



Urban Corridor Development and Commercial Property Rental Values; in the case of Urban Development Corridor in Addis Ababa, Ethiopia

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in partial fulfillment for the requirements of master's degree in urban land and property valuation

By

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June 2025

Addis Ababa, Ethiopia

A Thesis Submitted to School of Built Environment (SBE) to the school of graduates studies of Addis Ababa University in partial fulfillment for the requirements of the degree of masters of Arts in urban land and property valuation.

Title of thesis: Urban Corridor Development and Commercial Property Rental Values; in the case of Urban Development Corridor in Addis Ababa, Ethiopia

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Acknowledgment

First of all, I would like to thank the almighty God for giving me the strength and time to come up with this research paper. Secondly, I would like to thank my advisor, Dr. Melaku Tanku, for guiding me through this research because his guidance paved the way for the success of this paper. Thirdly, I would like to thank my key informants and those who participated in the survey for giving me the necessary information I needed. Last but not least, I would like to thank my wife for her physical and mental support.

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Acronym

AACRA	Addis Ababa City Road Authority
AARTB	Addis Ababa Road and Transport Bureau
AAPDC	Addis Ababa Plan and Development Commission
ADB	African Development Bank
am.	Ante meridiem
AP-IS	Asia Pacific Information Superhighway
BRT	Bus Rapid Transit
CBD	Central Business District
CDSWC	Construction Design and Supervision Works Cooperation
COVID	Coronavirus Disease
DBT	Design Build and Transfer
EBS	Ethiopian Broadcasting Service
ESCAP	Economic and Social Commission for Asia and the Pacific
FDRE	Federal Democratic Republic of Ethiopia
GDP	Growth Domestic Product
GTP	growth and transformation plan
Ha.	Hectare
HCB	Hallow Concrete Block
HGER	Homegrown Economic Reform
ICT	Information Communications Technology
IMF	International Monetary Fund
Km.	Kilometer
LRT	Light Rail Transit
LTZ	L, T and Z shaped steel profile
NMT	Non-Motorized Transport
OMAA	Office of the Mayor Addis Ababa

pm.	Post meridiem
PPP	Public Private Partnership
St.	Saint
SPSS	Statistical Package for Social Science
UNECA	United Nations Economic Commission for Africa
UN-Habitat	United Nations Human Settlement Program
VIF	Variance inflation factor
VIP	Very Important Person

Abstract

The corridor development in Addis Ababa is the first of its kind in Ethiopia deploying huge shear capital with vast area coverage. The adverse effects of corridor development on commercial property values and rent values have been studied in detail in different countries but not in Ethiopia, due to the novelty of the project, hence, it is found necessary to examine the initial impacts of the development on business activities, property values and rental prices. The corridor development section from Piasa to Beherawi was used for the study. Data were collected through questionnaire, interviews and field observations alongside secondary data. Multiple regression analysis was used to quantify cross sectional data of rent per square meters against the independent variables. Descriptive analysis was also used for interpretation of qualitative and quantitative data. The findings of the research indicate, an inverse significant relationship between rent per square meters with floor level and floor area while significant positive relationship was observed with availability of onsite parking, occupancy level and distance from the corridor development. Advancements in road infrastructure have led to increased accessibility which led to appreciations of commercial rent and property values alongside the development while the increased risk of expropriation has led to the depreciation of property values to non-corridor developed areas. In contrast to the intention of the corridor development, regarding boosting the economy of the city, its relationship with business activities is diversified, with most businesses being negatively affected, facing decreased sales volume due to the development itself and extraneous to it. Exaggerated rent prices and agglomeration of businesses are observed, on some portions of corridor development segments, having sufficient parking and accessible public transportation roots. The vice versa is noted for inaccessible and parking restricted sections of the development. Socio-economically, the development has led to the displacement of small scale businesses reducing competition and impeding the availability of goods and services easily. The project is acceptable by the majority of surveyed people; for the improved road infrastructure, and for the clean and beautiful environment it has created. Nonetheless; design, implementation, and policy related problems concerning parking, relocation, compensation, and importance of the project at the current state of the country, have raised serious concerns, decreasing the acceptance level of the project.

Keywords: Urban Corridor, Property Value, Rent, Accessibility, Sales Volume

Chapter One: Introduction

1.1 Background of the study

Land change is a consequence or impact of economic growth in cities, high urbanization, population change, and increased activities in urban areas (Rakhmatulloh A., *et al*, 2018). The main factors causing land use change are population, land value, and transportation system, which are embodied in the form of land use patterns (Meyer, *et al.*, 1984). Land change is driven by combined factors or spatial and non-spatial factors that spur the process of dynamics of land change dynamics with the interaction among other factors. At the same time, the process of urbanization in cities and changes in physical, social, and ecosystem aspects resulting from the impact of urban growth triggered land change (Wu,N. and Silva, E.A., 2010).

The demand for land is a reflection of the benefits or needs emerging from the use of some land by the communities as potential users. The greater the benefits derived from land use for various purposes, the higher the land price or the land rent (Balchin P. N., *et al.*, 1995). Land value is divided into two categories such as commercial property and non-commercial property. Commercial property consists of high economic activities that can pay a high land value, while non-commercial property is used for personal interests. Both have different responses and characteristics toward urban space configuration and the existing transport infrastructure (Rakhmatulloh A., *et al*, 2018). Accessibility can be defined as the ability to access activities and goods that are in demand. It focuses on the passenger transport accessibility defined as the extent to which land use and transport enable groups of individuals to reach activities or destinations through a combination of transport modes (Roukouni A., *et al.*, 2012). As accessibility increases, mobility becomes less costly both on time and money and transport costs decline (Javier F., 2010).

In Ethiopia, land is the main economic, political, social and cultural asset. It is the crucial source of generating livelihood income for society (Alemu G. T., 2015). As population numbers

increase and as urbanization intensifies, the need to acquire land for housing, infrastructure and government projects for public purposes¹ are far more evident than in the previous years.

The fact that land value rises when accessibility improves is supported by land rent theory. According to (Wubet, 2018), the theory identifies land rent is a capitalized value of land which reflects the accessibility of the land to goods and services. If accessibility is improved by the implementation of new transport infrastructure, the theory predicts that higher accessibility would lead to higher rents and higher rents would lead to higher land values. In relation to land rent theory, economic theory suggests that people are willing to pay a premium for access to amenities and these amenities are capitalized into property values (Sun, J., *et al.*, 2017).

Urban corridors are a pattern of urban systems that gradually developed along transport routes, which provided linkages between the major urban hubs and resulted in the growth of urban peripheral areas (Ajitabh K., *et al.*, 2021). The term urban corridor was first introduced by Robert Whebell in 1969 in an article called Corridors: A Theory of Urban Systems. He defines urban corridors as a linear model of main towns joined by highly developed bundles of transport ways, identifying a well-developed network of transport infrastructure as a key element of urban corridors.

A corridor is an element that accommodates the relationship between two elements with mutual support. It is linking several new towns and access to a main city will have an increased role beyond just circulatory connections (Krier and Rowe, 1979). There are commercial corridors or commercial strips as urban and suburban connections that accommodate high-speed vehicles. In relation to this function, buildings on commercial corridors are built with sufficient "setback" for the vehicle parking lot (Manning, 2009).

According to a report by UN-Habitat published in March, 2010, the advantages of urban corridors are stimulating business, real estate development, increased land values, and improving inter-connectivity and interdependence among cities, leading to regional economic development

¹ According to the proclamation number 1161/2019 "Public Purpose" is defined as 'decision that is made by the cabinet of a Regional State, Addis Ababa, Dire Dawa or the appropriate Federal Authority on basis of approved land use plan or; development plan or; structural plan.

growth. According to Li, P. *et al.*, (2005), the significant attributes of an urban corridor are: high population density, several cities of large size, heterogeneous use of land and a well-developed network of transport infrastructure. Connectivity is the most critical feature of any urban corridor and cities in an urban corridor are an integral part of the complex mesh of urban agglomerations whose functional-locational relationship is solely based on complementary functions instead of their physical proximity (Ajitabh K., *et al.*, 2021).

The comprehensive NMT Strategy developed by the Addis Ababa Road and Transport Bureau (AARTB) in 2018 describes better walking and cycling transport facilities to complement the city's mass transit network, including two existing light rail transit (LRT) corridors and seven planned bus rapid transit (BRT) corridors. The strategy is in compliance with the Addis Ababa City Master Plan, which aims to promote “cost-effective movement systems” and “accessibility through improving relationships between people, places, and activities. The corridor development in Addis Ababa is carved in line with the above strategy.

The corridor development in Addis Ababa is the first of its kind proposed as a solution to urban congestion aimed at enhancing the aesthetics of the city, creating better mobility routes and maintaining the cleanliness of the city. It includes parks, playgrounds, water bodies, bike ways, wide pedestrian walks, and greenery. According to a report (Agency, 2024) by Fana Broadcasting Agency on October 08, 2024, the objective of the corridor redevelopment project is to enhance the beauty and cleanliness of the capital, making it a comfortable and attractive place for its residents, while maintaining its status as an international diplomatic hub. So far, there are two phases of the project covering a total of 4,747 hectares, but the mayor has indicated that the project will continue beyond the two phases for the coming years.

