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**The impact of taxi service zoning on service delivery the
case of Yeka**

Frehiwot Negatu

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This is to certify that the thesis prepared by Frehiwot Negatu, Entitled: The impact of taxi service zoning on service delivery and submitted in partial fulfillment of the requirements for the Degree of Master of Arts (Geography and Environmental Study) complies with the regulation of the University and meet the accepted standards with respect to originality and quality.

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Examiner-----Signature----- Date-----

Examiner-----Signature----- Date-----

Advisor -----Signature----- Date-----

Advisor -----Signature----- Date-----

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Acronyms

ACBSE	Anbessa City Bus Service Enterprise
CSA	Addis Ababa spastics agency
GDP	Grows national products
IPT	Individual public transport
LRT	Light Rail Transport
PLC	Private limited company

Abstract

The impact of taxi service zoning on service delivery the case of Yeka
Frehiwot Negatu
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Public transport systems are broadly accepted in many cities as preferred transportation alternative for communication to work, traveling to social events. However, the existing public transport system in Addis Ababa is critically inadequate to provide services for the existing travel demand.

This study attempts to assess the reasons that led the city administration to zone the taxi service in Addis Ababa' and the level of satisfaction of taxi users related to taxi service zoning. It has also assessed the attitudes of taxi drivers and passengers regarding the zoning of the taxi services. The study used descriptive and exploratory research methods. The study mainly relies on secondary data for its analysis and findings; however primary data has also been generated and analyzed with the help of questionnaire and structured interviews.

The overall findings of this study portrayed that the purpose of taxi zoning transport system was to improve transport service and resolve its problem as well as giving standard transport service for the people. However, the taxi zoning system failed to achieve its purpose due to lack of correct implementation, lack of well trained institutional leaders, weak management and follow-up mechanism and the stakeholders failed to fulfill their responsibilities.

Finally the paper puts forward suggestions and particular solutions to some existing realities of the public transport.

1. Introduction

1.1 Back ground of the study

Civilized life depends on transport, for the movement of goods from where they are produced to where they are needed, and for the movement of people from their places of residence to where they must go to pursue all the activities of life, such as work, education, shopping and leisure activities. A good transport system is vital to a country's development; at the same time the factors affecting the development of a country play an important part in determining the way in which its transport system evolves. Ensuring that the transport system develops in the way which is most conducive to the overall development of the country can have far reaching benefits, and conversely, failing to do so will have an adverse effect on development (Iles, 2005).

Populations in most developing countries are increasing much faster than car ownership levels, and therefore an increasing proportion of the population is dependent on public transport except for very short journeys (*allafrica.com accessed on 10/12/2012*).

In many developing countries families tend to be large, so that even if there is a car belonging to a household, most members of the family are still likely to use public transport for at least some of their travel. Public transport is therefore vital for the vast majority without access to private transport. There is need for personal mobility, in particular for access to employment opportunities, but with low income levels affordability is a common problem, while the services provided are often regarded as inadequate (Iles, 2005).

Mobility in the developing world is often characterized by travel demand that far exceeds supply, (Darido, 2003 cited on Mintesnot and Takano, 2007). The city of Addis Ababa is not an exception to this reality. Demand for urban public transport services is growing in the same way as in other third-world cities, Jacobs, 1986(cited on Mintesnot and Takano, 2007). Public transportation is an important element in day-to-day activities in Addis Ababa because (1) it is a relatively affordable means of transportation, (2) infrastructure is not sufficient to promote private vehicle ownership, and (3) it promotes reduction of environmental pollution and traffic accidents. Even though the role of public transportation is noteworthy, the service provision is not good enough as the demand is

much greater than the supply. As the population and the number of passengers increase, service should be expected to grow. This is not practically true in the city because of financial and managerial constraints. Despite prevailing problems, efforts to make an empirical study of the transportation in the city are insignificant (Mintesnot and Takano, 2007).

The Addis Ababa taxi transport service, which is believed to have begun in the time of Emperor Haileselassie I with small cars called Fiat 600, has gone through various stages and systems before it reached the current level. A taxi zoning system was for the first time introduced by the Derg regime about 20 years ago. (<http://www.addisfortune.com>

With a motive to provide public transport service in Ethiopia, Anbessa City Bus Service Enterprise (ACBSE) was started before 60 years. Currently, though the enterprise has large coverage in and around the city of Addis Ababa, it faces a lot of challenges in providing adequate service. Moreover, in terms service satisfactions of its customers, the enterprise unfortunately leaves much to be desired and remains long to go. To address this problem, in the short run, the Ethiopian government has made interventions to introduce midi buses (495 China made Higer buses with seat capacity of 25 passengers) and encouraged private owners to participate in the public transportation.

Even though the efforts made by the short run interventions, it could not address the high demand rather created high congestion in the mixed traffic system. The long run interventions namely the railway system, cannot fully substitute the bus service; and expansion of city roads and increasing the number of buses could not address the problem without efficient utilization and scheduling of buses (Eshetie, Birhanu, Daniel, 2013)

At present time, there are four major transport service providers in Addis Ababa, the 12 seat white and blue minibus taxis, the midi-buss that seat 22-27 people, the limited number of big Anbessa city houses 30 people seated and 70 standing and another city bus service run by a private company called Aliens can hardly cope with the public's demand for transportation (addisababaonline.com accessed on 5/1/2013).

Taxi zoning service program was reintroduced by the Transport bureau in 2008. However, the plan was not implemented in Addis Ababa until May 10, 2011. The main purpose of the zoning is to create a fair service in all areas, prevent taxi operators from dividing long routes to make more money, and enable passengers to pay the appropriate fee (allafrica.com/stories/201102150260.html).

As per the new system 239 routes are categorized into five zones including Bole, Megegnagna, Asco, Saris and Tor Hailoch. A total of 9,200 minibuses have been registered by the transport bureau to employ the system. The bureau, which has been working for more than two years to introduce the system, has also identified some 13 Taxi Owners Associations as stakeholders in the zoning system. Addis Ababa Transport Branch Office started taxi zoning transport system to improve the urban transport situation (<http://www.addisfortune.com/> accessed at 9/6/2012).

According to the new taxi zoning law, all registered taxis are expected to list their fares based on travel distance and will operate from 6:30 am to 9 pm in all zoning areas. Besides, registered taxis are classified under their registration date, owners or drivers name, license plate number, the year the car was manufactured and the number of years that it has provided service (www.EZega.com accessed at 9/6/2012).

1.2 Statement of the Problem

The Ministry of transport confirmed in 2011 that, the existing public transport system in Addis Ababa is critically inadequate to provide services for the existing travel demand. The overall performance of mass transport was constrained by many problems, of which low transport service accessibility and standard, lack of taxi station, parking spaces and poor traffic management and control have remained the most critical issues to day.

Besides, most of the roads are poor and the quality and accessibility of taxi is discouraging, increasing traffic congestion, pollution and accidents in the city. Despite magnificent effort, taxi transport service remains the main problem in Addis Ababa and the need for adequate transport service has kept on growing. That is inefficient even if a mechanism like zonal taxi transport system was introduced by the government; the problem could not be resolved due the interplay of multiple constraining factors.

Lack of centralized route plan for taxis in Addis Ababa is one of the key problems in the city's transport sector. Breaking down routes into smaller segments at peak hours to exploit the authorized fares structure and maximize income is another major setback. In response to complaints from the public, the Addis Ababa Roads and Transport Bureau is to introduce centralized zonal route plan for taxis in Addis Ababa. According to head of the Addis Ababa Roads and Transport Bureau over 360 taxi routes have been identified in five zones of the city. 13 taxi service associations have also been established. Each of the associations would be operating in a specified zone. Working hours of the taxis will be from 6:30am to 9:00 am. The taxis will display pointers indicating starting points, passageways and destinations. They will also put on view the distance of the route and the corresponding tariff. According to the transport head office, the new scheme is rewarding to taxi owners and drivers, as well as to car and parking attendants. It will also help to create sound relations between the service providers and their customers (ERTA, assessed 24/8/13).

However, the impact of this zonal transport system on the services delivery is yet to be assessed. The assessment could be examined from different perspectives. Quality of transport is a major one. In any country transport quality is seen in four major elements. Initially, accessibility of transport to the dweller of the sub- city is one of the parameters. Even if zonal transport system is introduced with many new taxi routes to enhance accessibility, anecdotal evidences reflect that shortage of taxis continues in contrast to the number of passengers in a given area. This may make things worse for passengers to travel.

Secondly, more than 50 percent of Addis Ababa city residents live below absolute poverty line and most of the residents have low income (Addis Ababa Finance and Economic Bureau, 2010). However, the cost of transportation in the city is steadily increasing overtime as a result of increase in the price of oil and spare parts.

Thirdly, complaints come frequently from passengers on traffic congestion, unpredictable and irregular service, long waiting time to get taxi and the rearing the taxi assistants and the driver's (MT, 2011). And whether the city transport bureau has established grievance handling mechanisms is not studied. Lastly, the driver's attitudes and driving style, lack

of waiting facilities and also the extent of customer's satisfaction on the system and stakeholders' position towards the system is not known clearly

Based on the above-mentioned issues and arguments, therefore, the study attempts to feel the gaps by assessing the impact of taxi zoning on the transportation services in megenagna area. It attempt to shed light on the case by particularly taking into account accessibility, affordability, availability and acceptability of service to the passengers and there level of satisfaction; stakeholder participation in the system and their position; and grievance handling mechanisms of the branch office of transport bureau.

1.3 Objectives

1.3.1 General Objective

The main objective of the research is to assess the extent to which the taxi zoning system improved the people's access to taxi service in megenagna area.

1.3.2 Specific Objective

More specifically the study attempts to:

- ❖ Explain the rational for zoning the taxi service in Addis Ababa by the city administration by taking Yeka zone as a case.
- ❖ Describe the number of taxi service zones and stakeholder responsibility in the zoning system.
- ❖ Assess the position of customers and drivers about zoning the taxi services.
- ❖ Evaluate the level of satisfaction of taxi service users emanating from the taxi service zoneing

1.4 Research Question

The study's main research question is that;

1. What are the reasons that led the city administration to zone the taxi service in Addis Ababa?
2. What are the attitudes of taxi owners and drivers regarding the zoning of the taxi Services?
3. What is the level of satisfaction of taxi service users related to the taxi service zoning?
4. How is zonal taxi transport system helping passengers to access service?

1.5 Significance of the study

The output of this research can contribute to policy makers by creating awareness at the lower level about the current status of taxi zoning and its purpose. Besides, it will be one of the inputs for transport authority which will enable them to see the real implementation of their policies. Also the study provides some information about how the taxi zone is seen by the taxi drivers, taxi owners, terminal attendants, customers and other stakeholders. The findings of the study are also expected to contribute a lot towards bridging the existing literature gap on taxi zone services and its impact on the service delivery.

In addition, the study also aims to give insight for taxi drivers and his assistants to adjust their behaviors. Hence, it reduces fight of customers with the taxi assistant .This is due to the fact that most people quarrel with the drivers and the assistant caused by the tariff.

Furthermore, the output of this paper will be helpful for Policy maker, Government, NGOs, Individuals and others who may need to know about the existing realities of Zonal Taxi Transport system and its impact on service delivery in Yeka with a general objective of providing solution and suggestion as well as measures that should be taken to make it play role towards transport service and taxi zone.

1.6 Delimitation of the study

The study is very much limited to the study of the impact of taxi zone on the service delivery. Even if the taxi services zoning in Addis Ababa is divided in to 5 zones this study is limited to Megenagna zone only. There are many factors affecting the taxi zone implementation and their impact on service delivery. Among several factor, the paper have special emphasis on quality of the taxi services (affordability, accessibility, availability and accessibility) and, attitude of taxi drivers and owners on the system and passenger satisfaction and traffic congestion.

