



COLLEGE OF SOCIAL SCIENCES

DEPARTMENT OF SOCIOLOGY

**AN ASSESSMENT OF THE PUBLIC TRANSPORT ACCESSIBILITY
AND AFFORDABILITY AND ITS IMPLICATION ON LIVELIHOODS
OF THE URBAN POOR: THE CASE OF CHERKOS BOLE ARABSSA,
LEMMI KURA SUB-CITY, ADDIS ABABA, ETHIOPIA**

BY

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**An Assessment Of The Public Transport Accessibility And Affordability
And Its Implication On Livelihoods Of The Urban Poor: The Case Of
Cherkos Bole Arabssa, Lemmi Kura Sub-City, Addis Ababa, Ethiopia.**

**A Thesis Submitted to the School of Graduate Studies of Addis Ababa
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Master of Arts in Sociology**

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Declaration

I, Minil Taye Zelelew, hereby declare that the thesis entitled: - “*An assessment of the Public Transport Accessibility And Affordability And Its Implication On Livelihoods Of The Urban Poor: The Case Of Cherkos Bole Arabssa, Lemmi Kura Sub-City, Addis Ababa, Ethiopia*”, submitted by me to be awarded with Degree of **Master of Arts in Sociology at Addis Ababa University**. It is a product of my original work and it has not been presented for the award of any other Degree, Diploma, and Fellowship of any other university or institution. This work has also accredited the views of the research participants. To the best of my knowledge, I have fully acknowledged the materials and pieces of information used in the study.

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Certification

This is to certify that the thesis entitled: “*An Assessment Of The Public Transport Accessibility And Affordability And Its Implication On The Livelihood Of The Urban Poor: The Case Of Cherkos Bole Arabssa, Lemmi Kura Sub- City Addis Ababa*” prepared by Minil Taye. It is submitted for partial fulfilment of the requirements of a Master of Arts Degree in Sociology complies with the regulation of the University and meets the accepted standards concerning originality and quality.

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Acronyms	
ABD	Asian Development Bank
AFD	Africa Fund Development
APTA	American Public Transportation Association
CBD	Center of Business District
CSA	Central Statistical Agency
DFID	Department for International Development
ECMT	European Council of Ministers of Transport
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
NMT	Non-Motor Transport
PIP	Policies, Institutions and Processes
SL	Sustainable Livelihood
UN	United Nations
UNDP	United Nations Development Program

Abstract

This study is conducted with the general purpose of describing and explaining the implication of inaccessibility and unaffordable on the livelihood of urban poor in Bole Arabssa, Lemmi Kura sub-city Addis Ababa. To answer all the specific objectives, the research designs use both qualitative and quantitative nature. Moreover, particular methods of research, i.e. key informant and in-depth interview, participant observation and survey are employed in the study to answer the specific objectives. In implementing the survey method, a questionnaire was developed and administered to a total sample of 200 household heads are select. As the finding indicates, a household's source of livelihood majorly is from Salary, self-employed informal and self-employed formal. Peripheral urban households' sources of livelihood are salary and remittance, pension and house rent. To secure their source of livelihood and to perform work, households preferred Sheger Express Bus and Minibus public transport. The economic and social activities of peripheral households are in the central part of the city, thus households expected to travel more than 16km from home to the workplace. To reach the workplace the majority of households travel around 1-2 hours and late afternoon travelling hours will be double. To access the Bus terminal households must walk 2-3km. To get public transport, households waste 2-3 hours per day. Moreover, due to traffic congestion households exposed to illegal fare tariffs and a decrease in income. Public transport's security implications are verbal harassment, physical abuse and loss of material. These problems are the result of weak Public transport regulators because they are unable to control illegal traffic increment and unable to manage the distribution of public transport accordingly to population size. On average households paid 31-45 birrs per day. This amount is not affordable with low households' monthly income, but they should pay because they do not have an option. The Household's last option Households is to change resident location and workplace, find permanent employment and invest adequate time. Moreover, households take cut social journeys and travel strictly for essential trips as a solution to the increment of transport fares.

Key words: Public Transport, Accessibility, Affordability, Livelihood, Urban Poor, Bole Arabssa.

Chapter One

2. Introduction

2.1. Background Of The Study

Transport is the engine of social and economic activities. City residents require fundamental public infrastructure and services that facilitate their geographical mobility and daily economic and social activities. Providing a competent and efficient transportation system is vital for the urban poor, especially in the modern era of globalization and the information age (Fantahun, 2012). Because this development helps residents can save money and improve individual performance in the labour market (Saif et al. 2018), contribute a lot to households can access to employment and income-generation opportunities, education, health, and social networks (Sohail, 2005).

Addis Ababa is a rapidly growing city in its population size and un-orderly peripheral expansion. This city faces social and economic problems that could hinder the achievement of its development goals. These problems include rapid urbanization, unemployment and social vulnerability (Demelash, 2007). In addition, Addis Ababa's city population has increased by more than double every decade since the 1980s and expecting to reach about 7 million inhabitants by 2025. This growth brings fast horizontal expansion is large uncontrolled in city planning and infrastructure (African Transport Policy Program, 2018).

In addition to fast horizontal expansion and uncontrolled city planning, Bird and Franklin (2015) stated that the government is building thousands of condominium houses in a year. These new houses are bought-to-own, and opportunities to distribute by a public lottery into which all program registrants enroll. However, improving living conditions by relocating residents to peripheral expansion has come at the cost of connectedness, density and inclusiveness. These newly planned condominiums are far from the city center, and relocation could disrupt existing livelihood activities and social networks that are essential to work informal economic activities and reduce access to employment and market opportunities.

By understanding residents' commuting beyond their local neighborhood to perform socio-economic activities and increment transport fares in the city, the government has provided public and private transport for residents. World Bank Group (2015) stressed that efforts require ensuring peripheral growth is orderly and that viable and affordable transportation options exist. These include moving quickly to establish mass transport skeletal services to shape metropolitan growths. The public transport services and systems designed to meet citizens' mobility requirements, rather than to operators' profit expectations or planners' imaginations. However, transport goal requires reasonable balancing, and service quality is calibrated accordingly payment capacity of users and the community.

Because one of the Sustainable Development Goals (SDGs, 2030) of the United Nations to achieve a more sustainable and peaceful world by 2030 is 'Make cities and human settlements inclusive, safe, resilient and sustainable. The specific target of the UN in the Transport sector by 2030, provide to access safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons (cited in Gruyter et al. 2016:1).

Policies for Sustainable Accessibility and Mobility in Cities of Ethiopia in 2018 stated that strengthening the institutional mechanisms for enhanced coordination in the planning and management of transport systems. In addition, establishing effective regulatory and enforcement mechanisms allow a level playing field for all operators of transport services and enhanced safety for the transport system users. Encourage greater use of public transport and non-motorized modes by offering Central financial assistance to residents. However, the service provider is not good enough as the demand is much greater than the supply. The population and the number of passengers are increasing, while the service is not growing as expected (Mintesnot and Shin, 2017). Still, this is practically true in Addis Ababa city. Because the frequency of public transport is very slow, the fare has an increment and regularly violated, and long parades still challenge the periphery residents. The existence of these problems and the government offering services for public employed inspired me to work research. What is the implication of accessibility and affordability of public transport on peripheral urban poor

households' livelihood? This study has investigated the direct and indirect cost of transportation with the broader socio-economic implication on households' work and livelihoods.

2.2. Statement Of The Problem

The streets of Addis Ababa are a witness to a unique sort of battle every morning and late afternoon as the citizens of the city fight for transport. In addition, accessing and mobility in Addis Ababa City is very difficult from year to year since road networks, transportation service modal choice and transportation affordability are not linked with urban ever-expanding and rapid population growth (Transport policy of Addis Ababa, 2011).

Kelbesa et al. (2017) pointed out the factors that affect the accessibility of the Anbessa Bus service through the analysis of the stakeholders' opinions. They found out inadequate infrastructure, poor transport operation and ineffective performance of service providers have resulted from the inaccessibility of services to the users.

In addition, Yetnayet (2012) shows that there are inadequate levels of infrastructure in part of the current road network of Addis Ababa particularly the peripheral areas suffer from a lack of roads and there is a spatial mismatch.

Demelash (2007) analyzed public transport performance using efficiency measures and spatial analysis. The study finds out Anbessa organization is poor, and the route network has deficiencies to make equal spatial accessibility of the service difficult. Moreover, Tessema (2017) studied the lack of accessible means of inadequate travel creates social exclusion for many disabled people.

However, researchers overlooked and paid little attention to the socio-economic implication of inaccessible public transport and high transport fare on the resident of the city in the fringe area. The practical experience of urban poor households to access their work and livelihood, health facilities and school by using public transport has not seen in detail. Moreover, the reaction of urban poor households to the increment of public transport fares and challenges of accessible public transport is not studied.

The purpose of this study is to investigate public transport accessibility and affordability and its implication on work and livelihood of urban poor living in condominiums located in the peripheral areas, the subject that overlooked by the previous problem. This thesis will be contributing to filling this knowledge gap by answering the following research questions.

2.3. The Objective Of The Study

2.3.1. General Objective

The general objective of the study is to understand and analyze the implication of accessible and affordable public transport on the livelihoods of the urban poor living in the peripheral areas of Addis Ababa city.

2.3.2. Specific Objectives

The study includes the following specific objectives:

- ❖ To examine means of transportation preference by different Socio-economic groups.
- ❖ To analyze the availability and accessibility of public transportation to the urban poor living in condominiums located fringe of the city.
- ❖ To estimate urban poor households' average daily transport expense to access their work and livelihood.
- ❖ To explore coping strategies of urban poor to challenge public transportation accessibility and affordability shocks and stress on their work and livelihood.

2.4. Research Questions

1. What is the extent of availability and accessibility of public transport to poor households living in condominiums located in the peripherals of the city?
2. What is an estimated average daily transport cost spent by residents of the peripheral condominiums?
3. What are the coping strategies of urban poor households to the inaccessible public transport and high transport fare impact?

2.5. Significance Of The Study

This study helps to understand the challenges of accessibility and affordability of public transport to poor residents of peripheral areas. It provides evidence of the amount of time and money poor households spent daily on transport and informs city administrators and urban planners about the financial burden of poor residents and their daily wasted time waiting for transport. The finding will help policymakers and academia review the purpose.

2.6. Scope Of The Study

Thematically, this study was conducted on the implication of accessible and affordable public transport on the livelihoods of urban poor in Bole Arabssa condominium, Lemmi Kura sub-city, Addis Ababa. It is limited to finding out urban poor households' practical experience related to public transportation accessibility and affordability and its practical implication on urban poor work and livelihood.

Geographically, this study has been conducted in Cherkos district in order to assess accessible and affordable public transport impact on urban poor work and livelihood and explore employed response strategies to inaccessible and unaffordable public transport service. The study is going on target the urban population in Bole Arabssa peripheral condominium as the main target of population.

2.7. Limitation of the study

The thesis attempts to assess the implication of public transport accessibility and affordability on the livelihood of the urban poor. Although during data collection, households were not find their hone was the challenge of this study.

2.8. Organization of the thesis

This study organized into five different chapters. Chapter one provides a general introduction of the study, statement of the problem, objectives of the study, research questions, the significance of the study, the scope of the study, limitation of the study and conceptual definition of the thesis. In chapter two, the studies that deal with a review of related literature,

empirical literature and the conceptual framework presented and discussed in detailed. The third chapter organized by describing the study area, presenting justification of site selection, study design, methods of data collection, sources of data, method of data analysis and Ethical consideration. Chapter four demonstrates the data analysis, presentation and discussions accordingly research objective. Finally, chapter five presents a summary of the findings, conclusions and recommendations of the study.

2.9. Conceptual Definition

The researcher has provided the following concept definitions to ensure uniformity and create a common understanding throughout the entire paper.

Transport: - is a means of conveying people or goods from one place to another (Meron, 2007).

Public Transport:- defines as a shared passenger transport service which includes all modes available to the public, irrespective of ownership (White, 2009) and FDRE Transport Proclamation No. 468/2005 Act.20 defines “Public Service Vehicle” means a motor vehicle used to carry passengers and classified as the commercial motorcar and motor omnibus. However, it excludes other passenger services such as mini-taxis, private hire services, and tour and charter buses.

Household: - Constitutes a person or group of persons irrespective of weather-related or not, who normally live together in the same housing unit and who have common cooking arrangements (CSA, 2012).

Transport Affordability: -refers to the financial burden households bear in purchasing transportation services, particularly those required to access basic goods and activities such as healthcare, shopping, school, work and social activities (Litman, 2016:5). However,

Unaffordable Transport: - is the inability to meet the cost of transport to key activities such as employment, education, health care services, shops so on due to a lack of financial resources (Crisp et al. 2017:12).

Transport Accessibility: -refers to peoples’ ability to reach goods, services and activities with a reasonable fare, time and safety (Crisp et al. 2017). While

Inaccessible Transport: - is the difficulty of reaching the place where activities are available with a reasonable time and fare (Crisp et al. 2017).

Livelihood: - the conventional definition is ‘the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. A livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, provide Sustainable Livelihood opportunities for the next generation; and contributes net benefits to other livelihoods at the local and global levels and in the long and short term’ (Chambers and Conway, 1992). Hence in urban areas livelihoods are drawn from labour markets within non-agricultural production or making/selling goods or services (Farrington et al., 2001).

Public Transport Safety: -being safe from crime, abuse, and violence on both motorized and non-motorized transport.

Practical Experience: - real situation of households to the impact of accessible and affordable public transport service

Copying Strategies: -these are a reactive response to shocks for short-term problems and long term through diversifying their source of income (Farrington et al. 2002).

Marshals: - are self-appointed as Minibus terminal management or Tera Askebari, literally taxi-order attendants.

Chapter Two

5. Review of Related Literature

5.1. Urban and Transport

Urbanization has been one of the dominant economic and social changes of the 20th century, especially in the developing world. Fundamental changes have been observed in the socio-economic environment of human activities. The drive for urbanization is a complex mix of economic, demographic, and technological factors. The growth in GDP per capita is a dominant driver of urbanization, while it has been supported by corresponding developments in transportation systems (Rodrigue, 2020).

Within this context of the increase of urbanization, the agenda for urban development contains three key challenges as Roberts et al. (2000) explicitly mentioned that ameliorating poverty requires an increase in the demand for labour (perhaps through encouraging labour-intensive measures), investing in health and education, and providing 'safety nets' and compensatory payments to redress transitional problems. The second is, that enhancing productivity is constrained by the extent and provision of urban infrastructure, the regulatory environment for the provision of infrastructure and services, the administrative capacity of local government, and the sourcing of finance. The third is safeguarding the environment, including aspects such as road safety, which is of concern because it impacts directly on individual performance and productivity, and is connected to urban poverty.

Improvements in access to employment opportunities, healthcare, schools and transportation are means of addressing this urban agenda. Rodrigue (2020) argued that the evolution of transportation has generally led to changes in urban form. The more radical the changes in transport technology, the more alterations to the urban form will occur. Among the most fundamental changes in the urban form is the emergence of new clusters in peripheral areas expressing new urban activities and new relationships between elements of the urban system. Then, many cities are assuming a polycentric form of change associated with new mobility patterns.

As Roberts et al. (2000) viewed that policies' targeted interventions (like schools, health clinics, social services, etc.) are dependent upon transport for their effectiveness. They argue that there is a need to strengthen the direct role of transport policy intervention to help reduce poverty. Faiz (2011) stated that the urban poor lives in many deprived areas including limited access to employment opportunities and income, inadequate and insecure housing and services, violent and unhealthy environments, few social protection mechanisms and limited access to health and education services.

City planners in recent years become more interested in refocusing policy to reduce the adverse effects of motorization on the quality of life in inner-city areas and on the poor. Policies have promoted safe cycling and walking such as new cycleways, pedestrian-only streets and green spaces (Copenhagen, 2013). Other measures have included the integrated planning of public transport and measures to promote more mixed land use so housing, jobs and green spaces are brought closer together (UN-Habitat, 2013 cited in Starkey and Hine, 2014).

