses.
- People use it to grow vegetables, flowers, etc.,
- Some tourists use it to walk; it is also used to dump garbage from households.
- To hang out with friends, to plant vegetables, as resting place for elders, professional meet for historic study.

The next question was if they see the railway route as historic landscape and almost half of the people said yes. The reason they give is due to the memories it casted on people, being

the first in its kind, the unique feeling it gives when walked along and the age of the line is above 100 years. The rest half said no and their reason is if it was historic landscape it could have been taken care like Axum, Lalibela and other sites. It is just neglected and unnecessary functions being done one it. Few said they don't see the value and the government either. If that was the case, they said they would have been moved from their settlement.

The last issue raised was what benefits they expect if the line is changed in to greenway. One respondent working in a shop pointed out that they might get lots of customers if it's recreational space. Their income depends on the people passing by the shop. Therefore, they think if it is recreational space a lot of people will come and probably more people will visit the shop. The other doesn't expect any advantages for himself but the community will get variety of activities. Some of them say it will be disadvantage only for them because if developed to other functions, they will lose their working lots and even for some of them their houses. One respondent specifically said *"I expect no benefit to myself. Because if you don't eat first you will not recreate. For me the priority should be on letting people work and survive first. So recreational space by itself doesn't solve the problem of the people. The rails rather should be sold than putting them like this and let them rote*". On the other hand, other people think it is good opportunity for lots of neighborhoods which are near the railway line. One of them said "*It will be amazing. The neighborhood will have market opportunities, it will be clean when there are users, the community will be initiated, and markets will be held every day of the week. Whether it is road or something else, change always bring new things. It will take us into better and synchronized way"*. The benefit it provides is the neighborhood will be initiated. A garage owner understands the cities current trend and said "*There will be redevelopment in any way. We are not afraid being relocated due to change in to public recreation because we will be relocated even if It is used for other developments. The advantages will be the city will have exercise spaces for its residents since we are hearing chronic diseases like diabetics, kidney infection, and cancer being the current concerns. I think the trends of the future generation will change and the old rail way route space will be one of prominent space to accommodate that need."*

4.2.2. Discussions with professionals related to heritage and conservation.

The first discussion was conducted with an architect professional working on heritages conservation for a significant period of time. The question raised for discussion were if the

railway is historic landscape? Should it be conserved? Could greenway be the best option for conservation?

The Architect to some extent agrees on the railway being heritage landscape. He said this because the city was narrow than today in which only the route in the city will be historic landscape. The negligence to the route has led to decline in the railway system. It was once very important. There were factories and the expansion of the city was to that direction due to the route. He mentioned that for the decline the gage of the route is the main reason. He sees the railway space as opportunity. It is no body's property. There are vacant spaces, vegetable and neglected spaces. Due to the railway, there is protected land and is backyard for the neighborhood. Therefore, little initiation could dramatically change the neighborhood it passes by.

He also thinks the implementation is easy due to it is land. The city does not have promenade in which people could use their foot rest some time and go back. Due to this the spaces become ds functional. He mentioned that the city Addis Ababa is working for the greenway development and the base is Highline. A team of Politician has visited the highline with proposal of him to initiate them and look back in the cities for spaces that can be converted to similar projects. But for Addis Ababa water is the first priority than green development. He also pointed out that Highline project in New York, USA could be good case study for the old railway and for this specific research. it was planned for 40,000 people to visit but at the end of the year it was 8,000,000 people.

The basic purpose of greenway development should be salvaging unrecognized space to public spaces and creating continuous walk able promenade. He also mentioned that there is progress in Dire Dawa to preserve the whole strip of the railway route as historic urban landscape which is at proposal level. To keep such kind of spaces should be articulated by different programs and overlay on the historic background. When such activity becomes live the new developments will rise quickly. It has great value. Therefore, greenways overplayed with different articulating programs specifically for the public will enable the railway route to be preserved at the same time bring local develop0ment.

The same questions raised for Architect were raised for two professionals, who have done their Masters study on Heritage and conservation. Their reflections were the same to that of the previous architect. They said that there is no question about the railway being heritage landscape. They said that the question should be whether to conserve it or be greedy and

convert it to building area. When they say this, they put the criteria raised for a building or landscape to be registered as heritage on the revised master plan of the city. They emphasized also on the detail application of the green development as a tool for conservation. Different sections of the routes should be selected and treated differently based on the status of the rails, the future land uses and their connectivity with other green areas nearby. The historical significance of a point on the line will help to reveal the rails and show to the public.

4.2.3. Formal Interviews with offices.

The first interviewee was the Ethio- Djibouti railway corporation. On the question who manages the old railway and what is the status of the agreement with Djibouti they replied that it is managed by the two countries based on the agreement signed at 1973 under Ethio-Djibouti Railway Corporation. The agreement will end after 17 years from now. As of the future fate of the line they are thinking to rehabilitate the line. Since there is an agreement, they do not have any discussion with the government of Djibouti the future fate yet. But they are thinking to connect with new line and able to bring people from the station to the center of the city. Until the agreement ends, there is no discussion about future fate. It will continue like this. They are going to rehabilitate the line from Meso to Dire Dawa.

The office was asked if it acknowledges the line as historic landscape and if they accept it as of how it should be preserved. The office acknowledges the line as historic site. It thinks it is heritage. The station building is registered as historic building. It is not the building only but the system of the railway is seen as historic heritage. They said that it can be rehabilitated to function and still keep it as historic place. Since the cities that come in to existence due to the railway are dying, we think it should function again to initiate them. Now most of the line has been dismantled due to the new line and it is not contributing to the city in a positive way.

The other issue raised during the interview was if the route has to be conserved which programs will be suitable. The office replied that this issue will be discussed when the governments end the agreement. It is at that time the office can decide to what purpose it should be used. But in the meantime, cities are destroying the line without knowing the significance. The railway corporation has only with Addis Ababa City Road Authority regulation and memorandum of understanding that if one of them is going to make interventions, there will not be confusions. Addis Ababa City Road Authority will pay also the right of way for the damage of the property while working on the new rodes that cross the

old railway route. The personnel who took part at the interview shared also his personal experience in Germany where they keep the old route parallel to the new and keep the history. He pointed out that it is better if the office will try to maintain to the current status on the entire route. If it is going to be preserved, it will be maintained to the working status. "*I personally believe the railway should function again and bring the transport to the center."*

As of if the old rail line could bring local development the office believes it could since it is now attracting tourists and they are served here with this stage. Since it is the first technology that connects the two countries and tourists know the history. The office understands the importance of this route but the understanding of the people is not yet there. The office stressed that people do not have the knowhow. They destroy the line to build their house. Even people at the government level do not aspire to take care the line. At different level all concerned parties should involve to keep the legacy of the railway. The universities, tour offices, local government office, culture and tourism office, etc., should be concerned to preserve the route.

The final issue raised was the link between greenway development and old railway route conservation the office does not have the detail know how about green way development and thinks to rehabilitate and bring alive into the previous state rather than converting to other functions.

The other office that was included in the interview was Addis Ababa City Administration Culture and Truism Bureau. The first two issues raised were if the office acknowledges the old railway route as heritage and the future fate of the route. The office responded that they acknowledge it as historic site because of its value during operation and also the age of the structure. They have already registered the station building. They are currently focusing on buildings when they think conservation in the city. But they are thinking to include it to the preservation list. There is a gap between including in the list and taking care of it. Since they don't have law enforcement all heritages are endangered with new developments. There is also confusion about the mandate of the AACACTB and Authority for preservation and conservation who should handle such kind of heritages. In addition to that the office has financial challenge to take care of heritage buildings and site that is why we are only limited to registering the buildings.

As of in what way to conserve it they understand there are different ways of conserving such spaces. They are focusing now on the preservation only rather than the

methods. But since it a long-stretched route it could be changed in to green area. While it was operating it was the first advanced transport system. Due to this, new opportunities were there and the city developed new node due to stations. There were many cities which started from scratch due to the line. This shows the effect of the line on cities.

The other issue discussed was if converted to other land uses will it have advantage or disadvantage which programs will best fit the heritage site. The office understands that it depends on the program introduced. The office doesn't think there will be major risk rather I see potential since it connects lots of neighborhood. There are many international cases the office appreciates but at office level they didn't yet discuss the details. Personally, the person who represents the office thinks it should be dedicated for public use related programs. As of who should manage the railway route developed, the office suggested that there are institutions that have their role individually which will have significant impact. They just have to coordinate themselves for the best outcome. The Ethio-Djibouti railway corporation is the owner of the property until the agreement is terminated which therefore is the sole manager of the route. But the Addis Ababa city administration Beatification and cemetery development agency (AACBCDA) can take care of the aesthetical aspect and our office could work on the technical aspect of conservation. These three offices could bring very significant change to the route. In addition to these office universities, local residents, local government office, tour guide enterprises also contribute.

It is the office deep believes that heritages bring local development. One of the reasons they register and take care of such kind of heritages is to initiate the local development. This could be due to the attraction of many people to the surrounding which in turn bring needs like commerce, leisure, and other services which will support and create job to the local residents. If it does not involve local development, a heritage might not be as such significant only providing other services.

If the heritage line is conserved, the office believes it will bring many benefits. Since this line is continuous landscape, the first thing is it will bring sense of place. Beside that it will significantly help to create jobs four the people living on the side of the route. It will help to tell history for pupils and be visually pleasing long green corridor. But it has its own drawbacks. It might bring too many night clubs create noise pollution, city development restrictions, and on some products the price might increase.

The last issues were about the connection between the railway conservation and greenway development. The office thinks that greenway development is one way of conserving among others many ways. Greenway development might be the best solutions based on the international cases we hear. But the office did not yet work on the detail it has only registered the station building at Leghare Station. As of the benefits of greenway if applied on the railway route the office responded that it is difficult to compare one from the other since there is no locally tested case and each benefit like, preserving history, alternative route creation, better route for disable peoples, nature education, tourism and commerce increase, keeping the health and fitness of the public, and others has their own specific purpose.

The third office that the researcher interviewed was Addis Ababa City Administration Beautification and cemetery development Agency. Here the discussion was more related to green ways. As of the office is familiar to greenways and what they mean the office is familiar and any open space which is not built is understood as green area and greenway.

Green development functions are diverse. It depends on what need it is created. The space size and function are determined based on the type of activity we need it for the public. Therefore, Green corridor, jogging tracks, Bicycle lanes, Public recreation places and additional functions are clearly greenway development in the offices eye. The office mentioned that the perception of the public for greenways good. The perception is somehow good. But due to different reasons, like poor service giving, advocacy and etc. the public use of such places is not that satisfactory. There are improvement and people are asking to develop such function in their neighborhood. The office confirmed that there is one known proposal as greenway which is from Entoto to Gion hotel there is green corridor like green way. It follows mainly the river but it also includes other green areas beside the rivers.

The office has set three major criteria to dedicate a space for greenway development. The first is the need. It is also the criteria for the city livability. And the greens could be the major figure in the city. The additional service it gives is the second criterion. Other cities develop artificial river in them. Our cities have natural rivers but they are polluted therefore the additional service it gives like cleaning the rivers could be one criterion. The third criterion is Economic, social environmental and biodiversity use.

The other issue raised was about the railway route and similar spaces in the city. The response of the office is that it works based on the master plan. The master plan has dedicated green

areas in the city. And it has 30% green area policy to achieve this. When buildings are design there should be 30% green left at the plot. For the old railway the office do not have any relationship. Therefore, the office has no clue if its heritage space or the future fate of the railway. The office said It is the culture and tourism bureau that studies whether it is heritage or not. As of in what way to conserve it, they are working on space dedicated from the master plan. If it is greenway it is good since the city don't have enough such kind of spaces. The idea of having green areas was discussed in detail while the master plan was prepared and the office was part of the planning.

The office strongly believes that combining greenway and heritage will emphasize the heritage in a good way. Adding greens, it emphasizes the heritage in a good way. It increases the aesthetic value. If there is no improvement on the surrounding you might not see the heritage as important. Green areas will help to think decently for our life and enable us to major decisions in our lives. In addition, they will enable us to have sense of safety. Therefore, greenways will it enhance the quality and aesthetic pleasure of seeing the old railway.

The office also understands that the following greenway benefits could be achieved if applied on the railway route. Historic preservation being the first Alternative transportation route, Access for disable persons, Nature education, Tourism, Business development, Public recreation, Health and fitness, Preservation of open spaces are always related to green areas.

4.2.4. Direct observations

Most of the activities found are those which are done on most of backyards like storage, washing, garages, etc. There are some functions that are induced forcefully by the city administration for job creation and some functions are relocated from their original spot on the railway route. Shops, local markets, plant nursery, urban agriculture and garbage collection and sorting places are the main ones that are found on the route. Starting from Kality Square to Akaki, most of the route is functioning as car parking space.