1.7 Limitation of the study

- ❖ The samples were not volunteer to fill the questioner and unable to return the questioner.
- ❖ Financial limitation.

- ❖ Unavailability of resource.
- ❖ Failure of respondent to complete and return back questionnaire.

1.8 Organization of the study

This research paper is organized in to five chapters. The first chapter holds that the introductory part of the study which consists of background of the research, statement of the problem, significance, scope and limitation of the study. The second chapter deals with review of literature relevant to the research. The third chapter discussed about research methodology. The collected data from the subject of the study are carefully analyzed and interpreted under the fourth chapter. The fifth chapter summarizes the research and forward conclusion and recommendation and the finding of the study. Reference and appendix which include questionnaire, interview format and other related materials are part of the document.

1.9. Methodology

The main purpose of this study is to investigate the reason that led the Addis Ababa Road Transport Agency in 2011 to zone the taxi services and the impact that resulted from the zoning in service delivery in Yeka sub city. To this effect, the method of the research, study area and subject, study designs and sampling methods, instrument of data collection and method of data analysis are stated as follows.

1.9.1. Study subject

Successful taxi transport service delivery and the fulfillment of the taxi zoning plan is a result of various factors such as road quality, taxi service accessibility, stakeholder participation, customer satisfaction and taxi drivers and its assistant behaviors.

Hence, target groups of this study are categorized in to three, the control staff which includes transport agency, traffic police and taxi association. The second category was the service provider which consist of taxi drivers, terminal attendant. And the third group was service users or passengers that use taxi as main mode of transport in megenagna zone.

1.9.2 Study design and Sampling methods

The descriptive and exploratory research methods are employed to study the problem. It is designed to be used, because the method can provide information concerning the impact of zonal taxi services in the study area. Moreover, it helps to draw valid conclusion.

Hence, in order to identify and analyze the existing condition of taxi zones on service delivery, to compare its existing condition with the reviewed research finding of the past and to draw a general conclusion of the study, the researcher is interested to use this research method. Besides, quantitative research methodology were employed as a supplementary to the study with the information gained from structured interview made with transport bureau, taxi association, taxi drivers , terminal attendant and customers.

From the available four taxi associations in the study area two of them, namely, Addis hiwot and Negat taxi associations were selected purposively. According to the information obtained from the selected associations, there were 29 taxi routes which consisted of 883 taxis during the study period. Out of these 4 of the taxi routes (Shiro meda to Awtobestera, Megenagna terminal to Bunana Shay, Ferencaye to Mazegaga and Piassa to Koteb) which contain a total of 137 taxis were selected using systematic random samplings. As a result 137 taxi drivers and the numbers of customers are not known, on spot questionnaire far some many days at different point of time select about 137 were selected convince.

Since the transport bureau, taxi association and traffic police are responsible for the implementation and control of the zonal taxi transport system, 2 people from transport bureau, 2 people from taxi associations, 1 traffic police and 8 terminal attendants were selected purposively.

Table 3 Total population and sample size

No	Types of respondents	Total population	Sample size	Sampling .T
1	Transport office	-	2	Purposive
2	Taxi associations	4	2	Purposive
3	Customers	-	137	Convince
4	Taxi drivers	883	137	Convince
5	Terminal attendents	-	8	Convince

(- = number not known)

1.9.3 Method of data collection

The sources of the data in this research are both primary and secondary source of data. Primary data collects through questionnaire, Standardized structured interview with the special person, personal experience and observation. Secondary data were gathered from published and unpublished documents, reports, public opinion and internet. In addition to this personal experience was important to support the study.

The reason to use this instrument is that, easy method of indicating respondent answer, it save respondent time and the response easily classified and it may revel finding which are not originally out capote by the researchers. As the majority of passengers and interview respondents are Amharic language speakers, first the questionnaire were prepared in English language and then translated into Amharic.

1.9.3.1 Questionnaire

Questionnaire was structured with closed and open ended type. Consequently, Twelve 5 point likert scale items were prepared for the respondents. The reason to select this method was that it helps the researcher to know respondent feeling. Also, it helps the respondents to choose one option from the given scale that best align with their views and save respondents time. In addition to this, open ended questionnaires were employed in order to give opportunity to express their feelings, perceptions and problems related to zonal taxi services.

The questionnaire contains three different characters in order to collect the necessary information in regard to taxi zoning. The first part include sex, occupation, work hours, monthly income, household size, average daily cost of transport in order to analyze the

samples affordability and socio-economic status. The second part of the questionnaire deals with the travel behavior of the subjects, the design data used for this part includes, mode of public transport used, purpose of travel, average number of trips per day, origin and destination of trip and time of travel. With the help of this data, people were able to see demand patterns of the public transport.

Furthermore this data will help us in assessing the relationship between the frequency of trip and time of travel as compared to an individual's financial status. The third set of questions, which were aimed at getting a brief feedback about the current status of the zoning system. This helps to analyze accessibility, attitude of stakeholder about the taxi zone.

1.9.3.2 Interviews

The second type of method to collect primary data is standardized structured interviews and informal discussion made with taxi drivers and special person as well as with the leader of the associations. The aim was to know the purpose of zoning, advantage and disadvantage of the system. In addition, how the stakeholders take their responsibility and their attitude towards the taxi zoning system.

1.9.3.3 Observation

The last and the third type of primary data collection method was observation with the help of this method, different picture taken on the issues of traffic congestion and about the parking space in Megenaga zone.

1.9.4 Method of data analysis

The collected data from different sources by using different instruments were classified, organized, and interpreted by using descriptive statistics such as Tables, frequency distributions and percentages to give a digested picture of the data. In similar ways, information generated from key informants interview and observation are analyzed using inferential and descriptive statistics. In addition, the data collected from the respondents are analyzed by using SPSS version 15.

On the other hand, for better analysis the 5 rank responses of the questionnaires were made to be categorized in to three scales i.e. agree Uncertain and disagree.

Chapter two

2. Review of related Literature

2.1 Introduction

The provision of public transport in urban areas has become a major problem in most developing countries, in some respects more so than in developed countries. A major cause is rapid urban population growth, resulting in increased demand with which many transport systems are unable to cope adequately, compounded by low levels of income, inadequate road infrastructure, and uncontrolled use of private transport, severe traffic congestion, and inadequate and inefficient public transport systems. Increasing car ownership is also having an effect on the layout of cities, with greater decentralization of commercial activities and dispersal of residential areas. This has implications for transport provision: public transport is relatively inefficient in serving areas of low population or employment density.

The rate of urban population growth in the majority of developing countries is very high, with natural population growth compounded by migration from rural to urban areas. In many countries, therefore, the urban population is increasing at a much faster rate than the national population as a whole. The volume of passenger movements increases due not only to population growth but also, in many cases, to increasing mobility resulting from growth in GDP. Moreover, as the city population grows, so does the size of the city itself in terms of area; some people therefore have to travel longer distances from home to work as residential areas spread outwards at the city boundaries, and for many commuters walking ceases to be an option. Average commuting distances increase, so that the rate of increase in passenger kilometers is often substantially greater than the increase in the number of journeys. However, growth in the level of public transport provision tends to lag behind the increase in demand (Iles, 2005).

2.2 Theoretical Framework

2.2.1 Public Transportation

Transportation is one of the world's business activities. It is the business that has to do with travel, traffic and communication or with the movement of persons and things and with the mechanical transmission of ideas (Johnson, 1970)

Public passenger transportation plays an important role especially in large metropolitan areas, it also has to be carefully planned and organized in a rural environment. There are economical, environmental, and social reasons for considering the needs of customers when planning public transportation. First of all, if a public transportation company attracts more customers then it will sell more tickets and hence its income will (usually) increase. An environmental aim is to decrease the amount of individual traffic (mainly in large cities) and thus reduce its negative effects such as pollution, noise, and congestion. This is sometimes accomplished by imposing restrictions or fines through high parking fees, tolls, closure of roads, or car free days. A way of avoiding this would be to offer such a good alternative that (at least some) people voluntarily decide to use public transportation instead of their cars. In areas with few inhabitants, congestion usually is no problem. The challenge here is to offer an affordable transportation mode for people who do not have the opportunity to travel by citizens without a driving license (SCHÖBEL, 2005).

Walking is complementary to public transport, since all public transport users are pedestrians at some point during the course of their journeys; therefore infrastructure provided for pedestrians is relevant in any discussion of public transport. In particular, footpaths are used by bus passengers before and after taking their bus journeys, and while waiting for the bus to arrive. In addition many medium distance journeys, as well as journeys to and from bus stops, are made on foot; in developing countries a significant amount of short distance freight is carried by pedestrians, often using handcarts. Many people in developing countries cannot afford to use public transport, and therefore have no choice other than walking; large numbers of schoolchildren in particular have to walk, often for long distances, and may be exposed to unnecessary danger if pedestrian

facilities are poor. Improved facilities for pedestrians are therefore of benefit not only to users of public transport, but also to all people with low incomes. Moreover, walking, like cycling, is a sustainable transport mode which should be encouraged and facilitated. The quality of the footpaths in many cities in developing countries is extremely poor: many are too narrow for the volume of pedestrian traffic using them, or for people queuing for public transport services, and are often badly maintained; in some cities footpaths are shared with cyclists, while some streets have no footpaths at all. Street lighting is often inadequate, poorly maintained or non-existent; lamp posts, as well as street signs, poles carrying power and telephone cables, and other street furniture are often placed without regard for pedestrians, and cause serious obstruction on footpaths (Iles, 2005).

2.2. 2 Frequently Used Tariff Systems

According to ANITA SCHÖBEL 2005, there are three different tariff systems: the distance tariff, the unit tariff, the zone tariff with arbitrary prices, and the counting zone tariff.

2.2. 2.1 Distance Tariff

In a distance tariff system, the price for a trip depends on the length of the trip, given in kilometers. The longer the trip is, the higher is the fare. This system is usually considered as fair. To determine the ticket prices one needs the distance between each pair of stations, resulting in a matrix which in most cases is too large to be printed and put up at the stations. This makes a distance tariff inconvenient for the public transportation company and mysterious for the customers.

2.2.2.2 Unit Tariff

The simplest tariff system is the unit tariff. In this case all trip cost the same independent of their length. A unit tariff is very easy to handle for the public transportation company, and it is easy to understand for the customers, since they only have to remember one price (in each ticket category). In general, it often is not accepted that a short trip between two neighboring stations costs the same as a long trip through the whole system.

2.2.2.3 Zone Tariff

A model in between these two tariff systems is a zone tariff system. To establish a zone tariff, the whole area has to be divided into sub regions (the tariff zones), The price for a trip in a zone tariff system depends only on the starting and the ending zone of the trip. We distinguish the following two different realizations of zone tariff systems. If the price can be chosen arbitrarily for each pair of zones, we call the tariff system **a zone tariff with arbitrary prices.**

A more popular variant of a zone tariff system is the **counting zone tariff system.** To know his fare in this system, a customer has to count how many zones his trip will pass and read off the price assigned to the number of passed zones. The prices in this system depend on the starting and the ending zone of the trip.

2.2.3 Quality of Transport system

Several studies (Meron2007, Eshetie, Birhanu and Daniel 2013, Tilahun 2009, Mintesnot and Takano, 2007) conducted show that the city transport is very poor. Their studies focused on bus transport in Addis Ababa rather than taxi. There are very few studies (Wondemu,2012) conducted on public transport in Addis Ababa and their finding indicates taxi transport service is bad in Addis Ababa. Addis Ababa which has over 3 million residents has been experiencing a shortage of transportation for decades. The situation is even worse in the morning and during the evening rush hours.