The most visible indicator of poverty in many cities, especially in the developing world as, Faiz (2011) stated in the presence of slums and squatter communities. As cities expand spatially, poor people are compelled to live in inner-city slums or on the urban periphery. The spatial configuration of urban areas often shows concentrations of the urban poor in inner-city areas where old and dilapidated housing could rent cheaply, or on the urban periphery because of government resettlement programs or spontaneous settlements set up by squatters forced out of or evicted from inner-city locations (UN-Habitat, 2013).

Urban transport interventions are overwhelmingly designed to address the problems of urban congestion and the rapid increase in urban car density. In this case, the main beneficiaries are not the urban poor but are much more likely to be the rich and middle-income sections of the population (Starkey and Hine (2014). The poor may benefit from the changes, although often the reverse is the case, particularly with new road building, severance and resettlement.

Thus, the trade-off between housing and transportation costs is central to the earliest models of urban form in idealized cities and the most recent integrated transportation and land-use models of actual cities. These models provide useful frameworks for understanding development patterns and the potential effects of land use and transportation policies

(Duranton and Guerr, 2016). Following, the expansion of the city, increasing population size coupled with the economic growth has required respective transport service supply for the increasing mobility needs of the People (Transport Policy of Addis Ababa, 2011).

5.2. Transport Policy

Policy, Institution and Process (PIP) has a key concern on households' livelihood. The impact of policies and the ongoing linkage between the poor and city institutions are significant in determining their access to resources and decision-making. The other ongoing process that impacts livelihood in cities particularly quickly growing cities is that of urbanization (Farrington et al., 2002).

In the least developed countries like Ethiopia, transport policies have been poorly designed and implemented. A good policy, for instance, wishes to guide the ongoing process of structural transformation (i.e. the movement out of agriculture into industries and services) with interventions in the transport sector. Because, the fast pace of urban growth currently occurring in Ethiopia, requires massive transport infrastructure investments. Since Ethiopia has a low state of development of transport networks, the transport sector faces issues of weak governance that affect the provision of transport services (Starkey and Hine, 2014).

Implementation of transport policies in African countries faces several challenges, the first is obtaining funding for transport infrastructure investments is difficult in contexts of scarce resources and limited fiscal capacity (Sperling and Claussen, 2004). This is exacerbated by the fact that the construction of infrastructure is particularly costly in developing countries given non-competitive procurement (Estache and Iimi, 2009) or corruption (Collier et al, 2015). Another challenge revolves around the politics that underpin transport investment choices and the resulting allocative inefficiencies. Ethnic favouritism and political clientelism influence the placement of road investments (Blimpo et al, 2014).

Recently transport policies are understood the effectiveness of price incentives in shifting people towards greater public transport use by improving the quality and capacity of that network (Sperling and Claussen, 2004). The policy needs to be combined with non-transport policies to produce the intended effects. For example, urban renewal programs may require both transport investments and neighbourhood investments (Brand and Dávila, 2011).

To enable this, all urban development and planning bodies in the city would be required to have in-house transport planners as well as representation from transport authorities in their management. Because as DFID (2003) argued that the transport planning process can be complemented by a better understanding of household activity patterns, and the impacts and implications of travel on livelihoods. Such an understanding offers several benefits in the planning process to participating in both the transport sector and cross-sectoral particularly in respect of the urban poor who are so reliant on public and non-motorized transport (e.g. bicycle and walking) for mobility and access. Then this process helps to move and understand how activities are managed within households and how they influence transport use and needs. This helps to establish the role of transport in servicing other sectors, notably health, education and employment; and hence how transport can be developed to support these other sectors. Finally, better knowledge of how individuals, households, and communities order their activities will help to predict the impacts of transport developments on their livelihoods.

5.3. Urban Public Transport

Public transport is a strategic means of achieving a sustainable transport system, Starkey and Hine (2014) stated that the main task of public transport is to provide an accessible and efficient transportation system for everyone to reach work, education, and health care services, cultural and leisure activities. To provide this service actor such as the municipalities, county and state authorities, as well as the private sector works differently in collecting and analyzing quantitative information about the service.

Urban transport can play a pivotal role in poverty reduction, given its symbiotic relationship with the urban economy-indirectly, through economic growth, and directly, through its impact on the needs of the poor (Faiz, 2011). Urban public transport provides a range of employment opportunities for the poorer sections of the population but the jobs are almost exclusively for men (Starkey and Hine, 2014). In cities with low car-ownership rates, public transport becomes the main mechanism to articulate urban structures and provide access to the territory within goals of sustainability (Guzma and Ovied, 2018). Poor neighbourhoods often suffer from the lack of affordable access to public transit. Transport subsidies are widely used as a direct intervention to help the poor, especially in urban areas, but they are difficult to effectively

target and vulnerable to misuse and capture by the wealthier parts of the population and are often not financially sustainable (Gannon and Liu, 1997).

Public transport represents a particularly important physical common-property asset to the urban poor. Due to long distances between homes, workplaces and services in urban areas non-availability of public transport can considerably limit the livelihood strategies of the poor – for example, job opportunities and access to marketplaces. Equally, good provision can enhance livelihood profiles and enable the poor to develop and broaden their asset base. The available literature makes clear that there is a continuing problem in respect of the access and mobility of the urban poor – unacceptable travel conditions, high cost, and long journey times and the poorest may not even have access to public transport (Fouracre et al., 1999).

5.4. Pro-Poor Urban Transport Options

According to Sperling and Claussen's (2004) suggestion, there are examples of successful pro-poor urban transportation initiatives in the developing world that use planning and transportation investments so that businesses and homes were closer to public transportation networks. It also discouraged car ownership by placing high registration fees on vehicle purchases. For instance, Shanghai has coordinated land use and transit planning and provided infrastructure for bicycles and pedestrians to promote the use of non-motorized alternatives. Like this, the Ethiopian Non-Motorized Transport strategy 2020-2029 wants to improve the convenience, comfort, and safety of walking and cycling and reduce the demand for travel by personal motor vehicles, helping to alleviate the critical traffic challenges facing many cities. Despite the widespread use of non-motorized modes, transport planning and the provision of infrastructure in Ethiopian cities have been largely car-cantered, underestimating the importance of NMT. Many streets lack continuous walkways and safe facilities for cycling.

Regarding transport options, Faiz (2011) endorse that equitable management of the spatial dimensions of cities and urban growth can change the dynamics of income disparity in cities. Because transport services are a key component of the larger urban services bundle. So, the delivery of safe and affordable transport services to all segments of society is becoming increasingly critical to reducing poverty and ensuring service delivery to the poor. Moreover, Roberts, Fouracre and Maunder (2000) recognized that the urban poor is the centre of this

environment because they are so dependent on public transport. The very poorest of the urban poor, together with other transport disadvantaged like women and children have the challenge to access public transport to meet their access and mobility needs.

To allocate public transport, Starkey and Hine (2014) stated that conventional bus routes, frequency and pricing control a major part of transport provision in most towns and cities of the world. These operations are encouraged by governments through fare controls and by giving concessionary fares to children, students, the elderly and the disabled. Subsidies are common. Public transport in developing cities like Addis Ababa is characterised by the wide range of vehicle types in use (from rickshaws to metros) and the services offered. Despite this variety in type, Fouracre et al. (1999) identified that the most provide services are buses with fixed routes and fares and a taxi-like service where the hirer of the vehicles determines the route and the charge is metered or bartered. Most public transport services are road-based and this looks likely to remain the case in the future.

Urban transport investments have served mainly to increase the road capacity for automobiles, often at the expense of travel modes used by the poor. There has been little or no focus on urban transport plans to improve quality for non-motorized users e.g. pedestrians and cyclists. Rickshaws and Pedi cabs are the major sources of employment for the urban poor, yet they are repressed, eliminated and neglected by municipal authorities (Wegelin and Borgman, 1995). This is partly linked to perceptions of modernity. In other words, motorized equals “modern” in the minds of some urban planners and richer, more influential urban dwellers. Especially upwardly mobile groups see Non-motorized transport such as bicycles, as backward and unappealing. There are other constraints, such as unsafe operating conditions, and the high price of some means of non-motorized transport relative to income (Booth et al., 2000).

The major modes of public transportation in Addis Ababa are the Anbessa bus, minibus taxis, star alliance bus, higher mini-bus and salon taxi. In addition, public service buses, white minibuses and cross-country buses are serving the city (Mulu, 2015). These providers are hardly able to cope with the public’s demand for transportation. Thus, residents of Addis Ababa have to face great inconveniences, as well as additional costs to the daily trips to their destinations (Tilahun, 2014).

Thus as Booth et al. (2000) have seen that for urban poor neighbourhoods, the cost and availability of transport to work is a major determinant of their ability to participate in labour markets. Subsidized public transport is the solution urban poor can afford the fares because the services do not reach peripheral areas or neighbourhoods where the poor living.

5.5. Public Transport Regulators

The objective of urban transport policy is to ensure safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and other needs within cities. When the infrastructure is in place, the operation requires scarce funds or is hindered by inefficient management (Bogart and Chaudhary, 2012; Lowe, 2014), non-competitive market structures of service providers (Lall et al, 2009) or excessive regulations (Combes and Lafourcade, 2005), which further drives up user costs. These non-physical costs may represent a significant share of total transport costs particularly in African countries (Teravaninthorn and Raballand, 2008).

In urban transport regulation and management, Starkey and Hine (2014) purported that a major constraint to the development of better urban transport in developing countries is the political will and administrative capacity of urban areas to deal with the issues. Too often a range of different institutions is responsible for dealing with different aspects of urban transport, that include the local roads, trunk roads, land use planning, bus services and rapid transit services. In some cities, several different local authorities may be responsible for various parts of the same city. To help overcome these difficulties unitary authorities have to be established. Because sufficiently larger transit system can help to provide a lower boundary to road traffic speeds. However, feeder services (buses, minibuses and intermediate means of transport and cycleways) are likely to be needed in suburban areas to take passengers to and from the transit stations and their final destinations.

5.6. Urban Poor Activities Pattern

Cities have been called the ‘locomotives’ of development, so they must remain attractive places to work and invest in (World Bank, 2008). Indeed most new factories and offices are located in or near cities so that they can make the most use of the diverse skills and the abundant labour. In most countries, the larger cities have higher income levels. There are

important economies of agglomeration at work. Cities provide an opportunity to exploit economies of scale in production, the benefits of specialization, the development of industry-specific skills in one location, better opportunities for innovation from observing and adapting ideas from others, and the advantage of buying and selling in larger markets. Once industrial techniques are perfect in central locations, production is often pushed out to smaller towns and cities where land rents are cheaper (World Bank, 2009).

In new urban construction, new residents also influence the character of a place. Residents' location selection is affect road congestion and, in some instances, the quality and quantity of public transport provision. These political forces and economic externalities lead to suboptimal and often inequitable outcomes, which in turn call for corrective policies that they refer to broadly as urban planning. The situation in the peripheral area shows that the absence of urban planning can lead to disastrous outcomes (Duranto and Guerra, 2016).

Nevertheless, governments have the responsibility to improve access to jobs for the most disadvantaged. This is the link with the design of transport policies aiming at closing the access gap between residents. The goal of increasing access to economic opportunities can be instrumental in reducing poverty and improving quality of life, available mechanisms for doing so are often impaired by financial constraints both on the demand and on the supply side of urban transport (Guzma and Ovied, 2018).

Urban poverty manifests itself through the spatial segregation of the poorest areas characterized by inadequate public services and deficient infrastructure, where the provision of mass transportation is inappropriate in terms of price as well as availability. These limitations constrain income and employment opportunities for the urban poor because of a lack of mobility and access. The urban poor is a force to restrict their travel to essential trips related to work, education, and shopping (Gomide, 2008).

5.7. Accessibility Of Public Transport

Duranton and Guerra (2016) argued that accessibility is the main urban issue to consider from a resource allocation standpoint since it links the two primary urban consumption goods: land use and transportation. Because according to Hagans and Colin (2013) pointed out that households in many developing countries devote half of their spending to housing and

transportation. Limited understanding reflection regarding accessible transportation policy impact and a failure to acknowledge the importance of these impacts lead to poor urban policies that fail to allocate goods to urban transportation either efficiently or equitably.

Accessibility measurement could be related to land-use and transport systems that enable individuals to reach activities or destinations using a combination of transport modes (Geurs et al., 2016; Geurs and van Wee, 2004), and mainly improving access being put forward as the goal of transportation policies.

Accessibility is the ultimate aim of mobility; however, more mobility does not equal greater accessibility. From an accessibility standpoint, improved mobility by any mode is considered desirable only to the extent that it furthers accessibility. For this reason, it is important to recognize the association between mobility and accessibility. Lack of access to affordable motorized transportation limits mobility, especially in big cities, and this lack of mobility constrains access to employment and education opportunities. Travel by the poorest segments of the urban population is often confined to walking or at most bicycling, as the weather and topography permit (Faiz, 2001).

The concept of accessibility approach In ‘global south’ would mean that transport planners should consider transport provision concerning other areas of social policy delivery such as housing and access to activities, for example, employment, marketplaces, healthcare and education (Pinto de Freitas, 2005; Porter, 2014). There is also more of a compelling need to consider the service quality and safety dimensions of people’s travel experiences, whether by public transport or non-motorized modes, as well as the temporal dimension in terms of long travel distances, both to and from transit services and also while walking.

City growth and rising incomes are accompany by a rise in trip length, and a rise in movements, particularly to the inner core area of the Central Business District (CBD). Inevitably, this leads to congestion and the need to increase transport capacity, particularly in the CBD and the major corridors. City growth also leads to a rise in more complex journeys as people find work or go to school in other areas of the city outside of the CBD (Starkey and Hine 2014).

According to Gakenheimer (1999) opinion motorization, urban sprawl, and declining modal share of public transport constitute a vicious cycle and, as a result, mobility and accessibility are declining rapidly, particularly in big cities of the developing world.

Transport times are not dead times. Indeed, if we think of means of transportation as full-fledged places, we must think of transport time as occasioning meaningful individual and social conduct (Schoenfelder and Axhausen 2010; Urry 2006). In studying how bus journeys are experienced, for example, Jain (2009) finds that individuals are not passive consumers of travel, but instead literally make the journey what it is by employing different strategies throughout the processes of departing and waiting. By manipulating the changing rhythms of travel through diverse activities, and by performing – rather than merely absorbing – the flow of temporality along the way is the journey (Phillip, 2010).

Unequal patterns of mobility are the structural outcomes of differential bodily ability, age, ethnicity, class, gender, and region of residence (Bissell 2009; Cresswell and Uteng, 2008; Ohnmacht et al. 2009). These patterns shape, for instance, who can benefit from public transit (Hine 2007; Raje 2007) and who is in the economic position to travel faster and more safely (Phillip, 2010).

In addition, Stark et al. (2014) raised that access by the urban poor to employment, schools and other facilities depends on a range of factors:-

- the location of their housing
- the distance and location of work opportunities and other facilities
- the location of local transport infrastructure, including roads and transit facilities
- the service density of public transport
- the gender, age and any disabilities of those concerned
- Public transport fare levels and available income for transport.

5.8. Public Transport Fare

Affordability refers to people's ability to purchase essential goods and services. Transportation affordability refers to people's ability to purchase access to important services and activities, such as medical care, basic shopping, education, employment and social activities (Litman,

2008). A wider range of movement creates economies of scale and provides access to more diverse markets. However, high-cost transport equates to geographical, social, and economic isolation, which is a hindrance to the poor. In urban areas, poor neighbourhoods often suffer from the lack of affordable access to public transit (Fiaz, 2011).

Transport costs can represent a heavy burden for household expenditures, particularly in low-income households. The poor invest an important part of their income in their commutes, which restricts disposable income for other travel purposes and activities. Lack of transport can translate into difficulties in access to social life, education and health facilities and economic opportunities. Low-income workers have a pressing need for adequate and affordable transport services. Therefore, the development of an improved understanding of these travel behaviours and their impacts on access to opportunities should become a priority in current research and policy agendas (Guzma et al., 2018).