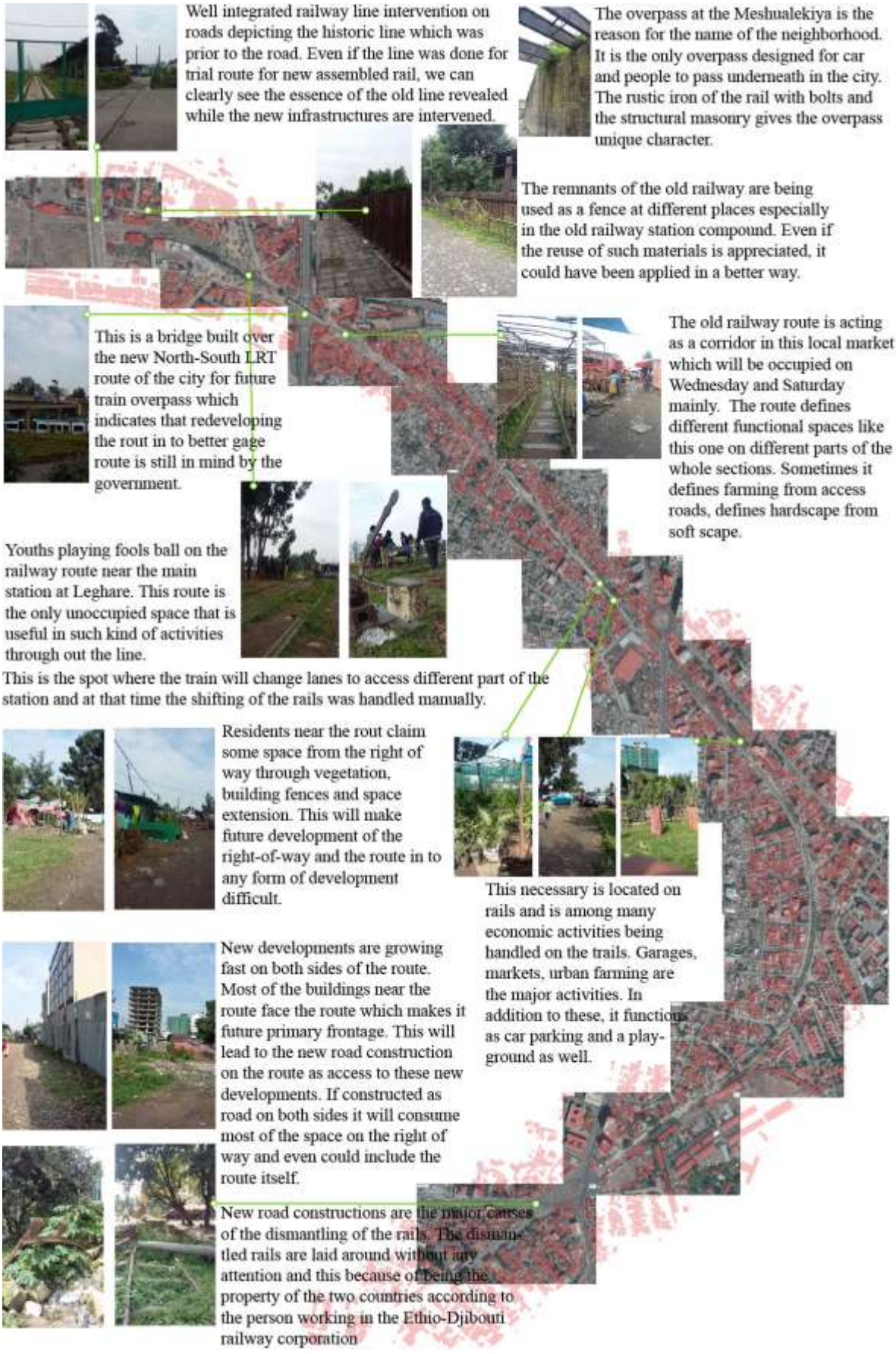


Fig. 71. Photo essay of the route from Leghare to Meskel Flower

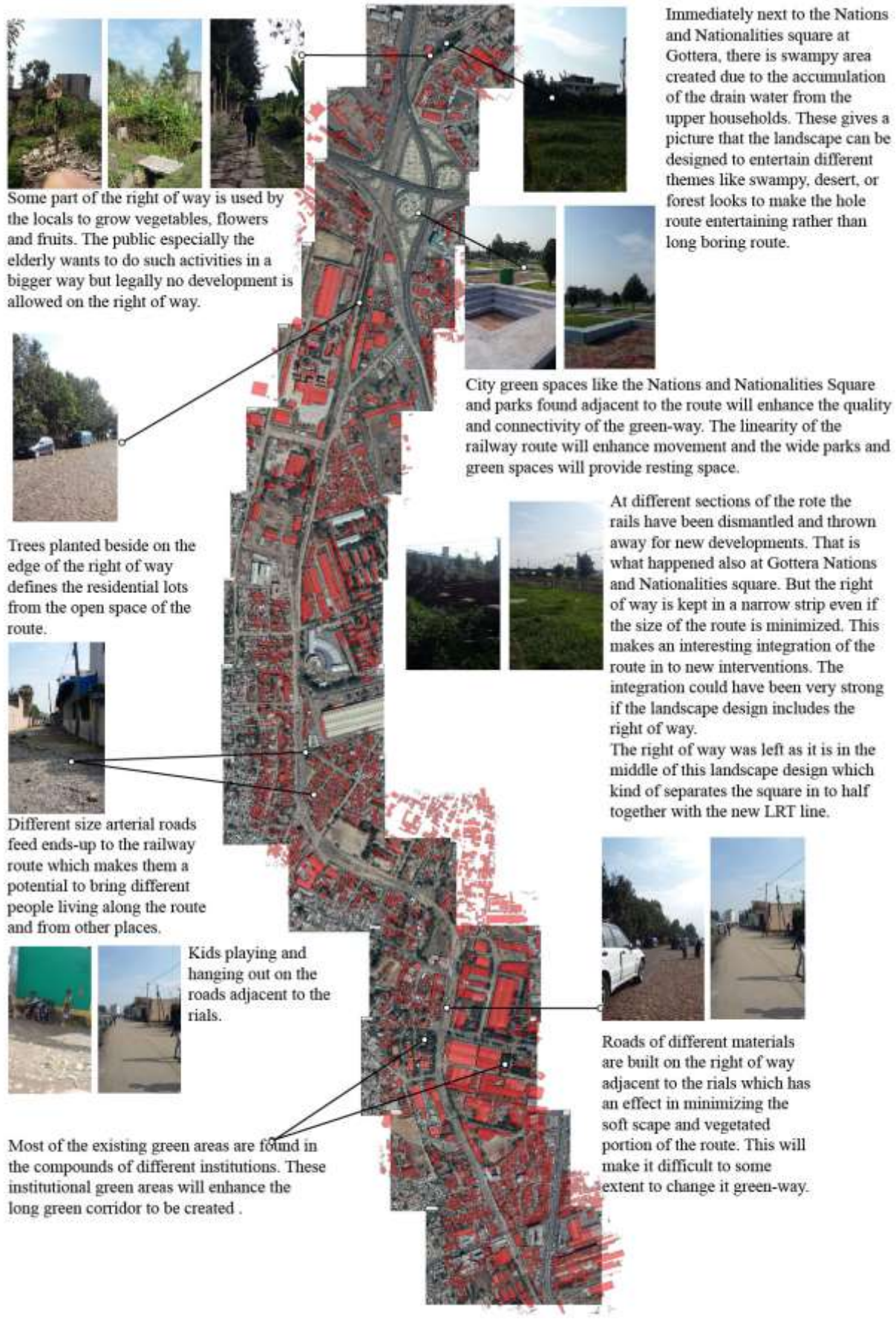


Fig. 72. Photo essay of the route from Meskel Flower to Saris

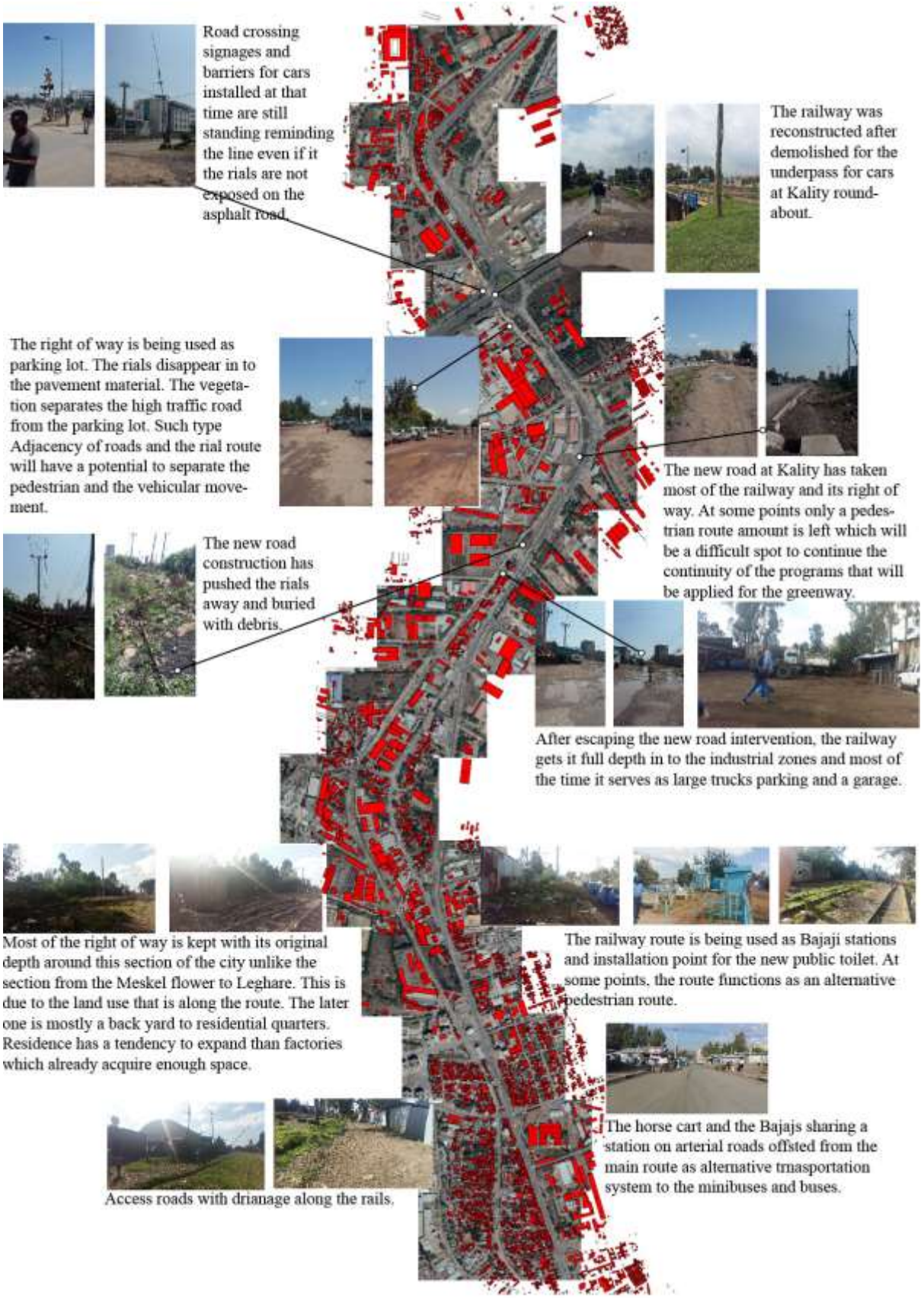


Fig. 73. Photo essay of the route from Saris to Kality bus station

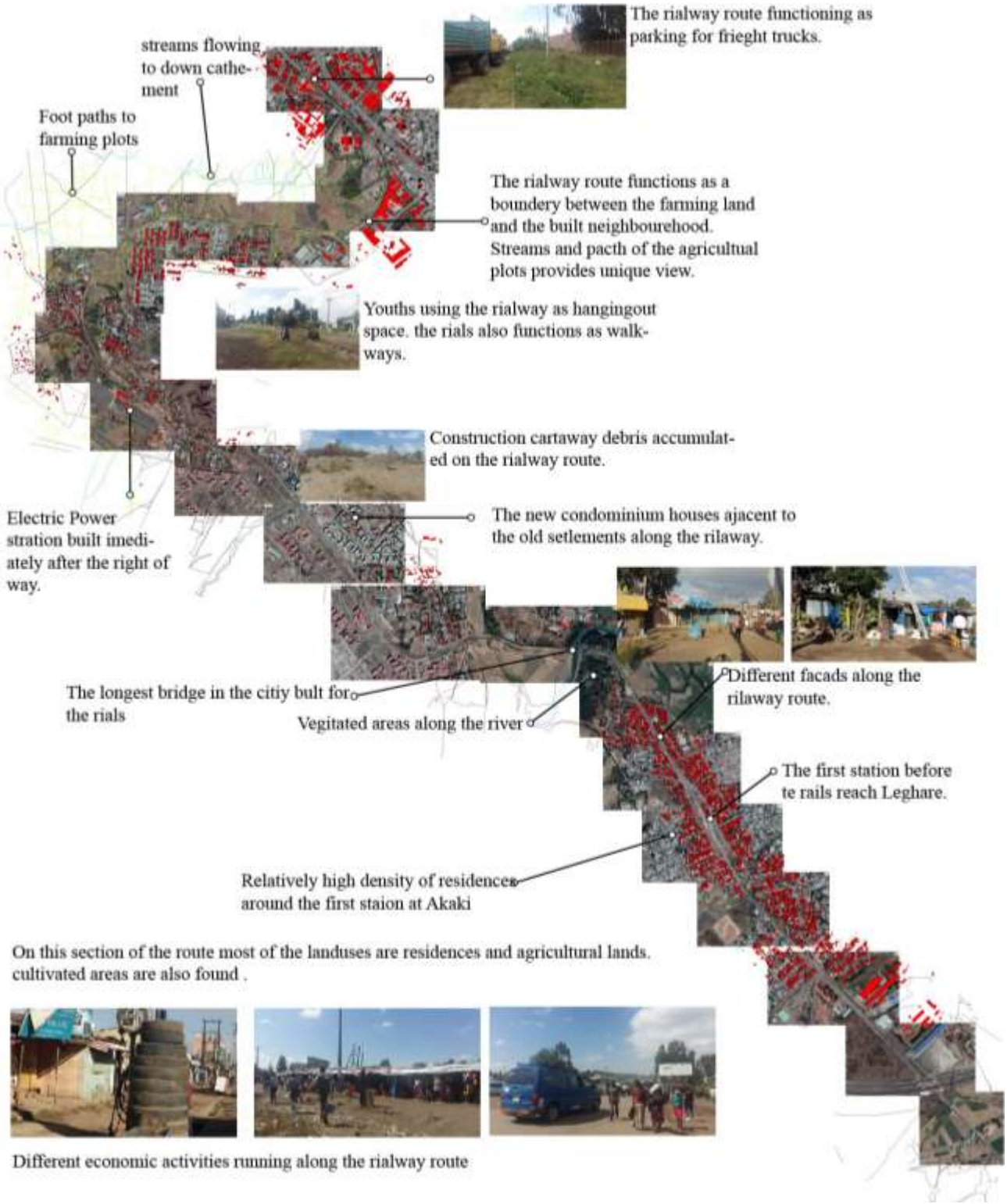


Fig. 74. Photo essay of the route from Kality bus station to the Akaki

4.3. Summary of results and Discussion

This research tried to and answer the research questions raised by setting the objectives as frame work. Therefore, this section summarized the results from interviews, questionnaires, and direct observations.

The first objective was to critically review the idea of greenways and different questions were raised to different participants of the research. It is clearly seen that, most of ---the design and planning professionals and AACBCA have clear understanding of green way development. But among the local residents and the rest of the government offices included in this study, the idea of greenway development is not yet clear. In addition to that among the professionals, there is a difference in scale character and terminology they used to define greenways.

This is expected since, the evolution of greenways was the pressure of urbanization through physical, cultural, political and psychological changes (Fabos, 1995; Kullmann, 2013; Searns, 1995; Yokohari, Amemiya, & Amati, 2006). Their different size shape and character has made definitions of greenway complex and difficult to one (Fabos, 2004; Gobster, 1995; Searns, 1995). Despite these definitional complexities, Charles Little, in his book, Greenways for America, holistically describes greenways as "linear parks, open spaces, and protected natural areas in cities, suburbs, or the countryside" (Little, 1995).

Design and planning professionals come up with different terminologies like green corridors, buffer spaces between roads and buildings, riverside greeneries, green infrastructures and patches of green space in the city. These terms comply to the international trends since, the term greenway takes on different names in different parts of the world. For example, in many European countries greenways are known as 'green corridors' and in Portugal they are
referred to as 'corridors verdes' (Fabos, 1995). Corning et al. describes greenways as multiuse trails which are more accessible to diverse populations, which are usually closer to urban population centers, often paved, wider than sidewalks or hiking trails, and more accessible to diverse populations. (Corning et al. 2012)

In a more inclusive way, Charles Little defines greenways as *'linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, scenic road, or other route, any natural or landscaped course for pedestrian or bicycle passage, an*

*open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas and locally, certain strip or linear parks designated as parkway or greenbelt' (*Little 1990).