1.2 Statement of the problem

Urban redevelopment and expansion in Ethiopia is not only necessary but also unavoidable activity due to the rapid rate of urban growth, growing socio-economic needs, sharp shortage of shelter and rapid expansion of slums. Urban redevelopment is a complex and huge process that needs huge investment, well-organized institution and commitment, well-prepared plan and policy and legal framework (Alemu B. Y., 2013).

The population growth of Addis Ababa is a combination of three basic processes: rural-urban migration; natural increase, and reclassification of land from rural to urban categories. Such growth increases the mobility of the residents and consequently the demand for public transport in the city (Tilahun et al., 2021).

Urban corridor development in Addis Ababa is a new type of project necessitated by years of congestion, high rate of urbanization, weak road networks, poor drainage systems, housing shortages, and unregulated land use patterns in the city. Hence, the city needed an intervention to alleviate such problems and commence on the path of modernization. The corridor development is one such redevelopment scheme that aims to improve accessibility and cleanliness in the city.

There has been a lot of contradictory information related to the development. Some of them are related to design and implementation, social and economic equity, and finally, expropriation and compensation. The development has impacted property values both positively and negatively. Properties are expected to be positively impacted due to the improved road infrastructure, increased accessibility, and induced greenery. Negatively impacted properties are those whose properties were expropriated and those that lost their shops and market ties. Moreover, properties located on a non-corridor developed areas where future development might reach have reduced property values due to the posed risk of expropriation.

Though the above analogy seems logical, a thorough and scientific investigation is needed to grasp the relationship between the corridor development and commercial property values. Hence, this research has been found critical to identify the relationship of corridor development with commercial property rent prices and occupancy levels. Moreover, it has also been found necessary to identify socio-economic claims related to acceptance level and precipitance of the project by different social groups of the community.

1.3 Research Objective

General Objective

The general objective of this research is to analyze the relationship between corridor development and the property value of commercial properties in Addis Ababa. The relationship on value was measured by the monthly rent of commercial houses and the occupancy level of buildings.

Specific Objectives

In line with the general objective, the following are specific objectives of this research.

1. To assess the short-term and long-term economic relationships of the corridor development on commercial property rent prices in Addis Ababa.
2. To analyze the difference in rent value between major corridor developed areas with non-corridor developed areas in Addis Ababa.
3. To measure how corridor development is perceived by property owners and tenants in relation to property value and rent value, respectively.
4. To analyze how urban planning policies influence the relationship between corridor development and rent values.

1.4 Research Questions

This research was conducted to answer the following questions;

1. What are the short-term and long-term economic relationships of corridor development on commercial property rent prices in Addis Ababa?
2. How do rent values differ along major corridors compared to non-corridor areas in Addis Ababa?
3. How do property owners and tenants perceive the effect of corridor development in relation to property value and rent value, respectively?
4. How do urban planning policies influence the relationship between corridor development and rent values?

1.5 Scope of the study

Geographically, this research is conducted in Addis Ababa, where phase one corridor development project was carried out. The study has focused on the section stretching from Piasa to Beherawi by using a reasonable selection criterion mentioned in the methodology section.

The research primarily focuses on the period following the commencement of Addis Ababa's urban corridor development in December, 2022. Given that the project is ongoing, the study examines the initial impacts and trends emerging after its implementation. The temporal scope is defined by the post-commencement of phase I of the urban corridor, allowing for an analysis of early economic, property rental price, and developmental effects. This timeframe provides that the study captures relevant changes while acknowledging the evolving nature of the project.

The theme of this study revolves around three core concepts. The first is analyzing the relationship of corridor development with commercial rent prices. The second is investigating the influence of the development on the rent price of commercial units at various distance parameters from the development. Last but not least, it is synthesizing the acceptance and perception level of corridor development by commercial property owners and tenants.

1.6 Limitation of the study

Though this research was conducted using scientific procedures, it has its own limitation, the first limitation is associated with the absence of the use of more building characteristics for variable identification, since each building is unique with its own set of characteristics and components. This research could not include variables associated with the building characteristics, like, for instance, security concerns associated with presence or absence of security cameras, finishing materials used, view, and the like. The second limitation is associated with data accessibility. Up to the researchers' understanding, the second phase of the corridor development has no clear set of drawings, unlike the first phase; hence, only section from phase I corridor development project was used for this study.

1.7 Significance of the study

The findings of this research paper will provide information about the issues associated with property value in accordance with the corridor development project in Addis Ababa, which can be used by the City Administration, municipal leaders, policy makers, brokers, and property

owners. In addition, this research will be helpful for other researchers by acting as a reference material while they are developing a literature framework.

1. 8 Organization of the research

This research paper is divided into five chapters; the first chapter deals with the introductory part that includes background of the study, statement of the problem, research objective, research questions, scope of the study, limitations of the study and, significance of the study. The second chapter is the literature review section where both theoretical and empirical reviews are discussed. The third chapter is the methodology section where site selection and description of the study area, data collection technique and data analysis technique are discussed. The fourth chapter is the analysis and discussion section, where the collected qualitative and quantitative data are discussed and analyzed. The fifth chapter is the conclusion and recommendation section, where relevant recommendations are suggested to the concerned bodies based on the central findings of the study.

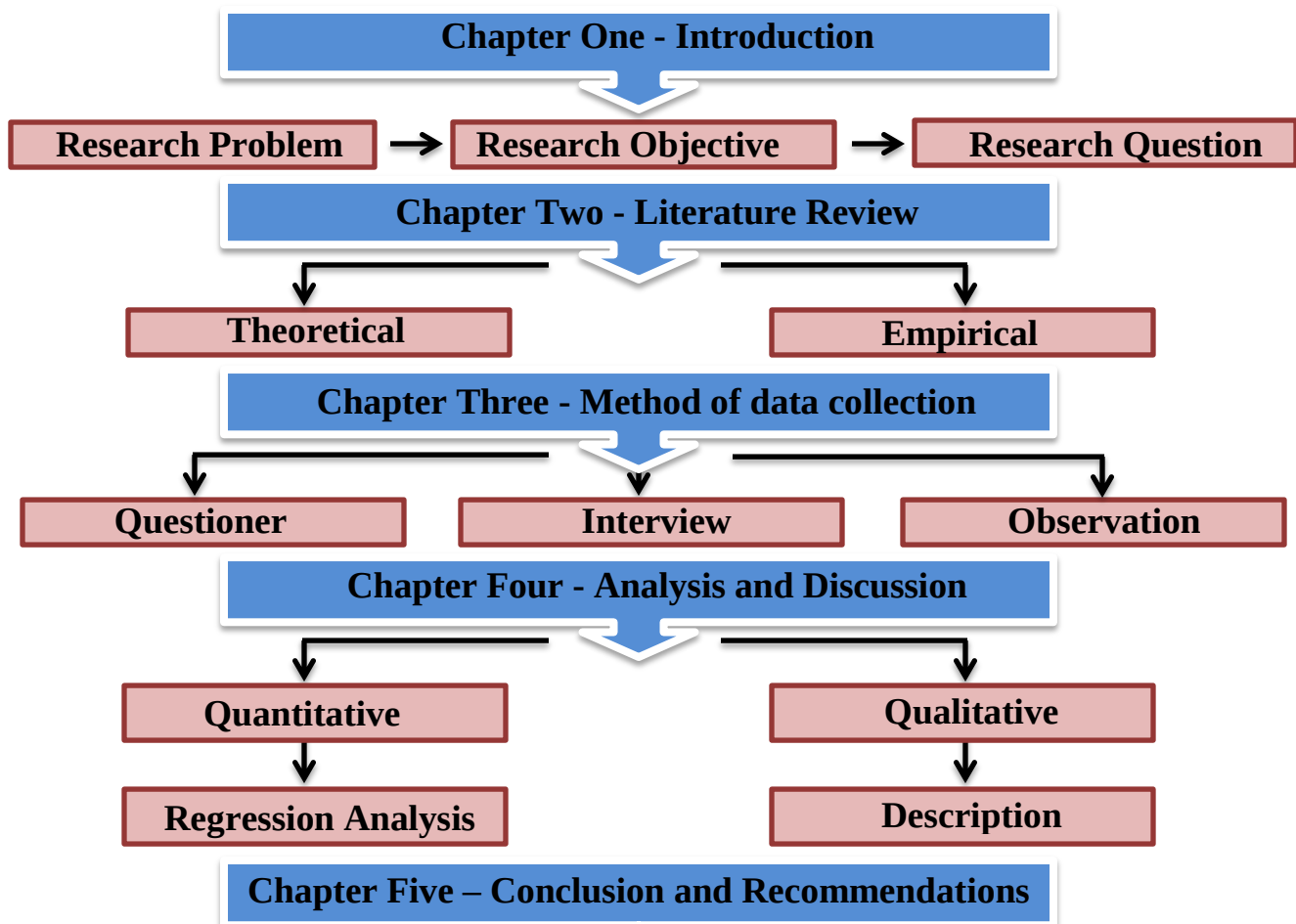


Figure 1: Organizational structure of the research

Chapter Two: Literature Review

2.1 Corridor development: Concepts and Definitions

According to Priemus H. and Zonneveld W., (2003), a corridor is defined as bundles of infrastructure that link two or more areas which has a rather long history in spatial and urban planning. This concept is further elaborated by Youssef, (2021), corridor developments are strategic mechanisms that allow a coordinated and integrated approach to transport, transit, trade facilitation, and interrelated issues at regional, sub-regional and national levels. Hence, it can be said that corridor development is an old concept but that even grew to be more complicated as cities expanded and required huge infrastructure. .