Many planning decisions affect transportation affordability. Land-use planning decisions affect the location of services and activities, and transport-planning decisions affect the quality of travel options in a community. These factors, in turn, determine how far people must travel to access services and activities, how many vehicles households own, the feasibility of using more affordable travel options (such as walking, cycling, ridesharing and public transit), and total transportation expenditures. Planning decisions that increase accessibility and improve travel options tend to increase affordability (Litman, 2008).

In a resilient urban, Starkey and Hine, (2014) recommended that non-motorized transport, particularly walking and cycling, remains an important part of urban transport. For many years, cities in India and China have had a high proportion of trips made by bicycles. Commercial cycle rickshaw services have also been common. In recent years, particularly in Europe, there has been a range of measures to promote the use of bicycles. However, despite the demand, there has not been the same support for non-motorized transport in many cities in Africa and Asia. Cycle routes are largely non-existent and there is a huge lack of pavement space for the walking public. In many inner city areas are occupy by parked cars, traders, building materials and other obstructions and, as result, pedestrians end up walking on the road. In outer areas, roads may have no pedestrian pavements at all.

Moreover in Colombia particularly in Bogotá and Soacha (the most populous neighbouring municipality), public transport supplies the largest share of the demand of low-income populations, excluding walking and cycling. Unfortunately, one of the main characteristics of Bogotá's transport structure and that of cities with similar public transport systems is that fares for public transport services are designed to cover the entirety of operating costs (Hidalgo and Gutierrez, 2013). As it is nearly impossible to make fares both affordable and financially sustainable, transport fares tend to become too expensive for the city's poor (Rodriguez et al., 2016). To balance the needs for economic and social sustainability, some cities have tried to implement targeted transport subsidies for specific segments of the population. However, these policies are yet to gain sufficient traction at the international and national levels to become a mainstream response to widespread affordability concerns for low-income communities throughout cities of the Global South (Guzma et al., 2018).

Since affordability refers to a household's ability to save money, it is particularly evident in the expenditure patterns of lower-income households, and their response to financial constraints such as reduced income or new cost burdens; for example, public transit services tend to provide affordability because they provide a fallback option to lower-income commuters when their vehicles are unavailable. Although cost savings may benefit all income classes (even affluent travellers appreciate cheaper fuel for their limousines and discounts on first-class airfares), only savings for lower-income households can be considered increasing affordability (Litman, 2020).

5.9. Urban Public Transport Security

Feelings of personal security and safety can be associated with perceptions of reduced accessibility. This is particularly important in terms of accessing public transport, as the presence and fear of crime affect the decision to use public transport (Yavuz and Welch, 2010). As Liggett et al. (2003) observe, the construction of a new public transport link can also heighten fears that crime will be increased in station neighborhoods.

The issues surrounding safety and security also relate to another social impact of transport, the aversion to particular forms of travel behaviour. As Cozens et al. (2004) assert, the perception of risk from crime at public transport stations harms patronage levels, and so an important part

of a successful modal shift would necessarily involve addressing concerns about crime. As Loukaitou-Sideris and Fink (2009) describe, there are important gender differences in the perception of fear and personal safety at public transport stations, with women more likely to limit or alter their travel behaviour based on their fears and concerns as passengers. Yavuz and Welch (2010) outline five key issues in this regard: adequate lighting and visibility at transport stops and stations; the appearance of trains and stations (e.g. cleanliness); reliability of service; the presence of CCTV cameras versus police officers (with women preferring the latter); and previous experience with crime. Markovich and Lucas (2011) mentioned that other socioeconomic factors connected with older men and women; people with disabilities; people of low income; and visible minority groups are more likely to be fearful of crime at transport stations.

Crime and the fear of it will be impact negatively on livelihoods as Booth et al. (2000) stated that a reduction in material assets occurs due to theft and fear of theft of valuable assets will act as a barrier to ownership of, for example, bicycles. Physical attack is not only traumatic but may influence negatively human capital, e.g. a person left psychologically or physically unable to work in the same way that they did before. Fear of theft, attack or harassment on public transport will deter the use and curtail freedom of movement. This will affect people's ability to travel to their place of employment or access services. This is particularly so for women, Kaur (2000) concludes that there is, therefore, a need to make public transport safer so that women's economic opportunities are not adversely affected

Women may also face issues of sexual harassment when travelling on public transport and they may feel more vulnerable when walking or waiting for transport at night in poorly lit areas (Starkey and Hine (2014)). In general, poorly maintained transport infrastructure is linked to multiplying crime e.g. poorly lit areas make some areas perilous at night, lack of effective enforcement of road rules, harassment on public transport etc. In areas with heavy traffic, there are fewer pedestrians and therefore a lack of informal surveillance, which increases the risk (Booth et al., 2000).

5.10. Empirical Literature Findings On Accessible And Affordable Public Transport On The Livelihood Of Urban Poor

In sub-Sahara Africa, a study conducted by Anciaes et al. (2014) that Public transport and livelihoods in a fast-growing lower-middle-income city in Praia, Cape Verde. They found out the growth of population and income leads to greater diversity in neighbourhood types including suburban developments, satellite towns and redeveloped or gentrified neighbourhoods. These changes in land use tend to increase the inequality of access to infrastructure and amenities. As a result, insufficiencies of the public transport supply are limited access to employment and services for women and poorer households and have an impact on the quality of life of older people.

Kgatjepe and Ogra (2016) studied the Sustainable Transport for Urban Poor: A Case of Johannesburg. They found out that the affordability of transport is influenced by local planning and inflation rate and an increase in fuel price. In addition, they mentioned influencing factors of affordable transport such as daily household and work responsibilities, Special needs, physical and mental disability, and residential location. This has negative financial consequences because households on the periphery end up spending almost half of their salary on transport.

Nyarirangwe and Mbara (2007) studied public transport modal choice, affordability and perceptions of commuters in an unpalatable economic environment the case of urban corridor Harare (Zimbabwe) revealed that the availability of different modes, which include conventional buses, midi, and minibuses, the public transport system is increasingly becoming inadequate, inefficient, unreliable and unaffordable. The choice of the public transport mode to use is depended on both quality and affordability. By increasing, public transport fares, the spectrum of choice has expanded to include non-motorized means of transport such as cycling and walking.

Another study conducted in Victoria; South Africa by Litman (2017) found that transportation unaffordability is a significant economic and social problem. It constrains people's economic opportunities (for example, the ability to access education and employment opportunities), and forces households to spend an excessive portion of their budgets on transport, limiting their

ability to purchase other essential goods. Moreover, Jaco (2017) assessed the impact of public transport affordability on subsidy allocation in Cape Town and he find out the impact of public transport affordability on subsidy allocation is characterized by high commuting costs and high travel times due to a spatial mismatch between housing and jobs, because of apartheid planning policies in South Africa.

In Addis Ababa, research by Mulu (2015) finds that the increasing population size and physical expansion of Addis Ababa largely contribute to the demand for public transport. However, the existing public transportation system could not satisfy the demand. Moreover, the insufficient finance for investment by the government and the limited participation of the private sector in the service has also contributed to the deficiency of transport supply in the city.

In another research conducted on the challenges of transportation for people with disability, Tessema (2017) discovered that a lack of accessible means of independent travel creates social exclusion for many disabled people. This study confirmed that transportation is an extremely important social policy issue.

Mintesnot and Shin (2007) studied on Diagnostic Evaluation of Public Transportation Mode Choice in Addis Ababa. They discovered the existing public transportation is of low quality because of the limited number of buses and taxis, poor management, and bad behaviour of drivers. The result shows that citizens' perceptions of the three chosen bus condition aspects (fare, convenience, and frequency) have a significant influence on public transport mode choice

Moreover, Kelbesa et al. (2017) studied on Accessibility of Anbessa City Bus Service in Addis Ababa, Ethiopia: An Analysis of Stakeholder's Opinions. They found out that inadequate infrastructure, poor transport operation and ineffective performance of stakeholders have resulted in inaccessible service to the users.

5.11. Conceptual Framework

The following diagram shows the relationship between the different variables. It provides a conceptual framework for guiding the study. It is drawn from this research literature review and by reading various works of literature.

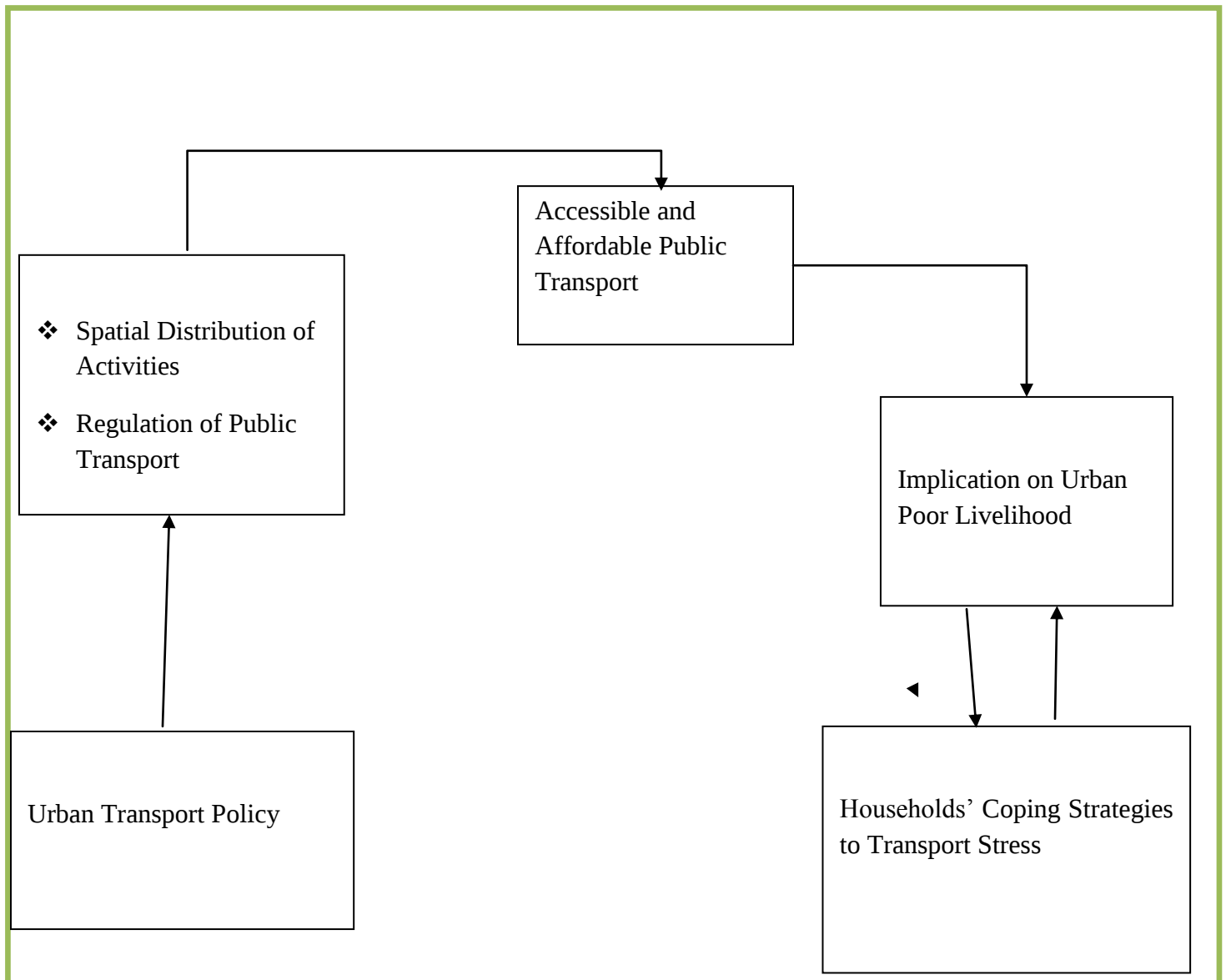


Figure 2.1: Researchers' Draws Conceptual Framework

Urban transport policy: focus on the key policy measures that are needed to improve regional connectivity; improve governance of the transport sector and establish the best institutional frameworks at the city level to improve the transport sector efficiency.

Spatial distribution of activities: City growth and rising incomes are accompanied by a rise in trip length, and a rise in movements, particularly to the inner core area of the Central Business District (CBD). Inevitably, this leads to congestion and the need to increase transport capacity, particularly in the CBD and the major corridors. City growth also leads to a rise in

more complex journeys as people find work or go to school in other areas of the city outside of the CBD. This has implications for public transport as more people need to travel on different transport routes and various means of transport (e.g., buses and minibus) to reach their destination.

Transport regulations: Formal public transport by conventional buses where routes, frequency and pricing are controlled forms a major part of transport provision in most towns and cities of the world. Many governments have tried to regulate and ‘formalize’ the informal urban transport sector. In addition, transport regulators are responsible to organize a wide range of transport services. Because coordination is inevitable, a major issue in urban transport from operational and investment decisions and implementation to assist in transport policy formulation.

Accessibility and affordability: Access to transport services by the urban poor to employment, schools and other facilities depends on a range of factors like the location of the home and work opportunities, and the service density of public transport (Starkey and Hine, 2014). Furthermore, the Affordability of public transport is a major issue for the poor. Because households have a range of expenditures to meet their needs and affordability of transport depends on the households’ budget and the costs of meeting those goods and services.

Implication on urban poor livelihood: These are the results of public transport accessibility and affordability impact on urban poor work and livelihood.

Coping strategies to transport stress: These are planning activities undertaken by residents to resist transportation problem pressure and at the same time to enhance their livelihoods. They usually include a range of activities designed to build access to public transport services. This strategy includes coping strategies designed to respond to daily transport problems and adaptive practical experiences which improve access and to able to pay the fare of transport service in the long term.

Chapter Three

6. Research Methodology

6.1. Description of The Study Area

Ethiopian urban population growth is 4% a year. Before answering transportation and housing problems, the level of urbanization increased from 18 % to 30 % over 8 years that is from 2012-2020. This is particularly true in the capital Addis Ababa, where the population was estimated at 2.7 million people in 2007 and around 4 million in 2012. Forecasts estimate that it will reach 7 million inhabitants by 2022 and 13 million by 2030.

The current urban growth is putting increased pressure on urban mobility in Addis Ababa. The municipality has consequently made planning, improving provision and the public transport service's management one of its priorities. Indeed, faced with rapid urbanization, Mass Public Transport takes on a strategic role: it no longer simply aims to meet demand by seeking to adapt to urban sprawl but also to precede and structure it upstream through an integrated and sustainable approach (AFD, 2015).

Lemmi-Kura is one of the ten sub-cities of Addis Ababa and it is located in the Northeastern part of the city, rapidly expanding peripheral areas of the city. The total area of the sub-city is 7952.64 square kilometers. The sub-city population record show, that the total population is 451,631 people and 119,631 household heads from in 2021 Lemmi-Kura sub-city Annual household census report. This sub-city has 10 Weredas and the researcher selected Woreda 4 for this study.

Because the Wereda has been established recently due to the ever-horizontal expansion of Addis Ababa, they are the periphery of the centre. Among the periphery condominium house in Lemmi Kura sub-city, Bole Arabssa 10/90 and 20/80-condominium house is far from the inner city. The housing program recognized that 20/80 of condominium houses are for middle income and 10/90 are for the poorest of poor in the area. However, the poorest of poor households are living on the periphery of the project (10/90). The project has 672 blocks and 21,100 households. However, the 9408 households are of the lower economic class and settled

in two sites namely Cherkos and Project 15 Bole Arabssa. For this study, the sample selected from Cherkos site where 5,160 households live.

As Bole sub-city, Transport Bureau report shows that distribution of public transport for Arabssa residents is 12 Sheger express buses regularly working from Bole Arabssa to Megenegna and 31 public blue taxi Arabssa to Hayat and 15 public taxi zonal work is from Arabssa to Goro. For public blue taxis, the transport bureau does not permit offering a direct service from Arabssa to Megenagna, but taxi operators regularly work from Arabssa to Megenagna.

6.2. Justification Of Study Site Selection

Addis Ababa's suburban population is the result of natural reproduction, in-migrants and the rapid outward expansion of the city (Bird and Franklin, 2015). Inner City's renewal is a pushing factor the city become horizontally expanding and dwellers gentrify to the peripheral. In this process, the urban poor push out the peripheral. After the 2005 national election, the Ethiopian government started a housing development program for houseless residents at a reasonable cost. In addition, the houses were built in the suburb of the city. The city expands most in the North Eastern, South, South Eastern, and South West of Addis Ababa. By understanding horizontal city expansion, the government decided to establish a new sub-city in the Northeastern corridor of the city. This newly organized sub-city is called Lemmi Kura and has 10 woredas.