Among the respondents most of them mentioned that accessibility for all age and income group, connectivity with different land uses, place making ability, acquiring physical and biological attributes like landscape, flora and fauna, safety, sustainability, distribution in the city should be the criteria for selecting sites in regard to greenway development. The above-mentioned greenway development criteria are supported by many scholars in their research's.

Greenways found around the world differ in their functions, lengths, shapes and sizes. Greenways functions are one of parameters for their location and design types. They may be recreation oriented, conserve biodiversity, buffer development or focus on culture heritage and history (Searns 1995).

Greenway systems are often multi-purpose corridors providing several functions and benefits (Fabos 1995). Recreational greenways feature paths and trails of various kinds, often of relatively long distances, based on natural corridors as well as canals, abandoned rail beds and other public rights-of-ways (Little 1990). Trails and routes often have scenic quality as they pass through diverse and visually significant landscapes. Cultural or historic greenways are places or trails with historic heritage or cultural value which may attract tourists and can provide educational, scenic, recreational, and economic benefit (Bischoff 1995).

Ahern strongly believes that, multipurpose capability and compatibility with the concept of sustainability are among the criteria to be seen when developing greenways (Ahern 1995). Turner claims that the positive from and environmental perspective, with *green* 'meaning green politics and *way* 'interpreted in its ancient sense, to mean _a route' should be clearly seen as the end goal while developing greenways (Turner 1996).

The second objective was to analyze the existing conditions and future fate of the old railway route in the boundary of Addis Ababa. This has been achieved through interviews to get how the local residents, the design and planning professionals and different government offices understands the current status and through direct observations in photographing, mapping and comparison of different sections of the route.

Based on the analysis done, it can be said that, the old railway route at this stage is seen by the local residents and the professionals as a backyard that has no significant importance to the city. Only AACBCA see it as greenspace based on the office's definition of greenspace in the city. According to the office, any unbuilt surface is seen as green space. From the direct observation, it can also be concluded that, the abandoned railway route is subjected to different imposed activities which are/not related to greenway development. It is seen that; the heritage value of the route is neglected by the residents and the government offices.

This neglection was due to the fact that the Ethio-Djibouti railway corporation failure to continue the route functioning and ownership is of two country. This has happened to many abandoned railways in the world. B. Domański and K. Gwosdz write about the sources of degradation of city space in the context of revitalization. As an example, they point to the economic and political transformation in Poland as the main reason for the rapid growth of areas excluded from industrial and railway transport usage. This has often resulted in an ambiguous legal status for many properties. Abandoned industrial and railway areas (many of them linear structures) may lead to city fragmentation (B. Domański and K. Gwosdz 2010).

Significant amount of research participants also believes that, at current stage the old railway being an obstacle to development, disturbs activity versus space flow of the city center since it passes through the center of the city, it is a dump fill, it created large block and became a barrier between neighborhoods. From direct observation and interview of the local residents, I can clearly see that, the route is degraded in every aspect of urban space degradation. I. Mironowicz defines four categories of degradation of specific city areas, which require revitalization of the urban context, also with consideration of an economic and environmental context (I. Mironowicz 2010). These four categories are material, functional, moral and compositional degradation.

When we see the existing situation of the route through these categories, materially, the route has lost its original materials almost on all of its surfaces, in addition to that, the technical integrity is not there and the terrain is altered due to cart away debris from construction sites in another place of the city. Functionally, many sections of the route are being used for different functions which are not related to the original function. Morally, the memory of the site is fading away from the community that, the place's image and social

acceptance of further functioning of existing development is hard to think. Compositionally, the route has lost its special character on which we can identify it as it was before.

Some authors describe the problems occurring in linear structures in the context of revitalization. According to I. Mironowicz, the criteria of degradation mentioned above, which can influence each other, facilitate an adequate definition of real existing problems and the undertaking of effective revitalization for solving these actual problems. T. Parteka recognizes the quality of space as one of the basic factors in a city's competitiveness, which depends on revitalization. The abandoned, degraded, non-operational fragments of infrastructure, mainly railway tracks or suburban areas along roads, do not in his opinion fulfill the requirement for high quality space (T. Parteka 2007).

The future fate of the route is unknown by the offices, the design and planning professionals and the local residents. But it is clearly from the results that, all of the participants of the research inclined to their respective need when asked about what it should be done. The Ethio-Djibouti Railway corporation wants to restart the trial transport. The Culture and Tourism Bureau wants to preserve the route and infrastructures on it. AACBCA wants to see it converted to greenways. The professionals also agree on the idea of changing it in to greenway. The local residents meanwhile want to see what best fits to what they are doing currently on the route.

But from the responses and direct observation I see that; the age, historic value, connecting different neighborhoods, passing through different forms of land, the changing perception of the government offices towards heritages, attached public memories are very positive signs that the routes future fate will be inclined to greenway developments.

This is due to that; the idea of greenway development starts from valuing the historical significance of the routes and much of the motivation for the implementation of greenways arises from concerns about sustainability. In particular, greenways are seen by some stakeholders as part of the strategic battle in the challenge for sustainable landscapes, against the forces of landscape fragmentation, land degradation, urban expansion and uncontrolled land use change (Ahern 1995).

The other type of revitalization of linear structures has been described by D. Załuski. He indicates the need to implement new city functions on various linear systems, like railway tracks, green areas, allotments, abandoned areas or warehouse / storage facility zones. He

presents the opportunities for their development and use as pedestrian paths and bike tracks, ecological systems, and recreational areas (D. Załuski, 2009).

Some of the local residents along the railway route pointed out that Addis Ababa lacks space that promote healthy leaving styles and it will be very wise to convert it to any form of green space. It has been also mentioned that in the study of Addis Ababa and Surrounding Oromia Integrated Development that the percentage of greenspaces per person ids very low (ASOID, 2004). Shafer et al. acknowledges the resident quality of life achieved through the provision of enhanced opportunities for fitness and attractive natural environments, as well as their city (Shafer et al. ,2000). Greenways are also an importance piece of the puzzle in reducing obesity and encouraging physical activity (Evenson et al. 2005; Price and Reed 2014; Troped et al 2005). On addition to this, urban greenways help residents meet their psychological needs and provide an escape from the stresses of urban life. In addition to these more social-psychological benefits, urban greenway trails have been shown to positively impact the profitability and value of nearby properties (Crompton 2001; Corning et al. 2012).

The third objective used as a framework was identifying the potential and challenges to use greenway development for the abandoned Ethio-Djibouti railway route revitalization. We summarize the planning and design professional's questionnaire, the local residents and the AACBCDA interview, we can see greenway development has a potential to change the route. This id due to the fact that, introduction of innovative ideas that support the historic nature of the site, considering the social, economic and environmental attributes of the entire route and serve areas of sustainable retrofitting/transformation of idle public space into more vibrant historic site. It is clear that, nature is one way of conservation places and green is one way of implementing sustainability.

The abandoned Ethio-Djibouti railway has the characteristics of linearity, connectivity and accessibility that are in common with greenways. The connectivity and integrating character of greenways have given them the potential to overcome landscape fragmentation (Ahern 1995; Bryant 2006). Contrary to traditional parks, their linear form provides more perimeter, and therefore more frequent points of access to the resource. Many recreation activities are best accommodated within linear corridors, such as greenways; and linking different facilities together with greenways is a way to create more efficient use of those facilities. Greenways are also becoming an essential component of many local recreation strategies, solving the need for close-to-home recreation in urban areas.

Historic preservation, alternative route, access for disable people, nature education, tourism and business development, public recreation, health and fitness, and preservation of open space are among the benefits of the greenway development were all given emphasis on the response. These greenway provisions are supported by different scholars. Groome says that, at the very least, such corridors generally provide the opportunity to escape the urban environment, which people can utilize free from noise, pollution, danger or other adverse effects (Groome 1990). In addition to that, improved cycling and walking environments will improve health through increased exercise. They will be also an opportunity to non-motorized transport route which has health benefits (Turner 1987; Coutts 2009). Furthermore, greenways may provide important psychological benefits (Von Haaren and Reich 2006) by allowing people to escape the stresses of the urban environment and interact with nature.

The historic value of the abandoned railway route gives it unique opportunity to integrate history with nature and urban life. According to Fabos, the abandoned railway can be a good foundation to create a greenway with a combination of all the three types with the rich potential of natural, recreational, historic and cultural factors. So, the functional features should be taken full account of when transforming the abandoned railway based on the characteristics of different greenway types to make the abandoned railway after transformation become an integral part of the entire greenway network of the city (Fabos, 1995).

Proximity to nature will enhance our knowledge about living biodiversity and greenways are good at bringing the ecosystem in a narrow corridor undistracted. Greenways can also facilitate nature education and raise awareness of the natural and built environment. Bryant says that *"greenways that are comprised of remnant natural areas and intact natural systems (as opposed to those that are exclusively bike paths) can bring city dwellers into contact with nature"*. He also promotes the notion that greenways can enhance cultural resources by linking them to form a network that maximizes interpretive and or recreational value (Bryant 2006).

Greenways can be established on abandoned roadbed (Fabos 1996). With the historic heritage and cultural values of the old railway, we can take such measures as ecological revitalization and creation of recreational trails with nice landscape along it to realize its multi-function.

As we can clearly see in the city's redevelopments, changing one space into other functions by itself has its own disadvantages. The main challenges to adopt greenway

development raised by respondents were: less know how about the matter in the local community, government offices and even the design and planning professionals. Research participants expressed out their fear that street vendors might overcrowd it, theft could be daily routine, excess open market could be installed and there might be to many functions. In addition to these it needs initial capital and requires evacuation of some people and resistance to change from the public and government officials on the initial stage might happen.

The concerns and challenges that the research participants mention are also case of international greenways developments at their inception's stages. Despite the many positive benefits urban greenway can have, they are often controversial due to the negative impacts associated with their development. Common residential concerns of living near urban greenway trails include privacy, trespassing and liability, with most problems being cars parked on public property and damage to property (Corning et al., 2012). Some of respondents say it will be disadvantage only for them because, if developed to other functions, they will lose their working lots and even for some of them their houses. Other residential concerns include the amount of traffic greenways create and redevelopment (Lindsey et al., 2006).

Noise, planning restrictions and increase of prices of products and services along the route were the main challenges raised by respondents due to greenway introduction. Others said that too many restaurants, bars, clubs, and shops discouraging residential use. Research has also shown that minorities and lower income households have disproportionate access to trails, which makes them more likely to face the financial pressures of rising property taxes associated with greenway projects (Lindsey et al., 2001, Lindsey, Maraj, & Kuan, 2001). Finally, residents are often concerned urban greenways will compromise their safety and bring crime to their neighborhoods (Crewe 2001; Luymes and Tamminga 1995).

One of the challenges that is seen from the results of the interviews is that, the government offices have no clue what the route will be and have no plan to engage themselves on the route to revitalize. Different stakeholders are expected to participate on such type of projects. Restoration professional, local authorities, tourist agencies, universities, local residents, public owners, managers of historic assets, privet owners and cultural workers were the most actors selected by respondents to be important actors in conserving heritages. But the poor synchronization of these stakeholders is a challenge as well.

As seen on many researches, the involvement of the public and the support of NGOs should be undertaken in the conceptual planning, physical design and long-term care and monitoring of greenway systems. User input upfront can help alleviate the need to fix ill-

conceived designs or management policies (Ryan et al 2004). Public participation in the planning process is essential to successful planning and people are more likely to accept a project when they have had a voice in the decision-making (Decker and Chase 1997).

In most greenway planning cases, local government is the most powerful agent in planning and implementing green corridors (Erickson and Louisse 1997). *"The consequence of isolated, local institutions is a dissonance of competing, conflicting land use policies, none of which takes into consideration the greenway in its entirety" (Hoover and Shannon 1995).* Coordination between government agencies and organizations is the largest challenge in greenway implementation (Erickson and Louisse 1997).

The other challenge that makes greenway development hard on the abandoned railway route is physical barrier. Development of greenways in an urban area will often encounter physical barriers. Greenways may encounter difficulties with landscape and manmade elements of the environment (such as major roads, railroads and residential/commercial development) in the process of development (Ryan et al 2004). From the direct observation I have seen that, markets, the cart away from construction site, the temporary shops and plant nurseries, new roads crossing the railway and in general, different functions existing will be barriers to implement. Greenways are susceptible to changes in land use and their continuity can easily be broken by development for roads, housing, industry or other transport schemes (Cooper and Hull 1979; Grimshaw 1982).

The most obvious way to overcome this challenge is to propose greenways in landscapes that are free from physical barriers. Areas that are free of physical barriers are more likely to have the potential for greenway development and likely to need less funding. To make further areas available for such use will require funding and innovative bypass type planning to overcome the physical barriers.

The other challenge is private land owners may perceive a public corridor as an encroachment on their property rights and choose to oppose the greenway (Ahern 1995). Land owners may be concerned about privacy loss, liability, illegal parking, access, noise and safety (Haney 2003).

K. Janas and W. Jarczewski list a few linear barriers: underdevelopment of technical infrastructure (sewage systems, energy supply systems), degraded roads, lack of access to fiber-optics, and weak accessibility to surrounding areas. They underline that overcoming such barriers *"often determines the further course of the revitalization process"* (K. Janas and W. Jarczewski, 2010). I. Mironowicz underlines that „the statement of degradation is the first

step of the revitalization process", and its proper definition and description is the condition of a successful process. Therefore, problems that are the result of the degradation of various linear structures should first be defined and systematized (I. Mironowicz 2010).

Erickson and Louisse evaluate seven metropolitan greenway systems in North America. They found that there are four key challenges to implementation of greenways: lack of coordination between government agencies and organizations; lack of regional governance over local greenway projects; financing of greenway projects; and public perceptions of greenways (Erickson and Louisse 1997)

The fourth objective was identifying the communities' perception of the old railway route and historical significance for the Addis Ababa. From the results, it can be summarized that, all of the participants of the research understand the historic significance of the route and consider it as a heritage landscape. This is due to the age of the infrastructure and sentimental attachment to the community in the city. In addition to the Great Palace and Arada market, it has created the third node to the city and linked the southern part of the city with the most vibrant northern part.

Considered by some to be an eyesore and others to be an obstacle for redevelopment in the western part of Manhattan moves were happening to demolish the rail structure in the 1990s. However local residents living close to the High Line formed a group 'Friends of the High Line' and advocated for the preservation of the elevated rail line and its conversion into a public linear park or 'greenway' similar to the Promenade Plantée in Paris. As a result of growing community support for the concept of an aerial greenway the NYC government agreed to retain the rail freight infrastructure and committed $50m to establish the High Line Park in 2004. ("High Line." https://en.wikipedia.org/wiki/High_Line) Most of greenways developed on abandoned railways have the same story that they were rescued by concerned individuals from being dismantled.

But with all the positive perception of the community, many local residents do not consider the abandoned railway route as historic landscape. The first reason is that, the public waits the government to inform them the significance. The other reason is from their daily observation what people are doing on the route. In addition to the activities done by the residents, the interventions made by AACRA are not considerate of the routes signature especially the new intervention at Kality.