2.1.1 Types of corridor developments

There are different forms of corridor developments based on the purpose of the development and the vastness or number of elements included. The following five types of corridors are the common forms of corridor development.

2.1.1.1 Activity Corridor

According to Lotz, (1995) activity corridors can create a strong, well-defined city structure which will address the current urban deficiencies experienced in metropolitan areas. Lotz also explains the importance of activity corridors in addressing deficiencies in the following ways; creates increased densities, high concentrations of land-uses, and through traffic which will reinforce a range of activities. Hence, Lotz concludes that activity corridors can bring about improved city conditions through providing the preconditions and necessary thresholds to sustain the economic and social facilities in a specific area.

According to Warnich et al., (2005), an activity corridor provides various economic opportunities along itself, which opportunities ensure the existence of the necessary thresholds to sustain its operations. This range of opportunities results in the highest intensity levels of economic activities along an activity corridor. The functioning of an activity corridor differs depending on the specific context such as at the metropolitan, city or local scale, its location in relation to the city, or the specific land use patterns around it.

Elements of an activity corridor according to Warnich et al., (2005) can be summarized as the following; a major transport route: public transport modes; linkages between nodes and sub-

nodes; intense human interaction; availability of services: intensification of development and public investment at least in the immediate vicinity of the activity corridor.

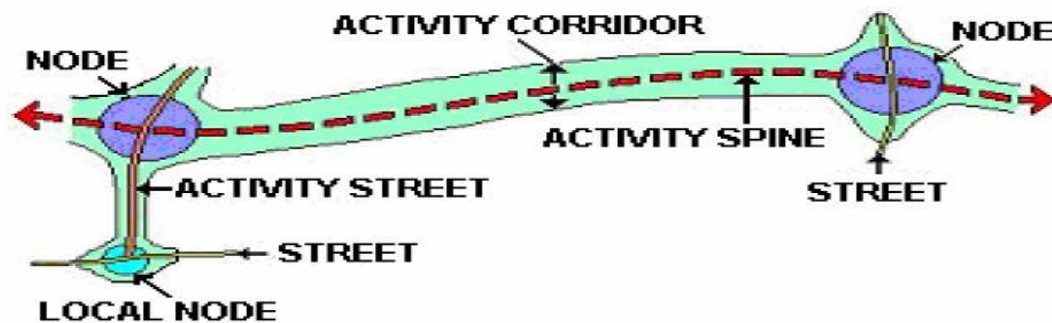


Figure 2: Graphic illustrations of the structuring elements of an activity corridor

Source - Cape Metropolitan Council, 2000

Benefits of activity corridors on the urban environment

According to Lotz, (1995) and Warnich et al., (2005), the benefits of activity corridors are summarized as the follows;

i. Efficient movement systems

The first and foremost benefit of an activity corridor, identified by Warnich et al., (2005) is associated with movement. It promotes sound public transport systems with efficient public transport that further strengthens the forces underlying the development of corridors.

ii. Local economic growth

According to Lotz, (1995) development of corridors has the potential to create higher densities in various planning proposals which indicate their capacity to facilitate economic activity. This will have positive spin-offs in that the high densities will provide thresholds for various formal and informal economic activities. Lotz summarized that by implementing activity corridors, problems surrounding the economic development of middle to low-income communities could be addressed because more money is spent in the local area than outside.

iii. Optimal land use and effective development control

According to Warnich et al., (2005) activity corridors provide high population densities because of their proven capacity for high intensity of land uses and high levels of access. Therefore, with the high intensity of land uses and the integration between them, they encourage the optimum use of land in an area.

iv. Promoting social opportunities

Moreover Warnich et al., (2005) discussed that if an activity corridor is successfully integrated with land use planning, it might result in a wide variety of social opportunities related to high-density residential activities and mixed commercial activities that promote social interaction in the developed area.

2.1.1.2 Transport corridor

Transport corridor is a generally linear area having one or more modes of transportation, like highways, railroads, or public transit passing through various phases that evolved to enhance the flow of goods and people (Suresh P. Singh and Swati Verma, 2022).

Transport corridors have both a physical and a functional dimension. The physical components of transport corridors include: one or more routes that connect economic centers within and across countries; routes with different alignments but having common transfer points; routes composed of links over which transport services travel and nodes that interconnect transport services; finally the endpoints of transport corridors are gateways that allow for traffic outside the corridor. The functional components of transport corridors include trade corridors which connect one or more adjoining countries, having single mode or multiple modes, and having a large span or shorter length (Arnold, 2006).

A transport corridor is a broader version of an activity corridor that can be even developed into economic corridors (see Figure 3). According to Suresh et al., (2022) transport corridor may facilitate the creation of multiple supporting corridors and an increasing range of social and economic development activities. Hence many transportation corridors emerge as trade and economic corridors over a period of time.

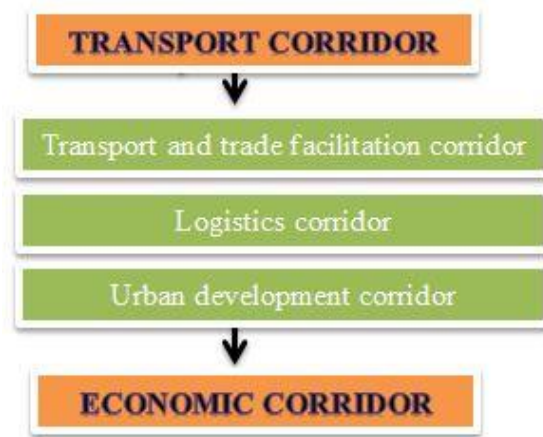


Figure 3: Transition stages of transport to economic corridor

Source – Adopted from Suresh *et al.*, (2022)

2.1.1.3 Economic corridor

Economic corridor is an integrated framework of economic development within a designated geographical area, which places trade-related infrastructure at the core, but goes further to encompass interconnected issues of public policy, regulations, and operational practices required for stimulating economic growth and development within the designated area (Prema-chandra Athukorala and Suresh Narayanan, 2017).

Hence, according to Suresh P. *et al.*, (2022) an economic corridor encompasses three key elements infrastructure development, logistic reforms and investment climate improvement explained in **Figure 4**.

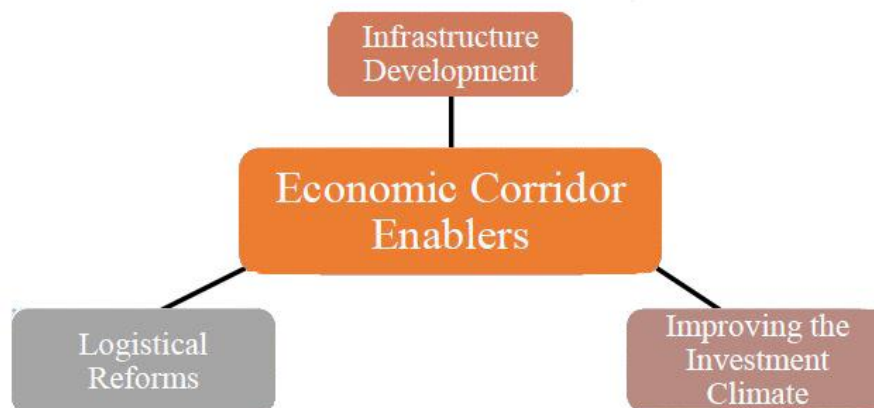


Figure 4: Elements of economic corridor

Source – Adopted from Suresh *et al.*, (2022)

2.1.1.4 Infrastructure corridor

According to AP-IS Working Paper Series, (2021), infrastructure corridor is a high-tech transportation system integrated with a wide range of ICTs to facilitate the flow of goods, services, knowledge and capital in a cost- and time-effective way.

Infrastructure corridors have contributed to enhanced economic and social ties across countries and states, and promoted inter-civilizational expansion and intercultural interactions. The utilization of compatible transport technologies for integrating national and global transport systems has enhanced international cooperation, which in turn has led to the further development of infrastructure corridors along the most significant freight and passenger routes (Vadim K. et al., 2021).

Furthermore, according to the UN's ESCAP Web-Toolkit (UN-ESCAPE) online work shop, the advantages of infrastructure corridors mainly revolve around four concepts; the first is mobility measured in terms of increasing the mobility of the population, that allows tourist flows, medical tourism, and transfer of educational services. The second is optimization, measured in terms of improved transportation processes and improved quality of logistics services. The third is development measured in terms of harmonized logistics infrastructure of the participating countries for the unobstructed movement of passengers and goods across national borders. The final and fourth concept is organization measured in terms of effective interaction of different types of transport modalities.

Though the above mentioned advantages of transport corridors persist, they have their own sets of problems. According to Vadim et al., (2021), problems associated with infrastructure corridor include; harmonizing the regulatory and legal framework of participating countries; complex procedures for joining the infrastructure corridor among states, different levels of technological readiness of participating countries, different approaches and methods in the management of state infrastructural projects in participating countries, difficulties in financing in terms of allocating budget or attracting investors and finally problems of participating countries to commit to personal and anti-terrorist safety and security, environmental friendliness, energy efficiency measures.