There are four important qualities of public transport

2.2.3.1 Affordability

It refers to the extent to which the financial cost of journey put an individual or household in the position of having to make sacrifice to travel or the extent to which they can afford to travel when they want to. While a family on a low income might be able to afford the necessary journeys to work for the income owners of the family, they might not be able to afford trips to school for their teenage children. For such a family urban transport would be considered unaffordable as the ability to make necessary journeys to work ,school, health, other social services and visiting to other family members or urgent other journeys without having to critical other essential activities.

Studies about affordability in developing country shows the proportion of a poor working person's income spent on transport would have been over 54 percent and the expenditure of someone on an average income, more than 17 percent. In Lagos (Nigeria), 15 percent to 20percent of household expenditure in 1997 was spent on transport (public and personal) ,while in Doula (Cameroon) in 2000 the equivalent figure was 14 percent of household expenditure, while in Yaounde it was 15percent on average, but only 11 percent for the highest income quantity. In Dakar in1998, 8percent of household expenditures are spent on transport in average, and households of the highest income quantity spend 4.5 percent. In these cities it appears that most of the poor simply walk, because they cannot afford public transport fares (The World Bank Group, 2005).

Fares are also high in relation to the purchasing power of the typical family in the Africa cities, and bus usage is correspondingly low. The average family is able to afford no more than one daily round trip on the bus, while for the poorest households even this basic level of mobility is unattainable. But even this low rate of use translates into peak demand for around 200 seats per thousand residents, about five times higher than the supply available in any of the cities sampled (Kumar and Barrett, 2008).

In Addis Ababa the taxis are often accused of abusing the huge number of people in need of their service; they determine the distance and, thus, cut the trips into two or three in order to get more money. Most taxi drivers gain much more extra income when they cut trips, especially during rush hours. During peak hours, in the mornings (from seven to nine) and evenings (from five to nine), there are many traveler who would rather be subjected to exploitation and pay more than the tariff than be delayed from getting to wherever they are going (<http://www.addisfortune.com/> accessed at 15/7/2012).

2.2.3.2 Availability

Availability of transport is used to refer to route possibilities, timings and frequency. Whatever the purpose of an individual journey, education, work, leisure, personal services or other her/his activities are constrained by the route and the time taken traveling. Even if an individual has a bus stop within a reasonable distance, say 400 meters of their home, the amount of use it will be to any individual entirely depends on where he/she wants to go, how often and how long the whole journey is going to take. Timing and frequency are included since if there is no service when a person wants to

travel, there is no available transport. (National Center on Senior Transportation (NCST), 2011).

Availability of taxi, passengers' who get taxi as they reach taxi stations are only 31 percent and the rest do not get. On average, passengers are forced to wait 27 minutes to get taxi at taxi stations. It is almost similar to other African cities. According to Kumar and Barrett (2008), on average, African passengers wait 30 minutes to get taxi at terminals. However, it is much larger than Riyadh, where passengers wait on average 6 minutes to get taxi (Algadhi, 1992). The reason of shortage of taxi transportation was that the city transport bureau expected more than 12000 taxis to be registered. But, the actual taxis registered not more than 9500 taxis. (Wondem, 2012)

2.2.3.3. Accessibility

Accessibility describes the ease with which all categories of passenger can use public transport. It was sometimes used to describe the ease of accessing the bus stop or station (NCST, 2011).

Lack of adequate transport facilities characterized most of the African continent until not much more than a century ago. Until the middle of the nineteenth century, man himself, the ass, the camel and canoes provided the sole agents of transport. It was European occupation and colonization which led to transport development, although this development only occurred as the European began to become increasingly aware of the continent's economic potential and then it was largely confined to a relatively narrow zone from the coast. Even today the transport map of Africa, apart from one or two rather restricted areas is most impressively its emptiness; there are large areas still bereft of modern transport links and areas plagued by inaccessibility (Amford and Robinson, 1978).

Transport studies indicated that in Addis Ababa there is a big gap between public transport demand and supply. The service standard is also low. Old neighborhoods far from the main roads and expansion areas of the city are not well served by public transport (Ministry of transport, 2011).

Access to bus services is very low in the cities surveyed, critically so in some cases. The low density of paved roads coupled with unplanned growth, poor road surfaces, and narrow streets suggests that the geographic reach of bus services is seriously circumscribed. Most of the 14 cities have 30–60 bus seats per thousand residents, mostly in minibuses. In Addis Ababa, Kinshasa, and Ouagadougou, the indicator falls to no more than 10 per thousand. The average number of large-bus seats in our sample is only 6 per thousand. As a point of comparison, the average number of large-bus seats per thousand urban residents in the middle-income countries of Latin America, Asia, the Middle East, and Eastern Europe is 30 to 40 (Kumar and Barrett, 2008).

2.2.3.4. Acceptability

Acceptability; Potential travelers may be deterred by the state of vehicles, lack of personal security on buses or trains particularly at night, driver's attitudes and driving style, lack of waiting facilities and other attributes of public transport travel (NCST, 2011).

The quality of transport may be compromised by quality of roads, overcrowding of buses, unpredictable and irregular service, and inadequate terminal facilities. Besides, the passengers waiting time before being able transport and trip made to reach taxi stations also compromise the quality of urban transport (Kumar and Barrett, 2008).

The quality of taxi transport service is bad in Addis Ababa. Drivers and conductors and taxi station attendant, had bad behavior and lack of capacity and experience of association. The system has slightly improved the transport situation in terms of accessibility and quality. But, it is difficult to say it could make taxi fares affordable. Rather it helps taxi drivers to exploit the poor (Wonedm, 2012).

2.2.4 Position of Stakeholders towards the System

Institutions are the key instrument in executing governmental policies and strategies. Nevertheless, transport institutions in Addis Ababa have severe capacity limitation in carrying out their responsibilities to lead the sector. Though transport service requires coordination among different institutions. Evidence suggests that collaboration among

these institutions seems to be minimal and not coordinated. One of the basic problems in this respect is that, the institutions are organized under fragmented set-up. The existence of resource, capacity limitation in terms of knowledge in transport and failures to accomplish their responsibilities are the main challenges to lead the city's transport sector.

The knowledge and attitudes of the stakeholders towards traffic is decisive, in order to have efficient traffic management in the city. That is why currently awareness about traffic is done a better way as compared to the past years. Nonetheless, the training and awareness creation effects concerning the issue are unsatisfactory and lack continuity. (Ministry of transport, 2011)

In every city of Africa we studied the licensing regime emphasizes the vehicle, rather than its operator Weak or nonexistent operator-licensing regimes make it difficult to influence the behavior of transport operators and to raise their standards in the public interest. A stronger regime would require operators to maintain their vehicles in roadworthy condition and to enforce the requirement through inspections, tests, and sanctions (Kumar and Barrett, 2008).

2.2.5 Road safety and Traffic congestion

In Africa, more than elsewhere, the road network suffers from a lack of regularity, planned expansion and from a lack of long-term maintenance plans. Therefore, even more critical to provide mobility options other than just encouraging the use of the private cars. Furthermore, the private cars are still used relatively little due to the low purchasing power of people. Paradoxically, traffic congestion is increasing in the African metropolises. This illustrates moreover the limited availability of road infrastructures and especially of 28 quality paved roads. Therefore, it is necessary to seek adapted transport solutions which optimize the use of road infrastructures currently available (UITP and UATP, 2010)

The transport network of Addis Ababa is characterized by poorly maintained roads, streets and sidewalks coupled with occupation of sidewalks by economic and human

activities, subsequent use of vehicle lanes by pedestrians, for walking, mounting buses ,and taxis. Overall the city transport system suffers from many inadequacies. Traffic on the roads is increasing while the major routes in the city are still few in number (Meron, 2007).

During the last year's massive road construction and improvement works have been going on in the city .This has contributed to the efficiency of transport mobility and has changed the image of the city as well as facilitating other socio economic developments.

The road length envisaged by the Addis Ababa 2003 Master plan was 800km.As of April 2010, constructed road and pedestrian walkway were 620km and 423km respectively. Due to lack of rail way and other mass transport system, the city mobility needs are mostly covered by road based few number of buses and taxis. Moreover, there is no sufficient and comfortable pedestrian walkway.

Facilities like taxi station, parking spaces and traffic calming measures are not available in many corners of the city. Most of the available bus are not constructed to the standard and without due consideration of proper shades for passengers which, in turn, forced users to wait for the services in open air. Road ways do not give consideration for priorities for buses and mass transport vehicles and are not designed for longer trip lengths. Even the recently constructed ring roads face critical challenges to be used for the intended objective due to implementation problems Above all, sufficient and comfortable pedestrian walkways are not constructed for the pedestrians who account the major trip percentage in the city (Transport Minister, 2011).

According to the Transport policy of Addis Ababa the main challenges of the transport system are stated as follows; Roads capacity and traffic flow does not work in a modern and coordinated manner, The increasing trend of traffic congestion, lack of sufficient traffic signals, road signs and markings; coupled with non functioning and ineffective feature of the existing ones, lack of dedicated bus and bicycle lanes ,lack of parking facilities and over utilizing of on road parking and lack of public and freight transport terminals with necessary facilities.

Traffic congestion in urban areas is often more serious in developing countries than in developed countries, despite lower car ownership levels. This is due to various factors,

including inadequate road system capacity, poor traffic discipline, in particular a high level of illegal parking, the use of road space by vendors, and slow moving non-motorized traffic. There is a common tendency for car users to assume that they have the right to travel, and to park, wherever they wish. Since car owners, and often motor traders, represent a powerful lobby, this assumed right is tacitly accepted; few, if any, measures are taken to control the misuse of road and footpath space by private car users (Iles, 2005).

Congestion is becoming a common experience in all the different parts of Addis Ababa city due to the lack of consistent concerted efforts from the various stakeholders. It is also in part a result of the numerous socio-economic factors whose combined effect is to increase the pull factor of the city of Addis Ababa and hence resulting in an ever increasing population that in turn makes the battle to curb the gap between the demand for an efficient urban transportation system and the city's ability for its provision, a seemingly perpetual one (*Meron , 2007*).

2.3 Empirical Literature

2.3.1 Urban transport situation in sub Saharan Africa

For the past few decades, African cities have been experiencing huge population increases. This is mainly due to galloping urbanization and rural exodus. It is estimated that by 2020 some 55% of the African population will be living in urban areas. Such fast-growing cities face enormous challenges in terms of infrastructure provision and the need to cope with the increasing demand for transport. This is especially acute as much of the existing road infrastructure in African cities is far from being appropriate for the actual transport demand (Trans Africa consortium, 2010).

The importance of taxi services is increasing in both developing countries, as the number of people who can afford those increases, and in developed countries, where bus services generally are in decline. Most individual public transport (IPT) users in developing countries are people with higher incomes than typical bus passengers, but who do not have access to private transport, although some car owners use taxis in preference to their cars for certain journeys, often where there are serious parking difficulties(Iles,2005).

On the other hand, some IPT users would prefer to use a cheaper form of transport if such were available: for example, there is often a considerable gap in terms of service quality between the basic bus service and the taxi, and if a "premium" bus service were to be offered, many taxi users would prefer to use it. In many cities, especially the larger ones, there are different standards of taxi service: for example taxis may be available with and without air conditioning. Often there are taxis offering higher standards of comfort for passengers with higher incomes, as well as for tourists and other visitors. In some cities only one form of IPT is available: in Kingston, Jamaica, saloon cars were the only option, although even here there were two standards, namely the basic taxis, and more expensive taxis operated by members of the tour operators' associations, offering slightly greater comfort and aimed at tourists and foreign businessmen. In others, for example Jakarta, virtually the full range is available, from air-conditioned and standard taxis to three-wheeled Bajaj's, motorcycles and human-powered backs (Iles 2005).