When the passenger service is suspended, the railway stations, which have a particular architectural value, because of their constructive typologies, begin to gradually be used only as warehouses and points for the exchange of goods along the routes. With this, the abandonment of these buildings begins. Consequently, this situation causes the accelerated deterioration of the stations across the country and changes the economic and social dynamics in many regions, significantly changing their role as the centers and nodes of activity and exchange of goods and products between the towns and regions.

Due to its uniqueness at that time, the abandoned railway has put very strong childhood images on the public perception. Alan said that *"Nothing else in the nineteenth century seemed as vivid and dramatic a sign of modernity as the railroad. Scientists and statesmen joined capitalists in promoting the locomotive as the engine of 'progress', a promise of imminent Utopia. By the end of the century their naivete came home to them, especially in the United States where railroad corporations were seen as the epitome of ruthless, irresponsible business power, a grave threat to order and stability, both economic and political. But in fact, from its beginnings the railroad was never free of some note of menace, some undercurrent of fear." (*Alan, 2014)

Many urban landscapes and identities are marked by a built environment whose physical characteristics refer to a process of development stretching back over centuries. Individual monuments and landmarks, groups of buildings, street patterns and coherent ensembles inform us, of our cities' pasts, continuity of change through time, periods of ascendancy of remarkable events, or ruptures in the urban fabric as a result of conflict or transformation. However, Lack of awareness and attention has let the historical structures deteriorate. Many characteristics and priceless buildings have been transformed losing their original features and values. Moreover, priority of social and economic issues such as, poverty reduction, investment attraction etc., are posing the dilemma of choosing between modernization and preservation (*ORAAMP, 2001*)

About future program integration and design, it is clearly seen that all participants of the research want new intervention that could change the current status of the route. The new program and activities suggested by the participants exist already on the route. But the implication of the participants responses is that the activities should be located in a designed manner so that the route will revive and be a frontage rather than a backyard. All stake holders should participate in the management in a coordinated manner for the best benefits of the greenway to happen.

One of the programs mentioned by the research participants was community gathering places. These could be elderly sitting areas, kids playing areas, chatting areas four the uses and festivity space, which has the potential to bring close the users and create sense of belonging ness. This is supported by the very concept of greenway that the application should be at all scales, as an all-inclusive system, which joins downtowns and inner-city neighborhoods, through suburbs towards the countryside, serving large population groups (Anthony 1995). Therefore, the adoption of greenway concept should be integral part in the local residents' daily life.

The long and continuous corridor of the old railway route allows to wind through a variety of neighborhoods increasing the surface area reachable, connected and more accessible than nonlinear green space, due to its high ratio of edge to interior area and can contribute to social equity when the greenway connects both communities of high income and low-income groups, (Hellmund and Smith 2006).

Greenery was suggested also as an intervention program in which it will enclose other programs with in the route. Connectivity of the greenway is seen as a spatial characteristic of landscapes, which enable and support the occurrence of specific processes and functions, through adjacency, proximity or functional linkage and connection (Ahern 2003). Much of the literature about landscape ecology focuses on the value of connectivity for maintaining biodiversity in nature. Greeneries also enhance the connectivity between people and nature, which can be the most abstract benefit, providing for routine and close to where they live and work. Nature human interface was achieved through parks in the city but now the connectivity potential of greenways can influence patterns of social interaction and human-nature interaction (Fabos 1995).

Jogging tracks and bicycle routes are one way of commuting from place to place and exercise lanes for healthy life. They can also work as alternative transportation routes. These programs were raised as a potential for the site since the community is still using the railway route as additional route to go to work and back to home. Alternative transportation route has alternative forms of transportation, trail recreation and human need or preference for nearby nature and recreation (Kaplan 1998). Greenways are often particularly designed and implemented for pedestrian and cyclists, so it may contribute to many social issues in metropolitan areas, such as traffic reduction, reducing air pollution and a healthier population (Flink and Searns 1993).

Street Arts and sculptures give meaning full stories to the whole users since art is by any means easiest way to transfer message. Art in public space should be treated as an

effective tool for its revitalization and for stimulating public involvement, thereby provoking new activities as well. Art has the potential to revitalized such kind of abandoned spaces and road sides. A similar approach is presented by K. Janas and W. Jarczewski, in which areas highly degraded or without their own identity are treated with well-designed street art as an important revitalization activity. They may be supported by performances or artistic events in public areas (K. Janas and W. Jarczewski 2010). K. Skalski underlines that such kinds of artistic spaces have high-quality influence on inhabitants and users which attracts investors, mainly in the services sphere, enabling economic development, and consequently they determine the success of revitalization (Skalski 2010).

In general, if programs are inserted in linear manner, they can bring spatial, economic, social and cultural, ecological and landscape benefits to the city and its dwellers. Spatially, connecting fragmented city structures through transforming barriers into strips of land connecting the structures; the improvement of city spatial cohesion; creating continuous open space systems, comfortable passages and crossings; improvement of spatial connectivity in the city, creating continuous open space systems, comfortable passages, facilities for the disabled (lower pavements, new passages, crossings, ramps and slides, lifts); development of public transport, connecting fragmented city districts; improvement of the quality and security of public spaces; integration of various city elements; overcoming functional and mental barriers; and supporting mixed land use;

Economic, such as: better functioning of fragmented structures, enabling the emergence of factors for development, economic development, new workplaces, rising property values, especially in areas which are not properly used or are neglected. The social and cultural benefits include, the creation of a friendly city, social integration, humanization of the built environment with the help of landscape architecture and greenery; providing equal chances for everybody and preventing social exclusion of the disabled or people with limited mobility, incorporating them into the labor market, thanks to better accessibility; activation of various social groups in previously abandoned or marginalized areas, providing security and comfort in previously neglected „in-between" areas; enabling better access to city centers, recreational areas and water thanks to waterfront revitalization and as a consequence a better quality of life.

Ecological benefits are providing continuity of natural systems, which will facilitate their better functioning; protection of natural resources and values, creating new natural resources; integration of the built environment with the natural environment; improvement of

climatic conditions thanks to renovated/new linear features facilitating better air exchange and ventilation; introducing various pro-ecological solutions, like re-use and better use of terrain, green and blue infrastructure, enhancing the quality of the elements of the environment, and improving acoustic comfort.

Enhancing the role of landscape in city planning and in city development processes, renewal and presentation of degraded landscapes, arrangement and anesthetization of space, providing formal and stylistic continuity, and creating new landscape values are the landscape and visual attributes of leaner revitalization.

CHAPTER FIVE: - CONCLUTION AND RECOMMENDATIONS

5.1 Conclusion

This research sought to assess the perception of green way among different key representatives that are related to greenway development, the current status of the old railway and its future fate, the potential challenges of greenway development to revitalize this railway, the public memory and attachment to the route and possible future programs if revitalize in to greenway. After analyzing the results, I have reached to the following conclusions.

The first conclusion is that, the basic concept of greenway development is poor even among the professionals working on design and urban planning. Only AACBCDA from governmental office have little know how in generic form that greenway is related to green development that office is working on. The local residents working and living along the route has no clue about greenway development. Only one person has the experience while he was abroad to visit.

The second conclusion is that, the current status of the railway route is very rough being the backyard of the neighborhoods it passes, neglected and only miner economic activities are being held on it. The consideration of the route as historic site is very low both on governmental offices and the local residents. This primarily due to the don't ask don't tell policy of the two countries on their old railway agreement which has yet about 17 years remaining. The route is also being interrupted and dismantled for new roads and expansion of existing ones. Only the road that passes through the Leghare station Yard has integrated new rails on the asphalt which could be used as indicating intervention that there were rails.

The future fate of the old railway route is unknown even by the Ethio-Djibouti Railway corporation. It is seen from the results, that each of the research participant inclined to their respective need for the future function of the old railway. There are still positive indicators that greenway could be common ground for the all of the research participants the future function of the abandoned railway route.

On the urban planning and architectural design aspect, the professionals believe that these infrastructures are one of the heritage buildings that could indicate the architecture of the time. Even Addis Ababa City Culture and Tourism Bureau have registered the Leghare station building as Architectural heritage. The results show that the planning and design

professionals also strongly believe that the route is heritage site and has very strong potential to be a greenway which will be another new façade for the city.

The third conclusion is that, the railway route has many potentials to be revitalized by developing it in to greenways. This is due to its public memories, linearity, and still it is protected by the agreement and free from developments. From the walk diary we can see that the physical slope of the whole stretch is very gentle and makes it very walk able without much fatigue in contrary to the most of the places in the city due to the technical requirement of the train that the slope was gentle.

The route has its own challenges to be revitalized due to lack of understanding it as heritage sites by governmental offices and by the public. It is being used as extension by different programs currently which are physical barriers. The city administration has given portions of the route temporarily for shops to small enterprises. This can be seen also from the discussion with the local people living and working along the route that they proposed shops, new buildings and road to be built on the route for future. The other challenge is it is still bounded by an agreement signed by the two countries. The unsynchronized work of the city offices and shortage of knowhow about greenway among the professionals and residents wis also a strong challenge.

The fourth conclusion is that, even if the know-how about greenway development is very low and the future fate of the railway is unknown, there is strong memory with in the community. Some of the professionals who have experienced the route through walking have expressed the feeling as sentimental and historic. The detailed explanation of their past on the route shows as if it's a near history.

As a final conclusion I would say, the aim of revitalization is the enhancement of the quality of city life, the creation of factors encouraging development, stimulation of economic development, an increase of public involvement, enhancement of spatial harmony and order, and the protection and enhancement of natural resources, cultural heritage and landscape value. As we have seen from the results of the research, there are very strong compelling reasons to use greenway development approach to revitalize the old railway route. It could be additional recreational space, ecofriendly transport route and is ready made nature corridor compared to other places in the city, if the intervention programs are selected carefully by involving the community and different stakeholders. It is a valuable piece of ecological and historical heritage that should be revitalized for future generations of Ethiopian.

5.2. Recommendations

5.2.1 General Recommendations

There are different options being applied on old railway routes in the world. Based on the findings from the case studies and the result of the survey, it is recommended to revitalize them in way that the public will be benefiting socially, economically and environmentally. The spaces should be designed in a manner that it is inclusive to all ages, economic status and creative to accommodate the historical notion of the route itself.

The following points summarize the general recommendations.

Awareness Creation

We can clearly see that only the professionals and AACBCDA have fair knowledge about the greenways and heritage landscape of the old railway route in which it is recommended the offices at different level in the city and the general public needs awareness creation. Universities, tour agents, and local authorities should have their share in creating such awareness among themselves and to the general public and create coordinated approach to use such historic landscapes in to useful amenities of the cities.

Guidelines and Public Policies

Considering the rapid pace of redevelopment and urbanization in the city and specifically along the route such as the station, Meskel flower and Akaki areas, strong guide lines should be developed by the city's beautification and cemetery development bureau together with culture and tourism bureau for selecting, maintaining and management of such spaces. If supported by public policy good sense of place can be created for communities along greenway corridors. To be fully successful, public policy, planning, design, and development must work in coordinated manner to create vibrant greenway communities on historic landscapes. Policy makers should broaden focus beyond an environmental aspect of greenways and use them as integrated framework for regenerating such prominent spaces and driver for community design.

Municipalities should have an inclusive frame work of the social and cultural, and historical site revival aspect of greenways to facilitate development of greenway-oriented communities in sustainable directions. From the results of the case studies analysis and the discussion of the people living along the route, we can clearly see that if the route is developed it will bring different economic benefits for the immediate communities and the city. Therefore, the researcher recommends that the interventions should be designed to bring the following economic benefits associated with development of greenway. These benefits include:

- Increased property values due to naturalized landscape and proximity to greenway
- Competitive market opportunities created by a sustainable healthier environment, which attracts businesses and homeowners
- Local community exposure to different activities which attract lots of people from the whole city and in turn create market opportunities.

5.2.2. Design Recommendations

The design proposal is on planning level. Since the research is qualitative and the site is very long to handle on detail level the researcher approached a generic planning layout based on existing and future land uses. In this sense the detail designs at latter stages could be the integral part of the public activities. At detail landscape design stage, pop up and community involvement is critical.

The issues raised about the abandoned railway route are discussed and pointed out on results. The recommended programs and possible solutions are also pointed out on the discussion section. Therefore, this part of the planning proposal is the continuation of the theoretical recommendations. This proposal will be as guide line for interested sectors in the city like landscape designers, urban planners and city beautification offices.

5.2.2.1. Site Analysis

The site analysis is done to capture the major activities the people do around the route at current stage and the future depiction for the structural plan of the city. In addition to the activities, current vegetation cover and future possible connection to the green way are mapped. The sense of the place and detailed photo-essay has been taken and included on the discussion part. The outputs of the analysis are presented as follows.

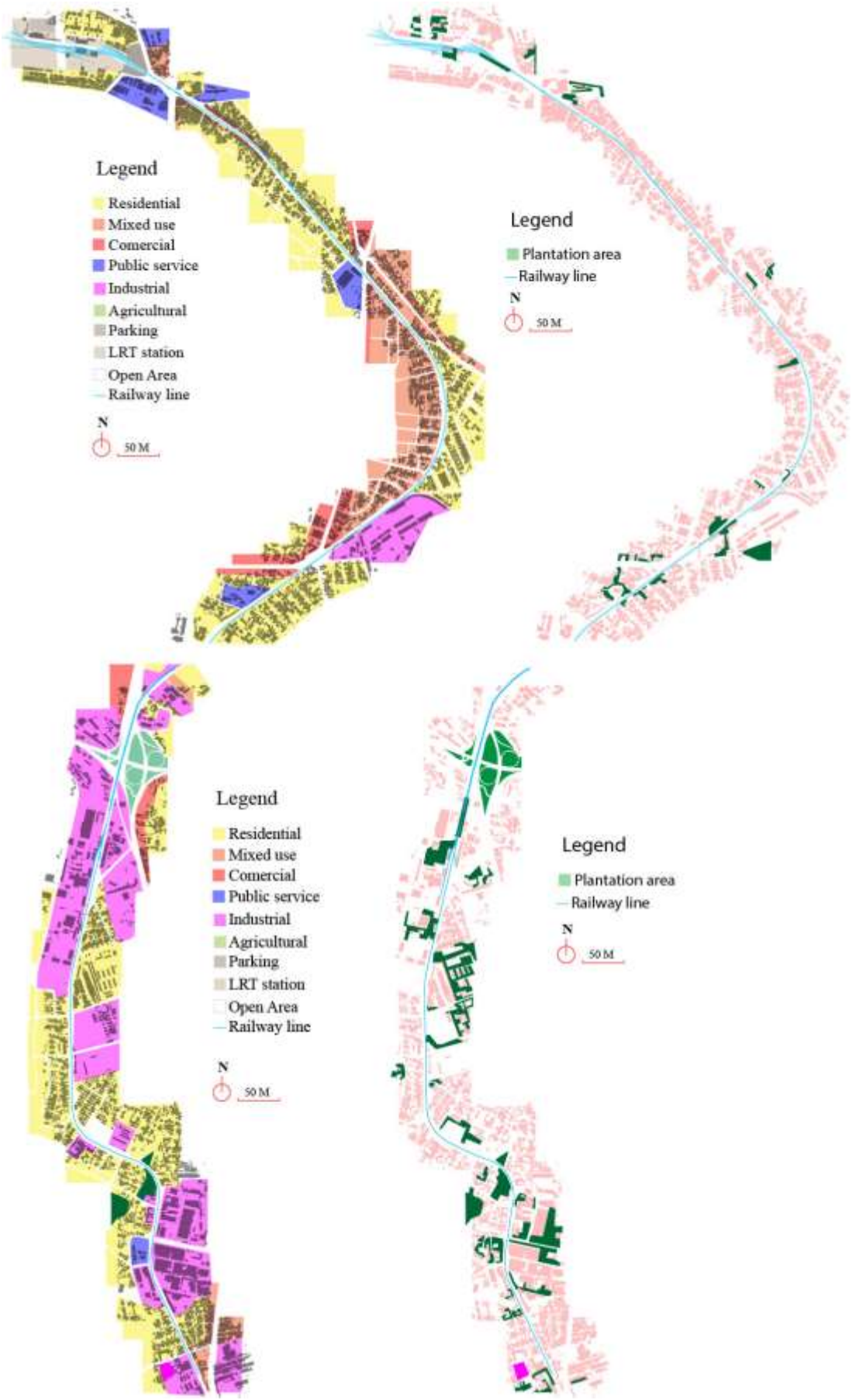


Fig. 75. Existing land use and nearby vegetation cover map of the railway route different sections