2.1.1.5 Growth corridor

Growth corridor is commonly referred to in the planning and related professions in a somewhat loose and undefined manner. Confusion surrounding the dispute in terminology is compounded by its interchangeable use with the term activity corridor. There is, in fact a substantial difference between the two. It is generally accepted that growth corridors refer to a far more extensive scale in the context of a metropolitan area and can exist in various forms of maturity.

A growth corridor would also be characterized by unique features such as regional shopping centers catering to the middle to higher income groups. The basic elements of a growth corridor could include all the elements that would ultimately exist in an activity corridor, bearing in mind that the former is also far more extensive in geographical extent. It is argued by some that a growth corridor could ultimately develop into an activity corridor. What should be remembered is that at a given point in time, they are distinctly different concepts (Warnich et al., 2005).

To summarize (see **Table 1**), an activity corridor is a type of development that is usually carried out within a city of a specific country, while a growth corridor is a type of development carried out to connect two or more countries with basic infrastructure like roads, electricity, telecommunication, and the like. Hence, growth corridor is broader than an activity corridor.

Table 1: Summary of different types of corridor developments

Type of corridor development	Purpose	Attributes
Activity corridor	To create planned land use and development patterns that attract business and residents.	Major transport route accompanied by public transport modes and linkages between nodes and sub-nodes.
Transport corridor	To improve connectivity and facilitate the movement of goods and people between different locations.	Transportation facilities like roads, railways, and waterways.
Economic corridor	To attract investment, stimulate economic growth, and create jobs	Industrial zones and special economic zones.

	along the corridor.	
Infrastructure Corridor	To create a foundation for economic development and improve the quality of life for residents.	Roads, railways, ports, energy infrastructure, and other essential infrastructure projects.
Growth corridor	To create a favorable environment for economic growth, including infrastructure, investment, and policy reforms.	Infrastructure, investment, and policy reforms

Source - Lotz, (1995), Suresh *et al.*, (2022), Warnich *et al.*, (2005), and Vadim K. *et al.*, 2021

2.2 Macroeconomic landscape of Ethiopia

According to the African Development Bank website (Bank) Ethiopia's economy grew from 6.4% in 2021/22 to 7.1% in 2022/23. The service sector accounted for 40% of GDP, while the industry sector accounts for 28%, and the agriculture sector accounts for 32% of the GDP of the country. Regarding inflation, according to the same source, it remained high, due to money supply growth and imported inflation, though it dropped from 34% in 2021/22 to 29.2% in 2022/23 due to a tightening of monetary policy.

The current account deficit narrowed from 3.9% of GDP in 2021/22 to 3.0% in 2022/23, due to a 60.3% increase in net services and a 5.3% reduction in imports. The financial sector is stable, with nonperforming loans at 3.5% of gross loans and a liquidity ratio of 24.2%, against thresholds of 5% and 15%, respectively. Ongoing reforms to allow foreign investment in the sector will increase competition and innovation.

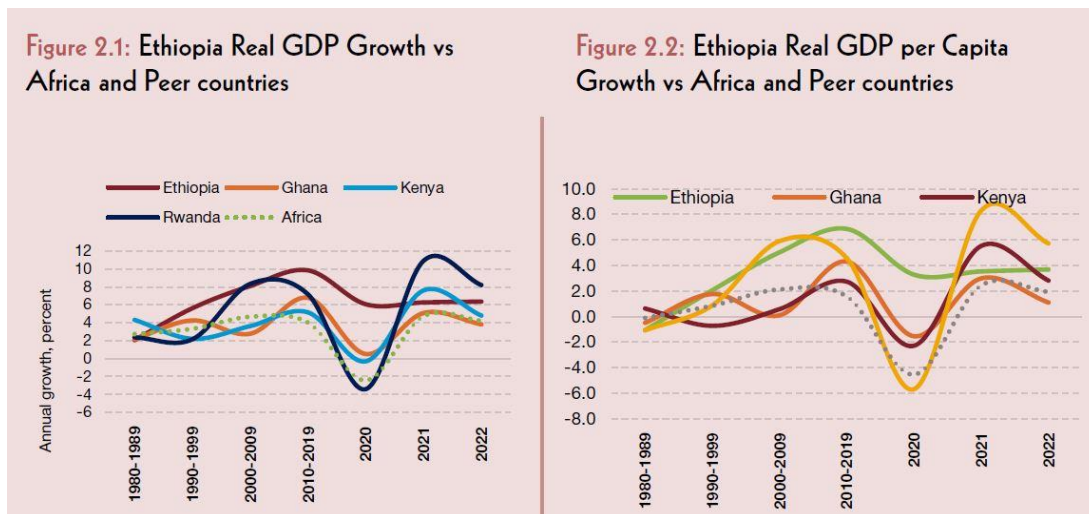


Figure 5: Ethiopia’s real GDP and per capita GDP growth compared to some African countries

Source - African Development Bank 2024, Country focus report, Driving Ethiopia’s Transformation: The reform of the global financial architecture.

As seen from **Figure 5** above, Ethiopia’s GDP and GDP per capita income are relatively above certain African countries like Kenya and Ghana. GDP grew above 10% by the year 2019 which was part of the second growth and transformation plan (GTP II) which was planned for a period of five years from 2015/16-2019/20, after wards due to the introduction of COVID-19 and the continued wars the GDP is limited between 6-7%.

According to the ten-year development plan 2021-2030 titled A Path to Prosperity, Ethiopia is facing a heavy debt burden, creating a challenging environment to sustain the rapid pace of growth, calling for a new growth financing approach, moving away from the heavy reliance on public spending and debt financing. Hence, it has introduced a strategy called the homegrown economic reform (HGER) with the central objectives of sustaining rapid growth, maintaining a stable macroeconomic environment by reducing debt vulnerabilities, and creating adequate and sustainable job opportunities.

According to the same source, the HGER plan is classified into macroeconomic reforms, sectorial reforms, and structural reforms. The macroeconomic reforms include; sustainable and broad-based economic growth, modernized and enhanced tax collection capacity, improved budget administration and auditing system, creation of a productive and competitive private

sector, minimized commercial external loans, coordinated transport and logistics services, import substitution, and finally expediting the privatization of large state-owned enterprises.

The researcher has found out that some of the above mentioned macroeconomic reforms have started being implemented. For instance, Ethio-Telecom has begun selling shares to the public, which is part of expediting the privatization of large state-owned enterprises. Modernized taxation systems backed by ICT solutions are being implemented as part of the notion of modernized and enhanced tax collection capacity.

On the contrary, some macroeconomic reforms have failed to be implemented. In this regard, the researcher is inclined to mention two instances. The first instance is regarding the notion behind minimized commercial external loans. This notion is highly breached because the government has devalued the buying capacity of Birr to get loans from the IMF and World Bank, which has even grown the dependency on external loans even more. The second instance is related with the notion of a productive and competitive private sector. Currently, different types of taxes and heavy tax burdens imposed by the government on the private sector are challenging the sustainability of businesses to the limit.

Moreover, despite the above mentioned data from the African Development Bank the FDRE Planning and Development Commission concluded the average GDP growth from 2020/21 to 2024/25 is 9.2% and predicted a 10.90% growth by the year 2025/26-2029/30 as shown in **Table 2** below.

Table 2: Projected growth rates of GDP by major economic sectors in percentage

	Average (%)		
Year	2015/16-2020/21	2020/21-2024/25	2025/26-2029/30
Agriculture	4.10	5.50	6.20
Industry	15.20	11.40	14.60
Service	8.20	10.40	10.70
GDP	8.20	9.20	10.90

Source - FDRE Planning and Development Commission

Though the projections in **Table 2** regarding growth rate seem promising, a thorough investigation by impartial organizations is needed to study how the economy is heading for the following main reasons;

First of all, politically, the country is in a continuous cycle of wars that is heavily draining the economy at large. In the war zone areas in the North in Tigray and Amhara regions, and some parts of Oromia region, there is little or no investment, creating widespread unemployment.

Secondly, the investment and tourism sector is heavily affected by the absence of continuous peace and stability. It is clear that Ethiopia is a country with huge potential for the tourism sector, but the arrival of COVID-19 has decreased the number of tourists, even before the wars broke out. According to the UNECA website (UNECA), the number of international tourists coming to Ethiopia decreased by 84% from the previous year, from 1.4 million visitors to 228,200 visitors in 2020. This data, according to the researchers' views, is even less at the time of the study because of the continued wars in the country; most embassies are posting travel advisory restrictions limited to only the capital, Addis Ababa.

Thirdly, the new macroeconomic shift by the government aimed at attracting foreign market and obtaining loans from IMF and World Bank in the researcher's opinion has crippled the economy evermore because it is an evident fact that market goods are increasing on a daily basis due to the rise in inflation caused by the massive exchange rate increment during the study period.