Chapter three

3. Description of the Study Area

3.1 Introduction

Addis Ababa, established by Emperor Menelik II and Empress Taytu in 1887, is the diplomatic capital of Africa as it hosts the headquarters of the African Union and the United Nations’ Economic Commission for Africa which was created in 1958 to encourage economic cooperation. This role is also confirmed by the presence of more than a hundred embassies, numerous world class hotels and conference centers.

Addis Ababa’s population is more than 3 million, i.e. ten times larger than the second largest city in the country. Consequently, the city’s radius has expanded, particularly to the east and south. Many peripheral areas have become part of the metropolis. Over the next 15 years, the population is expected to grow annually by 3.8% .Within 50 years, the urban region. For the purpose of political administration, the City is divided into 10 sub-cities and 116 Woredas



Figure 1 Map of Addis Ababa Source (Addis Ababa city Government)

Yeka is located in the north eastern part of Addis Ababa. According to Ethiopian census 2007, the total population of yeka sub city was 346,664 among them 161,592 were male. Meganaga is one of the taxi zone sub division made by Transport office. The study areas have 64 routes that start from megenagna zone and different terminals categorized under megenagna zone. A total of 2177 taxis of which 1995 are mini bus and 182 are mid bus are set aside to serve yeka area. 'Zebra', 'Tsehay', 'Addis hiwot' and 'Nigat' are taxi associations that are presently working in this zone.

3.2 Demography

According to CSA (2012) the population projection figures based on the results of the 2007 National Population and Housing Census of Ethiopia, the projected figures for the year 2012 of Addis Ababa has 3,041,002 populations of which 1,449,002 are males and 1,592,000 are females; all of the populations are urban inhabitants. For the capital city 662,728 households were counted living in 628,984 housing units, which results in an average of 4.6 persons to a household. Although all Ethiopian ethnic groups are represented in Addis Ababa due to its position as capital of the country, the largest groups include the Amhara (47.04 percent), Oromo (19.51 percent), Gurage (16.34 percent), Tigray (6.18 percent), Silt'e (2.94 percent), and Gamo (1.68 percent). Languages spoken include Amharic (71.0 percent), Oromiffa (10.7 percent), Gurage (8.37 percent), Tigrin (3.60 percent), Silt'e (1.82 percent) and Gamo (1.03 percent). The religion with the most believers in Addis Ababa is Ethiopian Orthodox with 74.7 percent of the population, while 16.2 percent are Muslim; 7.77 percent Protestant; and 0.48 percent Catholic (CSA, 2007)

3.3. Socio Economic characteristics

Addis Ababa is the hub of the Ethiopian urban economy. As one looks into sectoral contributions to GDP of Addis Ababa, the lion's share (76.5%) comes from the service sector, while industry and agriculture contribute 23.3% and 0.2% respectively. The city economy exhibited a steady growth during the last decade. This steady economic growth has been propelled, largely, by the massive construction boom that occurred in recent past and likely to continue in the future at increasing pace.

According to data from government sources, from total employed population, 23% are engaged in trade and commerce; 22% in manufacturing and industry; 15% in different homemakers; 13% in civil administration; 9% in transport and communication; 8% in education, health and social services; 6% in hotel and catering services; and 3% in agriculture. A major urban employment and income generating activity is in the Micro and Small scale Enterprises.

According to official data, some 350,000 citizens have enjoyed employment opportunities in the sector during the last four years. The informal sector is also a major contributor to the urban socioeconomic performance. It generates substantial employment opportunities in diverse economic arenas such as petty trade, transportation, handicraft, waste recycling, as well as in the provision of shelter (Addis Ababa City Government, 22 - 26 October 2012).

3.4 Yeka transport operators

3.4.1 Minibus taxis

According to Taxi Associations, the common privately owned minibus taxis are the Toyota Jaguar, the Nissan Minibus and the Peugeot or other pick up vehicles, which are converted to taxis and are nicknamed as ‘Wuyeyet’ in Amharic. According to the data collected and Taxi Association there are 692 mini buses in Addis Hiwot are delivering service for the public in megegna zone. In this regard, with the average trip of 8 times per day minibus taxis are serving 66432 and above passengers from this center to the different directions of the city.

Most minibus taxis are more than 15 years old. Nearly are imported second hand vehicles. They operate based on their route. The fares the minibuses are charging are regulated. However, during peak hours, in the evenings and any time in some places, they force passengers to pay nearly double the normal fare.

3.4.2 Midi-buses

These are newly operational 500 China-made higher midi-buses. They have a capacity of carrying 27 passengers. They joined the sector five years ago and they are more or less working in the same manner as the mini buses. According to taxi association, the number of midi bus taxis are registered in Megenaga zone is 182 now a day 116 midi bus works

properly in the zone. Similarly, by making 6 trip per day, midi bus serving about 27840 people to different part of the city.

3.4.3 Saloon (‘ Lada’) Taxi

Saloon taxi can be categorized into yellow taxis and blue taxis. The yellow taxis predominantly serve the air port passengers, and also make a significant presence at prestigious hotels while, Blue Taxis serve the regular commuter traffic.

3.5 Taxi transport profile in Addis Ababa

There is no any evidence that indicates when and how the taxi services started in Addis Ababa. According to transport office the first motor transport gave service during the Italy invasion up to 1933e.c in the short routes at a cost of 1’shelenge’ (50centce). Because of the shortage of petroleum, the transport service performed by the help of animal ‘Garey’

In Addis Ababa, taxi transport service began between 1930 and 1940 E.c. During that time the name taxi was not known by many people as a result they called taxis Chento



Figuer2.Chento (Source federal transport authority

Expansion of the city and taxi transport demand was increasing. This attracts the rich people. Accordingly, different model cars like Toyota, Isuzu, Nisan, Pajo, Mazda and Fiat 124 started to give taxi transport. As the demand for taxi transport is increased, it was difficult to meet the demand by salon taxi.

As a result, In 1973 E.c picup cars wich caring capacity 15 quintals cars were came to Addis Ababa to give transport service by Road Transport Authority.



Figure 3 (Source federal transport authority)

3.6 Addis Ababa Taxi zone system profiles

3.6.1 Derg Regime

Even if there is no data, according to Ato Wagayhu Asefa transport operation work leader of the Federal Transport Authority, and as many people know that the taxi zoning system is not the first time to be practiced in Addis Ababa. Therefore, Ethiopian government adopted the taxi zoning system for the second time. Hence, it begins during this period by the name 'Ketena'. Ketena has five directions (zone) Asko, Tor-Hailoch, Saris, Bole and Megenagna and has 5 ketena associations.

During the time, the duty of the government was to categorize and sat the routes and controls the transport system. On the other hand, the driver must have papers that explain their routes and the 'tapela' on the head of the taxi.

The 'Ketena' system differs from zoning in various aspects. The demand of transport is increasing with increasing population this lead to the expansion of settlements in the city. As a result the amount of taxi and association as well as number of routes varies during past and now. Besides, the taxi fee in this period is not fixed.

3.6.2 Present time

Now a days, Addis Ababa city practiced taxi zoning system by observing and taking the experience of different countries and how the country like Africa, Asia, Europe resolve

the mass transport problems. According to the person who has been working on zonal taxi system, the only problem in the taxi zone was that the government did not make the people participate and other stakeholders and gathered their feeling about the system before implementation. That is why different groups of the society complaining about zoning system.

Taxi zoning has 5 zones. Each zone include two sub cities and in Addis Ababa there are 13 taxi associations which have roles on zonal system and each association contains about 700 members .Addis Ababa is divided into 243 routes and 157 terminals.

Chapter Four

4. Presentation, Analysis and Interpretation of the data

4.1 Introduction

This chapter deals with presentation, analysis and interpretation of the data gathered from the respondents through questionnaires and interviews. Thus, the quantitative as well as qualitative analyses of data were incorporated in this chapter.

The data was collected from a total of 282 respondents. To this effect, 137 customers, 137 drivers, 8 terminal attendants, a total of 282 copies of questionnaires were distributed to the respondents. Moreover, 2 higher authority positions from yeka and federal transport office, 2 representatives from taxi association, 1 traffic Police and taxi owners were interviewed.

The chapter consists of two major parts. The first section deals with the characteristics of the respondents and general information about transport. The second section presents the analysis and interpretation of the main data.

4.2 Purpose of zoning taxi services in Yeka and Addis Ababa

According to the information obtained from Federal Transport Authority 2011, the previous system had different problems that emanated from organization, drivers, assistants, taxi owners and customers. Those problems are unable to give balanced taxi services within the town and expansion of illegal terminal attendant observed from the organization.

Problem of road usage that caused congestion, bad customer treatment and behavioral problems, absence of the proper driving licenses, force the customers to drop out before their destination, cutting trips, carry passengers more than the limit, ask more money beyond tariff etc are problem observed on drivers and assistant's side.

Unable to control their property what it work all day long, unable to ask their right, unable to organize and change their business in to PLC drawback of the taxi owners and taxi associations had no role on the transport system. Shortage of taxi, time wastage (long Wait and travel time), unable to collaborate with police about exposing the thief and

guilty, affected by taxi drivers, taxi assistants and terminal attendant were problem of customers.

Hence, Addis Ababa association for the further attraction of the proprietor, improving the above mentioned taxi transport problems and to balance the demand with the service given to the society and control, the existing transport system need to transformed in to taxi zone transport system.

According to federal transport office data prepared for training the taxi associations about taxi zone transport in 2009, the following are the main rationale for zoning the taxi service system:

- ❖ Searching option and solution in order to resolve the taxi transport problems.
- ❖ Establishing agreement and giving training for taxi drivers and their assistants, change the illegal work to legal taxi transport services.
- ❖ Forming taxi association and PLC in order to get involved in the direct role of controlling taxi zones.
- ❖ Minimizing the gap between demand and supply.
- ❖ Improving the income of the taxi by balancing the profitable and unprofitable routes with the method of Terminal attendants.
- ❖ Reducing the expense and time of the passengers.
- ❖ Encouraging the legal workers.
- ❖ Being Suitable to control (In order to control easily)

4.3 Categories of routes and their tariff

The cost of taxi transport fluctuates based on the cost of kerosene and benzene' and number of taxi in each routes changes each month. The taxi routes price shown in Table1 are registered in April 2005 E.C.