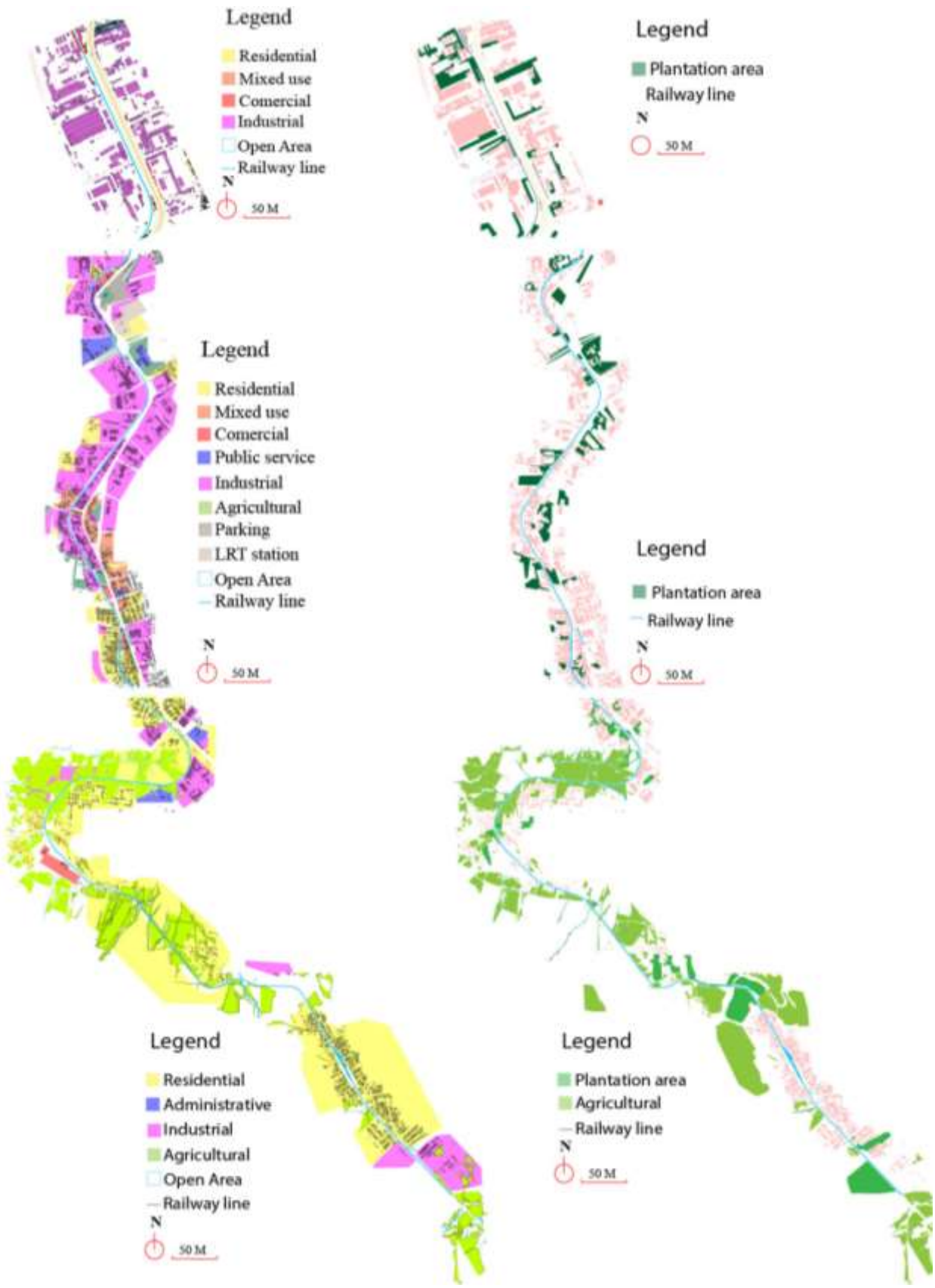
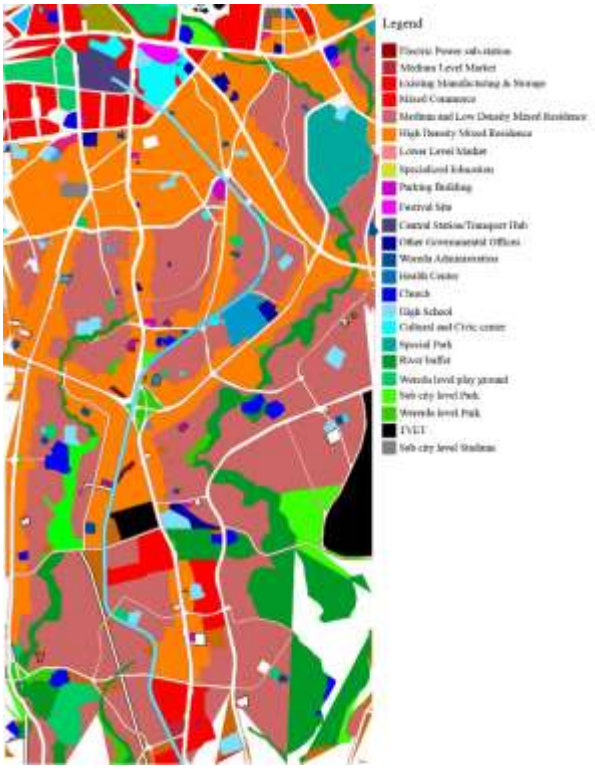


Fig. 76. Existing land use and nearby vegetation cover map of the railway route different sections



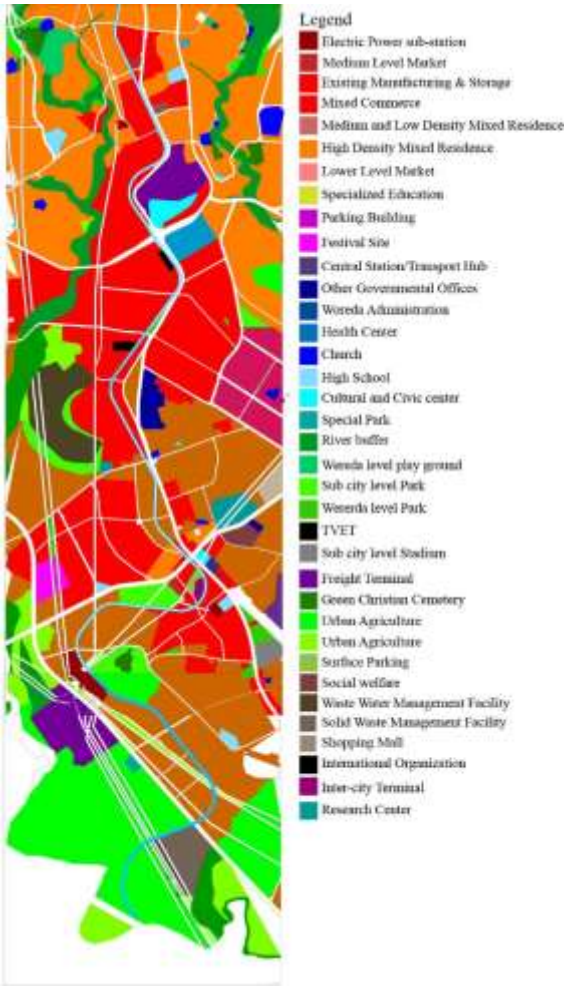
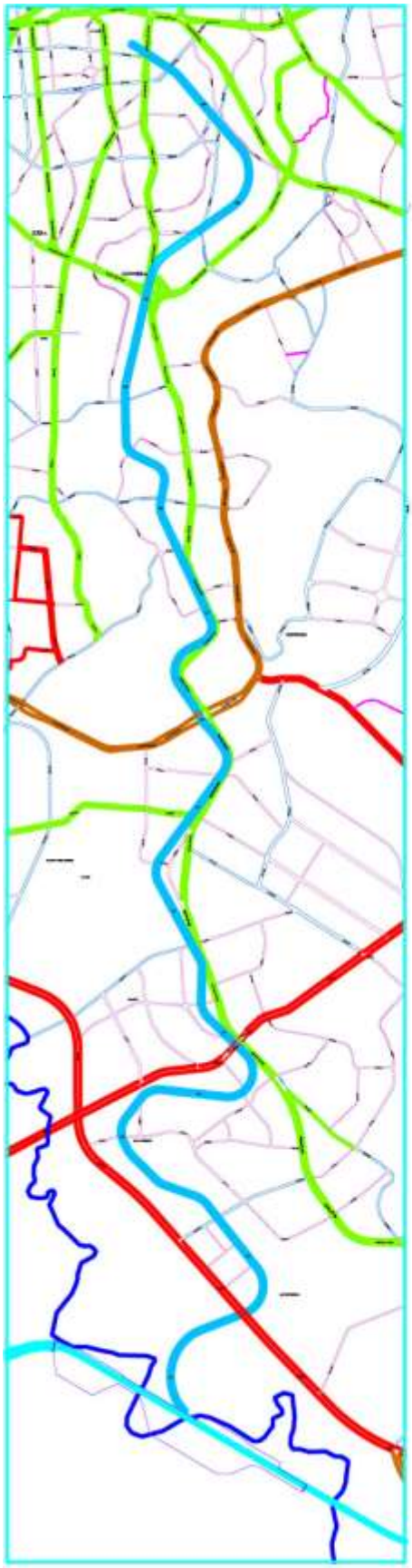


Fig. 78. Future land use of the railway route

Fig. 77. Future vegetation maps



Type	Images	Name	Images	Name	Images	Name
Trees		*Schinus molle* Pepper tree/ Qundo berbere		*Callistemon lanceolatus* Bottele brush/		*Olea african* Brown olive/ Weira
		*Stychnos innocua* Amburqa		*Acacia Decurrens* Akacha		*Jungerus procera* African juniper/ Tsid
		*Grevillea robusta* Grevilea		*Phoenix reclinata* Wild date palm/ Zembaba		*Azadrachta* Nee/ Kimin
		*Spathodea nagunulata* African tulip tree		Flat top acacia/ Bazra gnar		*Borassus flabellifer*
		*Eucalyptus citriodora* Lemon gum/ Shito bahir zaf		*Vernonia amygdalina* Tree vernonia/ Grawa		*Cordia africana* Large-leaved Cordia/ Wanza
		*Eucalyptus camaldulensis* Red river gum/ Key bahir zaf		*Eucalyptusglobulus* Tasmania blue gum/ Neeh bahir zaf		Wait a bit thorn Mezazign