The African Development Bank also clarifies the downside of the economy. For instance, unemployment is estimated at 8% and the youth unemployment rate at 23.1% in 2020/21, with about 2.5 million new jobs needed annually to absorb new entrants. Moreover, about 31.4 million people require humanitarian support due to conflict and climate-related shocks. According to World Bank Data (WorldBank), the Ethiopian population was 118,917,671 in 2020/21, implying 26.40% of the population needs humanitarian support.

2.3 Urbanization trend of Ethiopia

According to United Nations Population Division World Urbanization website (UNWorldUrbanization), urban population refers to people living in urban areas as defined by national statistical offices. It is caused by the explosive growth of cities, signifying the demographic transition from rural to urban, and is associated with shifts from an agriculture-based economy to mass industry, technology and service. According to Mulatu, (2019) Ethiopia has been one of the least urbanized countries in Africa with a rate of 20% compared to Africa's 40%. However, the rate of urbanization in the last three decades has been proceeding at an accelerating rate, 4.8% compared to Africa's 4.1% rate. Hence, Mulatu predicts that about 35% of the population is projected to live in urban areas by 2030.

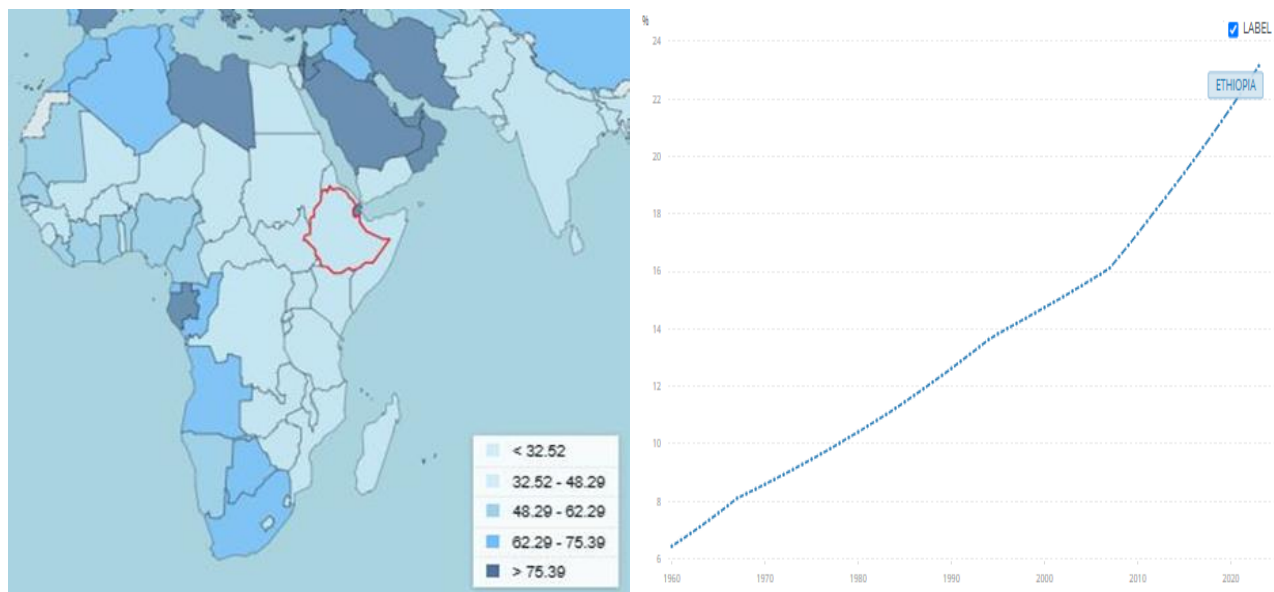


Figure 6: Urbanization rates of Africa and Ethiopia

Source - United Nations Population Division World Urbanization website (UNWorldUrbanization)

As seen from the above **Figure 6**, East and Central Africa are the least urbanized regions on the continent, while the North, West, and South regions have relatively higher urbanization rates above 48%. According to the same source urbanization rate of Ethiopia was 23% by the year 2023.

Migration-led urbanization in Ethiopia is characterized by three elements; the first is an increase in the number of towns or multiplication of the points of concentration, the second is gradual market integration of the different components of the agriculture economy, that is production, land and labor to development of the rural market functions like handicraft, trade and service. The third and final element is unbalanced growth in size and spatial distribution of towns, also known as distorted location incentives (Tegenu, 2010).

There are many reasons for people to migrate to cities. Migration to urban areas is increasing as the 'push and pull' factors in many of Ethiopia's rural areas are intensifying. Such factors include a whole range of social, economic, and political problems impacting the country. Over-concentration of the population in a few urban areas, primarily in Addis Ababa, is creating pressure on the city's resources. This phenomenon is called "Africa's development trap", an economic change where cities are becoming overcrowded, disconnected, and becoming costly for firms and households, making it difficult to do business or survive (Wubneh, 2019).

His concern is also implicated by UN-HABITAT, (2007) report, which identifies that services and infrastructure, including water supply, transportation, waste disposal facilities, and others, are inadequately provided and poorly planned in the city. Moreover, the report highlights that urban problem such as poor transport network, water supply, drainage, and solid waste seems far from being addressed. The report cites that during the study period, 30% of households of Addis Ababa lack private or communal sanitation facilities; moreover garbage collection level is estimated at around 65%.

According to UN-HABITAT, (2010), very rapid urbanization can pose great challenges for urban economies, particularly with regard to land use, infrastructure, housing, environment, and social services. Hence, Rapid urbanization in developing countries poses great urban social, economic and environmental problems.

Therefore, the researcher believes Ethiopia is also facing such challenges related to urbanization that require due attention by the concerned governmental and non-governmental bodies. The corridor development could be one such tool if implemented properly with clear intentions in bringing about social, economic, and environmental equality.

2.4 Theoretical underpinnings of urban city structure and rent

Under this section, the different urban or city structure models and relevant theories related to rent and city structure are discussed.

2.4.1 Urban or city structure

The distinct features and characteristics of cities have evolved over time and vary significantly in time and space. The concept of city in ancient society was different from medieval and modern city. The growth was irregular in form, sensitive to changes in the habits of people, and dynamic in character (Bochnovic, 2014 and short summary of models of urban growth (Krishna)).

2.4.1.1 Concentric zone model

The concentric zone model by Ernest Burgess in 1920s is assumed to be the first comprehensive analysis of the pattern of city structure. During that time, there was a vast growth of urban population throughout the world, particularly in the United States and European Countries. The concept of this theory is that cities grow and develop outwardly in concentric zones. That is, cities expand outwards due to the interaction among people and their economic, social, and political organizations.

This model is based upon two distinct processes, invasion and succession. Invasion is a process which necessitates continual expansion of inner zones into outer zones, due to the natural aggression of the migrant into the city. Succession occurs when an area becomes dominated by the activity invading that zone. Therefore, concentric zone theory reflects on the going conflict between city dwellers and peripheral villages (Burgess E. *et al.*, 1925, Lichtenberger, 1997, Bochnovic, 2014 and a short summary of models of urban growth).

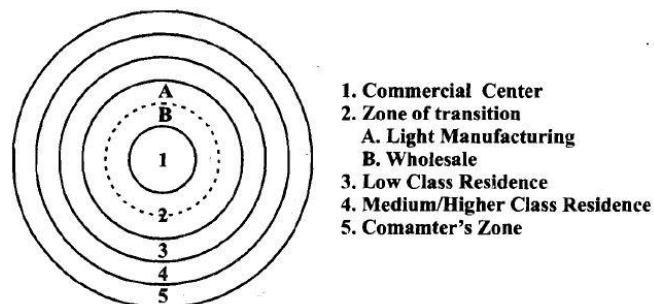


Figure 7: Burgess's concentric zone model of cities

Source - (Acadamy)

As it is clearly seen in **Figure 7**, the concentric zone model has five concentric circles with four basic categories described below.

- i. **Commercial center (CBD):** is where the major commercial activities of the city are concentrated. It attracts a vast number of immigrants due to the presence of varied types of job opportunities.
- ii. **Zone of transition:** is where light industries and slums occupy the zone. This zone was the home of numerous first generation immigrants. Mostly it has low income households and declining neighborhoods. The physical deterioration and social disorganization lead to the concentration of poor housing, poverty and family disintegration.
- iii. **Working class, medium, and high class residences:** is where planned residential areas are found close to places of economic activity which have shifted to the outward rings. Variations are observed in terms of quality of life and class character. Working class residences are characterized by industrial pollution, sanitation problems and a shortage of health facilities. Medium class residences are characterized by better service facilities and quality of life. High class residences are characterized by large and luxurious residences with better transportation, communication, and parking facilities. Hence, as circles grow, class and quality of life get better and better.
- iv. **Commuter zone:** it is located in the outermost concentric zone, beyond the area of higher class residence, consisting of small cities and towns. People from these areas commute on a daily basis towards the CBD or commercial center for employment and business purposes. It is characterized by low density relatively isolated suburbs, and satellite towns.

The downside of this model was related to limitations in explaining the structural pattern and growth of cities in developing countries. Moreover the model was not able to take into account the impact of topographic characteristics transport routes on the development of cities. Hence the sector model was proposed by Homer Hoyt (Acadamy).

2.4.1.2 Sector model

The sector model was the continuation of Burgess's concentric zone model proposed by an economist named Homer Hoyt in 1939. It proposed an alternative model of urban structure and growth pattern to overcome the weaknesses of the previous theory. It was based on residential rent pattern and impacts of transportation development.