Table1. Addis Hiwot Taxi Association trip origin and destination

No	Start	Through	Destination	Distance/Km	Tariff	Number of taxi
1	Megenaga Mezan	22 Estifanos	Bonana Shaye	5.5	2.80	43
2	4kilo	6kilo Ferenceye	Beretdeledye	5.5	2.80	41
3	Megenaga Mezan	Kazanchis	Senima Ras	5.0	2.80	37
4	Minilik School	Estifanos	Bonana Shaye	5.3	2.80	32
5	Diyaspora	Kebena	Awtobestera	8.5	3.95	50
6	Shiro meda	Goerges	Awtobestera	5.5	2.80	43
7	Gurdeshola	Kazanchis	Beheraw Shebella	9.9	3.95	33
8	Ferenceye	Goerges	Raguale	6.3	2.80	29
9	Kazanchis total	4 kilo	Shiro meda	5.5	2.80	56
10	Megenagna	Elefora	Wosen grosery Kara	5.2	3.95	48
11	Megenagna terminal	22 Estifanos	Bonana Shaye	6.2	2.80	25
12	Ferenceye	Afenchober	Georges Mazegaga	5.0	2.80	5
13	Shiro meda	4kilo Estifanos	Bonana Shaye	8.2	3.95	80
14	Megenagna	CMC	Hayat	8.7	3.95	46
15	Megenagna Mezan	Kazanchis Filwoha	Awtobestera	9.5	3.95	48
16	Altad mikayel	Urayale	Estadiyem	9.1	3.95	57
17	Kusqam	Enetoto maryam	Senkuru mikayel	9.4	3.85	12
18	Shiro meda	Tabot maderya	Kidane mehiret	2.5	1.40	7

Source (Addis Hiwot taxi association)

Table 2 Nigat Taxi Association Trip origin and destination

No	Start	Through	Destination	Distance/Km	Tariff	Number of taxi
1	Merey	Urayale	Legehare	5.5	1.95	20
2	Hayat	Urayale	Legehare	6.2	1.95	10
3	Hayat	Megenaga	Mere chafe	11.9	3.00	18
4	Hayat	Estadiyem	Legehare	14.3	3.70	10
5	Megenaga	Estadiyem	Ledeta/balech	7.5	1.95	19
6	Merey	Guredshola	Megenaga	7.4	1.95	10
7	Samet	Guredshola	Megenaga	7.8	1.95	10
8	Megenaga	Merey	Hayat Kondomeniyem	12	3.15	8
9	Piassa	Kebena	Megenagna terminal	7.8	1.95	11
10	Piassa	Kebena	Kotebe	14.8	3.70	64
11	Megenaga	Adiwa delidiy	Bonanashaye	-		11

Source (Nigat taxi association)

As shown in Tables 1 and 2, there are a total of 883 number of taxis are serving in the 29 routes under Addis Hiwot and Nigat Taxi Association. Based on the length of the trip, there are three categories of taxi route distribution; those are short from 0-3km, medium from 3.1-7 km and long distance trips above 7.1km. Due to the reason of income difference the taxi drivers and their partners recognize the short distance as 'teff' (teff is low incomes of taxis due to their work on short distance) and the medium and long as 'lemm' (Lemm means high incomes of taxis due to their work on long route)

As the result of the interview conducted with the representatives of the Yeka Transport Bureau and taxi association regarding how they design each route; shows market accessibility, size and density of population, religious centers and quality of road (i.e. asphalt) were taken considerations in designing each route in the study area. Furthermore, the information obtained from interview participants shows most of the routes did not consider the landform rather is based on the distance of places in kilometer.

According to my observation, the taxi drivers and his assistants abused the passengers by asking more than the tariff. Some of the indicators are shown in Table3;

Table 3 Tariff made by the taxi drivers and assistant

No	Start	Through	Destination	Distance/Km	Government Tariff	Taxi drivers Tariff
1	Megenga terminal	Ras mekonnen d	Piassa	7.7	2.70	3.80
2	Diaspora	Gojam berneda	Autobes tera	9.3	3.95	5.00
3	Autobes tera	Kebena	Kokebtiba	6.4	2.80	3.80
4	Diaspora	Bunana shaye	Tegbareed	6.2	2.80	3.70
5	Diaspora	Kokebtisba	Kebena	2.4	1.40	2.70
6	Meggenga chaffe	Debeb hotel	Anewar mesged	8.4	3.95	5.00

Source (Own survey)

The interview made with taxi association and transport offices indicated that they know that the taxi drivers and their assistants ask more money above the tariff and do nothing about it. Accordingly, in order to take measure and to correct this, they reported that they create awareness about the tariff in each stakeholder.

There are 10 to 16 field workers in each taxi associations in the zone this means on average, 39 people work on 64 routes to control and follow up the zonal taxi transport services. This shows that, the number of routes and the workers are not balanced in order to perform effective controlling and follow up the activity in different terminals of the zone.

4.4. Characteristics of the Respondents

The respondents were asked to indicate their background information. The details of the characteristics of the respondents are given in Table4 below.

Table 4.Characteristics of customers

No	Items		Frequency	%	
1	Sex	Male	120	88.9	
		Female	15	11.1	
2	Marital status	Married	85	63	
		Un married	50	37	
3	Family size	1	35	31.8	
		2-4	35	31.8	
		5	20	18.2	
		7-10	20	18.2	
4	Educational level	1-10	10	7.4	
		10+2	15	11.1	
		Diploma	15	11.1	
		Degree	80	59.3	
		MA	15	11.1	
5	Occupation	Student	15	11.1	
		Government Employee	100	74.1	
		Self Employee	20	14.8	
6	Income in birr	500-1900	25	18.5	
		2000-2200	55	40.7	
		2500-5000	20	14.8	
		Unknown	35	25.9	
7	Working hours	Enter hours	1:00	4	3.3
			2:00	35	29.2
			2:300	71	59.2
			Night worker	10	8.3
		Exit hours	9:00	15	14.2
			9:30-10:00	20	18.9
			10:30-11:30	66	62.3
			12:00-1:30	5	4.7
8	Mode of transport	Waking	15	11.1	
		Mid Bus	25	18.5	
		Mini Bus	95	70.4	
9	How much money do you spend for transport per day	Below 5	50	37	
		5-10	40	29	
		10-20	40	29	
		Above 20	5	3.7	

As shown in Table 4 item 1, the majority of the customers (88.9%) are male where as only 11.1% of the customers are female respondents for the case under study. This is partly a result of the fact that female customers were by far less willing to respond to the questions than males customers.

The interview (transport office workers, taxi association members, taxi drivers and assistants) were all male respondents except one taxi association .From this, one can conclude that the female were not on the leadership position in the transport offices and taxi association as well as in the work of taxi. Hence, females should be encouraged to become a leaders and workers as taxi drivers and assistants in Megenaga zone.

As item2 and 3 and figure4 on the above Table, 63% of the customers were married and 37% are single. In addition to this31.8% have a family size of 1, 31.8% has 2-4 family size, 18.2% has5 and 18.2% has family 7-10

As shown on the above Table item 4, the majority of the respondents 59.3% of the respondents were degree holders. While 11.1% of the respondents have got diploma, 11.1% are certificate holder and11.1% customers have MA. It is only 7.4% study up to grade 10.

As far as the educational status of the respondents are concerned, except for one taxi association, most of the taxi drivers, taxi assistants and terminal attendants were educated up to grade 10. The transport bureau has BA but the field is not on transport management. This shows that the position holders of the transport office are selected by their political views than educational relation.

Regarding the occupation level of the customers, 74.1% of them are government employee, 14.8% were self employed and the remaining 11.1% are students. From this it is possible to conclude that many of the employees use taxi transport in their day to day activities.

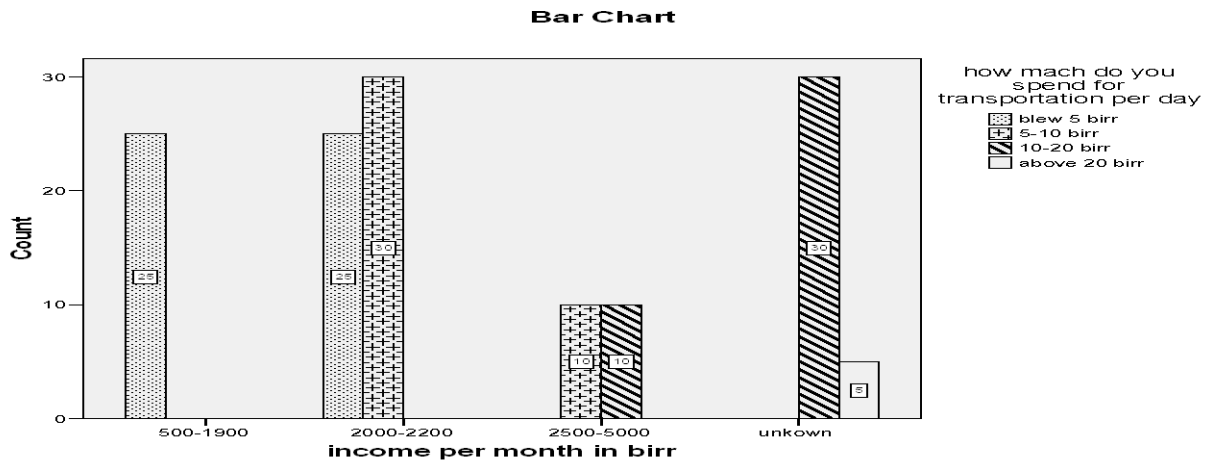


Figure4 crosstab income and expense

As shown in Table 4 item 6 and figure 5, 55 about (40.7%) of the respondents earn 2000-2200 birr monthly. 25(18.5%) of them earn 500-1900 birr monthly and those who earn 2500-5000 birr are 20(14.8%) and customers whose income unknown are 35(25.9 %.)This implies that those people who earn relatively high income use taxi transportation compared to low income earning people in the study.

Concerning working hours of the customers stated on Table 4 item 7, 59.2% of the respondents exist in 8:30am and 62.3% leave work from 4:30-5:30pm, 29.2% customers enter work at 8:00am, 18.9% leave work from 3:30-4:00pm and 8.3% of the respondents replied that they are night workers. Insignificant number 3.3% exist 7:00am and 14.2% leave work from 6:00-7:30pm. This implies that most of the customers use taxis as transportation before and after working hours from 8:30am up to 5:30pm in the area under study.

With respect to working hours of the interviewees, transport office works from 8:30 am - 4 pm. whereas, taxi association works 8:30 up to 5 pm. Furthermore, most of the taxi drivers and assistants work from 7am to 8pm. This indicates that there is work hour difference among the respondents.

Table 4 items 8 , indicates that the majority of the respondents (70.4%) people use a minibus in their day today activities. 18.5% and 11.1% of the respondents show their preference of transportation on mid bus and walking in their daily life respectively. The

implication here is that, many of the respondents of the study area prefer mini bus rather than the other modes which are mentioned.

As it is seen on figure 5, while 50 (37%) of the respondents spend below 5 birr each day for transportation, 40(29%) of them spent from 5 to 10 birr. The rest, 40(29%) spent 10-20 birr 5(3.7%) of the respondents reported that they spend above 20 birr per day for the same purpose. This implies that the majority of the respondents spend for transport from 10 to 20 birr per day.

In general Table 4 shows that, the big family size and small income family use midi bus taxi while small family number and high income usually use minibus taxi for their day today activity.

Table 5 general information about taxi drivers

No	Items	Frequency	%	
1	The owner of the car	Me	15	11.1
		Others	120	88.9
2	How much money do you expect to give to the owners per day	150-180	15	13.5
		200-300	15	13.5
		400-500	81	73
3	How many trips dose taxi make per day	5	20	14.8
		6	55	40.7
		7	30	22.2
		8	20	14.8
		10	10	7.4
4	How many extra person contain in one trip	3-5	60	44.4
		20-30	65	48.5
		No	10	7.4
5	Working hours	6am-9:30 pm	80	59.3
		7am-8pm	10	7.4
		8:30am-10pm	10	7.4
		Other	35	25.9
6	Rest time of the drivers	12-1:30am	15	18.8
		1-3am	50	62.5
		1-1:30am	10	12.5
		10-3am	5	6.3

As Table 5 item 1 show, the drivers were asked who the owner of the car is. 120(88.9%) drivers were driving another person car and 15(11.1%) drivers drive their own car. This implies that the majority car owners do not drive their own car.