Fig. 79. Some of Existing trees

Fig. 80. The railway and the access roads map

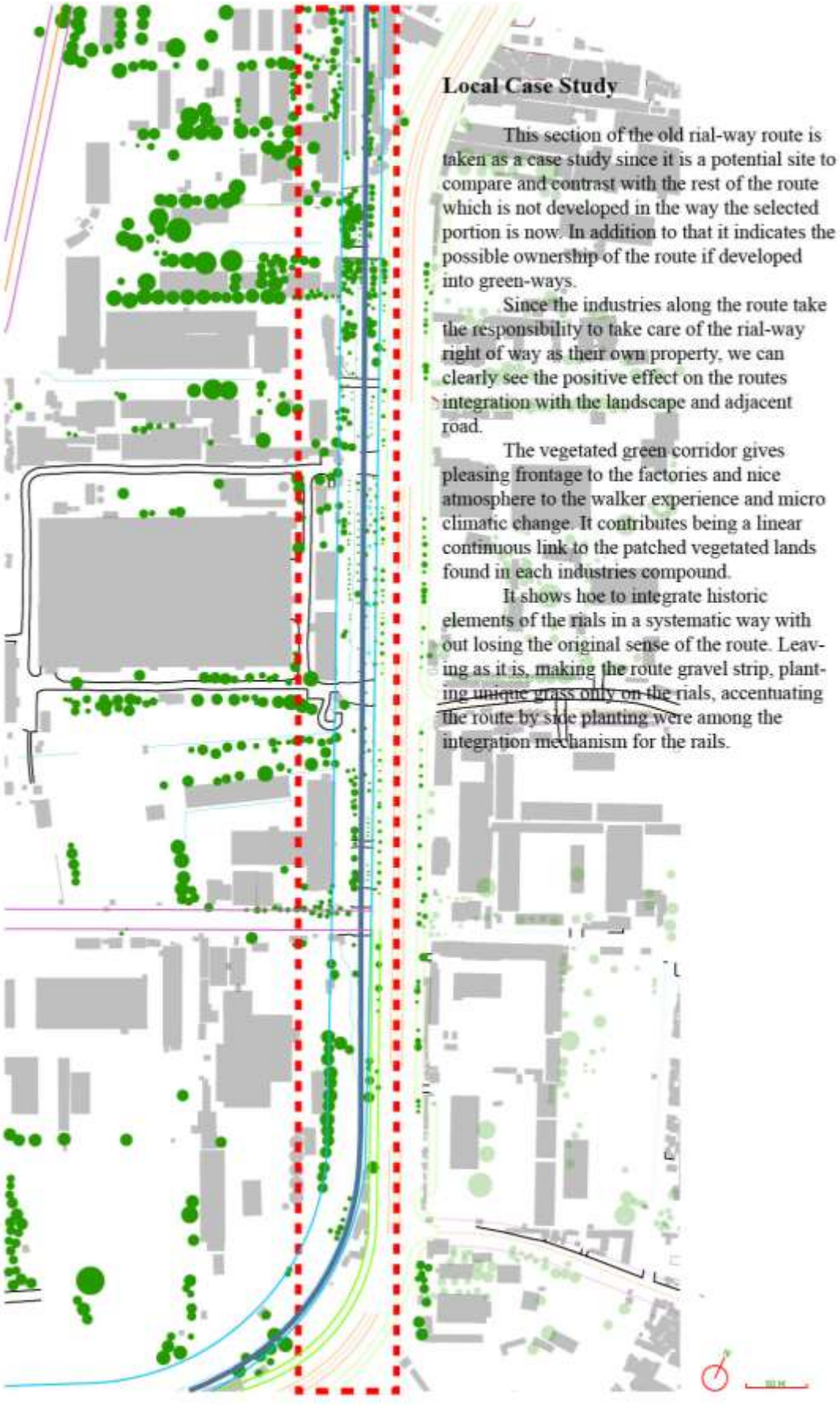


Fig. 81. Local case study site

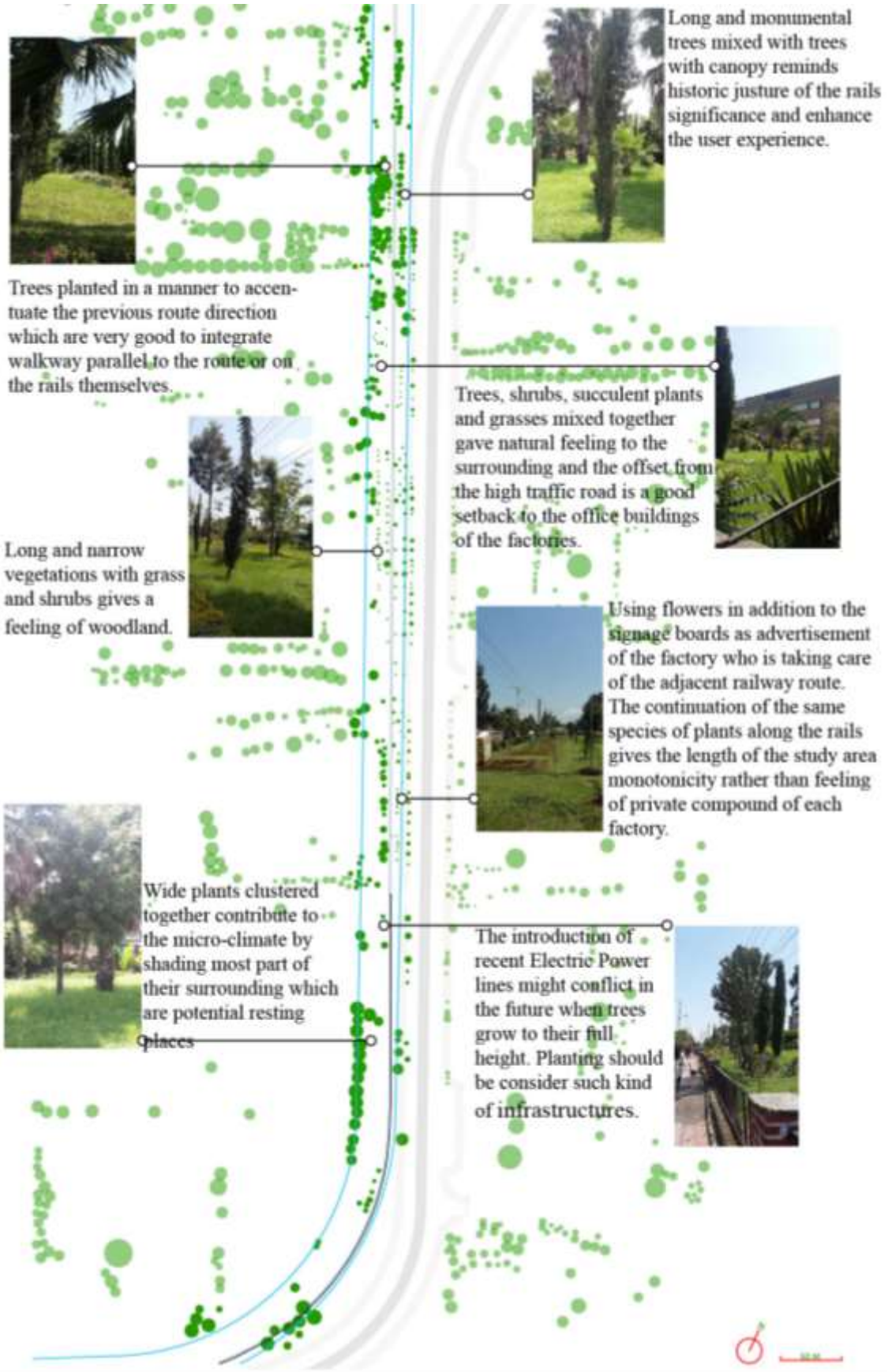


Fig. 82. Vegetation cover

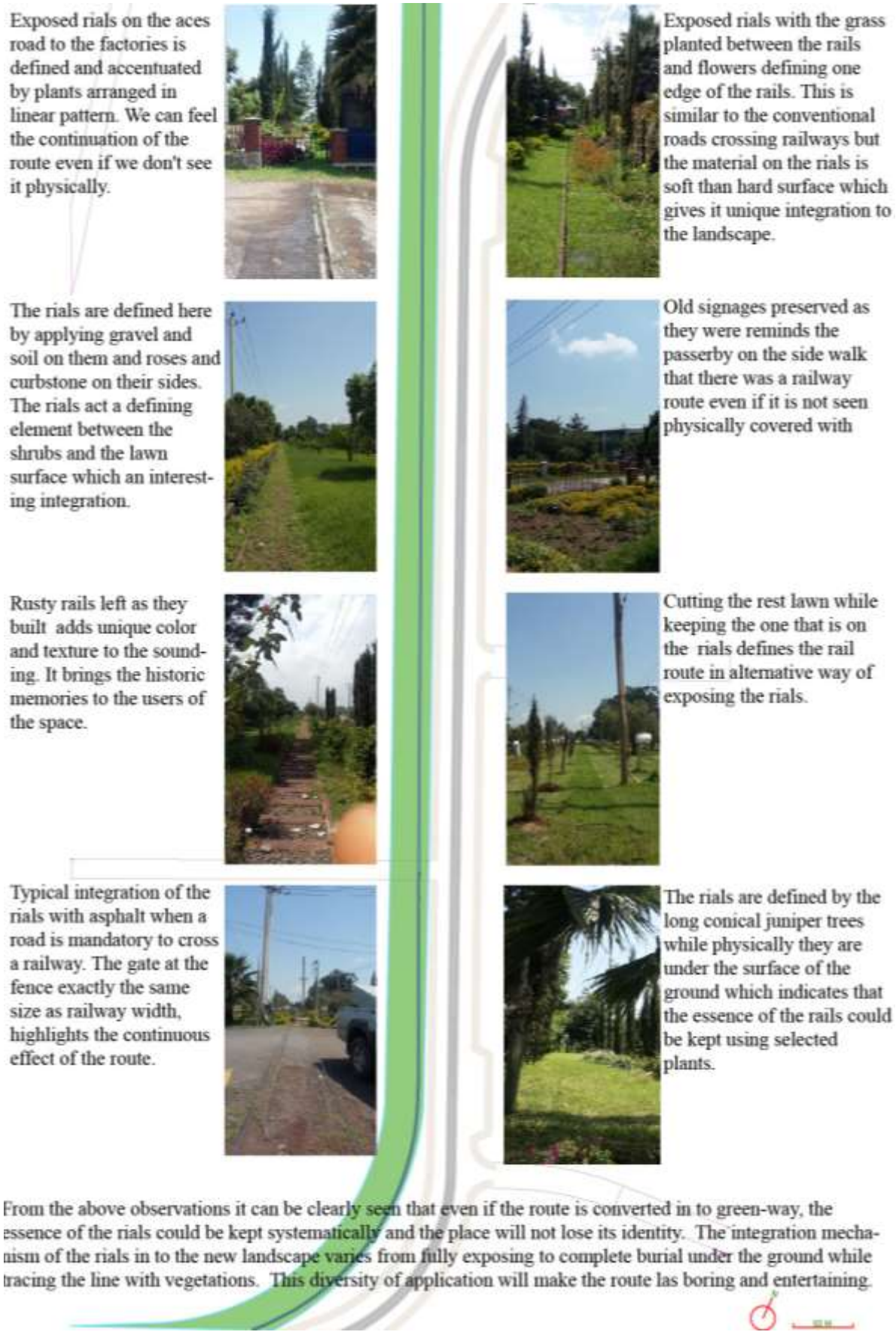


Fig. 83. Railway integration with the landscape.

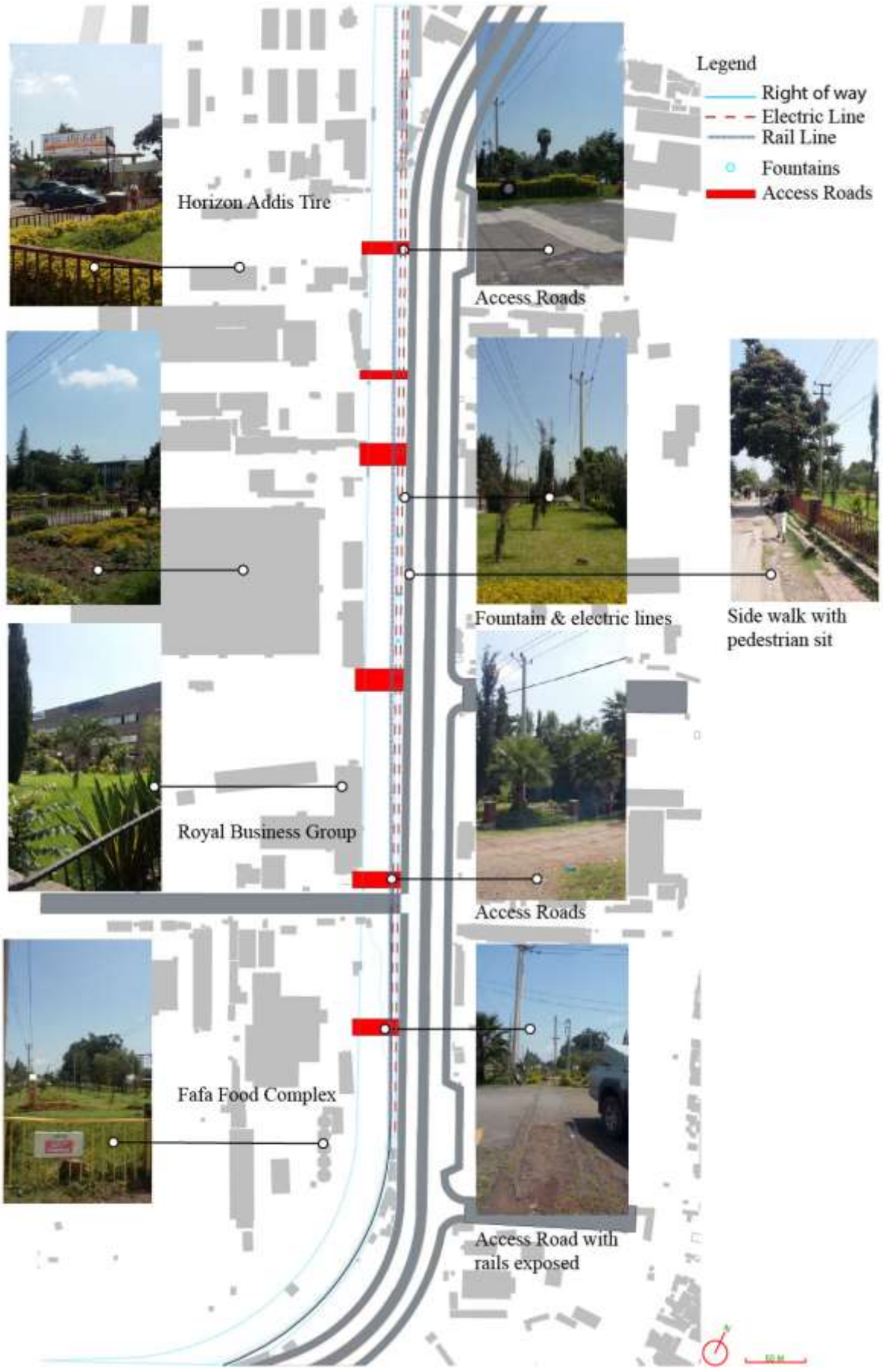


Fig. 84. Infrastructures and factories found along the railway.

Fig. 85. Land use map along the railway.

5.2.2.2. Program development

The program is developed based on the existing and future land use to create connectivity between the activities and the vegetation covers with the greenway. In addition to these, the program suggestion from the questioners is used.

Urban spaces like the old railway route are being revitalized through different means which will go coherently with character, history, adoptability and public significance of the spaces. Most of the respondents choose changing the route to public recreation place as strategy of revitalizing it. From the total responses 90% said this. 35% of them suggested that it will be good to make the route green place as conservation tool and 20% said it is better to keep it as it is without any functional change. The other 20% suggested to develop new land uses so that the routes will be changed in to useful lands use

In another question, most of the respondents suggested green corridor as a program for the future development of the old railway route. From the total respondents 79.3% recommended this green corridor. 41.4% of them recommended jogging trucks and bicycle lane to be developed as programs on the route. One program might not be sufficient for the whole route and combination of the major ones could be applied in synchronized way.

Current activities done by people will be also considered as future programs enhanced through design. More or less the following programs are proposed to be distributed along the route.

- Sitting place to take air and meet friends, resting place for elders, professionals meeting places for historic study.
- Alternative walking route to work and back to home.
- Local market (on side of the routes)
- Phot shots and video clip making place
- Urban farming
- Children play area,
- Bike repairing areas
- Fast food corners
- Jogging trucks
- Public toilets
- Community police stations
- Outdoor theatres

5.2.2.3. Design concept

The inspiration for the design concept is the morphology of the city Addis Ababa along the railway route. The voids are functional whether they designed or naturally defined. The texture of the city in a bigger picture will be seen on the new greenway design in smaller scale.