According to the same sources, the theory is the result of an empirical study of 34 American cities, in which Homer Hoyt observed. He noted high rent areas are located in one or more sectors of the city and prepared a map showing how rent changes by sectors irrespective of concentric circle. Generating from the maps of housing features and land uses pattern of cities, he analyzed the impact of transportation on land use and manufacturing (Lichtenberger, 1997, Bochnovic, 2014 and short summary of models of urban growth).

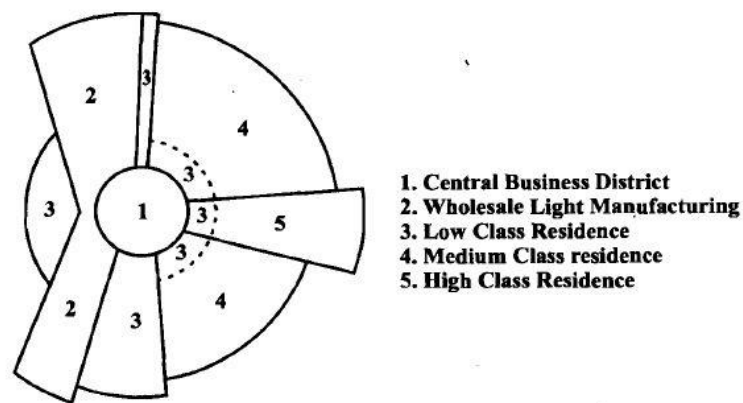


Figure 8: Homer Hoyt's sector model

Source - (Acadamy)

As it is seen in **Figure 8**, the sector model has five land use zones irrespective to concentricity. The CBD is similar to the concentric zone model the remaining four are discussed below;

- i. **Wholesale and light manufacturing:** is where the construction of warehouses and industrial areas along the transport route occur due to the result of railways and canals. Housing around this zone is developed as low-income residential units close to the industrial area.

- ii. **Low class residence:** is where low-income housing units are located around the manufacturing zone characterized by people who couldn't afford to live away from the industrial zone with slightly wealthier people.
- iii. **Medium class residence:** is where constructions of medium class residences are found characterized by people with moderate living status on one side of town, away from poorer areas.
- iv. **High class residence:** is where high-income residential area develops and expand outwards as the most desirable as possible.

2.4.1.3 Multiple nuclei model

The multiple nuclei model is developed by Chauncy Harris and Edward L. Ullaman in 1954. The concept behind this model is that cities are not homocentric rather they have many mini-centers which play a significant role in the development of a city. These mini centers originally developed independently with the specialized advantages offering similar activities with varied phases of development which may be simultaneous or in different periods (short summary of models of urban growth and short summary of multiple nuclei theory (Krishna)).

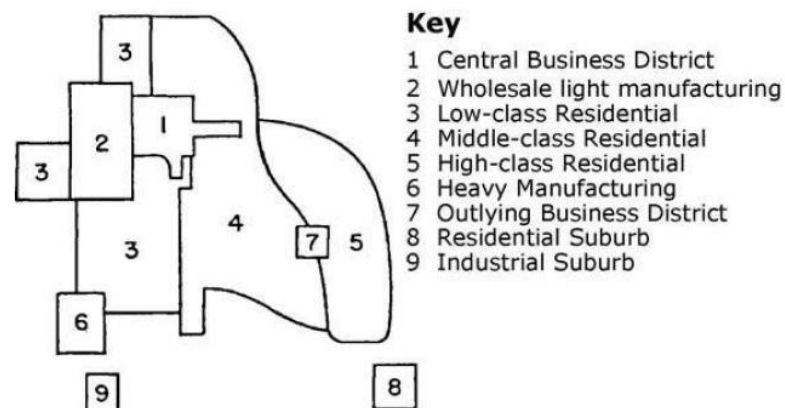


Figure 9: Chauncy Harris and Edward L. Ullaman's multiple nuclei model

Source - (Krishna)

As it is seen in

Figure 9, the multiple nuclei model has nine distinct land use zones irrespective of concentricity. Unlike the concentric zone model and sector model, this model has an additional outlying business district in addition to the CBD. Wholesale together with light manufacturing, low class

residence, medium class residence and high class residences are similar to the concentric zone model the remaining heavy manufacturing and four are discussed below;

- i. **Heavy manufacturing:** is where concentration of large manufacturing industries are located near the present or former edge of the city because they require large tracts of land as well as good transportation facilities by rail, road or waterways.
- ii. **Residential suburb:** is where residential units are found in close proximity to high class residents usually periphery of the city located in small towns.
- iii. **Industrial suburb:** Like the residential suburb it is located in the periphery of the city, following heavy manufacturing zones with small scale manufacturing.

2.4.2 Theories related to rent value

In the following section, theories related to the rent value of a property in relation to accessibility, distance from the CBD and land use will be discussed.

2.4.2.1 Accessibility and land rent theory in relation to property value

The value of a commercial property is mainly determined by its accessibility to other land uses; accessibility is a critical component in determining the costs and rewards of any investment (Rayyan Y. et al., 2021). Furthermore, factor inputs may be equally important in determining location. High levels of accessibility within the central business district are reflected in low transport costs, thus attracting the greatest demand for sites, especially from commercial users. Conversely, low overall accessibility and high transport costs within the suburban areas and the rural-urban fringe will attract a much lower level of demand, especially from commercial users (Balchin et al., 1995). According to urban rent theory in the urban version, the price of land declines at a decreasing rate with distance from the city center, that is the implication of transportation cost (W.A., 2004).

Improved accessibility, for instance as a result of new transport infrastructure, better enables people to work at a place that fits their skills and live at a spot that matches their needs (Teulings, *et al*, 2014). Accessibility lowers transportation costs and fosters agglomeration economies through matching, sharing and learning (Puga, 2010). Together, these factors often lead to clustering in economic centers (Venables *et al.*, 1995). Hence, accessibility shapes economic activities and development (Sander H. *et al*, 2016).

On the other hand, accessibility might also bring disadvantages. For instance, more competitors will increase prices for non-transportable production factors like land. This induces an outflow from the center to peripheral locations, from where one can now service more customers. The relative importance of these centrifugal and centripetal forces may differ between types of firms (Sander H. *et al*, 2016).

It often remains unclear whether economic development results from improved infrastructure or the other way around (Sander H. *et al*, 2016), which corresponds to the concept of the land use transportation cycle. Land use change will lead to an increase in trip generation. This rise will lead to increased level of accessibility that will lead to an increased land value in the area. The increasing land value will eventually lead to the emergence of activities that are compatible with the conditions in the region. Thus, it can trigger the development of high-rise building intensity on the land. When transportation access to the activity space (land parcel) is improved, then the activity space will be more interesting and usually become more developed. With the development of space activities, it will also increase the need for transportation. This increase then causes an overload transport that must be addressed (Rakhmatulloh A., *et al*, 2018).

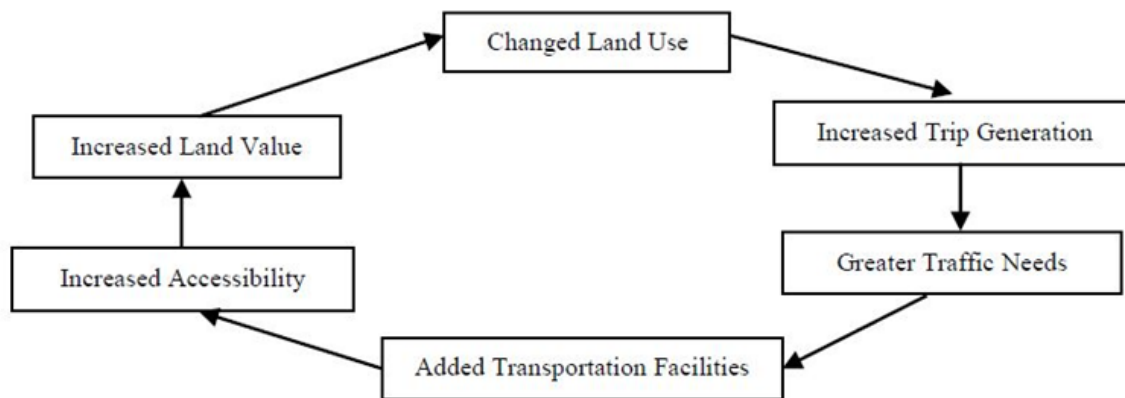


Figure 10: Land use and transportation cycle

Source - (Rakhmatulloh A., *et al*, 2018)

Researchers have investigated the effects of transportation corridors and have found inconclusive results. Some land uses that are adjacent to transportation corridors, such as multi-family, appreciate rapidly, whereas other land uses are negatively affected. The results from this literature review suggest that the wisdom of advanced acquisition may depend on the land uses surrounding the transportation corridor (Sara A. *et al*, 2009).

Research conducted by (Ryan, 1999), tries to identify the relationship between transportation facilities and property values. Ryan analyzed ten studies that were conducted from 1959 to 1982 and found that four out of the ten studies found a negative relationship between distance to freeway and property values, while six others found a positive relationship.