The site has been built for middle-income and the poorest of poor groups of the city resident. While middle-income households (20/80) floors are located from the gate, the poorest of the poor condominium house is located on the border of the site. It is far even from the bus and taxi station. Public infrastructure and services are limited. There is only one public primary school and public clinic for this huge population, and no supermarket and sports house except the mini shop.

Households to enhance their work performance and sustain their livelihood, accessible and affordable public transport is essential for poor households living in a peripheral condominium houses. However, traffic congestion from Megenagna to Hayat is a typical example of the city. Because all classes push out to the periphery due to urban renewal, programs and the richest have an automobile. To what extent, poor households living in the condominium are exposed to traffic congestion. How much time do they waste waiting for public transport? For daily activities, how much birr they spent for transport from home to work and Vis versa.

Another reason the researcher select the area is, during peak hours public transport operators usual break the normal tariff to charge additional birrs. Following, the area is far from the main business centre of the city and the major sectoral areas, and the newly established residential area is very poor in social infrastructure provisions and economic activities. Does public transport fare affordable for poor residents who is travel five or six-day in a week?

Moreover, in Addis Ababa, city housing rent is extremely expensive in the centre and near to the centre. To find moderate housing rent, poor households are pulled by the peripheral condominium house. Besides, gentrified poor households, lower economic groups are rented houses in the suburb condominium house. If unlawful tariff charges and longer waiting times challenge urban residents to access jobs and social services, what is the practical experience of the urban poor living in peripheral condominium houses? This is the reason the researcher select Bole Arabssa as a study site.

6.3. Study Design

This study employed cross-sectional research methods. The descriptive and explanatory research designs are used because they are suitable to describe and explore the practical conditions of public transport availability and accessibility, and the increment in transport cost encountered by poor residents in the study area. Both quantitative and qualitative research approaches have been used for this study.

Quantitative aspects focus on the data of households' transport waiting time, travel hours, average daily expense and other issues addressed numerically through the research objective. The qualitative approach can help to provide in-depth data about the practical experience of households' vulnerability and reaction to public transport accessibility and affordability problems

Bryman (2004) described that a cross-sectional research design requires collecting data at a single point in time from a sample selected to describe some large population at that time. Thus, this study has employed both quantitative and qualitative research approaches to data collection, because it helps the researcher to study an issue at hand and look at patterns in it within a short time.

6.3.1. Sampling Technique And Sample Size

For this study, the researcher selects the Cherkos Bole Arabssa condominium site. In this study area, there are 5,160 household heads and some residents have transport services. Two hundred respondents are selected by employing the non-probability sampling technique and particularly purposive sampling. Because households work around their home and others may have services. The research participants are households head who travel more than two days a week. Because they feel the challenge and opportunities of public transport accessibility and affordability from their work and livelihood point of view.

To investigate an in-depth interview nine interviewees are selected. To do this the researcher selects four interviewees with their willingness and by asking about travel frequency. To do this, two key informants are selected from block committees' members to help the researcher to collect the interviewees' data. Five-key informant interviewees are experts from Addis Ababa transport bureau, Sheger express bus office, Traffic Management and two from public taxi-order attendant (Marshall).

6.3.2. Procedures Of Data Collection

In-depth interview data collected from residents have held on Saturday and Sunday, while expert interviews had done during their free hours and on file from 22 August to 02 September 2021. The survey data collection was held from 20 August to 10 September 2021. To collect the data, the researcher has expected to round door to door by waiting Saturday and Sunday. To do this, Block committee leaders assisted the researcher. Moreover, observation has been held in the overall process of fieldwork to substantiate data obtained from other research methods.

6.4. Methods Of Data Collection

Collecting data through different methods leads to reliable findings. Having this in mind, the researcher used the following data gathering methods: Survey, In-depth interview and observation.

6.4.1. Survey

Using a survey research method could support to address many individuals as possible to gather relevant first-hand information. The survey research method is best to collect a large amount of data from a larger number of respondents in a short period (Vanderstoep and Johnstone, 2009).

Two different sets of questions are prepared for the survey data instrument: close-ended and open-ended questions. These questionnaires were translated into Amharic to avoid communication barriers and respondents can easily understand. The items of the questionnaires are categorised based on the objectives of the research.

6.4.2. In-Depth Interviews

According to Vanderstoep and Johnstone (2009), this technique of face-to-face interview helps to come up with very detailed data and allows for probes and follow-up questions to tailor interviews based on respondents' inclusive experience. In this regard, some knowledgeable

interviewees who can better explain the public transportation accessibility and affordability problems was selected by using a purposive sampling technique from households and government bureaus. To collect in-depth interview data, the study employed semi-structured questionnaires for purposively selected nine key informants. Interview checklists were used to guide interviews.

6.4.3. Participant Observations

The participant observation method involved field observation of what is present and occurs at the site by the investigator. Among the primary data collection methods, the observation was crucial to understanding households' activities when they are waiting for public transport, inside the transport and when they are paying transport fares, as well as during their interaction with drivers and assistants. This allows the investigator to develop the confidence to speak and analyze what is going on in the actual setting when residents are travelling. In this case, the researcher observes and records the actual practice by employing a checklist.

6.5. Source of Data

This study used both primary and secondary data sources to provide adequate responses to each of the specific research objectives.

6.5.1.1. Primary Source of Data

First hand, data was collected from households, public transport administrative authorities, Addis Ababa transport office, Addis Ababa traffic police regulation and enforcement management and public transport facilitators (order attendant locally called Tera Askebarie) through in-depth interviews. Furthermore, data was obtained from participant observation by using a checklist.

6.5.1.2. Secondary Source of Data

All relevant secondary sources pertinent to this study has reviewed. These include; published and unpublished materials such as books, journals, magazines, the internet, governmental and non-governmental records and archival documents from Addis Ababa Transport Bureau and Addis Ababa Traffic Policy and Management Office.

Table 3.1: Summary of Specific Objectives, Unit of Analysis and Methods of Data Collection

Specific objectives	Unit of analysis	Method
To understand the mode preference of transportation by different socio-economic groups	Individual Households who travel to work	Household survey In-depth interview Participant-observation
To analyze the availability and accessibility of public transportation to the urban poor living in condominiums located fringe of the city	Individual households travel to work	Household survey In-depth interview Participant-observation
To analyze urban poor households' average daily transport expense to access their work and livelihood	Individual Households who travel to work	Household survey In-depth interview participant observation
To explore coping strategies of urban poor to challenge public transportation accessibility and affordability shocks and stress on their work and livelihood.	Individual Households	Household survey In-depth interview

6.6. Method of Data Analysis

Because of the descriptive nature of the study, the raw data collected through questionnaires were carefully coded in a word of SPSS. Accordingly, respondents are categorized percentages are used to analyze the demographic characteristics of the non-probability sample population such as sex, educational qualification, and monthly income frequency count are employed to analyze various characteristics of the sample population and to describe similarities and differences between the respondents.

On the other hand, qualitative data collected through an in-depth interview has been presented and analyzed qualitatively by directly reflecting and narrating the interviewees' words. After, the researcher transcribed the data resulting from note-taking. In addition, data are broken into manageable unity, synthesizing, searching for a pattern and discovering what is important and what was to learn. All of the key issues, concepts, and themes were identified and the raw data were rearranged according to the appropriate part of the thematic framework. Following the similarity of the themes, qualitative data with the quantitative data concurrently construct the themes in the sequences of the study objectives. The research findings are verified by previous research outcomes and theories.

Finally, summary findings are present in an independent chapter by highlighting the research questions and organized through objective themes.

6.7. Ethical Consideration

In this study, full attention has been given to meeting basic ethical principles in social science research. Thus, a support letter was obtained from the Addis Ababa University Department of Sociology for Addis Ababa Transport Bureau and Bole Lemii Kura sub-city. To facilitate, the Bureau has written a letter of cooperation to the Wereda 4 administrative office. Additionally, permission was required from Wereda's administration before the study was conducted.

The purpose of the study and the issue of confidentiality is briefly explained by the researcher. Assuring them that their response is not used to harm them and that there is no need to write their name or any identification on the questionnaire has helped to obtain their consent. In addition, they can inform that they can withdraw from the study at any point in time if they felt unpleasant. Informed verbal consent was obtained from the study participants and oral agreement was reached.

To have the participants agree, the researcher has encouraged them to give an honest response. The researcher conducted the study door to door. Nevertheless, the qualitative data was conducted at places where the participants preferred and in their offices. Largely the data was collected in a way that did not hurt the participants' comfort and confidentiality.

Chapter Four

7. Data Analysis, Presentation And Discussion

7.1. Demographic And Socio-Economic Characteristics Of Respondents

This section presents demographic and socio-economic variables such as age, educational status, household size, and households' main source of income that have a direct or indirect effect on accessing and affording the existing public transport service.

7.1.1. Sex, Age And Marital Status Distribution Of Respondents

This research participant (70.5 %) are male household heads, whereas 29.5 % of participants are female household heads. Regarding the age characteristics of this survey respondent, the table shows that the majority of respondents (67 %) are categorised between the 31-45 age group. Others 15.5 % and 11 % of survey respondents' age group is file below 30 and 46-60 age group respectively. The age group above 61 years old constitute 6.5 % of the total respondents.

Another socio-demographic characteristic of this survey respondent is marital status and family size, which determines the degree of ability to access the service. For example, when the family size is small, the increment of public transport fare impact is not the same as that who have a large family. The survey revealed that the majority of respondents (68%) are married, while 3.5 % of the respondents are windowed. Never married and divorced household heads are accounting for 21.5 % and 7 % of the respondents respectively.

Table 4.1: Sex, Age and Marital Status Distribution Of Respondents

Variables	Categories	Frequency	Per cent
Sex	Male	141	70.5
	Female	59	29.5
	Total	200	100
Age	Below 30	31	15.5
	31-45	134	67
	46-60	22	11
	61 and above	13	6.5
	Total	200	100
Marital status	Never Married	43	21.5
	Married	136	68
	Divorce	14	7
	Widowed	7	3.5
	Total	200	100

Source: household survey 2021

7.1.2. Family Size, Educational And Employment Status Characteristic Of Survey Respondents

On the subject of family size, the majority of respondents (53 %) have 2-3 family sizes. Having 1-2 family size and more 5 family size is constitute 33 % and 14 % of respondents respectively.

The educational status of the household is an important component of human capital. Because education influences households, what they do and how to manage the challenges. Then this survey data revealed that the majority of respondents (39.5 %) have attended secondary school. The second-largest respondent group are those who attend primary school 33.5 %. Diploma and degree education levels constitute 23 % and 4 % respectively. Regarding the employment

status, the survey data shows that the majority of respondents (51 %) have permanent employment. Formal and informal self-employed respondents account for 17.5 % and 16.5 % respectively. Others 15 % of respondents' employment status is a temporary employee.

Regarding the employment status, the survey data shows that the majority of respondents (51 %) have permanent employment. Formal and informal self-employed respondents account for 17.5 % and 16.5 % respectively. Other 15 % of respondents' employment status is a temporary employee

Table 4.2. Family Size, Educational and Employment Status Distribution of Respondent

Variables	Categories	Frequency	Per cent
Family Size	1-2	66	33
	3-4	106	53
	5+	28	14
	Total	200	100
Educational Status	Primary	67	33.5
	Secondary	79	39.5
	Diploma	46	23
	Degree	8	4
	Total	200	100
	Permanent employee	102	51
Employment status	Temporary employee	30	15
	Formal self-employee	35	17.5
	Informal self-employee	33	16.5
	Total	200	100

Source: household survey 2021

7.1.3. Monthly Income And Source Of Livelihood Of Survey Respondent

The monthly income of survey households was collected through open-ended questions and then tallied by all survey respondents. Finally, the researcher categorized monthly income into six groups between less than 1500 birr and above 7500 birrs. Based on this fact, 15 % of respondents' monthly income is below 1500 birr, whereas 24 % of respondents' monthly income ranges from 1501-3000 birr. Ranging monthly income from 3001-4500 and 4501-6000 birr account for 29.5 % and 31.5 % of the respondents respectively.

Another socio-economic characteristic of respondents for this research is describing households' sources of livelihood. The majority of respondents (59.5 %) sources of livelihood are salary, whereas 17 % of respondents are informal self-employed. 13 % of respondents' source of income is formal self-employed. 1 % of respondents' income sources are house rent and salary, while 4.5 % of respondents drive from remittance and salary. Households' livelihood source for 1.5 % of respondents is from house rent and remittance. For 2 % of respondents, pension is a source of households' livelihood.

Table 4.3: Monthly Income And Source Of Livelihood Distribution Of The Respondents

Variables	Categories	Frequency	Per cent
Monthly income	Below 1500 birr	30	15
	1501-3000	48	24
	3001-4500	59	29.5
	4501-6000	63	31.5
	Total	200	100
Source of livelihood	Salary	119	59.5
	Pension	4	2
	House rent	3	1.5
	Formal self-employee	26	13

	Informal self-employee	34	17
	House rent and salary	2	1
	Remittance	3	1.5
	Salary and remittance	9	4.5
	Total	200	100

Source: Household Survey 2021

7.1.4. Public Transport Preference

The availability of Mass-public transport options is very essential for urban residents to save time from waiting for public transport time waste and save money. Households' mode of public transportation preference is determined by the City administration transport Bureau distribution of public transport and private engagement in the area. The survey data shows that the majority (44 %) of the respondents' public transport preference is Sheger Express Bus, whereas 29.5 % of respondents' choice is a public blue taxi. Higher Bus is preferred by 11.5 % of the respondents. The remaining, 15 % of respondents' preference is easily accessible public transport could be a Shger Express Bus or Public minibus.

The survey data shows us the distribution of public transport in the study area is uneven allocated. Because of the usual affordable public transport in Addis Ababa city, Anbessa City Bus is not supplied to the urban poor living in a peripheral condominium houses (like the Arabessa condominium site). The tariff of Anbesaa City Bus and Sheger Express Bus is different at the same kilometre, the latter service fare is greater than the first.