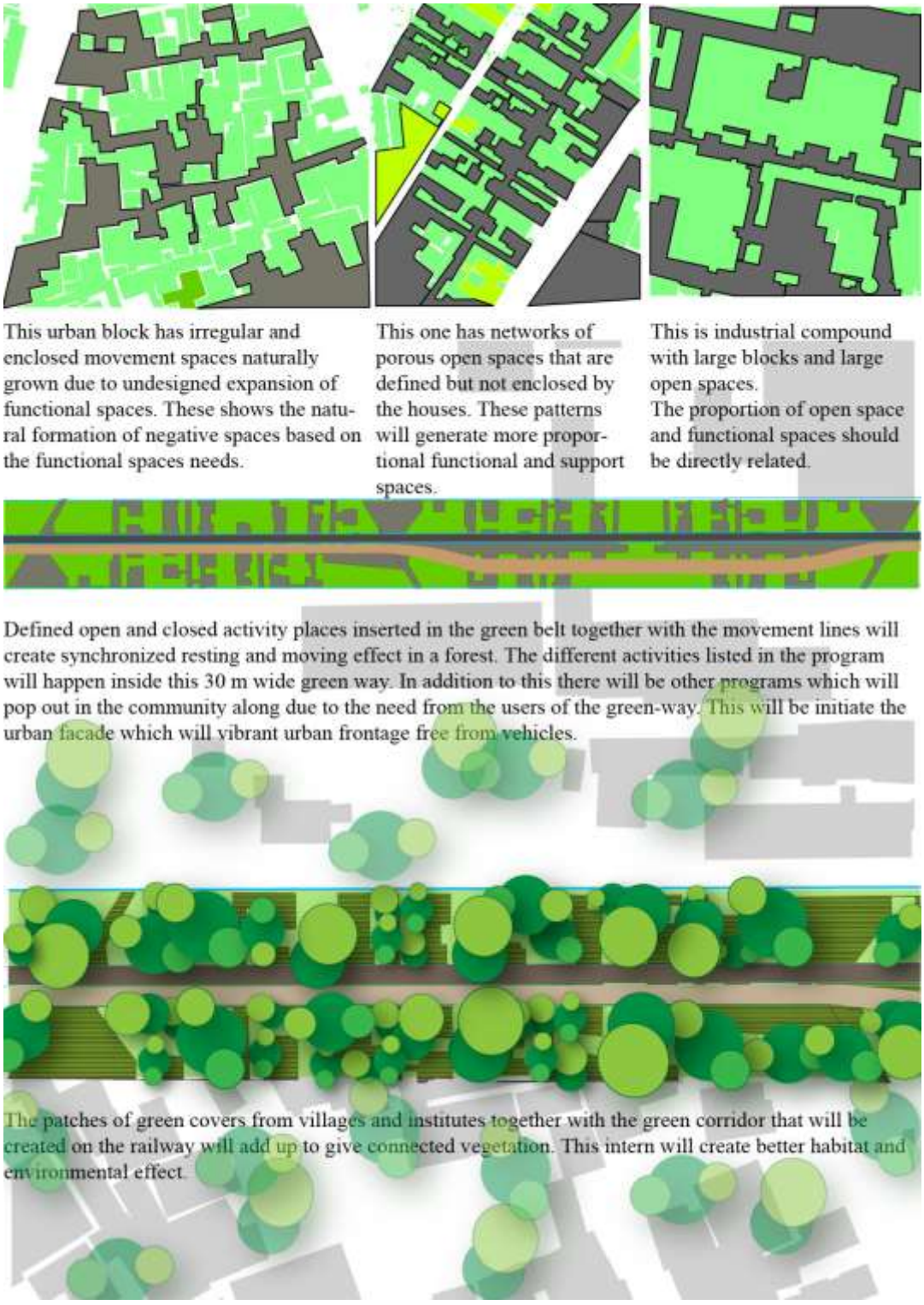


Fig. 86. Conceptual diagram.

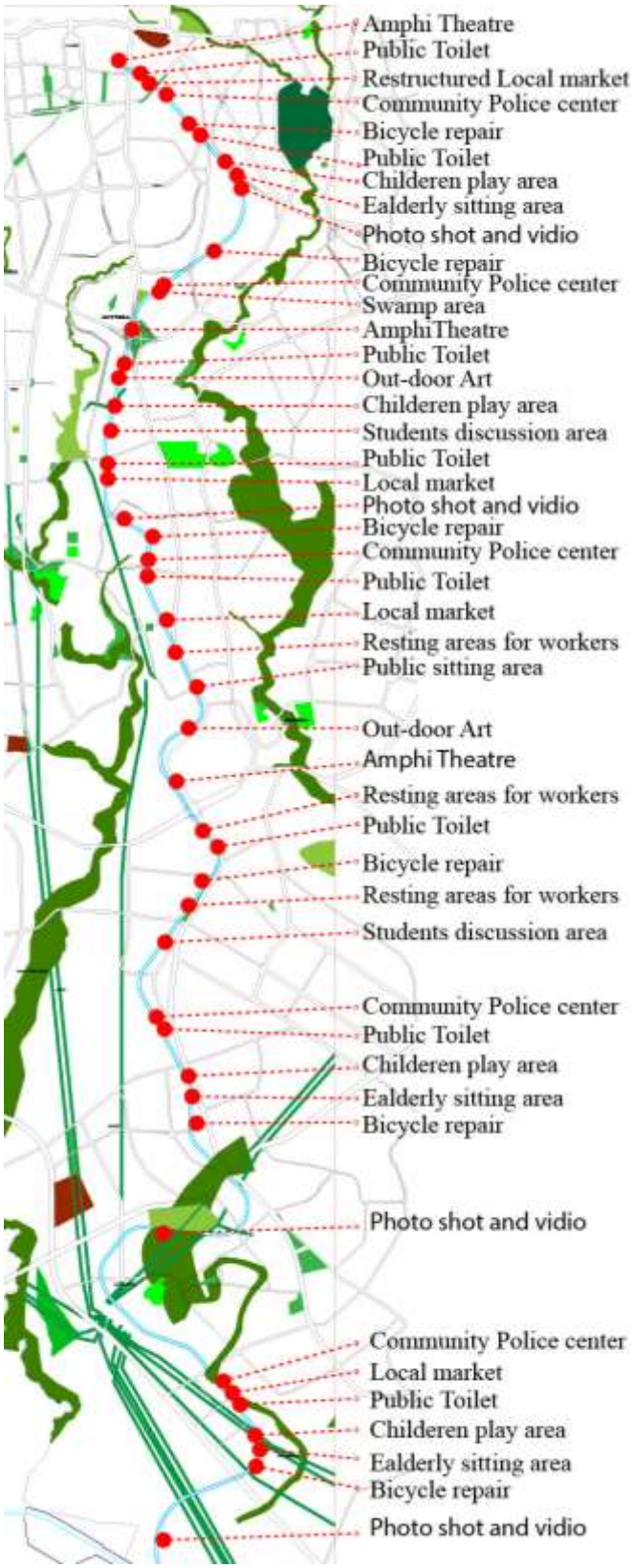


Fig. 87. Location of main programs.

Fig. 88. Perspectives of portion of the railway route.

Fig. 89. Perspectives of portion of the railway route

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7. ANNEX

7.1. Interview questions for AACA Culture and Truism Bureau

የዚህ ቃለ መጠይቅ አላማ አረነጋዬመንገድ ልማት የተተወውን የኢትዮ-ጅቡቲ ባቡር መንገድ ቦታዎችን እንደገና ለመጠቀም እንደ መሳሪያ እንዴት ሊያገለግል እንደሚችል ለማየት ነው። የቃለ መጠይቁ ውጤት አረነጋዬመንገድ ልማት የተተወውን የኢትዮ-ጅቡቲ ባቡር መንገድ ቦታዎችን እንደገና ለመጠቀም እንደ መሳሪያ በቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድ ላይ እንዴት ሊያገለግል እንደሚችል ለማስተርስ ጥናት ማሟያ ይውላል።

ቢሮው የሚሰራቸው ስራዎች

1. ቅርሶችን ማጥናት መመዝገብ፣ መጠበቅ፣ እንዲመዘገቡ ማድረግ ለቅርሶች ክትትልና ጥበቃ እንክብካቤ ማድረግ፣
2. ሙዚየሞችን ማደራጀት መምራትና አገልግሎት ላይ እንዲውሉ ማድረግ
3. የከተማውን እምቅ የቱሪዝም ሀብት በሀገርና በአለም አቀፍ ደረጃ ጥራቱን በጠበቀና በዘመናዊ ቴክኖሎጂ ማስተዋወቅና ገበያ መፍጠር
4. ዘመናዊ በቴክኖሎጂ የተደገፈ የቱሪስት መረጃ ማዕከል መፍጠር

1. ቢሮው የቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድን እን ደታሪካዊ ቦታ ነው ይቀበለዋል? ለምን?
2. ቢሯችሁ ስለ ወደፊት እጣፈነታው ምን ያስባል? ይፈርሳል? ይጠበቃል? ይረሳል? ወይሰ ሌላ? ምክንያት?
3. መጠበቅ አለበት የሚባል ከሆነ በምን መልኩ ቢሆን የሻላል? ወደ ሌላ አገልግሎት ማዋል? ባለበት ማስቀመጥ? ወደ አረንጋዴ መስመር መቀየር?ሌላ? ምክንያት?
4. የቀድሞው የኢትዮ-ጅቡቲ ባቡር ለከተማዋ እድገት ያለውን አስተዋፅዖ ቢሮው እንዴተ ይገልፀዋል?
5. የባቡር መንገዱ ለሌላ አገልግሎት ቢውል ምን አይነት ጥቅምና ጉዳት ይኖረዋል?
6. ቢሮው ወደፊት የባቡር መንገዱን ላይ ምን ቢሰራበት ይሻላል ብሎ ያስባል? አረንጋዴ መስመር? መሮጫና የብስክሌት መንገድ? ለባለሃብቶች በሊዝ መሸጥ? ተለዋጭ መንገድ ማድረግ? የህዝብ መዝናኛ? ምክንያት?
7. የባቡር መንገድ መስመሩ መልማት ካለበት የትኛው አካል ቢይዘው ይሻላል? የኢትዮጵያ ምድር ባቡር ኮርፖሬሽን? አ.አ.ከ.አ. መንገዶች ባለስልጣን? አ.አ.ከ.አ. ውበት መናፈሻ ዘላቂ ማረፊያ ልማት ኤጀንሲ? አ.አ.ከ.አ. ባህልና መስህብ ቢሮ? ሌላ? ምክንያት?
8. ቢሯችሁ ታሪካዊ መስህብ የአካባቢ ልማት ያምጣል ብሎ ያስባል? እንዴት?
9. ቢሯችሁ የባቡር መንገዱ ቢጠበቅ ጠቃሚነቱ ምን ያህል ነው ብሎ ያስባል?
10. የቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድ በታሪካዊ ቦታነት እንዲጠብቅ በጣመ የሚመለከተው አካል የትኛው ነው? ዩኒቨረሲቲዎች? ቱሪዝም ወኪሎች? የአካባቢው ባለስልጣኖች? የግል ባለሃብቶች? የመንግስት ድርጅቶች? የባህል ሰራተኞች? የቅርስ ጥበቃ ባለስልጣኖች? የአካባቢዉ ማህበረሰብ? ሌሎች?
11. የባቡር መንገዱን በታሪካዊ ቦታነት መጠበቅ ምን አይነት የተሻለ ጥቅም ይኖረዋል? ስራ መፍጠሩ፣ ጎብኝዎችን መሳቡ፣ የቦታን ምንነት መፍጠሩ፣ በአካባቢው ላሉ ምርቶች ገበያ መፍጠሩ፣ ታሪክን መጠበቁ፣ ለአካባቢው ነዋሪዎች ሳቢ አካባቢ መፍጠሩ? ተጨማሪ ሀንፃ ግንባታ ማሰቀረቱ፣ ሌላ

12. የባቡር መንገዱን በታሪካዊ ቦታነት መጠበቅ ምን አይነት የከፋ ጉዳት ይኖረዋል? የአካባቢ ጉዳት፣ ብዙ ጎብኝ መመጣት፣ የድምፅ ብክለት፣ የከተማ ልማት ከልከላዎች፣ ሱቆች፣ ምግብ ቤቶች፣ የሌሊት ጭፈራ ቦታዎች መብዛትና የአካባቢውን መኖሪያነት ማዳከማቸው፣ ዋጋ መጨመር፣ ሌሎች
13. አረንጋዴ መንገድ ልማት የኢትዮ-ጅቡቲ ባቡር መንገድ በታሪካዊ ቦታነት እንዲጠብቅ ያስችላል? ምክንያት?
14. አረንጋዴ መንገድ ልማትበ ባቡር መንገድ ላይ ቢሰራ የትኞቹን ጥቅሞች የበለጠ ይሰጣል ብሎ ያስባል? ታሪክን መጠበቅ፣ ተለዋች የመንቀሳቀሻ መስመር መገኘቱ፣ ለአካል ጉዳተኞች፣ የመንቀሳቀሻ መስመር መገኘቱ፣ የተፈጥሮ ትምህርት መስጫነቱ፣ ቱሪዝምና ንግድ ማደጉ፣ ህዝብ መዝናናቱ፣ ህዝብ ጥንካሬና ጤንነቱ መጠበቁ፣ ክፍት ቦታው መጠበቁ፣ ሌሎች

7.2. Interview questions for Ethio-Djibouti Railway Corporation

የዚህ ቃለ መጠይቅ አላማ አረንጋዴመንገድ ልማት የተተወውን የኢትዮ-ጅቡቲ ባቡር መንገድ ቦታዎችን እንደገና ለመጠቀም እንደ መሳሪያ እንዴት ሊያገለግል እንደሚችል ለማየት ነው። የቃለ መጠይቁ ውጤት አረንጋዴመንገድ ልማት የተተወውን የኢትዮ-ጅቡቲ ባቡር መንገድ ቦታዎችን እንደገና ለመጠቀም እንደ መሳሪያ በቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድ ላይ እንዴት ሊያገለግል እንደሚችል ለማስተርስ ጥናት ማሟያ ይውላል።

ቢሮው የሚሰራቸው ስራዎች

በሀገሪቱ ዘመናዊ የባቡር መሠረተ ልማት መገንባት እና የመንገደኞችና የጭነት የባቡር ትራንስፖርት አገልግሎት መስጠት፤

1. የቀድሞውን የኢትዮ-ጅቡቲ ባቡር መንገድን የሚያስተዳድረው ማን ነው? ከጅቡቲ ጋር ያለው ውልስ አልቋል ወይ? ካላለቀ መቼ ነው የሚያልቀው?
2. ቢሯችሁ ስለ ወደፊት እጣፈንታው ምን ያስባል? ይፈርሳል? ይጠበቃል? ይረሳል? ወይስ ሌላ? ምክንያት? በዚህ ጉዳይ ላይ ከጅቡቲ መንግስት ጋር ውይይት ነበረ?
3. መጠበቅ አለበት የሚባል ከሆነ በምን መልኩ ቢሆን የሻላል? ወደ ሌላ አገልግሎት ማዋል? ባለበት ማስቀመጥ? ወደ አረንጋዴ መስመር መቀየር?ሌላ? ምክንያት?
4. ቢሮው የቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድን እን ደታሪካዊ ቦታ ይቀበለዋል? ለምን?
5. የቀድሞው የኢትዮ-ጅቡቲ ባቡር ለከተማዋ እድገት ያለውን አስተዋፅዖ ቢሮው እንዴት ይገልፀዋል?
6. የባቡር መንገዱ ለሌላ አገልግሎት ቢውል ምን አይነት ጥቅምና ጉዳት ይኖረዋል?
7. ቢሮው ወደፊት የባቡር መንገዱን ላይ ምን ቢሰራበት ይሻላል ብሎ ያስባል? አረንጋዴ መስመር? መሮጫና የብስክሌት መንገድ? ለባለሃብቶች በሊዝ መሸጥ? ተለዋጭ መንገድ ማድረግ? የህዝብ መዝናኛ? ምክንያት?
8. የባቡር መንገድ መስመሩ መልማት ካለበት የትኛው አካል ቢይዘው ይሻላል? የኢትዮጵያ ምድር ባቡር ኮርፖሬሽን? አ.አ.ከ.አ. መንገዶች ባለስልጣን? አ.አ.ከ.አ. ውበት መናፈሻ ዘላቂ ማረፊያ ልማት ኤጀንሲ? አ.አ.ከ.አ. ባህልና መስህብ ቢሮ? ሌላ? ምክንያት?
9. ቢሯችሁ የኢትዮ-ጅቡቲ ባቡር እንደ ታሪካዊ መስህብ የአካባቢ ልማት ያምጣል ብሎ ያስባል? እንዴት?
10. ቢሯችሁ የባቡር መንገዱ ቢጠበቅ ጠቃሚነቱ ምን ያህል ነው ብሎ ያስባል?
11. የቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድ በታሪካዊ ቦታነት እንዲጠብቅ በጣም የሚመለከተው አካል የትኛው ነው? ዩኒቨርሲቲዎች? ቱሪዝም ወኪሎች? የአካባቢው ባለስልጣኖች? የግል ባለሃብቶች? የመንግስት ድርጅቶች? የባህል ሰራተኞች? የቅርስ ጥበቃ ባለስልጣኖች? የአካባቢወ ማህበረሰብ? ሌሎች?