Real estate is a heterogeneous good whose market price is influenced not only by its structural characteristics but also by the physical characteristics of the surrounding environment and the level of accessibility. Most studies can be stated to have found that accessibility to transport and to public transport may have a positive impact on housing prices. However, the estimations of the parameters have proven to be very variable, suggesting that comparative studies applying the same methodology in different areas may prove useful (Ruben C. *et al.*, 2018).

2.4.2.2 Bid rent theory

One of the seminal works in land-use economics is William Alonso's bid-rent theory, published in 1960. In his paper *A Theory of the Urban Land Market* (1960), Alonso hypothesized a bid-rent gradient to describe the relationships between land value, commercial location, and transportation (Bochnovic, 2014). The effect of distance from an assumed central business district (CBD) on the value of land is illustrated by a negative curve reflecting the decrease in price with an increase in distance. Thus consumers willing to pay for more premium land would locate closer to the CBD of a city, and would also reap the benefit of minimal transportation costs. On the contrary, consumers paying a lower rent will consequently have to pay greater transportation costs because of an increase in distance from the CBD (Alonso, 1960).

Alonso illustrated this function through a bid-rent curve (see **Figure 11**), or gradient, reflecting the negative relationship between rent prices and distance from the CBD of a city. Point 'z' where land use '1' loses its advantage at the point of equilibrium between distance from a market and rental costs (Bochnovic, 2014).

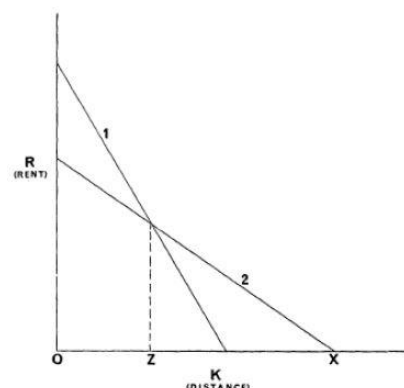


Figure 11: Alonso's bid-rent curve

Source - (Bochnovic, 2014)

Though Alonso's bid curve identifies the relationship between rent and distance from the CBD, different land uses have different bid curves. According to (Bochnovic, 2014), land-use is characterized by a different slope, which indicates the specialized considerations made by each group. The variances in slope can be attributed to the level of intensity of each land-use as a function of distance, where more intensive uses of land occur at the CBD and more extensive uses occur farthest from the CBD (see **Figure 12**).

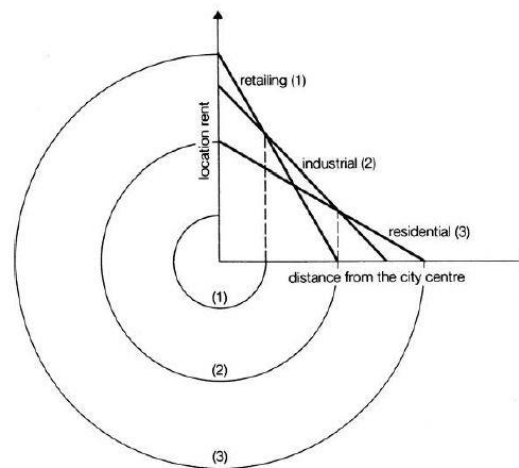


Figure 12: Bend curve according to different land uses

Source - (Bochnovic, 2014)

While Alonso's work has continued to flourish as a staple of land-use economics, city structure and development have changed dramatically since the 1960s. Remarkable changes in population, technology, transportation, and a number of other external factors have altered how cities grow and develop. The most significant impact of these changes upon city structure has been the rise of suburban development. The horizontal spread of urban limits has had a profound effect on how planners and policymakers design, finance, and allocate resources for regions (Bochnovic, 2014).

According to Straszheim, (1973), factors outside of location and distance impacted the rent that would be paid for housing. He added household preferences like number of rooms in a structure, age of building, lot size, structure quality, and the like to Alonso's model. Cities are evolving from a mono-centric form with one CBD to a poly-centric form with multiple centers of activity (Bochnovic, 2014).

2.5 Determinants of rent

Determinants of rent can be sorted out in many different forms. Economists have offered a multitude of variables that contribute to rental rate fluctuations (Ruivo, 2010). For better discussion, the researcher has focused on grouping these multitudes of variables into basically four categories namely; physical characteristics, environmental characteristics, social characteristics and market conditions with each having its own subcategories.

2.5.1 Social characteristics

A social characteristic is concerned with the social makeup of the surrounding area. It includes the population density of the area, economic capability or income of the surrounding society, demographic factors and many others that have a significant impact on rent values.

- i. **Population Density:** cities that are more densely populated are often associated with higher rental rates. Hence as more people are concentrated in a certain area, the demand for housing increases. Cities with higher yields to growth rates often result in higher percentage growths in rental rates as well (Beth Wilson and James Frew, 2007).
Similar results were found by Ruivo, (2010), his study revealed that higher rental rates are associated with higher population densities because the higher population density the higher the demand for housing. Finally his research found out that when population density increases by one hundred per each square mile, the average rental rate will increase by \$0.80. According to him the change is minimal but explains why dense areas such as New York City pay higher rental rates than less dense neighboring areas.
- ii. **Demographic factors:** racial diversity was one reason for rental rate changes (John Gilderbloom and Richard Appelbaum, 1988). They found that places with a high percentage of non-whites were more likely to have lower rental rates than areas with white inhabitants. According to a study by Schilling et.al, (1990), age was also other demographic factor affecting rent. Their study showed that as tenants grew older; their landlords often reduced the real rental rates.
- iii. **Income of the society:** income is a catalyst to fluctuations in rental rates and housing costs (Hansen, J. L., J. P. Formby and W. J. Smith, 1996). For every thousand dollars of an income increment, rental rates are increased by seven dollars. The reason behind such an increment is that individuals who work in the city often earn higher incomes and as

individuals have higher incomes, they are willing to pay more for their rent. The study also showed similar results regarding housing costs. That is, for every one hundred thousand dollar increase in housing costs, rental rates increase by an average of fifty six dollars. In sum, as income increases, the cost of living increases as well. In this case, rental rates and housing costs are part of the cost of living (Ruivo, 2010).

2.5.2 Physical characteristics

A physical characteristic is concerned with the physical properties of the building. It includes the physical aspects of the building such as; location, accessibility, material usage, number of rooms available, available entities or services and the like.

- i. **Location:** apartments closer to transportation arteries (i.e. Subways, bus stations, taxi routes) are associated with higher rent (Asabere, P.K.; Huffman, F.E., 1996). The reason behind such a claim is that inhabitants who are renting often do not have their own form of transportation and are willing to pay more rent to offset the time and energy spent traveling (Ruivo, 2010).
Moreover, (Gallin, 2008) found that that houses located farther from the central part of the city often charged less for living space. This was also discussed in bid rent theory in the above sections.
- ii. **Accessibility:** the elasticity between house prices and accessibility is equal to 0.8. Meaning, a 1% increase in accessibility leads to an increase in housing price of 0.80% (Sander Hoogendoorn & Joost van Gemeren & Paul Verstraten & Kees Folmer, 2016). Similar results were found by Rayyan et al., (2021), showing a linear relationship between rent and accessibility.
- iii. **Number of rooms and available entities or services:** According to Ruivo, (2010) more bedrooms within an apartment, the more likely the apartment will cost an apartment with more amenities (i.e. newer kitchen, access to a gymnasium, better views) is a strong contributor to higher rental rates.

2.5.3 Environmental characteristics

An environmental characteristic is concerned with the immediate surroundings of the building. It includes the environmental aspects of the building such as; climate, availability of resources, view, and the like.

- i. **Climate:** buildings located in areas with warm climates had expensive rent compared with lower climate areas (John Gilderbloom and Richard Appelbaum, 1988). This study may not be applicable to countries with temperate climate like Ethiopia. For instance residents living in Dire Dawa and Adama with hotter climate prefer to spend time outdoors than indoors hence, building with courtyards and air conditioning system have higher rents, the vice versa is true for residents living around Debre Berihan.
- ii. **Availability of resources:** apartments that were located in areas of inconvenience, such as near hospitals or around sewerage centers, had less rent value compared with other apartments (Smith, H. C. and Belloit, J.D., 1987).

2.5.4 Market characteristics

Market characteristic is concerned with the market conditions of the surrounding. It includes demand, supply of buildings needed for rent, taxes, incentives, lease agreement and the like.

- i. **Demand and supply:** It is a basic economics principle that when there is high demand for any good and the good is supplied in a lesser amount, the price of the good rises spontaneously. Likewise, if there is high demand for rent and available buildings are in short supply, the value of rent will rise due to the competition.
- ii. **Taxes:** According to (Ruivo, 2010), tax is also another factor affecting rental rates. With higher taxes being attributed to higher rent since renters pay taxes.
- iii. **Incentives:** lower rental rates have been attributed to discounts set forth by the owner for good tenants as an incentive those who have been favored by the landlord as a way to keep good tenants around longer. Taxes have also been a factor in rental rates, with higher taxes being attributed to higher rent. If there is a lease agreement, however, rental rates are negatively affected, since renters are the ones who pay the taxes (J.Luis Guasch and Robert C. Marshall, 1987) .