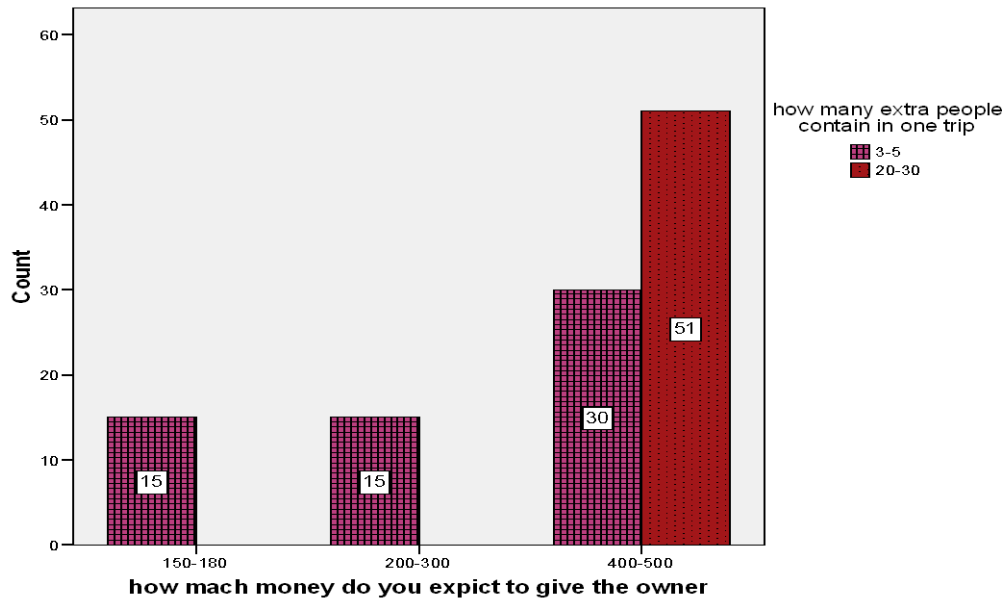


Figure 5 money expected and extra people

As shown in Item 2 Table 5 and figure 6, the drivers were asked how much money they were expected to give the owner. 81 (73%) drivers give from 400-500 birr, 15(13.5%) give from 200-300 birr and 15(13.5%) drivers give 150 to 180 birr.

Interview made with drivers indicated that, most of the midi bus drivers expected to give 400-500 birr per day. Whereas minibus drivers which use benzene were expected to give from 150-180 birr but drivers who use kerosene give 200-300 birr daily. This implies that amount of money expected from the drivers depend on the type of fuel the car consume and the condition of the car itself.

Item3 on Table 5, the drivers were asked how many trips the taxis make per day. 55 (40.7%) drivers responded 6 times from origin to origin, 30(22.2%) responded 7 times, 20 (14.8%) said 5 times ,20(14.8%) travel 8 times and 10(7.4%) replayed 10 times.

Interview made with drivers resulted that, the midi bus make from 12-16 trips from origin to origin per day depending on the distance of the routes. Whereas the minibus taxi make 14 up to 20 trips based on the condition of the car and distance of the routes .This shows

that the taxi trips of the day depends on the condition of the car and the length of the zonal routes as well as the condition of the road.

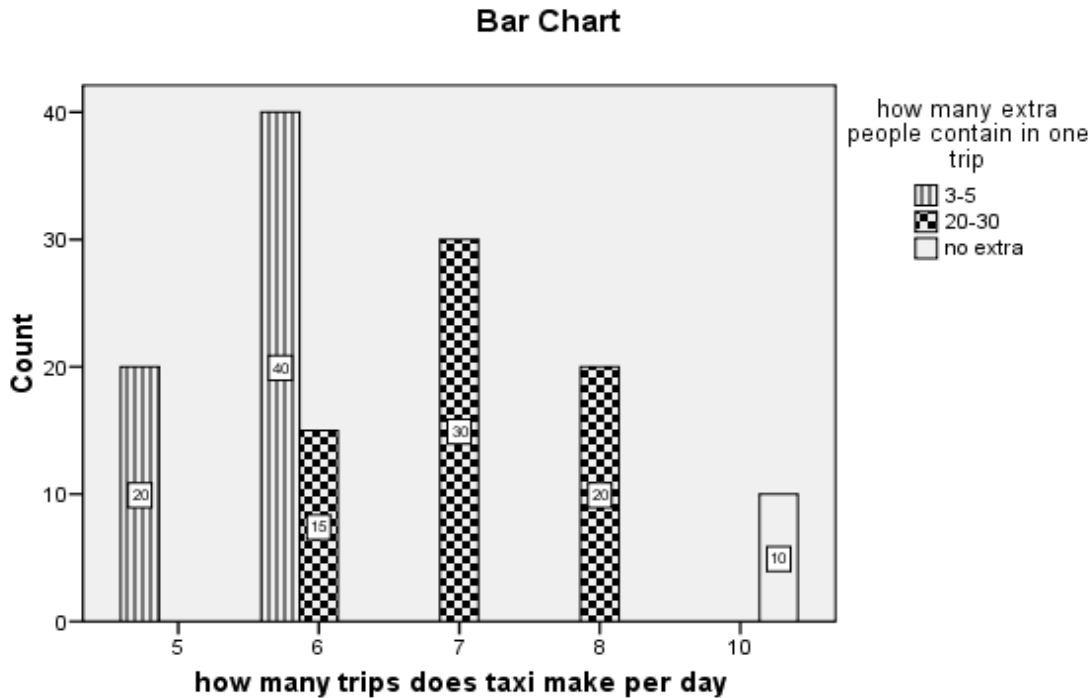


Figure 6 crosstab trips and extra peoples

On item 4 of the Table 5 and figure 6, the drivers were asked how many extra passengers they carry in one trip. 65(48.1%) drivers reported that 20-30 passengers they normally carry per trip, 60(44.4%) carry 3-5 person and 10(7.4%) drivers responded they never carry excess number of passengers.

The interviews with the drivers reveal that all of the midi bus drivers have the right to carry as many persons as they want. The minibus taxis have a maximum caring capacity of 12 passengers but the drivers carry 5 additional persons when there is no traffic police round. This shows that majority of the minibuses as a rule carry excess passengers when traffic police are not around.

The drivers were also asked about their working hours. Accordingly 80(59.3%) of the drivers reported that, their working hours were from 6am to 9:30pm, While 10(7.4%) said that they work from 7am to 8pm, another 10 persons reported their working hours as 8:30am to 10pm, while 35(25.9%) reported other. Other in this case represented drivers

work when they need to work and there is no fixed time for work. This shows there is no uniform working hours among the divers in the study area.

The last item in Table5 shows the drivers report to the question about the timing of their break. The majority 62.5% reported that they do not work from1-3 am, the rest 18.8% reported that from 12-1:30am, 12.5% drivers replied from 1-1:30 am take a break and 6.3% drivers said 10-3am.

The result of the interview also confirmed that, during rush hours there was a problem of accessing taxi transport due to the concentration of different school and government offices as well as business activities at the center of the town. As a result, a lot of people come to the city center from the periphery and during night time people move from the city center towards the periphery. Moreover, most of the workers have similar working hour for different activities in the town which cause shortage of taxi transport service in the zone.

Furthermore, Taxi drivers do not work in their zone early in the morning and at late night time. Relatively after 5 pm taxi works move out of their zones. A a result people face shortage of taxi transport services. This show that the control and management of taxi transport services is weak.

4.5. The Position of Respondent about taxi zone

Table 6 passengers view on the consequences of zoning system

No	Items		Responses					
			Customer		Driver		Terminal .A	
			No	%	No	%	No	%
1	Are you satisfied on zonal taxi system	Agree	9	6.9	50	47.6	5	62.5
		Disagree	115	88.5	55	52.4	3	37.5
2	If you disagree why	The need to have additional taxi	40	30.3	15	18.8	-	-
		Creating awareness for the stakeholders	75	57.7	25	31.3	-	-
		Establishing effective controlling mechanisms	15	11.5	35	43.8	3	100
		Other	-	-	5	6.3	-	--
3	Do you take any training about taxi zone	Yes	-	-	30	22.2	-	-
		No	-	-	105	77.8	-	-

4	What positive change have you observed after the implementation of the zonal taxi system?	New taxi routes are opened	110	84.6	20	15.4	-	-
		The availability of direct travel from start to destination	15	11.5	66	50.8	3	37.5
		The service targeted the interest of the public than the owner and driver	5	3.8	29	22.2	2	25
		Other	-	-	15	11.5	-	-
5	Why dose taxi shortage exist at pick hours	The number of taxi and customer are not proportional	35	29.2	55	42.3	3	37.5
		Taxi zoning do not have additional taxi in high customer place and time	60	50	15	11.5	3	37.5
		Taxi service is not facilitated	25	20.8	40	30.8	1	12.5
		Other	-	-	20	15.4		
6	Why is conflict arise between customers and the taxi assistants	Taxi assistants need more payment in regard to the tariff	70	53.8	15	11.5	4	50
		Cutting trips	25	19.2	35	26.9	2	25
		Lack of desire in working in their zone	24	18.5	55	42.3	2	25
		Other	11	8.5	25	19.2	2	25
7	How do you level the contribution of traffic police for effective implementation of zonal system?	High			60	50		
		Medium			30	25	5	62.5
		Low			30	25	3	37.5
8	If your answer is medium or low why	lack of commitment and devotion in enforcing the regulation	60	46.2	10	22.2	1	12.5
		showing negligence to punish the infringements of the zonal system for the sake of their personal interest	25	18.4	15	33.3	5	62.5
		Little effort in clearing car which are obstacle for the service	35	26.9	15	33.3	2	25
		Other	10	7.7	5	11.1		

As already discussed in review literature part, taxi drivers gain much more extra income when they cut trips, especially during rush hours. During peak hours, in the mornings (from seven to nine) and evenings (from five to nine), there are many commuters who would rather be subjected to exploitation and pay more than the tariff than be delayed from getting to wherever they are going.

As indicated in Table 6 item1, the respondent were asked whether or not they are satisfied on taxi zone system 88.5% customers , 52.4% drivers 37.5% terminal attendant were not satisfied on taxi zoning system. While 6.9% customers, 47.6% drivers and 62.5% terminal attendants were agreed on the issue.

Regarding the cause of dissatisfaction of taxi zonal system, in the Table item 2, respondents were requested to recommend ways of improving the services. Thus, 57.7% of the customers and 31.3% of the drivers showed that crating awareness. Moreover 43.8% of the drivers, 11.5% of the customers and 100% of the terminal attendants argued establishing effective controlling mechanism. Accordingly, 30.3% customers, 18.8% drivers reported that need to have additional taxi.

As shown in Table 6, about 77.8% of the drivers have not taken any training about the taxi zone and 22.2% drivers take training about the system.

As indicated in Table 6, the respondents were asked “what positive change have they observed after the implementation of taxi zonal system” In this respect 50.8% of the drivers 11.5% of the customers and 37.5% of the terminal attendant reported that taxi zone bring the direct travel from origin to destination on the other hand, 22.2% of the drivers, 3.8% of the customers and 25% of the terminal attendants replied the service targeted the interest of the public than the owners and drivers. Furthermore, 84.6% of the customers and 15.4% of the taxi driver reported new routes are opened. About 11.5% of the drivers reported other. This implied that the important change brought by the taxi zonal system is the establishment of new route for the passengers and on the driver and terminal attendant side zonal taxi transport t brought direct travel from start to destination In addition to this, the interview with Transport Bureau and Taxi Association, confirmed that the positive change of taxi zone system was create equal access of taxi because they Wait taxi by row. This reduces unnecessary loss of property. Most importantly, the

system avoids illegal terminal attendant and increasing the role of taxi association in the taxi transport system.

As mentioned earlier in literature part, Transport Bureau identifies major problems caused by free taxi transport service related to different stakeholders. Hence, with respect to what change they brought to the zonal taxi transport services, the interview participants revealed that most of the problems indicated above have not been resolved so far.

Item 5 of Table 6, respondents were asked why serious taxi shortage occurs at pick hours. In this respect, 60(50%) passenger, 15(11.1%) drivers and 3(37.5%) terminal attendants reported that taxi zoning did not have additional taxies in high customer areas and place, about 25(20.8%)customers, 40(30.8%) drivers and 1(12.5%) terminal attendants also reported taxi service is not well organized and 35(29.2%) passengers and 55(42.3%) drivers and 3(37.5%) terminal attendants say that the number of taxies and customers are not balanced. Therefore, it is possible to conclude that, the taxi shortage frequently observed in the Yeka zone is mainly a product of both design and inefficient service management.