12. የባቡር መንገዱን በታሪካዊ ቦታነት መጠበቅ ምን አይነት የተሻለ ጥቅም ይኖረዋል? ስራ መፍጠሩ፣ ጎብኝዎችን መሳቡ፣ የቦታን ምንነት መፍጠሩ፣ በአካባቢው ላሉ ምርቶች ገበያ መፍጠሩ፣ ታሪክን መጠበቁ፣ ለአካባቢው ነዋሪዎች ሳቢ አካባቢ መፍጠሩ? ተጨማሪ ህንፃ ግንባታ ማሰቀረቱ፣ ሌላ

13. የባቡር መንገዱን በታሪካዊ ቦታነት መጠበቅ ምን አይነት የከፋ ጉዳት ይኖረዋል? የአካባቢ ጉዳት፣ ብዙ ጎብኝ መመጣት፣ የድምፅ ብክለት፣ የከተማ ልማት ክልከላዎች፣ ሱቆች፣ ምግብ ቤቶች፣ የሌሊት ጭፈራ ቦታዎች መብዛትና የአካባቢውን መኖሪያነት ማዳከማቸው፣ ዋጋ መጨመር፣ ሌሎች

14. አረንጓዴ መንገድ ልማት የኢትዮ-ጅቡቲ ባቡር መንገድ በታሪካዊ ቦታነት እንዲጠበቅ ያስችላል? ምክንያት?

15. አረንጓዴ መንገድ ልማትበ ባቡር መንገድ ላይ ቢሰራ የትኞቹን ጥቅሞች የበለጠ ይሰጣል ብሎ ያስባል? ታሪክን መጠበቅ፣ ተለዋች የመንቀሳቀሻ መስመር መገኘቱ፣ ለአካል ጉዳተኞች፣ የመንቀሳቀሻ መስመር መገኘቱ፣ የተፈጥሮ ትምህርት መስጫነቱ፣ ቱሪዝምና ንግድ ማደጉ፣ ህዝብ መዝናናቱ፣ ህዝብ ጥንካሬና ጤንነቱ መጠበቁ፣ ከፍት ቦታው መጠበቁ፣ ሌሎች

7.3. Interview questions for the people living along the railway route

የዚህ ቃለ መጠይቅ አላማ አረነጓዴመንገድ ልማት የተተወውን የኢትዮ-ጅቡቲ ባቡር መንገድ ቦታዎችን እንደገና ለመጠቀም እንደ መሳሪያ እንዴት ሊያገለግል እንደሚችል ለማየት ነው። የቃለ መጠይቁ ውጤት አረነጓዴመንገድ ልማት ታሪካዊ ቦታዎችን እንደገና ለመጠቀም እንደ መሳሪያ በቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድ ላይ እንዴት ሊያገለግል እንደሚችል ለማስተርስ ጥናት ማሟያ ይውላል።

የተጠያቂው መረጃዎች

እድሜ፡

……..

ፆታ፡

……
…

የትምህርት ደረጃ፡

……

1. ለምን ያህል ጊዜ እዚህ አካባቢ ኖረኻል/ኖረሻል?
2. የኢትዮ-ጅቡቲ ባቡር መንገድ በመስራት ላይ እያለ ታውቀዋለህ/ታውቂዋለሽ?
3. እየሰራ እያለ የምታስታውሳቸው ነገሮች ምን ምን ናቸው?
4. የቀድሞው የኢትዮ-ጅቡቲ ባቡር ተጠቅመኸው ታውቃለህ? እንዴት ተጠቀምኸው? በባቡር?በእግር? በብስክሌት? በመኪና?
5. ከቦታ ወደ ቦታ ለመሄድ በሳምንት ምንያህል ጊዜ ትመላለስበታለህ?
6. በዋናነት የባቡር መንገዱን ለምን ትጠቀመዋለህ/ሽ?
7. የቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድ ወደፊት ምን ይሆናል የሚል ግምት አለህ?
8. ወደፊት የባቡር መንገዱን ላይ ምን ተሰረቶበት ማዬት ትፈልጊያለሽ/ ትፈልጋለህ?
9. የባቡር መንገዱ ላይ ሰዎች የሚያረጓቸው ዋና ዋና ነገሮች ምን ምን ናቸው?
10. የቀድሞው የኢትዮ-ጅቡቲ ባቡር መንገድ ታሪካዊ ቦታ ነው ብለህ ታስባለህ?
11. የባቡር መንገዱ ለህዝብ መዝናኛ ቦታ ቢሆን ለአካባቢው ነዋሪዎች የሚያመጣው ጥቅምና ጉዳት ምን ይመስለሃል?

7.4. Questionnaire For the professionals

The purpose of this Questionnaire is to assess the greenway development as a tool for Abandoned railway revitalization. The results of this questionnaire will only be used as input for the Masters Study Thesis on the old Ethio-Djibouti railway rout in Addis Ababa City vicinity. The identity of the interviewee is confidential.

Particulars of the person:

I) Age……...

II) Sex……...

III) Education level……..

1. Are you familiar with greenway development?

A) Yes B) No

If yes what is your understanding?

2. When you hear greenway development, which one comes in your mind?

Select the three most by giving 1to 3, where 1 being the highest.

A) Green corridor

B) Jogging tracks

C) Bicycle lanes

D) Public recreation places

E) Others, Specify

3. How would you evaluate the perception of the people toward greenway development?

A) Very Poor B) Poor C) Moderate D) Good E) Very Good

4. Do you know if there is any place in the city dedicated for greenway development?

A) Yes B) No

If yes Please give the name and location of the sites.

5. What do you think should be the criteria to dedicate a space for greenway development?

6. Have you experienced the old railway route?

A) Yes B) No

If yes in what way did you experience the old railway route?

A) By foot B) By car C) By Bicycle D) By Train

7. How would you describe the experience?

8. Do you acknowledge the Old railway route as historic landscape?

A) Yes B) No

Please give your reasons for your answer?

9. What do you think the future fate of the Old Railway Route?

A) Demolishing B) Conserving C) Neglected D) Other, specify

Please give your reasons for your answer?

10. If conserving is your answer to the above question in what way should it be?

A) Converted to other land uses

B) Keeping it as it is

C) Converting it as greenway development route

Please give your reasons for your answer?

11. How do you rate the importance of the old railway route for the city development? Choose 1-5, 1 being the not important at all and 5 very important.

A) 1 B) 2 C) 3 D) 4 E) 5

12. How often will you use the route if developed as greenway corridor?

A) Never B) Rarely C) Sometimes D) Often E) Always

13. What kind of advantages and disadvantages do you expect if the old railway route is used for other functions?

14. What would you chose for the future development of the old railway route?

A) Green corridor

B) Jogging Track and bicycle lane

C) Leasing the land and building on it.

D) Building alternative road.

E) Other, Specify

15. Who do you think should handle the case of the old railway route if it should be developed?

A) Ethiopian Railway Corporation

B) Addis Abeba City Administration Road Authority

C) Addis Abeba City Administration Beatification Bureau

D) Addis Abeba City Administration Culture and Tourism Bureau

16. Do you think historic heritage can foster local development?

A) Yes

B) No

Please give your reasons for your answer?

17. Do you feel that historic heritages have economic benefits?

A) Yes

B) No

Please give your reasons for your answer?

18. What do you think about revitalizing the old railway route?

A) Very important

B) Important

C) Not sure

D) Not Important

19. What planning approach is better to revitalizing historic landscapes like the old railway route?
Select the three better by giving 1to 3, where 1 being the highest.
A) Preserving (Keeping as they are)

B) Developing in to new land uses

C) Making them green places

D) Changing them to public recreation places and still protects them

E) Others, Specify

20. Who do you think are the most relevant actors in the revitalizing and use of the old railway heritage assets? Select the three most important by giving 1to 3, where 1 is most important.
A) Universities

B) Restoration Professionals

C) Tourist Agencies

D) Local authorities

E) Private owners

F) Public Owners

G) Cultural Workers

H) Mangers of Historic assets

I) Local Residents

J) Others, Specify

21. What is the positive effect of revitalizing and using of the old rail way route historic heritage?
Select the three most positive effects by giving 1to 3, where 1 is most positive effect.
A) Creates jobs

B) Attract Tourists and visitors

C) Nurtures identity of place

D) Improves the market for local products

E) Preserves history

F) Attractive environment for the residents

G) Reduces the need for new buildings

H) Others, Specify

22. What is the negative effect of revitalizing and using of the old rail way route?
Select the three most negative effects by giving 1to 3, where 1 is most negative effect.
A) Environmental degradation

B) Mass tourism

C) Noise

D) Planning restrictions

E) Too many restaurants, bars, clubs, shops discouraging residential use

F) Increase of prices

G) Others, Specify

23. Do you think greenway development will enable to revitalize the old rialway?
A) Yes
B) No
Please give your reasons for your answer.

24. Can you rate the relationship between greenway development and historic place revitalization?
Give ranks 1to 5, where 1 is lowest relationship.
A) 1 B) 2 C) 3 D) 4 E) 5

25. Please rate which benefits are most important of greenway development on the old

railway route?

Select the three most by giving 1to 3, where 1 being the lowest important.

A) Historic preservation

B) Alternative transportation route

C) Access for disable persons

D) Nature education

E) Tourism, Business development

F) Public recreation

G) Health and fitness

H) Preservation of open spaces

I) Others, Specify

7.5. Questionnaire for *Addis Ababa City Administration Beautification and Cemetery development Agency*

The purpose of this Questionnaire is to assess the greenway development as a tool for abandoned railway revitalization. The results of this questionnaire will only be used as input for the Masters Study Thesis on the old Ethio-Djibouti railway rout in Addis Ababa City vicinity.

2. Is your office familiar with greenway development?

B) Yes

C) No

If yes what is the understanding?

2. When you hear greenway development, which one comes in your mind?

Select the three most by giving 1to 3, where 1 being the highest.

A) Green corridor

B) Jogging tracks

C) Bicycle lanes

D) Public recreation places

E) Others, Specify

3. How would you evaluate the perception of the people toward greenway development?

A) Very Poor

B) Poor

C) Moderate

D) Good

E) Very Good

4. Do you know if there is any place in the city dedicated for greenway development?

A) Yes

B) No

If yes Please give the name and location of the sites.

5. What does your office think should be the criteria to dedicate a space for greenway development?

6. Does your office acknowledge the Old railway route as historic landscape?

A) Yes

B) No

C) We have no idea

Please give your reasons for your answer?

7. What does your office think the future fate of the Old Railway Route?

A) Demolishing

B) Conserving

C) Neglected

D) Other, specify

Please give your reasons for your answer?

8. If conserving is your answer to the above question in what way should it be?

A) Converted to other land uses

B) Keeping it as it is

C) Converting it as greenway development route

Please give your reasons for your answer?

9. How does your office rate the importance of the old railway route for the city development? Choose 1-5, 1 being the not important at all and 5 very important.

A) 1 B) 2 C) 3 D) 4 E) 5

10. What kind of advantages and disadvantages does your office expect if the old railway route is used for other functions?

11. What would your office will choose for the future development of the old railway route? Rank 1-3, 1 being the best choice.

A) Green corridor

B) Jogging Track and bicycle lane

C) Leasing the land and building on it.

D) Building alternative road.

E) Other, Specify

12. Who do you think should handle the case of the old railway route if it should be developed?

A) Ethiopian Railway Corporation

B) Addis Ababa City Administration Road Authority

C) Addis Ababa City Administration Beatification Bureau

D) Addis Ababa City Administration Culture and Tourism Bureau

E) Others, Specify

13. Does your office think historic heritage can foster local development?

A) Yes

B) No

Please give your reasons for your answer?

14. Does your office feel that historic heritages have economic benefits?

A) Yes

B) No

Please give your reasons for your answer?

15. What do you think about revitalizing the old railway route?

A) Very important

B) Important

C) Not sure

D) Not Important

16. What planning approach is better to revitalize historic landscapes like the old railway route?

Select the three better by giving 1to 3, where 1 being the highest.

A) Preserving (Keeping as they are)

B) Developing in to new land uses

C) Making them green places

D) Changing them to public recreation places and still protects them

E) Others, Specify

17. Who do you think are the most relevant actors in the revitalizing and use of the old railway heritage assets? Select the three most important by giving 1to 3, where 1 is most important.

A) Universities

B) Restoration Professionals

C) Tourist Agencies

D) Local authorities

E) Private owners

F) Public Owners

G) Cultural Workers

H) Mangers of Historic assets

I) Local Residents

J) Others, Specify

18. What is the positive effect of revitalizing and using of the old rail way route historic heritage?

Select the three most positive effects by giving 1to 3, where 1 is most positive effect.

A) Creates jobs

B) Attract Tourists and visitors

C) Nurtures identity of place

D) Improves the market for local products

E) Preserves history

F) Attractive environment for the residents

G) Reduces the need for new buildings

H) Others, Specify

19. What is the negative effect of revitalizing and using of the old rail way route historic heritage?

Select the three most negative effects by giving 1to 3, where 1 is most negative effect.

A) Environmental degradation

B) Mass tourism

C) Noise

D) Planning restrictions

E) Too many restaurants, bars, clubs, shops discouraging residential use

F) Increase of prices

G) Others, Specify

20. Do you think greenway development will enable to revitalize abandoned old railway

route landscapes?

A) Yes

B) No

Please give your reasons for your answer.

21. Can you rate the relationship between greenway development and historic place revitalization? Give ranks 1to 5, where 1 is lowest relationship.

A) 1 B) 2 C) 3 D) 4 E) 5

22. Please rate which benefits are most important of greenway development on the old railway route?

Select the three most by giving 1to 3, where 1 being the most important.

A) Historic preservation

B) Alternative transportation route

C) Access for disable persons

D) Nature education

E) Tourism, Business development

F) Public recreation

G) Health and fitness

H) Preservation of open spaces

I) Others, Specify

7.6. Journal