This raw data tell us, Mass Transport distribution is highly limited. Nevertheless, on another corridor of the city, the usual Anbessa City bus operates together with Sheger express bus, minibus and Higer bus. In Arabssa condominium area, Minibus is operate similarly and sometimes more than Sheger express bus. This is influenced residents to pay the high fares and limits mode choice. Because fare of Minibus and Sheger express bus is highly different. This is evidence that public transport is not accessible for Bole Arabssaa condominium residents. As a result, residents have no regular preference. Connecting to transport service provision, the

transport policy of Addis Ababa (2011) shared that when the population increase, life requires competition that needs increased mobility. The ability to move from place to place with comfort, reasonable cost and desired time is one of the major factors affecting the competency of individuals. Human beings use different modes of transport for mobility. Even though the growth of modes of transport varies based on the level of development of the city, Addis Ababa's transport service accessibility is low

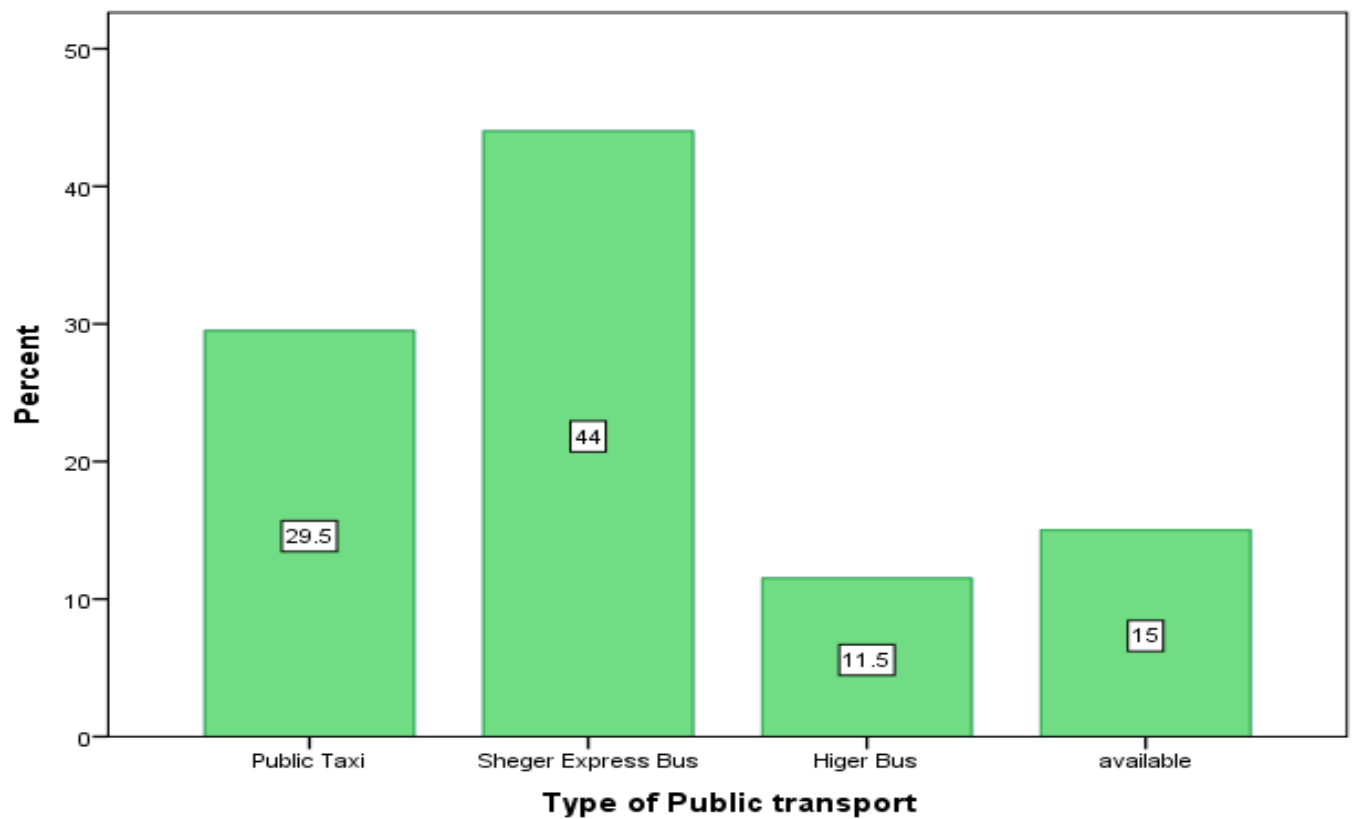


Figure 4.1: Public Transport Preference

7.2. Accessibility Of Public Transport To Urban Poor Living Peripheral Condominium

7.2.1. Spatial Distribution Of Activities

Transportation is vital for urban livelihood to perform day-to-day social and economic activities for urban households. Accessible public transport service offers the possibility to all peoples to reach working place with short time and reasonable fares. Residents waste a long hour travelling to work and for social purposes. Peripheral condominium residents' social and economic activities are located in the centre part of Addis Ababa city. To access these activities, the survey data shows that 39.5 % of respondents' workplace is far by more than 16 kilometres, whereas 32 % of respondents' workplace is away from 11-15 kilometres from their home. The remaining, 21.5 % and 7% of respondents' workplaces are 6-10 kilometres and less than 5 kilometres far away from respondents' homes, respectively.

According to the key informant, most poor households move to the centre and another corridor of the city to do their jobs and to find work. This newly constructed area is not developed and has no diverse job opportunities. Therefore, right now Bole Arabssa is monocentric of urban form. Households travel long kilometres for their economic and social activities. As a result, accessible, affordable and safe public transport is highly important to households that can work effectively and reach the workplace with reasonable time and cost.

7.2.2. Bus Terminal Distance From Home

To access the available public transport, households expecting walk or ride a Bajaj from their home to the bus station. Thus, the survey data revealed that the majority of respondents (57.5 %) homes are located within 1-2 kilometres of distance. Moreover, 21 % of respondents were far away by 2-3 kilometres and 20 % of respondents were far away by less than one kilometre. The distance of home for 1.5 % is more than three kilometres from the public transport terminal.



Figure 4.2: Partial Picture of Peripheral Condominium

A key informant interview stated that the public transport station location is too far for peripheral condominium residents. He adds:

We are living on the tip of the peripheral condominium house. Bus and Public blue taxi station are far from our home. We asked the transport bureau many times to bring a public bus station within a short distance. Even later on, we collected the petition and sent it to the bureau. They come and visit. They promised to us as they allocate Bus near to us. However, still not supplied and we continue to pay 20 and 25 birr for rickshaw (Bajaj) service. Streets have no light and it is very challenging for women. Because they are looting their bag and mobiles. No one walks on foot at night if we are not in a group. Therefore, our home is not safe for commuting, especially for those who work at night and have extension classes.

Even though indicators of public transport accessibility is different, United Nation Human Settlement Program (2016) stated that access to public transport is considered convenient and officially recognized stop is accessible within a distance of 0.5 km from a reference point such as a home, school, workplace, market, etc. However, Bus and Taxi stations are far from urban

poor residents. Because peripheral condominium houses for two kilometres on average far from the bus station.

7.2.3. Working Hours Of urban poor

The traffic congestion during rush hours in the early morning and in the evening access to public transport very challenging for the poor to reach to workplaces and return to their home. Because public organizations and private institutions have almost the same entrance and exit work hours. This would exacerbate public transport are not accessible and resident cannot able to save their time and money. Thus, the survey data revealed that 34.5 % of respondents start work sharp at 8:30 am, whereas 28.5 % of respondents are available at the workplace from 7:00- 8:00 am. Nevertheless, 23.5 % of respondents start work before 7:00 am. Other 13.5 % of respondents have flexible work entrance hours. Therefore, residents have the same work entrance and exit hours. This would create traffic congestion and households expose to long hours.

Transport experts said that residents, whether they are public or private employees, they have the same start and exit work hours. This would create traffic congestion and then households waste their time by travelling. By understanding this challenge, Addis Ababa Transport Bureau and Public transport Bus service Plc. have a plan to push the operating hour schedule until 10:00 pm. Light train already implemented this reform, but the number of passengers is still smaller, especially after 9:30 pm. Improving the public transport operation hour schedule is help reduce high public parade and travel time wastage. Because, when the public transport operating hour schedule push until 9:30 am or 10:00 pm, residents will not expose to extra fare charges. In addition, households' productivity will increase.

7.2.4. Travel Hour Of Urban Poor Living In Peripheral Condominium

One way travelling to work, Households' survey data shows that 44.5 % of the respondents' travel hours are from 1-2 hours, whereas 39 % of respondents reach 2-3 hours at the workplace. For 12 % of the respondents the travel, hour takes less than one hour. The

remaining 4.5 % of respondents' travel to the workplace takes more than three hours. Waste time by commuting would reduce household work efficiency and productivity. Workers reach the workplace after they are exhausted. Households are unable to work extra sources of livelihood.

Travelling long hours is worse when households return home. To support this, the survey data show that 61 % of respondents' travel experience from work to home is taking different hours from home to work. However, 39 % of respondents' travel experience shows that returning home takes the same travel hour as travelling to work. Because at evening streets are crowded by street vendors, pedestrian and car side parking. As a result, the majority of the respondents' return hours home take from 2-3 hours. The second biggest number of respondents' return travel hours is more than three hours. Others 19 % and 8 % of respondents' return travelling hour is 1-2 hours and less than one hour respectively.

In the late afternoon, traffic jamming is very serious. Because streets are, busy with different activities like vending and pedestrians walking inside the street. These would pressurized households should travel long hours to reach home. In addition, public and private organizations having the same work exit hour would affect residents' travel long hours from the workplace to home. In addition, connecting places of faith with Main Street, poor road network and poor traffic coordination management expose residents to staying long hours inside transport when they back home. At night, the number of private cars is increasing and then this would reduce the frequency of public transport. Residents cannot able to reach the workplace and return home at a reasonable hour. This would create a time shortage to take a rest for himself and to give time to his family.

Key informant interviewees said that residents travel an hour to the workplace and return home take different hours. Because households' time choice to travel decision is matter, whether you are travelling quickly or slowly. However, residents mostly travel during peak hours and then they would travel almost double the other travelling hour. Because late afternoon, street vendors are occupying walkways, traders put their shop window doors on walkways and groceries use the walkway for customers' seats then pedestrians push to go

inside mid of street. Hence, traffic congestion is created and then this would limit transport. Adjusting travelling time is important for residents to reduce long hours of a seat inside transport and pressure on their work productiveness and social relationship.

7.2.5. Waiting Hour To Get Public Transport Service

Litman (2008) revealed that heavy congestion tends to reduce the speeds of cars and buses still have to stop to drop and pick up passengers along the route. This significantly affects journey times. During rush hours, passengers may have to wait for long periods. Likewise, this survey interpreted households' average time wasted wait Bus or Minibus taxi on a day trip. The majority of respondents (55.5 %) average time waste is from 2-3 hours waiting for public transport at different terminals, whereas 6.5 % of respondents' waiting time is more than three hours in a day. Moreover, 26.5 % and 12 % of the respondents' waiting times are 1-2 hours and less than 1 hour respectively. In addition to the traffic congestion problems, public buses and Minibus taxis are not properly operated by the scheduled timetable.



Figure 4.3: Parade For Public Transport

Transport experts explain that Sheger express Bus service operates by schedule time is similar with Anbessa City Bus from 6:00 am early morning to 8:30 pm night shift. Sheger express Bus

takes routes of Megenagna- Arabessa Condominium house from Anbessa City Bus. Sheger express Bus services operate with scheduled timetables and we posted the scheduled time from the departure or end terminal. However, in many routes of the city, the service often fails to provide the service regularly for residents. Due to buses do not keep their scheduled time residents' trips are often late. Then residents will stand for long hours waiting for public Buses. Sheger express bus distributor personnel are not re-allocate the service accordingly to the most pressing levels of demand. This would increase the problem. Because service providers cannot able to observe and manage the problems on the ground.

Marshal adds that Minibus taxis do not operate within the scheduled time. Rather, they are operating by their allocation. Which means their zonal system. This system did not consider the supply and demand of public transport during rush hour or normal times. Then long parades may create because public transport does not work without their route. Therefore, this system already established a fixed route service provide. Nevertheless, service allocates accordingly to resident demand route, and long parades and long hour waits may not occur. Because taxi-order attendants and transport control personnel can distribute the service based on the most demanding route of residents.

Another problem of long hours waiting for motorized public transport related to residents' walking trend. Residents perceive walking as one efficient multimodal transport system. However, for peripheral residents, this is challenging non-motorized transport. In Ethiopia, Accessibility and Mobility in Cities (2018) proposed that the development of urban transport systems should minimize the need for individualized motorized journeys through appropriate land use, planning and management and then shift to increase the modal shares of public transport and non-motorized transport such as walking and cycling by improving the efficiency and safety of transport modes. Thus, this research wants to examine households' walking trends from one terminal to the next bus station when public transport is not available and when there is a long parade. The survey addresses a week's household walk experience. As a result, 28.5 % of respondents on average walk from 6-10 kilometres, whereas 25.5 % of respondents walk less than 5 kilometres. Walk modes of transport for 19 % and 9 % of

respondents are 11 – 15 kilometres and 16 – 20 kilometres respectively. While 18 % of respondents can walk more than 20 kilometres. Still resident covers their mobility by foot.

Transport expertise adds that the government is highly encouraging residents to walk for their economic activities and social purposes travel. Peripheral residents may be far from workplaces and it is implausible to arrive with walk modes. This group of residents can use public transport for the long journey. However, inside the city, residents can walk within 1 or 2 km walking distance, rather than stand a long hour waiting public bus or Minibus taxi. These problems are the outcome of our urban planning because the residential area and major economic activities of the city are not integrated. Nevertheless, at the time resident walking trends from a much-crowded line bus terminal to the next bus terminal is very poor. This could pressurize households' to expose long hours of travel and to pay an extra tariff. Even though the problem is worse from time to time, the Ethiopian government's vision from 2020 to 2030 is to ensure sustainable transport in Addis Ababa city. Providing an extensive network of public transport modes is accessible, affordable, safe, and attractive infrastructure to support non-motorized vehicles and pedestrians.

7.2.6. Availability of Public Transport Service

Household survey data were collected through open-ended questionnaires regarding the availability of public transport in Addis Ababa. Because households are not travelling at the same to and from work. Then the research wants to explore the practical experience of households' convenient time to access available public transport services. In addition, what are their experience to get the service easily at that time? Most of the respondents describe the convenient time to access available public transport as early morning before 6:30 am and at night after half-past eight o'clock. At this time, no long parades and traffic congestion is low. However, this time is exposed to paying an extra fare. Because Sheger express bus at 9:00 or 10:00 pm does not provide the service. The Sheger express bus operation schedule creates an opportunity for public taxi operators to violate transport bureaus' transport fare tariffs. Then households' will pay as Minibus taxi operates requesting fares.

Another household's convenient time to travel to work is after 10:00 am. Because during this time public employees and formal private employees are on their work as well as students are in school. Moreover, Minibus taxis are back from their contract service and public bus are highly available as non-permanent employees. However, for a few respondents, public transport is not available, and households travel to and from work with the lowest waiting hour and moderate traffic congestion. They rise poor transport network as a factor they cannot easily access available public transport even out of peak hour.

According to Sheger express bus's time control operator and Minibus marshal explanation of the availability of public transport, households can travel to and from work. Bus time control operator said, Sheger express bus work with fixed route because we have an agreement with transport bureau. We cannot allocate the service according to the parade demand. Because we assume the bus may be late due to traffic congestion and the Bus operators are not willing to allocate without their line. Therefore, it is very difficult to say public transport is available at any time and residents can easily transit to and from work. After students enter school and employees enter their work, households could travel without no longer hours of wait.

Minibus taxi-order attendant adds:

Public transport services work with their Zonal system (the fixed route for a certain period). This is a challenging system for our job and Minibus taxi operators as well as for households. Even though Minibus is available and the parade is long (taxi demand is high), we cannot enforce taxi operators to provide a service. This would create a supply shortage because the Zonal allocate system is not understanding the demands of residents' travel routes. Nevertheless, if we have the authority we immediately allocate Minibus operators accordingly to the parade. Sometimes transport bureau operators follow this practice by enforcing public transport operators to provide a service by looking at commuters' parades. Since residents do not travel in the same way, it is difficult to balance the supply and demand of public transport with the Zonal system. We recommend the transport bureau to allocate public transport accordingly to household demand through Bus time control and Minibus taxi Marshall. This will help residents can access available public transport and ensure public transport network.

Even though, the transport policy of Addis Ababa (2011) tried to have a venture in improvement to provide services to the public by re-aligning their institutional structures to the lower strata. Public mass transport service provides institutions supported to provide better service, have autonomy, indulge in administrative changes and implement the modern system. However, the current organizational structure of the transport sector does not align with the current transport condition of the city. As a result, this would affect residents unable to access public transport at any time with moderate fare cost.

7.2.7. Traffic Congestion In Addis Ababa

Traffic congestion directly or indirectly affects the socio-economic activities of the peripheral condominium residents. Hence, residents have different practical experiences with the effect of traffic jamming and their attachment to the problem is divergent. Thus, this survey data shows that the cause of traffic congestion for 27.5 % of respondents is the existence of similar work entrances and work exist hours in public and private organizations. While 24 % of respondents related the cause of traffic management to weak traffic management and enforcement practices in the corridor of the city. Moreover, street vending on the street and parking on the walkway are the cause of traffic congestion for 17.5 % and 16 % of respondents respectively. For 13 % of respondents, the cause of jamming comes from the increment of private vehicles. The remaining 2 % of respondents understand the cause of traffic congestion originates from increasing the number of home cars; drivers are not subject to traffic laws, lack of integrated urban development and driving of public transport and private cars sharing the same street.