The respondents were also asked why the taxi assistants fight with passengers. 70(53.8%) customer, 15(11.5%) driver and 4(50%) terminal attendant responded that taxi assistant need more money. 25 (19.2%) passenger, and 35(26.9%) drivers and 2(25%) terminal attendant responded that, cutting trips. 24(18.5%) passenger, 55(42.3%) drivers and 2(25%) terminal attendant responded that lack of desire in working in their zonal route. Hence, it is possible to conclude that, the conflict between customers and taxi assistants occurred all the time due to tariff problems.

Similarly, during the interview that was conducted with Transport Bureau, Taxi Association, and Traffic police and Terminal attendant responded that, less educational level and lack of ethics of taxi assistants and lack of awareness is the problem around the taxi assistants. In addition to this, they confirmed that asking above the tariff, cutting trips and working out of their zone is a problem in taxi transport.

Regarding the contribution of traffic police towards effective implementation of taxi zone, Table 6 items 8, shows 25(18.4%) of the customers, 15(33.3%) of the drivers and 5(62.5%) of the terminal attendants showing negligence to punish infringements of the zonal system for the sake of their personal interest. Whereas 60(46.2%) customers,

10(22.5%) drivers and 1(12.5%) terminal attendant responded that traffic police lack commitment and devotion in enforcing the regulation. On the other hand 35(26.9%) customers and 15(33.3%) driver and 2(25%) terminal attendants respond traffic police have little effort in clearing cars which become obstacle to the services. Further, 10(7.7%) passengers and 5(11.1%) drivers respond other. This implies that the major problem in traffic police was putting their interest first.

Supporting this, the respondents from the rest of the interview confirmed that there was problem regarding the traffic police. Corruption, concentration in a single place, carelessness and lack of awareness about the amount of tariff are problems related to traffic police.

Thus, based on the data gained from interview and questionnaire; it is safe to conclude that zonal taxi transport system has not achieved most of its purpose. This is mainly because, taxi zonal system failed to address the problem of taxi transport services. But there are few positive changes, new route are open (like from Megegnagna through kebona 6 kilo university), Terminal attendant work legally and create work opportunity to the mass.

4.6. Level of satisfaction of Taxi users on taxi zonal services

Passenger satisfaction caused by good quality of transport services, in return, quality public transport is accumulation of affordability, availability, accessibility and acceptability of the transport.

Table 7 Responses of Passengers on Availability and Accessibility of Zonal taxi transport services

No	Items	Responses							
		Agree		Disagree		Uncertain		Total	
		No	%	No	%	No	%	No	%
1	I can find taxi where ever and whenever I need.	40	29.6	90	66.6	5	3.7	135	100
2	Taxi service accessibility is satisfactory even in peak time	20	14.8	105	77.7	10	7.4	135	100
3	There is no time waste by waiting taxi.	40	29.6	85	63	10	7.4	135	100
4	I am not late at work because of taxi.	49	36.6	70	52.2	15	11.2	134	100
5	There is no traffic Congestion.	30	22.2	95	70	10	7.4	135	100

As shown in Table 7 item 1, the respondents were asked if they could find taxi wherever and whenever they needed. About 90(66.6%) of the respondents replied that they couldn't find taxi easily. The rest, 40(29.6%) of them responded that it was possible for them to get taxi easily and 5(3.7%) customers are uncertain about it. This implies that the taxi availability and accessibility is questionable. Besides, the zonal taxi distribution is not totally efficient.

On the other hand, from the interview held with Transport Offices, taxi association and taxi owners indicate most taxis found in this zone came in to the country after giving service abroad. The owners are unable to buy new cars due to high taxes. Besides, taxi found in Garage is as many as the service providers, low speed of existing taxi, traffic congestion, low road quality and such reasons make taxi availability and accessibility difficult.

As indicated in the Table 7 item 2, the respondents were requested whether the accessibility of taxi service is satisfactory or not. Consequently, the majority 105 (77.7%), of the respondents reported that they were not satisfied with the accessibility of

taxi services. It is only 20 (14.8%) of them that reported that their agreement on the issue mentioned. 10 (7.4%) of the customers were uncertain about it.

Table 7, item 3 illustrates that 85(63%) of the respondents replied that there is wastage of time and 40(29.6%) agreed that there was not wasted time by waiting for taxi. The rest 10 (7.4%) responded that they don't have idea on the issue under study. The implication here is that people waste their time waiting for taxi.

On Table 7 item 4, the respondents were asked if there were circumstances in which they were late from work because of the problems in relation to taxi transportation. 70(52.2%) of them confirmed that they have been late from work due to problems related to taxi transportation. The rest 49(36.6%) of them disagreed the idea mentioned above and 15(11.2%) uncertain. From this, it is possible to conclude that problems related to taxi transportation mostly causes people to be late from their works.

As shown in the same Table item 5, a total of 95(70%) respondents agreed on the existence of traffic congestions on the study area. On the contrary 30 (22.2%) of the respondent did not and 10(7.4%) were uncertain.

Supporting this, my observation showed that there was traffic congestion except in some places in the zone. Figure four was taken during my observation from Megenagna through urael to Kasanches.



Figure 7 congestion around Kasanches

From the finding above, it could be concluded that most of customers do not access taxi and the same is true for availability related problems are still there. This shows that zonal taxi transport system is not effective to help passenger to access taxi transport services.

Supporting this, as Ethiopia is a developing country; the transport service accessibility is low. Compared to the developed countries, the mobility rate observed in the city of Addis Ababa is also low. In the cities of developed nation the average trip per day is 2.5.

According to 2005 transport study the Addis Ababa average trip/day/person is 1.08. In this respect, the average length of mobility covered by vehicle is 3.3 km. and 1.5 for those who walk to various places. In developing countries the average length of mobility by walking is not more than 500 meters. (Ministry of Transport, 2011)

Table 8 Correlations about Availability and Accessibility of Zonal taxi transport services

		I can find taxi where ever and whenever I need	taxi service accessibility is satisfactory even in peak time	there is no time waste by waiting taxi	I am not late at work because of taxi
I can find taxi where ever and whenever I need	Pearson Correlation	1	.691(**)	.943(**)	.811(**)
	Sig. (2-tailed)		.000	.000	.000
	N	135	135	135	134
taxi service accessibility is satisfactory even in peak time	Pearson Correlation	.691(**)	1	.780(**)	.682(**)
	Sig. (2-tailed)	.000		.000	.000
	N	135	135	135	134
there is no time waste by waiting taxi	Pearson Correlation	.943(**)	.780(**)	1	.866(**)
	Sig. (2-tailed)	.000	.000		.000
	N	135	135	135	134
i am not late at work because of taxi	Pearson Correlation	.811(**)	.682(**)	.866(**)	1
	Sig. (2-tailed)	.000	.000	.000	
	N	134	134	134	134

** Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 8, simple linear correlation coefficient were calculated between selected pair of variables “ I can find taxi whenever and wherever I need” correlated result shows that the variable to taxi service accessibility is satisfactory by .691 at 0.01 significant levels, similarly the variable “I can find taxi whenever and wherever I need” correlated with “I am not late at work because of taxi” by .811 at a significant level of 0.01 and “taxi service accessibility is satisfactory” correlated with There is no time waste by weighting taxi by .943 at a significance level of 0.01.

Whereas, the variable “taxi service accessibility is satisfactory even at peak time” correlated by .682 at significance level of 0.01 with I am not late at work because of taxi shortage, while the variable “taxi service accessibility is satisfactory” correlated with there is no time waste by .780 at significant level of 0.01 and” I am not late at work because of taxi” correlated with there is no time waste by .866 at 0.01 significant.

From this it is possible to conclude that, the time wasted due to taxi shortage and not late from work was proportional with taxi accessibility. If accessibility and availability are enhanced then satisfaction will rise.

Table 9. Passengers responses on Acceptability and Affordability of Taxi Transport

	Items	Responses							
		Agree		Disagree		Uncertain		Total	
		No	%	No	%	No	%	No	%
1	Everything inside the taxi is comfortable.	30	22.2	90	66.7	15	11.5	135	100
2	Quality of road is satisfactory and sufficient.	45	33.3	65	48.1	25	18.5	135	100
3	I did not see anybody fight with the taxi assistants because of in appropriate manner of the assistants.	20	14.8	95	70.4	20	14.8	135	100
4	Zoning system make me more satisfy on taxi service.	25	18.5	95	70.4	15	11.1	135	100
5	The construction of road and rail way make taxi service difficult	100	74.1	15	11.1	20	14.8	135	100
6	Zoning system is good but stakeholders are not fulfilling their responsibility.	61	45.2	54	40.1	20	14.8	135	100
7	Population increase is one of the causes to make taxi services difficult	100	74.1	25	18.5	10	7.4	135	100

As shown on Table 9 item 1, while the majority of the respondents, 90(66.6%) responded by saying that the inside facilities of taxi are not comfortable for the customers,

30(22.2%) of them said that the facilities are somehow good. The rest, 15(11.5%), of the respondents replied they are not certain about the issue under study. This shows that many of the customers are not satisfied with the seating facilities of the taxi.

As indicated in Table 9 item 2, the respondents were asked if they thought that the road is sufficient and of good quality. A total of 65(48.1%) respondents reported that the existing road is not good enough to accommodate the increasing number of cars in the city and also the quality is not that much encouraging. About 45(33.3%) of them agreed that the road is sufficient and also good in its quality while 25(18.5%) were uncertain about it. This implies, there is a lot to do to improve the quality and quantity of road in the area under study.

Similarly, during the interview conducted with Transport Bureau and Taxi Association respondents reported that, the conditions of road were improved relatively from the past but it is difficult to say the road is sufficient and of sufficiently high quality. From this, it is possible to conclude that the existing roads are simply in capable of accommodating rush hour traffic. It goes without saying that this traffic congestion is one of the major factors that significantly reduce the people's access to an efficient taxi service.

Here, in item 3, respondents were asked whether or not they observe anybody fighting with the taxi assistants because of inappropriate manner of the assistants. In this case, 95(70.4%) respondents confirmed the existence of such fights. the fight. 20(14.8%) respondents admitted that they did not see anyone fight with the taxi assistants and another 20(14.8%) did not remember having

The responsibility of both taxi drivers and their assistants are they must have to respect their customers, they charged them based on the tariff and also the assistants must have sufficient 'birr' and coins that uses to respond to their customers. Otherwise they lead in to conflict.

In the same Table item 4, respondents asked whether zoning system make them more satisfied on the taxi transport services. Accordingly, 95 (70.4%) respondents disagreed in the stated issue. Whereas, 15(11.1%) respondents were uncertain about it and 25(18.4%) respondents agreed on the request.

As depicted in the same Table item5, the respondents were requested whether or not the construction of roads and railways make taxi service difficult. In respect to this, 100

(74.1%) respondents asserted their agreement, 15(11.1%) disagree and 20(14.8%) are uncertain. This reveals that, different constriction projects around the city's streets are among the causes that make the transport system difficult.

Item 6 on Table 9, 61 (45.2%) respondents accepted that even though; taxi zoning system was good the stakeholders did not fulfill their responsibilities. Consequently, 20 (14.8%) respondents see the issue doubtfully. On the other hand 54(40.2%) respondents reported opposing the question stated.