Traffic congestion is vastly challenging the mobility of residents to and from economic and social activities. In addition effects of traffic congestion on the urban poor is different because households' mode of public transport prefer is unique. This household's survey data revealed that the most practical challenge for households to travel to and from work due to traffic congestion present as follows. According to 30 % of respondents' practical experience, traffic congestion would expose households to illegal fare tariffs. However, 24 % of respondents' practical challenge of traffic congestion effect is exposure to a too-long hour waiting for public transport service.

Another effect of traffic congestion for 21.5 % of respondents is decreasing households' income, and for 18.5 % of respondents, the traffic congestion effect is long hour travel. In addition, 3 % of respondents' practical experience shows that they are exposed to risk. The remaining 2.5 % of respondents' practical challenge to the effect of traffic jamming is vulnerable to disease and loss of loyalty at the workplace from boss and colleagues. According to venter (2019), studies revealed that traffic congestion contributes to worsening equality in cities. It affects not only the high-income driver or middle-income motorcycle user but also penalizes the low-income bus passenger who faces ever-longer commutes and the pedestrian who finds the sidewalk blocked by illegally parked cars.

In addition, because non-drivers are in the majority in most cities in the global South and buses carry much larger numbers of people, the aggregate impact of congestion costs on lower-income people is significant. Prevailing land development patterns further exacerbate inequality: lower-income people often live on the edge of a city, where land may be more affordable but where they face long, unsafe, and costly journeys on public transport or using informal modes.

One male respondent who is 43 years old said he lives for four years in Arabssa condominium house (10/90). His is work 15km far away from his home. He is a Barista in Café. He earns a month of 3500 birrs. He said:

To find jobs and to diversify our income traffic congestion is our serious problem. Due to his problem, I waste many hours to reach the workplace. Because of the frequency of public transport is very slow. As a result, we stand long hours taking public transport. I lost my job because I cannot able to reach on time to deal with my employers. Sometimes, I will not speak the truth where I found it. This has a large effect on my relationship with family and works colleagues.

Loss of loyalty directly affects our productivity in the workplace and relations in the family. Heavy traffic congestion is expose residents to psychological stress. Because residents from they leave their homes, they are worried about whether they will reach on time or they will be late. Lomendar et al (2018) studies confirmed that traffic congestion induces a high level of stress and

frustration in commuters. Road congestion causes late arrival to workplaces, causing loss of output, missed deliveries, reduce productivity, and restricted economic growth.

7.2.8. Public Transport Accessibility and Relationship In Peripheral Condominiums

Accessible public transport is highly necessary for residents to have a good social capital. To respect each other and to keep up their promises. Because mobility and social capital are highly interlinked and have the power to affect households' ability to access and purchase public transport services. Regarding transport accessibility and social capital, Bradbury (2006) connected that access to capital assets requires mobility sustained by the available transport system and transport is not simply a means of travel. Transport is an agent that supports social capital networks. This research survey shows that 94 % of the respondents reply inadequate public transport services highly influence peripheral family relationships. While 6 % of respondents reply inadequate public transport service does not influence our relationship.

Inadequate public transport service hurts households' relationships. This research identified households that cannot able to arrive on time to home, fatigue, couples distrust their spouse, decrease family paying time, and cannot help each other with indoor work. In addition, it reduces families' follow-up on their children's studies whether they are doing exercise or not, limiting social contacts like birthday and burial ceremonies, inability to move children, and failure to attend an appointment and ask a relative. Moreover, inadequate public transport has a psychological impact and physical abuse following to economic impact. In addition, public transport service does not empower households to improve their educational career. Because Anciaes et al (2016) argued that increases in traffic levels also increase collision risk for pedestrians. This may reduce the propensity for walking, leading to a reduction in physical activity and levels of accessibility to local facilities, and ultimately to social exclusion and the deterioration of health and well-being. High traffic levels also separate communities, with potential effects on social cohesion.

7.2.9. Public Transport Operating Hour Schedule And Urban Poor Livelihoods

Another implication of public transport accessibility is the transport operating hour schedule. Because public transport operating schedule is very essential for urban dweller to enhance their income and diversify their source of livelihood. This research looks at a transport-operating hour from a convenience aspect, is the existing operating hour schedule does support households to diversify their livelihood. This survey result revealed that 87 % of the respondents' practical experience shows us, that the public transport operating schedule cannot support the urban poor to diversify their livelihoods. While 13 % of respondents' experience shows that, the existing public transport operating hour schedule is convenient for their work.

The existing public transport operating hour schedule does not help the resident to work extra jobs and to diversify their source of livelihood. Because, after 8:30 pm Sheger express bus does not provide the service. By the existing transport-operating hour, urban poor households are powerless to work at night. Nevertheless, a Minibus taxi provides the service until 10:30 pm. At this time, Minibus taxi operators charge what they want. Then urban poor households will expose to illegal tariff charges. Moreover, households are powerless to study with an extension program, reducing work motivation and being unable to work at night.

7.2.10. Public Transport Security And Urban Poor Living In A Peripheral Condominium

Security in public transport is very important for disadvantaged groups in urban neighborhoods. The survey data described that 82 % of respondents' practical experience shows that households head travels with insecure public transport. Whereas, 18 % of respondents have not ever challenged public transport security problems. Transport security problems for 36 % of respondents is verbal harassment, whereas for 26.5 % of respondents is physical harassment. Others 18.5 % of respondents' exposure due to unsafe public transport is a loss of material. Only 1 % of respondents' practical experience is fracture and discrimination.

One male informant is a construction-finishing worker and is a committee chairperson for 36 Block. He said, their block is far away from the Bus station and we should take Rickshaw (Bajaj) at night. Because we walk more than two kilometres from the bus station. Moreover, we have problems accessing public transport in a safe way, especially in the early morning and night. In addition, moving alone is very difficult for women's households. He adds:

Residents are paying 50 birrs for Bajaj from bus station to our home and some residents are changing their workplace, which is close to their home. We are at risk of theft, physical harassment and poverty by curtailing freedom of movement. This has an impact on residents to decrease their productivity and commuting long hours to work. These problems are double during public and religious holidays.

Dawit is a senior transport expert on the transport distribution team. He explained that security issues are highly important to access non-motor and motorized public transport. He adds:

The transport bureau would not distribute public transport to peripheral residents accordingly to their demands. Arabssa condominiums are a huge site and the Bus station is in the centre of the site, but this is far from the tip of the peripheral condominium house. Inner streets are not safe to walk alone. Then households should take Rickshaw (Bajaj) to access public transport from and home. While Rickshaw operators charge as they want. The problem is double at night. Because Traffic police and transport regulators do not supervise and control the illegal practice of public transport operators in a suburb. Public bus stops work before 8:00 pm and the Zonal system did not implement after 6:00 pm. This pressurized households to pay an extra fare. Because there is a strong network between public taxi operators and taxi-order attendants.

Resident cannot serve with normal fare tariff. Because you do not have the right to claim why you are paying extra. Therefore, residents fill insecure to travel at night and early morning. Related to this, Lomender et al (2018) suggested that road traffic is responsible for the loss of children's independent mobility and the reduction in walking levels of the elderly. Women are more likely to be affected by traffic in terms of physical health, and walking and public transport accessibility.

7.2.11. Public Transport Regulations And Urban Poor Living In A Peripheral Condominium

The Ethiopian government has been working to improve the public transportation system for all residents. At different times, the government has formulated different policies to reduce transportation problems impact and at the same time to enhance urban poor economic and social activities. To bring this policy and reforms on the ground we need to have strong public transport regulators and management. Because, Addis Ababa Transport Bureau, Traffic Control and Management Agency and stakeholders are the actual implementers of government policy and strategies. They have a huge role to manage the public transport accessibility problems. Without these group proactive participation, it is difficult to ensure accessible and safe public transport for the urban poor. Thus, this survey result revealed that 80.5 % of respondents replied that the Transport Bureau, traffic Control and Management Agency and stakeholders are not recognized how households suffer from inaccessible public transport services. Whereas, 19.5 % of respondents' response is they have a good understanding and they are working public transport become accessible and safe for all urban poor who live in the peripheral of the city.

This research discovered transport institutions and stakeholders who have a coordination gap to overcome public transportation accessibility problems. Urban poor believed that the transport bureau has a weak field supervision mechanism because they do not control illegal tariff increment and do not enforce public bus operators not jump bus terminal. Public transport distributions are not conceded population size and demand. These all affect urban poor mobility. Because, as Starkey and Hine (2014) identified that the urban poor in developing countries suffers from a wide range of accessibility and transport issues that, to a large extent, are 'off the radar' of government institutions. Even if Walking is the predominant mode of transport for the poor that can live within about 7 km from their workplace. There is insufficient provision for pedestrians. Pedestrian sidewalks are few, and those that exist are often unavailable because it blocked by parked vehicles, traders or building materials.

One of the male informants is 33 years old and he has twelve years of experience in transport distribution and regulation. He is a public transport regulation and facilitation expert for the last seven years. He recognized the absence of expertise in the field at peak hours would create traffic jamming and the urban poor exposed to long hours waiting for public transport. Moreover, experts recognize:

Newly developed suburb cities have public transport accessibility problems due to lack of transport stakeholders cooperation (for example, traffic police, Marshalls and transport associations), transport zonal system, drivers are not present by their position line (zonal system) and poor implementation of transport plan. These aggravated the problem and create households to criticize the bureau does not work to minimize the problem. Nevertheless, the bureau works to provide better public transportation services to all groups of residents.

Another public transport coordinator is a Minibus taxi-order attendant. The survey result purports that 74.5 % of respondents described that Marshall does not take their responsibilities urban poor households can access the existing public transportation service. Nevertheless, 25.5 % of participants replied that Marshalls contribute a lot to urban poor households can access to public transport. As a result, residents see taxi-order attendants as dishonest public transport facilitators because they work jointly with taxi operators and are not regulated and supervised by any institution. In addition, residents perceived that Marshalls are not responsible, professional and accountable rather they are money collectors. Moreover, residents suspect the legality and the importance of them facilitating and correcting illegitimate taxi operators because they work with acquaintances and attorneys of taxi owners rather than serving residents.

Solomon is 46 years old and he has been married. He is completed high school and has been working in Marshalls for eight years. On average, he collects more than 3000 birrs per day from the Public taxi parade. They have a shifting program. Shifting round depends on the members' size and our group size is twelve. One member may work three times a month.

He said they are accountable to Addis Ababa city Transport and Road Bureau and Addis Ababa Small Scale Enterprises. Every member of the association has a saving account and they save five per cent of their income. The main duties of the association are to encourage residents to make a parade and save time and preserve passengers from theft. They work with residents to enable access to public transport and law enforcement. Addis Ababa city Transport and Road Bureau have not yet supported and empowered them to reduce long parade. They do have no legal autonomy to claim and accuse the illegal public taxi operators. They believed that public transport accessibility and affordability challenges came from the implementation of the public taxi zonal system. Because Marshalls cannot enforce Transport Operators to work accordingly to residents' demands.

Marshalls added that:

Residents understand us, we collect a lot of money and we never assist them. Nevertheless, we give priority to the pregnant, student, and aged people who hold babies, and we inform transport facilitators and regulators to bring the bus. Now again, we do not have legal autonomy to enforce public buses to do this or do not and allocate the bus accordingly to the long parade. Then households expose to long-hour transport wait and extra tariffs at night and early morning due to transport management and implementation weakness.

The problem is from the Transport Bureau side. Since Taxi-order attendants are facilitators of public taxis and collect a service charge from operators, they should have a legal entity. They should work with the transport Bureau and the traffic control and management Agency. As Stucki (2015) stated that because of weak governance, while sustainable urban mobility policies tend to strongly promote public transport, the reality is that most cities have developed around individual transport and public authorities in African cities often struggle to control the supply side of public transport and traffic management. This appears clearly, where congestion seems out of control and where scheduled bus services are entirely missing.

7.3. Public Transport Fare And Urban Poor Households' Livelihood

This part of the paper is analyzed the data derived from observation, in-depth interviews and survey questionnaires regarding public transport cost implications on households' livelihood. Households' expenditure for transport fares was analyzed from monthly income, job characteristics and the impact of unaffordable public transport fares on households' livelihood. Affordable public transport fares opportunities for urban households' to diversify livelihood and the reaction of transport regulators and Marshall to an illegal tariff are also analyzed and presented.

7.3.1. Public Transport expense of Households

Public transport expense is a very important thing for urban poor households to mobile from home to work. Because households can use all options of public transport. However, public transport expense has become unaffordable. Every year and even monthly there is fare price revision. This research analyzed the household head's average daily transport expense. The survey result shows that 38 % of respondents' average daily fare is 31 - 45 birrs per day, whereas 35.5 % of respondents' expense is between 16 - 30 birrs per day. In addition, 21 % of participants' expenses are more than 46 birrs per day. Other 7.5 % of participants pay up to 15 birrs for a day journey. This household's expenditure on transport fares is very expensive and not proportional to the household's monthly income.

Households' daily transport costs are directly connected with travel frequency Home to work in a week. Because households, travelling frequency to work has the power to minimize or maximizing of the pressure of public transport on households' income. Thus, the survey data shows that 36.5 % of respondents travel six-day in a week to access their livelihoods. Whereas 19.5 % of respondents travel five days a week to work. Others, 16 % of participants travel full of the week to work and 7.5 % of respondents' travelling day is flexible. The remaining, 9.5 % and 6.3 % of respondents travel four and three days a week respectively. Only, 4.5% of respondents take transport for two days a week. As a result, this research shows that the

majority of households travel more than five days a week to access their livelihood. Therefore, they are more likely to expose to spending more payment on public transport fares.

The majority of households' month-to-month earnings is from 1500 – 3000 birrs. These respondents' common transport fee is 31-45 birrs. Again, the majority of respondents journey five days a week. For spherical tripe, households transport expenditure is 37 birr. Then for a week, this household's rate is one hundred seventy-five birr. By a month, households' transport price is seven hundred birrs. As a result, households pay one-third of their earnings for transport fares. Therefore, 93 per cent of the respondents reply transport price is now not proportional to their month-to-month income, whereas 7 per cent of respondents reply that fare is proportional to their income. Residents are exposed to excessive public transport fares because households' monthly income is powerless to come up with the money for public transport fare

Moreover, this research is investigating what pressure public transport fares become a challenge for households since oil is subsidized by the government and the government regulates fare pricing. The pressure has come from households unable to serve by regular transportation fares, from the ever-horizontal expansion of Addis Ababa city, from the increment of public transport fares from time to time and from households' poor waking experience. Lower monthly wages, lack transport options, and weak control of illegal public transport fares pressure households unable to balance their income and expense.

7.3.2. Public Transport Fare

Fare policy objectives are considered as social, environmental, economic and financial, and operational police. The social objective is to redistribute income from rich to poor people and to improve travel opportunities for disadvantaged groups, such as the old, the young, the poor, the handicapped and those without full-time access to a private car. However, this survey result revealed that the majority of the respondents were forced to pay an extra fare, and few participants do not expose to additional transport payments. Moreover, households' practical experience illustrates that there is a time households cannot access the regular fare's service.

The time they stipulate to pay extra is at night after six o'clock pm and early morning. Few participants' experiences show that during a high traffic jam, shortage of fuel and if there is rain, they will pay an additional fare. Likewise, not small respondents are vulnerable to extra fare charges during the public holy day and if they hold babies.

The reason households were exposed to extra charges due to time-off of transport regulators, public bus gives up work early night, taxi drivers lopped the road is very crowded and then they go through alternative road, a business alliance of a public taxi driver and taxi-order attendants, and drivers and their assistants are abusing passengers. Interviewees add:

Households' residents place outlying from the sectoral and business district of the city, unable to reach with a walk, households are powerless to exercise our right and fight illegal public transport operators. Often, some passengers collaborate with public taxi operators and they abuse others to pay for what they ask. Fearing assault and quarrelling, and if you hold children, you do not have an option and then you are more like to expose extra payment. Because transport operators are not subject to the law.

Transport is a catalytic force both as an agent vital for economic growth and as an agent for economic decline where economic resources and conditions, as well as a human endeavour, are insufficient. The implication of increment of public transport cost on households' livelihood according to the majority survey data reply that households' expenditure cost to transport is extra than revenue and then fails to enhance the academic profession and ship kids to a higher school. Besides, tough to cover the cost of housing expenses, inciting hostilities in the household and prone to strolling many kilometres, delayed and absence from work. Exposure to mistreatment and social disaster also affect public transport fare increment.

As an effect of the increment in public transport costs, households are losing their jobs. Experiencing theft, being unable to ask a relative, generating distrust between husband and wife and changing residence places are common to the urban poor living in peripheral condominiums. In addition, children walk on foot to school and sometimes they will drop out of their education and residents are unable to move with their children in public transport. As well as, households are unable to manage their transport fare with monthly income.

Tadesse is born in the countryside and he lived the last twenty years in Addis Ababa. He is one of the beneficiaries of the condominium house project. Tadesse is a gardener and he has four children. He said:

I frequently use Sheger express bus because my income is not proportional to the public taxi fare as well as the transport fare is always revised and it is increased from time to time. I am continuously exposed to standing a long hour to wait for Sheger Bus and I am usually unable to arrive on time at the workplace. In addition, sometimes am not able to perform and finish my daily activities. Due to this, a dispute with the manager is almost normal and they understand me as negligence and unpunctual.

Road infrastructure is not the major limitation of Addis Ababa's transportation accessibility challenges. The problem is unable to manage the transportation system and the poor control of transport operators besides law enforcement limitations. Traffic policy claims public taxi operators why do you hold passengers more than allow, yet they cannot able to ask why they charge extra. However, holding extra passengers is the business of Marshalls and then they never inform to transport bureau and control extra tariffs and holding extra people. So small groups abuse the service. As result, households suffer from this maladministration.

7.3.3. Affordable Public Transport Fare opportunities

The progress in the operation of transportation techniques management principles improves the movement of the load, delivery speed, service quality and operation cost. When public transport cost is affordable Households can able to enhance their monthly income, can balance expense and revenue, can help to reduce poverty. Can reach on time and being able to work with a good spirit and energy, allows households to rent a home wherever they want and permits them to teach their children the school they want. In addition, households can move freely to job and social purposes and can utilize time properly. Reducing unnecessary expenditure allows for saving money and shifting transport costs for other households' expenditures.

Affordable public transport cost provides households to have a stable life and can make a better life. Key informants add:

Affordable public transport cost allows households can improve their educational careers and to work two or more jobs. It provides an opportunity to access affordable house rent and it saves time wastage.

7.3.4. The Reaction of Transport Regulators and Management to Illegal Transport Tariffs

Proper and transparent transport policy underpins and consolidates poverty reduction and transforms society in a constructive and productive direction. Therefore, the reaction of transport regulators, traffic policy and Marshalls against illegal public transport fare payment based on the majority of survey participants' experiences are: Transport regulators, traffic policy and Marshalls do not want to give attention to illegal public transport fares. Because transport regulators and traffic police focused on facilitating and supervising public buses and taxis to provide service and not block traffic flow. Traffic policies are not committed to follow-up illegitimate fare tariffs but their focus is, does taxi operators holding passengers over the standard. While Marshalls are part of a benefit and they encourage residents to pay extra fare what they asked.

Few survey respondents understand to the illegal fare tariff problem is getting up from the residents themselves because they cooperate when the law is violated and even abuse others to pay what they claim by the driver assistance. The gap arises from lack of supervision at night and unable to comply with the law then the problem would be aggravated and households expose to poverty.

Teshome is a senior transport regulator expert in the Addis Ababa transport bureau. He adds:

The transport bureau has a law to penalize those who violate public transport fare tariffs. However, to do this, the bureau needs genuine information from passengers. Then if transport operators abuse passengers for the first time, operators will penalize 1000 birr,

while the action repeatedly occurs the operator is penalised from 6000 birrs to suspension of driver's license until six months.

Marshall adds:

Until eight pm o'clock and if we are not absent, public taxi drivers do not charge extra tariff. Nevertheless, after eight pm o'clock zonal system allows drivers to work what they want and we cannot enforce them with the normal tariff and on their zone. However, we do have not the power to say you charge by normal or extra. Because our responsibility is making an order and a parade of public taxi and passenger according to their coming.

Managing and regulating public transport fares by collaborating with a resident is very important to save households from unnecessary transport fare expenses.

7.4. Copying Strategies of Households' to an Inaccessible and Unaffordable Public Transportation fare

7.4.1. Households' Practical Coping Strategies to Inaccessible Public Transport

The coping mechanism of households to unavailable public transport by 31.5 % of respondents' practical experience is to report to their boss, as they are delayed. Whereas, 29 % of participants' strategy is walking some kilometres. For others, 20 % of participants' practical experience is riding a rental taxi and 7.5 % of respondents' practical experience is asking lift. However, 9 % of respondents have the experience to go back home (absent from work). The remaining 3 % of respondents' coping mechanism is waiting until the last minute.

Moreover, this survey data revealed that households' practical experience and coping strategies to inaccessibility public transport problems for 43 % of respondents are changing resident locations. Whereas, 35 % of respondents' exposure was to changing the workplace. What's more, 9.5 % and 5 % of respondents have the experience to leave a job permanently and find a permanent job correspondingly. Others 7 % of respondents 'practical experience is the same as

today and then they wake up early morning, go out to work, and utilize free traffic congestion hours.

The sustainable transport planning approach focuses on the promotion of alternative means of transport like walking, bicycle and public transport and sets as a primary objective the provision of mobility and information services. However, urban poor living in peripheral condominiums has accessible transport service problems. The problem and households practical experience stated as follows key informant:

Women living in peripheral areas and working in urban areas are disadvantaged when accessing transport services. Women have less access to funds and less access to alternative means of transport such as bicycles, motorcycles or cars. As a result, we may be more inclined to walk than men for shorter journeys do and we use public transport more than men do when the latter have the option of private transport. Poorer women tend to find work closer to home, often in the informal sector, such as street vendors, taking care of children, working as domestic servants or Janitors or working in a factory. We women, tend to have a very different pattern of trip making to men, undertaking multiple-purpose trips, such as taking children to school, shopping, health-related trips and going to work. We are likely to use public transport at off-peak times, but public transport service frequencies are less. Therefore, transport arrangements in peripheral urban areas do not suit women's needs since we may have to visit scattered facilities. Due to complex multi-purpose trips, women are 'time poor' and face many constraints than men, in fitting our busy schedules into the day.

In line with this Starkey and Hine (2014) studies revealed that poorer women tend to find work closer to home. Transport arrangements in peripheral urban areas do not suit women's needs since they may have to visit scattered facilities and public transport service frequencies are less. Furthermore, the fare structure makes multiple stops more costly, making it difficult to combine household errands.

Residents' practical action to unsafe public transport service, for 33.5 % of respondents' action is to invest enough time, whereas for 19 % of respondents' reaction is early go back from work. Moreover, 15 % of participants' action is reported to the traffic policy and transport bureau, while 14 % of participants' reaction has stayed overnight at relatives and friends'

home. The remaining 11 % and 7.5 % of respondents' practical experience is walking collectively and going out lately from home in the morning time.

7.4.2. Copying Mechanism to Unaffordable Public Transport Fare

When public transport cost is not affordable, households' have a different response to the challenges. This research shows that 29 % of respondents' strategies are cutting social journeys and travel strictly for essential trips. Whereas, 25.5 % of participants' experience is relocated children to attend a nearby school. Others, 19.5 % and 16.5 % of respondents' coping strategies are walking a short journey to save income and changing workplace geographically near to home respectively. The remaining 9.5 % of respondents' strategies for unaffordable transport fares are engaged in different activities to earn additional income.

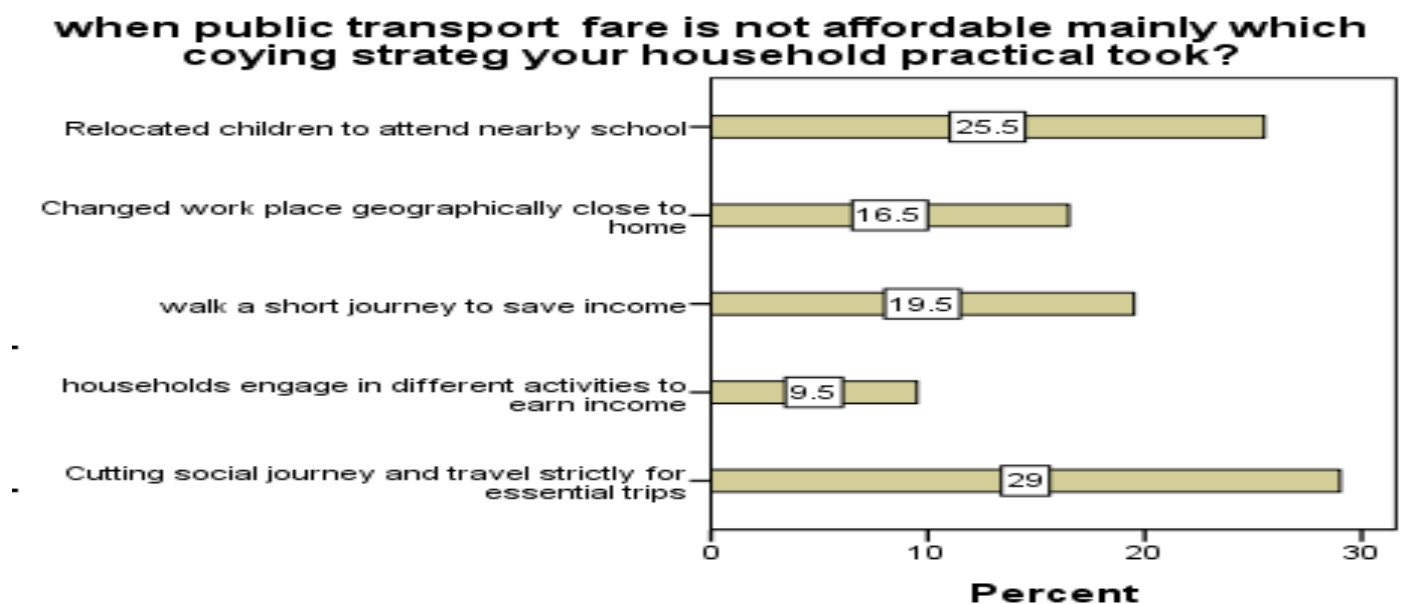


Figure 4.4: Coping Strategies To Unaffordable Public Transport Fare

The high cost of travel has forced people to devise coping strategies. Hence, urban poor households' practical experience reaction to transport fare stress and shock stated as follows by the key informant:

In urban areas, livelihoods draw from the labour market, by making or selling goods or services. Livelihoods are more vulnerable to bad governance. Access to infrastructure and services is difficult for low-income groups because of high prices, illegal tariffs and poor governance. The urban poor often suffers from low-quality public services. Furthermore, the fare structure makes multiple stops more costly, making it difficult to combine household errands. Thus, reactive responses to shocks and solving short-term problems for many poor urban households are diversifying their sources of income and drawing on a portfolio of activities, such as formal waged employment, informal trading and service activities with different family members engaging in different types of activities and sectors of the economy.

Generally, problems of public transport accessibility and affordability were reflected as reducing households' livelihood by exposing them to extra charges, limiting access to employment opportunities, reducing the working performance of households and limiting social purpose travel. The connection between economic opportunity and urban accessibility is easy to see. However, urban renewal and economic development programs according to Faiz (2011) suggested that city improvements are made at the expense of the most vulnerable citizens of society and marginalize the urban poor. Because, displacement is forced people to the urban periphery, to areas that are generally infertile or unproductive and that lack access to basic services and opportunities for sustained livelihoods.

Chapter Five

5. Summary of Research Finding, Conclusion and Recommendation

5.1. Summary Of Findings

Male household heads are more flexible than female household heads in demanding the available public transport options. Public transport available is challenged female house head. About this Booth et al. (2000) supported that transport use and provision are highly gendered. Women are influenced by culture, customs and the overall division of household responsibilities between men and women. Women are almost certainly less mobile than men in the same socio-economic group and they are much less likely to have access to and use transport technology than men.

More than half of households have permanent employment. Still, the majority (24 %) of households' earning power ranged between 1500 - 3000 birr per month. Even though urban residents' source of livelihood is distinct, the majority (59.5 %) of households' source of livelihood is salary. This is the pressure on households unable to challenge the increment of public transport fares and illegal tariff charges. The public transport preference of households is the Sheger express bus, which represents 44 % of the total respondents, but 15 % of respondents use the available public transport. This option of the public bus is very limited in the study area as compared to other suburb areas of the city. Because the usual public Bus (like Anbessa Bus) is not allocated in the area, and tariff of Sheger express bus is more expensive than Anbessa Bus.

Accessibility- peripheral condominium residents earn their income and livelihood by travelling long distances and hours. Because their economic and social activities are found in the central part of the city. Thus, the majority of the respondents' workplace is far by more than 16 kilometres, which represent 39.5 % of the total respondents. In line with this result, Asian Development Bank (2009) studies recognized that a new paradigm for sustainable urban transport should understand the location of homes and places of work. For example, if people work close to home, transport issues are less likely to be a priority as walking to work is possible and public transport is more accessible. Many of the urban poor are located in

peripheral areas, and transport issues will rank higher on their list of priorities, especially where road access to and within poor areas is deficient.

To access public transport service, households must walk 1-2 kilometres from home to the bus terminal according to 57 % of respondents. Booth et al. (2000) study support this result as public transport represents a particularly important physical common-property asset to the urban poor. Due to long-distance between homes, workplaces and services and the non-available of public transport can considerably limit the livelihood strategies of the poor- for example, job opportunities and access to the marketplace. Equally, good provision can enhance livelihood profiles and enable the poor to develop and broaden their asset base. However, Bole Arabssa condominium's inner streets have no light and it is very difficult to walk for women. Because they are looting their bag and mobiles. No one walks on foot at night when they are not in a group. Therefore, peripheral condominium households are unsafe to walk from the Bus station to home, especially those who work at night programs and have night classes.

The same distance takes different travel hours to go to the workplace and to go back home for over 60 % of households. Hence, to reach the workplace majority of the household has taken one-two hours, nevertheless, to go back home, respondents take from 2-3 hours. This study points out what are the problems households travel the same distance at different hours. The cause forwarded from the majority of respondents' practical experiences is connected with street vending, lack of a pedestrian bridge, the car parked on the street in the evening, having the same work exit time between public and private organizations and residents going in the same direction.

In addition to these, increasing personal car numbers, poor road network and traffic management failure to coordinate are causes of traffic congestion and households' travel long hour. Even though poor transportation management and operation push these limitations, Booth et al (2000) studies underpin investment in physical capital can shorten journey time and contribute to reducing time poverty. One more time is available to the household reallocated for other tasks. For example, for better family care, health, education and marketing, and can build up human, social and financial capital. Therefore, transport can thus help save time and this saved time empowers women and men to acquire other assets.

Relatively public taxi is available in the early morning and late at night, but operators charge extra tariff. The public bus is free at mid of the day because employees and students are at work and school. Therefore, over 98 % of respondents' practical experience shows us, that households are unable to access the existing public transport service. Because our transportation system has a weak transport law enforcement and supervision and limited public bus option. Moreover, public transport operating hour schedule and transportation provision is not concerned with the urban poor's living area. Faiz's (2011) studies confirmed that the urban poor are tending to live in geographically marginalized areas, are subject to high transport costs, and have long journeys, with poorer quality services and infrastructure. They are unable to travel relatively by walk.

The impact of inaccessible public transport on households is exposed to extra tariff payments, too long hours of transport waiting, decreasing households' income, loss of loyalty to a boss and colleague at the workplace as well as unable to find jobs to diversify the source of income. Flowingly, public transport poverty affects the family's relationship by which the spouse is unable to arrive on time, couples distrust their spouse, decreasing families love, incapable to support children's education, and powerless to ask relatives and move children. Other impacts of unsafe and unsecured public transport services on residents are verbal harassment, physical harassment, lost material, fracture and discrimination and curtailing freedom of movement. For this reason, Hagans (2013) argued that human security is increasing at risk in urban areas where access to important means of livelihood can be restricted. For instance, food security and dependency on transportation opportunities are major concerns in urban areas.