Supporting this, there has been a concerted effort by institution involved in the transport service sector to effectively deliver their responsibilities. They have ventured in improvements to provide to the public by re-aligning their institutional structure to the lower strata. However, the current organizational structures of the transport sector do not align with the current transport condition of the city. At present, accountability of different institution and their structure does not align with the requirement of the city's complex transport issue (Transport policy, 2011).

The last item in the same Table, 100(74.1%) respondent agreed that population increase is the cause of taxi shortage, 25(18.5%) customers disagree on it and 10(7.4%) were uncertain. This implies that population rise is one of the problems that affect the transport system.

From this, it is possible to conclude that, taxi zoning systems do not bring affordability acceptability, accessibility and availability of transport services to most passengers. Because of this and other causes, customers are not satisfied with the taxi zoning transport service.

Table 10 Correlations about acceptability

		everything inside the taxi is comfortable	I did not see anybody fight with the taxi assistants because of in appropriate manner of the assistants	zoning system make me more satisfy on taxi service	zoning system is good but stakeholders are not fulfilling their responsibility	there is no traffic conjunction
everything inside the taxi is comfortable	Pearson Correlation	1	.841(**)	.943(**)	.742(**)	.943(**)
	Sig. (2-tailed)		.000	.000	.000	.000
	N	135	135	135	135	135
I did not see anybody fight with the taxi assistants because of in appropriate manner of the assistants	Pearson Correlation	.841(**)	1	.883(**)	.764(**)	.779(**)
	Sig. (2-tailed)	.000		.000	.000	.000
	N	135	135	135	135	135
zoning system make me more satisfy on taxi service	Pearson Correlation	.943(**)	.883(**)	1	.713(**)	.879(**)
	Sig. (2-tailed)	.000	.000		.000	.000
	N	135	135	135	135	135
zoning system is good but stakeholders are not fulfilling their responsibility	Pearson Correlation	.742(**)	.764(**)	.713(**)	1	.673(**)
	Sig. (2-tailed)	.000	.000	.000		.000
	N	135	135	135	135	135
there is no traffic conjunction	Pearson Correlation	.943(**)	.779(**)	.879(**)	.673(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	135	135	135	135	135

** Correlation is significant at the 0.01 level (2-tailed).

As Table 10 shows the variable, “everything inside the taxi is comfortable” correlated with “there is no traffic congestion on the road” by .943at significant level of 0.01, “everything inside the taxi is comfortable” correlated with” I did not see anybody fight with the taxi assistant” by.841 at 0.01 level of significant. Similarly the variable “there is no traffic congestion on the road” correlates with” I did not see anybody fight with the taxi assistant” .779 at 0.01 significant.

The correlation table also indicates that, the variable “stakeholders are not fulfilling their responsibility” correlates with “everything inside the taxi comfortable” by .742 at 0.01 significance,” there is no traffic congestion on the road” correlates with “stakeholder are not fulfilling their responsibility” by .673 at 0.01 level of significance. While the variable “stakeholders are not fulfilling their responsibility” correlates with “Zoning system make me more satisfied on taxi service” by .713 at 0.01 level of significance.

Therefore, it is possible to conclude that, traffic congestion on the road and zoning system make me more satisfy on taxi service and depend up on the stakeholders are not fulfilling their responsibility. If the stakeholders fulfill their responsibility other problem will be solved and people satisfy on taxi zoning system.

Chapter Five

5. Conclusion and Recommendation

5.1 Conclusion

The analysis of data, showed that taxi zoning transport service failed to achieve its purposes because the stakeholders do not have any training concerning the system. There is a problem of implementation.

The finding of the study confirmed that taxi zonal transport system is weak in controlling and managing the system. This is due to insufficient number of workers in the taxi association that control and follow up the activity in various terminals.

The study showed the main positive change of zoning system was the emergence of new routes and somehow establishes direct travel from origin to destination.

It also showed that the drivers forced the passengers to pay more than the tariff, cutting trips and taxis working out of the zone in order to gather more money which is taken by the owners at the end of the day. These conditions lead the customers to fight with assistants all the time. Moreover, zoning system failed to balance the supply and demand of transport system.

The majority of the respondents alleged that corruption, concentration in a single place and carelessness were the main problems observed around the traffic police.

The majority of customers said that, taxi availability and accessibility is very difficult. They also confirmed that taxi affordability and acceptability was not good in the zone.

The study reveals that majority of drivers and passengers were not satisfied in the taxi zone system due to lack of sufficient taxis and absence of effective controlling system. This and Correlation test shows that, stakeholders are not fulfilling their responsibility.

The purpose of taxi zoning transport system was to improve transport service and resolve its problem as well as giving standard transport service for the people. However, the taxi zoning system failed to achieve its purpose due to lack of correct implementation, lack of well trained institutional leaders, weak management and follow-up mechanism and the stakeholders failed to fulfill their responsibilities.

Followed by the implementation of taxi zoning system, drivers and taxi assistants are not satisfied with the system due to unfair distribution of income between ‘Lem’ and ‘Teffe’ areas. The taxi owners need 200-500 birr from the taxi drivers daily so they are forced to ask more than the tariff and cut trips to have more money. Besides, due to different reasons the position of the taxi drivers and assistants was negative.

The Ministry of Transport select major problems caused before the implementation taxi zone transport system. In order to improve those problems, the office implements the taxi zoning system. But as indicated in the study, the problems related to customers, taxi drivers, assistants and executive office are still there without any change. As a result, taxi zoning system failed to help passengers to access transport service in this zone.

As far as the level of satisfaction of taxi users is concerned, starting from absence of waiting material, taxi facilities, inappropriate manner of taxi drivers and assistants, shortage of taxi services to forcing to pay more than the tariff are observed in the zone. Hence, taxi acceptability, affordability, accessibility and availability of taxi transport in this zone are not good. Therefore, the people are not satisfied by taxi zoning transport services. Furthermore, a correlation test indicated that improving taxi service availability and the stakeholders fulfilling their responsibility resolve the other problems and bring satisfaction on zonal transport system in Megenage zone.

5.2 Recommendation

- ❖ The Taxi zone Transport system doesn't bring any change on taxi transport services. Therefore, the ministry of transport should revise the system to gather with the other stakeholders.
- ❖ Harmonizing the actual implementation with the paper work of taxi zone system.
- ❖ Facilitate the higher position holder by giving horizontal and vertical knowledge about transport management. Or assign the people based on their knowledge about transport management if it is possible.
- ❖ Creating strong and sufficient control and follow up limb in the system and mach the worker with the terminal numbers. Hence, it will check Stakeholders whether they fulfill their responsibility or not. And control the activity of stakeholders and the traffic polices efficiently.

- ❖ Establish awareness by using different Medias about the zone system and tariffs to the customers.
- ❖ Constructing waiting places or terminals for the customers.
- ❖ Forming special police which will help the passengers to get better facilities from taxi drivers and their assistants.
- ❖ Making the taxi tariff category to include the relief of the route.
- ❖ Establishing mechanism for substituting old cars by the new ones.
- ❖ Establishing an organ which checks and controls the system.

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Appendices 1

General information about the customers

- 1- Sex- F M
- 2- Occupation
 Student Employee Other
3. Educational level
 Below 10 10+2 degree diploma PHD
- 3- Income per month in birr
 Below 500 500-2000 above 2000
- 4- Working hour
 8:30am-12am 8:00am-3:00pm 8:30am-11:30pm
 other
 If your answer is other, from-----to-----
- 5- Which transport mode do you usually use?
 Walking midi bus in Bus Bus
- 6- How much do you spend for transportation per day?
 Blow 5br 5-10br 10-20br above 20br
- 7- Why do you travel? -----
- 8- Origin of trip Destination
- 9- Family size
- Which transport mode do your family members usually use?

- 10- At what time of the day do you get transportation easily?

- 11- Are there any instances where you are forced to pay more than the stipulate fare?

- 12- How long does it take you to reach your work place from where you live?

 At peak hours.....
- 13- How many trips do you make per day?

Customer thought about taxi zoning

N0	Item	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1	I can find taxi where ever and whenever I need.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2	Taxi service accessibility is satisfactory even in peak time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	There is no time waste by weighting taxi.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I am not late at work because of taxi.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5	Everything inside the taxi is comfortable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Quality of road is satisfactory and sufficient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	There is no traffic conjunction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I did not see anybody fight with the taxi assistance because of in appropriate manner of the assistance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Zoning system make me more satisfy on taxi service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Zoning system is good but stakeholders are not fulfilling their responsibility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Population increase is one of the causes to make taxi services difficult.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Many taxis work illegally, like giving services to students and other groups at peak time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Customers questioners

1 What positive change have you observed after the implementation of the zonal taxi system?

- A. New taxi routes are opened
- B. The availability of direct travel from start to destination
- C. The service targeted the interest of the public than the owner and driver

- D. Other-----
- 2 What negative consequence of the zonal taxi system have you observed?
- A. The number of taxi and customer are not proportional
 - B. Paying above the tariff
 - C. People are stranded
 - Other-----
- 3 Do you even observed any conflict between customers and the driver assistance guys? Yes ----- No -----
- If you say yes what was the reason?
- A. Taxi assistance needs more payment in regard to the tariff
 - B. The need to give service in their own interest
 - C. lack of desire in working in their zonal route
 - Other -----
- 4 At what time do you observed a shortage on taxi services
- A. at work getting hours
 - B. at work leaving hour
 - C. at early at the morning
 - D. at night hours
 - Other -----
- 5 How do you level the contribution of traffic police for effective implementation of zonal system? Poor ----- good----- excellent-----
- If your answer is poor what do you think as a reason?
- A. lack of committeemen and devotion in enforcing the regulation
 - B. their little effort in clearing cars which are obstacle for the service
 - C. showing negligence to punish the infringements of the zonal system for the sake of their personal interest
 - Other -----
- 6 What do you recommend to improve the situation?
- A. the need to have additional taxi
 - B. creating awareness for the stakeholders
 - C. establishing effective controlling mechanisms
 - Other-----

Appendices 2

Interview for the Yeka Transport bureau and Taxi association

1. Type of taxi and their number-----
Number of customer trip per day in each type-----
2. Category of distance and their length
3. Number of terminals and their tariffs-----
How many people does a single taxi carry per day on average? -----
4. How many trips does one taxi make per day? -----
5. How long does it take for a single taxi to go from one terminal to the next (on average)?----- What is the average distance from the generation point to the termination point of a single route?----- What is the average distance from one taxi stop to the other? -----
6. How are the individual routes laid out? What are the factors taken in to consideration?-----
7. The route map
8. What are the areas where there are larger numbers of people that use the taxi? -----
9. For how many years can a single taxi operate on average? -----
10. Cleaning, checking, and maintaining process of taxi? -----

11. What is the purpose of zoning?-----
----- What is the main change of zoning before the system and after on service delivery?-----

12. Is zoning system achieved its goal? If not what is the future plan or proposal to make the system efficient?-----

13. What was the reason for the protest in 2012 made by taxi owners and drivers?-----
What was the measure take by government?-----
14. What is the main duty of the traffic police in relation to the zoning?-----
15. What is the major problem of traffic police in facilitating zoning? What is the main responsibility of taxi association? Are they doing their task properly? -----
16. What is the future direction? -----
17. Strategies and polices?-----

Appendices 3

Opinion of taxi drivers, Tera Asekebary and Taxi owners on taxi zoning

1. What was the reason for the protest made in 2004 E.c? What response is given from the government?-----
What changes have been brought in the system?

What is the difference in taxi service delivery before the zoning and after -----

2. Why do you think taxi assistance quarrel with the passengers?

5. What is the main reason for taxi shortage particularly at rush hours?

6. Why is the taxi driver carry passengers more than the limit?

7. What is the problem around the traffic police?

8. What is your opinion towards the taxi zoning?-----

9. What do you think is feasible and manageable to improve the system? -----