The study examined public transport regulators concerning understanding the vulnerability of households to different socio-economic disasters. Over 80 % of respondents described that Transport Bureau, Traffic Management Agency and Road Transport are not empathetic to understand the impact of inaccessible public transport on the urban poor's livelihood. Hence, the result entails that Transport Bureau and Traffic Management Agencies are impotent to control service providers, weak regular contiguous field supervision, powerless to distribute public transport accordingly population size and implement unstudied based transport zonal system are shocks households and they are incapable to access public transport.

Another policy, process and the institutional gap get up from taxi-order attendant legitimations and responsibilities. Residents understand them as money collectors but they believe as they facilitate residents to make the parade and public taxies to offer service by keeping their order. They are essential to disadvantaged groups like pregnant, disabled people, and aged people, who hold children and students to give priority service, but their service requires the legal ground base to claim public transport operators because they were organized originally as a free service.

Public Transport Fare- the study result revealed that households pay a high amount of birr to transport. Because, the majority of respondents pay between 31-45 birrs by individuals. Moreover, to earn household income and to find a livelihood, the majority of respondents travel six days a week. Consequently, this survey data shows us household monthly income and public transport expenditure are not proportional. Because the majority of respondents purported that households could not serve by the regular public transport fare. In addition, transport policy, institutional regulation and implementation of fares are not working in favour of the urban poor as well as transport stakeholders are not subject to the law. Faiz's (2011) studies confirmed that poor neighbourhoods often suffer from the lack of affordable public transit. Unaffordable transport causes geographical, social and economic isolation.

Illicit public transport fare has a huge implication on households' livelihood by creating social crisis among households, unable to improve human and social capital, powerless to work extra job and decreasing residents' work performance. The problem of extra fare tariffs are arise from the Time-off of transport regulators, public bus stop work early at night, public taxi operators and Marshalls have become a business alliance, and travellers are powerless to exercise their rights and fight illegal public transport operators.

Affordable public transport fare has a huge opportunity implication on households' livelihood by improving households' educational career; sustaining households' income, and empowering households' can live everywhere and households work extra jobs. Moreover, affordable transport fare enhances households' work spirit and motivation, and they can able to move freely to ask relatives and reduce urban poverty. The reaction of transport stakeholders to illegal transport fares is very fragmented and caused households to expose to paying high transport costs. The study result shows that transport regulators and traffic police are disregarding

transport tariffs. Marshals are not legitimate to control illegal public transport fares, but they are advantageous when transport operators charge extra.

Households' Reaction To Inaccessible Public Transport Impact- Household strategies are essential to reduce or solve the impact in the short or long-term at the households' level of remedial. Therefore, the majority of households' reaction to unavailable public transport is to report to their boss and colleague as they are delayed. Households' are experienced in changing resident location as a copy mechanism to inaccessible public transport. In addition to this, residents were take to change their workplace, leaving jobs permanently and finding permanent jobs as a coping mechanism for transport accessibility impact.

Household practical action to unsafe public transport service threat is to invest sufficient time, early go back from work and report to the transport bureau and traffic police. Nevertheless, the result shows us that walking collectively is the least choice of suburban households due to poor integration of workplace and resident place. Regarding unaffordable transport fares, households' coping mechanism is cutting social journeys and travel strictly for essential purposes and subsequent, relocating children to attend a nearby school. Faiz (2011) study suggested that transportation infrastructure in the name of urban renewal and economic development programs marginalizes the urban poor, and city improvements are made at the expense of the most vulnerable citizens of society. The connection between economic opportunity and urban accessibility is easy to see. Displacement forces people to the urban periphery, to areas that are generally infertile or unproductive and that lack access to basic services and opportunities for sustained livelihoods.

5.2. Conclusion

Transport is one of the most basic needs of the urban poor. Public transport is very essential social service for the urban poor household to earn their income and perform their daily activities. Hence, it is one of the big social services, for the urban poor to secure better well-being. This shows that many writers have recognized that public transport is one of the main indicators of sustainable urban development for poor groups of residents, while it lacks attention to providing this social service in peripheral condominium areas of Addis Ababa.

Accessible public transport service and affordable Public transport fares are some of the critical problems for Cherkos, Bole Arabssa condominium residents. Because the Urban House Development Project does not integrate with social service infrastructure and even it is distant from business and sectoral districts; neighbourhoods have limited options of the public bus, the existence of weak transport management and regulation affects households' mobility and livelihood, families' relationship and children's education at largely.

Furthermore, many of the dwellers in the study area are economically active age group and they seek accessible and affordable public transport to sustain their households' livelihood. Hand in hand, most of the residents relatively have low education status. They need public transport to access work. The majority of residents' transport choices are Sheger express bus and public taxi. Nevertheless, Sheger express Bus stops the service before 8:30 pm. This takes as factor households are unable to afford the increment in public transport fares. Therefore, the government should consider the transport fare-paying power of poor households equally with the middle economic class.

Residents are unable to access public transport services within short distances and powerless to reach the workplace within a short hour. Moreover, this thesis recognized that poor transport regulation and supervision, street vending, lack of a pedestrian bridge, car parks on the street, residents travelling in the same direction and employees having the same work entrance and exit hours are the causes of households to a mobile long hour and travel the same kilometre with the different hour. In sustainable urban development, non-motorized means of transport are the best and recommended, but it is difficult to walk for a peripheral resident from home to work.

This research identified that implications of inaccessible public transport on the urban poor household livelihoods are long hour transport waiting, decreasing households income, paying extra fare tariff, loss of loyalty with boss and colleague at the workplace and unable to find jobs to diversify households livelihood. Besides this, couples distrust their spouse, diminution the family loves, are incapable to support children's education and are powerless to ask relatives and move children. Furthermore, residents are vulnerable to verbal harassment, physical harassment, losing material, fracture and discrimination and curtailing freedom of movement.

Unable to serve with normal public transport fare is evident in the study area with most of the suburb residents. Thus, on average individuals pay more than 31-45 birrs on a day trip. Public transport fare is unaffordable to the poorest of poor residents due to the transport fare policy being the same for all residents. On the other hand, the transport bureau and Marshals are responsible for the increment of public transport fares, since they fail in the operation and implementation of public transport rules.

Another implication of inaccessible public transport on households is changing of resident location and workplace. In addition, households leave permanently their jobs and they total cut their social journey. These households' coping strategies can provide a remedial solution to immediate and short-term transportation challenges. To sum up, public transportation restraint gets up from poor transportation distributional system, regulation and implementation at all levels of the structure. At the top level, the bureau has weak communication and integration with Land Management and urban planning to provide sustainable urban transport for the urban poor.

5.3. Recommendation

- Road and Transport Bureau should work on empowering the capacity of Taxi-order attendants within accountability. Transport Bureau and Traffic management Agency are better to work coordinating with Marshall to tackle illegal public Taxi tariffs.
- The public transport distribution department should extend the working hour schedule of the public bus until mid of night. Because at 7:00 pm households cannot access bus from the core to periphery and public taxis are charge two-fold of normal traffic.
- The government must consider discount transport tickets for disadvantaged and poorest of poor residents in the peripheral condominiums. Because this group have double pressure, one their home and workplace is too far, secondly, public transport cost is an increase from time to time and this group of neighbourhoods' children are used transport to go to school.
- Road and Transport Bureau and Traffic Management Agency must manage traffic flow and work to stop street vending from Trade and Industry Development Bureau and should differentiate public bus and private car ways. The corridor seeks to build a pedestrian bridge and prohibit street-side parking to reduce traffic congestion and delay the household from work.

- City Administration must work with households to adapt non-motorized means to the transportation system. Moreover, city planning should integrate residents from the marketplace, and educational and health institutions.
- Road and Transport Bureau should legitimate street buffer zone. The pedestrian street must be available for pedestrians, not for parking, not for street vendors and not safeguard for putting a seat for the individual business. Therefore, the bureau works the street to be available for the community rather than individual assets.
- Job creation efforts close to the condominium house should require for the urban poor.
- Increasing road access to peripheral urban poor residents should build.

Reference

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7. Monthly income _____
8. Source of income: (Hint: more than one answer is possible) 1 = Salary 2 = Pension
 3 = House rent 4 = Self-employed formal 5 = Self-employed informal
 6 = House rent and salary 7 = Remittance
9. Which types of motorized public transport do you usually prefer? 1 = Anbessa bus
 2 = Public taxi 3 = Sheger expresse bus 4 = Higer bus
 5 = Issuze (ketekete) 6 = light train 7 = available

Section Two: Public transport accessibility implication on households' livelihoods

10. What is the distance from your home to your workplace?
- a. Less than 5 km b. 6 – 10 km c. 11-15 km D. more than 16 km
11. What is the distance from your home to a bus or taxi stop?
- a. Less than 1 km b. 1 - 2 km c. 2 - 3 km d. more than 3 km
12. At what time do you start working in the morning?
- a. Before 7:00 am b. 7 – 8 am c. Sharpe 8:30 am d. other flexible hours
13. How many hours do you travel to work?
- a. less than 1hr. b. 1 – 2 hr. c. 2 – 3 hr. d. More than three
14. Is it the same travelling hour to get back home?
- a. Yes b. No
15. . If not, then how many hours do you take from the workplace to home?
- a. less than 1hr b. 1 – 2 hr. c. 2 – 3 hr. d. more than 3 hr.
16. What are the problems households travel the same distance at different hours?

—

17. On average how many kilometres do you travel by foot in a week from workplace to home and from home to work?

- a. less than 5km b. 6 – 10 km c. 11 – 15 km d. 16 – 20 e. More than 20 km

18. On average how long hours do you wait public transport service per day?

- a. less than 1 hr b. 1 – 2 hr. c. 2 - 3 hr d. more than 3 hr

19. At what time is public transport easy to available?

20. For ‘question 19’, How do you get public transportation at that time?

21. What is the problem with the high traffic congestion in the city from practical experience?

1= Parking on the sidewalk 2= Weak traffic management and enforcement 3= increment of private vehicle 4= A similar work-in and out-of-work time in public and private institutions 5= street vending 6= if others, please specify _____

22. What is usually challenging for peripheral condominium households due to traffic congestion?

1= Long waiting 2= Expose to illegal fare tariff 3= Expose Long hour travel

4 = Decreasing households’ income 5 = Exposing to risk

6 = if others, please specify_____

23. Do you think that inadequate public transportation has an impact on families' relationships?

a. Yes b. No

24. If your answer is 'Yes' how?

25. Does the operating hour schedule of public transport service support households' to diversify their livelihoods?

1. Yes 2. No

26. If your answer is 'No' what are the problems?

27. Have you ever had problems with travelling on public transport?

1= yes 2= no

28. If your answer is 'yes' what problems have you encountered?

1 = Loss of material 2 = Verbal harassment 3 = physical harassment 4 = Reducing households' income by exposure to extra charge 5 = Exposed to walking long distance

6 = if others, please specify_____

1. Yes 2. No

1. Yes 2. Never

33. How much birr do you spend on transportation per day?

34. How many days travel per week? _____

a= Yes b. No

a= Expanding City to Side

b= Less experience of walking

time to time e = If others, please specify_____

37. Is there any instance you are forced to pay more than the stipulated fare?

1. Yes

2. No

38. If your answer is 'Yes', when do transport operators enforce you to pay extra?

39. If your answer to question No.38 is 'yes' how and why you are forced to pay extra fares?

40. What is the implication of unaffordable public transport fares on households' livelihood?

41. How can affordable public transportation fares diversify households' livelihood?

42. What are the reactions of transport regulators and Traffic Police to illegal public transport tariffs?

Section Four: Households' coping mechanism to inaccessible, unaffordability and unsafe public transport

43. If public transport is not available, usually, what options are taken?

1= Walk 2= Ask lift 3= If I cannot reach my on-time office, I will be notified by phone that I will come later 4= Getting home 5= using rental taxi 6= if other, please specify

44. When you have problems with transport access in the past, what strategies did you use to address the problem? 1= by Changing my residence place 2= By changing workplaces 3. Seeking permanent jobs 4= Completely left the job early wake up 5= if other, please specify

45. If public transport is not affordable, what types of strategies do your households take?

1= Traveling to work only by leaving social travel 2= Households doing various jobs to raise their income 3= Walking some distance to save costs 4= Changing the workplace to a nearest office 5= By changing the child's school to a nearby school f. if other, please specify

46. If you feel public, transport is not safe, what practical action do you take to solve the problem?

1= Leave home late in the morning 2= Returning early in the evening 3= Adequate time allocated 4= Group travel 5= Report the problem quickly to the Traffic Policy and Transport Bureau 6= If the problem is going to be late at night, try to stay home with a relative or a friend

7= If others, please specify

47. Do you think that public transport service is inaccessible and the fare is unaffordable to your family?

- a. Yes b. No

48. If your answer is 'Yes' what is the major impact on your household livelihood?

- a. Reducing households' income b. Limiting employment opportunities
c. Reducing work performance C. limiting social purpose travel
d. If other, please Specify _____

49. What is your recommendation to the government regarding the improvement of public transport accessibility and affordability to poor residents?

Thank you!!!

Appendix- II

Interview Guide For In-Depth Interviews With Households

Name _____

Age _____

Educational background _____

Occupation _____

Marital status _____

1. What is the condition of traffic congestion in Addis Ababa?
2. Can you tell me about the accessibility of public transport in Bole Arabssa to poor residents?
3. What is the impact of inaccessible public transport on suburb poor livelihood?
4. Why urban poor cannot afford public transport fare, since public transport fare is subsidized and controlled by the government?
5. What are the real practices of urban poor to unaffordable public transport fares?
6. Frequently, when the fare of public transport is increase, what mechanism do the residents use to solve this problem?
7. On average, how much birr does a household spend for a single day's travel?
8. Who are the most vulnerable to extra fare payment?
9. How does the city administration realize the cost of transportation policy and strategy?
10. How much can an equivalent amount of public transport affect household livelihoods?
11. How has public transport fare been increased since government control the tariff?
12. What are the penalties and corrections taken by Traffic Police and Transport Bureau on transport operators who charge extra fares from passengers?
13. What are the difficulties that urban poor face due to unsafe public transport?
14. What strategies do households use for insecure public transportation services?
15. Can you tell me, if residents have reported the problem to the traffic police or transport bureau?
16. What will the government do when the safety service is in the realm of security?

Appendix- III

Interview Guide for Key Informant Interviews

Name _____

Age _____

Educational background _____

Occupation _____

Working experience _____

1. Can you tell me, what are the problems with public transportation accessibility?
2. What are the effects of traffic congestion on urban poor households' livelihood?
3. What is the implication of inaccessible Public Transport on urban poor Livelihoods?
4. What are the government's responses to accessible public transport problems?
5. How affordable public transport fare is matter urban poor?
6. How can transport costs affect households' livelihood?
7. How much birr a household spend on single-day travel?
8. Who is frequently exposed to unaffordable public transport fares?
9. How do the city administrators understand the implications of the unbalanced transportation cost with urban poor income? In addition, what kinds of resolutions have to be worked to mitigate this problem?
10. Do residents report to your organization when they claim to pay the extra fare? If they do, please tell me
11. What kind of punishment or correction does the administration take against anyone who breaks the law?
12. What kind of problems do households face due to unsafe public transport accessibility?
13. Who is often exposed to an unsafe public transportation system?
14. Can you tell me, did residents report to your office when they face safety problems inside transportation and when accessing public transport? If so, what are the problems?
15. What the government is doing to solve transport safety problems?

Appendix- IV

Field Observation Checklist

No	List of observation statements	Yes	F	%	No	F	%
.							
1.	Is public transport accessible at any time?						
2.	Are households wait for public transport for more than an hour?						
3.	Are the majority of public transport working times available to households?						
4.	Are public transport fares affordable to travel to work						
5.	Is the fare of public transport varying according to the time of day?						
6.	Are traffic rules and laws respected by all public transport operators?						
7.	Are fares of public transport the same at any time?						
8.	Can public transport stakeholders follow up on the implementation of fixed fares?						
9.	Is public transport safety inclusive for all passengers?						
10.	Is the street safe to walk?						
11.	Have the majority of households a walking trend from home to work?						
12.	Do taxi Marshals play their role in public transport being affordable and safe?						