2.6 Hedonic pricing model

Hedonic pricing model depends on the idea that a property buyer values the characteristics of the property, rather than the property in total. Meaning, the property prices reflect the prices of the property characteristics and locational variables (Zubeida Aladwan and Mohd Sanusi S. AHAMAD, 2019). Similarly Abidoye R. et al., (2017) stated that, real state is a composite of a bundle of attributes. Hence the value attached to a property is dependent on these unique bundles of attributes (see **Figure 13**).

Hedonic pricing gives a monetary value for every characteristic of the property. It can also be used to investigate empirically whether the influence of proximity to adjacent commercial activities (Yang, J.H., Song, J., and Choi, M.J., 2016). Hedonic pricing model applies regression as its fundamental step, where the regression model explores the relation between the property prices and its corresponding parameters or property characteristics (Zubeida Aladwan and Mohd Sanusi S. AHAMAD, 2019).



Figure 13: Research methodology of the hedonic pricing model

Source- Zubeida A. et al., 2019

Regression is concerned with describing and evaluating the relationship between a given variable and one or more other variables. Regression is an attempt to explain movements in a variable by reference to movements in one or more other variables (Chris Brooks and Sotiris Tsolacos, 2010). The regression analysis is a model for estimating the relationships between variables, usually a dependent variable and one or more independent variables. Using a regression model, the value of each property parameter or characteristic can be determined. In real property studies hedonic regression function can be expressed as the following equation (Zubeida Aladwan and Mohd Sanusi S. AHAMAD, 2019).

$p = f(X_1, X_2, \dots, X_n)$ Where 'p' is the property price, 'X₁, X₂, ..., X_n' are the property characteristics and f could be linear or nonlinear function.

2.7 The corridor development in Addis Ababa

2.7.1 Introduction about the corridor development

As per a report by Fana Broadcasting Agency web site (Agency, 2024), Addis Ababa Mayor Adanech Abiebie stated that the primary objective of the corridor and redevelopment projects is to enhance the beauty and cleanliness of the capital, making it a comfortable and attractive place for its residents, while maintaining its status as an international diplomatic hub. So far there are two phases of the project covering a total of 4,747 hectares as shown in **Figure 14** below.

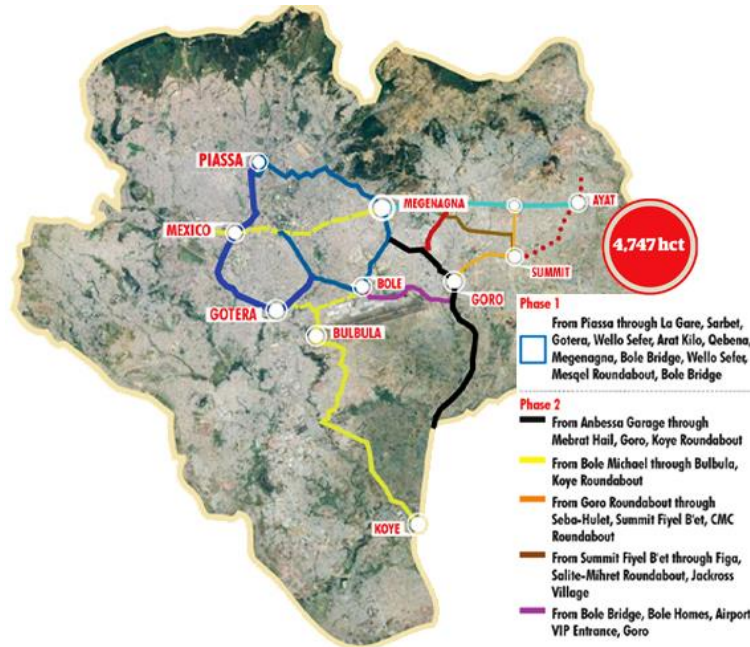


Figure 14: Map of Addis Ababa showing roots of Phase I and Phase II of the corridor project
Source – website (Addisfortune) and edited by the researcher.

As per the corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC, the goal of the corridor development project is to;

- i. Enhance the residents living conditions by establishing functional workspaces.
- ii. Revitalize economic engagements along the corridor through the improvement of mixed-use development.
- iii. Creating a lively urban impression by designing the street environment of the corridor.

As per the same source the new corridor development project covers many parts of the inner city mainly the CBD. Hence is very crucial to the city, and even to the country, because it covers areas that host big businesses and is frequently used by the diplomatic community.

As per the same source, phase I of the project includes routes starting from 4 Kilo to Piasa and ending at Mexico Square, and from Mexico Square connecting Sarbet, Qera, Wello Sefer, Bole, Megenagna & CMC. The design includes pocket parks, bridges, mixed use buildings, public spaces, playgrounds, and riverfront developments. Phase II of Addis Ababa's corridor development, spanning a total of 43 kilometers, is set to enhance connectivity across key areas of the city, including the Bole, Lemi Kura, and Akaki Kaliti sub-cities. The project encompasses several major segments.

- A 14.8-kilometer stretch from Anbessa Garage (Kelebet Menged) through Mebrat Hayil, Goro, and Koye Square.
- A 12.8-kilometer route linking Bole Cargo, Bulbula, and Koye Square.
- A 4.4-kilometer corridor connecting Bole Bridge to Bole Homes, Airport VIP Entrance, and Goro.
- A 5-kilometer stretch from Goro Square to Seba Hulet Area, Summit Soft Factory Area, and Fiyel Bet, ending at CMC Square.
- A 5.9-kilometer segment from Fiyel Bet to Figa, Sahelit Mhired Square and Jacross.

As per the same source, the Mayor of Addis Ababa has stated that the projects are “people’s centered” and city administration provides information on enhanced resettlement provisions for residents affected by new construction stated below;

- For those requiring larger land replacement, alternative accommodations in Kolfe Keranayo, Gulele, Nifas Silke, Lafto, and Lemi Kura sub-cities was given.
- For individuals preferring to stay in the downtown areas, housing options in Kirkos, Ledeta, and Addis Ketema have been made available.
- Renters have been given one year’s rent worth of rent in cash and moving expenses until their new accommodations are ready. Those engaged in rental businesses have been assisted in setting up permanent rental facilities in suitable locations.

The Mayor has further stated that the city administration has prepared relocation housings for individuals who have been residing in “kebele houses” (informal housing units owned by the government and rented to their occupants) around the corridors to be developed, and the necessary compensation has been prepared for private residences that will be demolished for the corridor development project.

Moreover, the Mayor has indicated that the project will include the construction of over 4,000 homes for residents who will be required to relocate, and a budget of five billion birr has been allocated for compensating those affected by the project. She also mentioned that nearly 100 hectares of land have been acquired to provide replacement properties for those displaced by the project. In addition to the above, she stated that two years’ worth of rent payments for housing will be covered to the expropriated bodies.

2.7.2 Planning aspect of phase I corridor development from Piasa to Welosefer.

As per the corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC, this section of the corridor development is divided into five segments described below;

i. Segment 1 from Piasa to Behirawi

The focus of this segment is to implement historical preservation by seamlessly integrating old and modern development projects, forming a cohesive connection between major public spaces like Adwa 00, Kurtimier river side development, Ethio Cuba Park and Beherawi public space. It has a total area of 55.62ha and stretching approximately 1.71 kilometers.

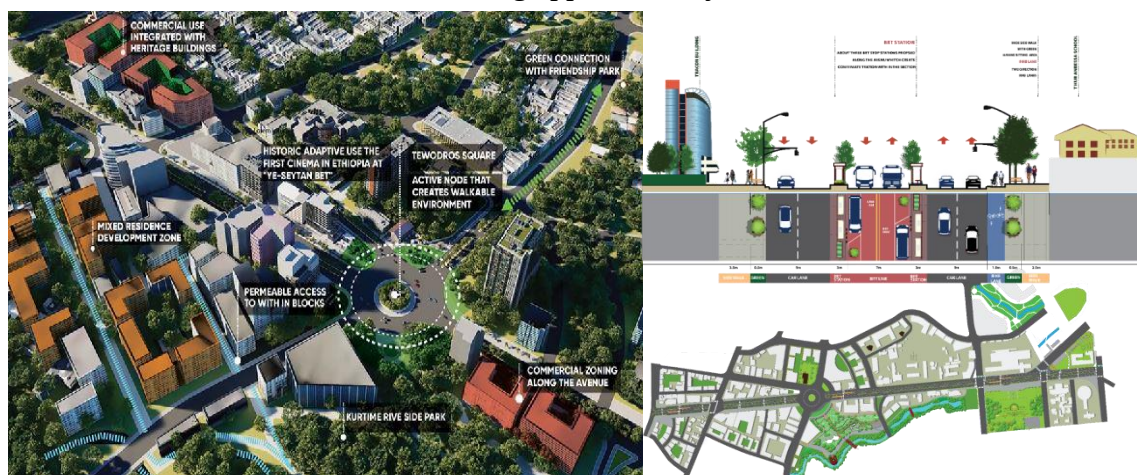


Figure 15: Site plan and 3d illustration of proposed development from Piasa to Behirawi

Source - Corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC

ii. Segment 2 from Behirawi to Mexico

The focus of this segment is to implement financial & educational hub by providing smart financial district with real-time economic dashboards displayed publicly. It has a total area coverage of 11.10ha and developable land of 4.2ha.

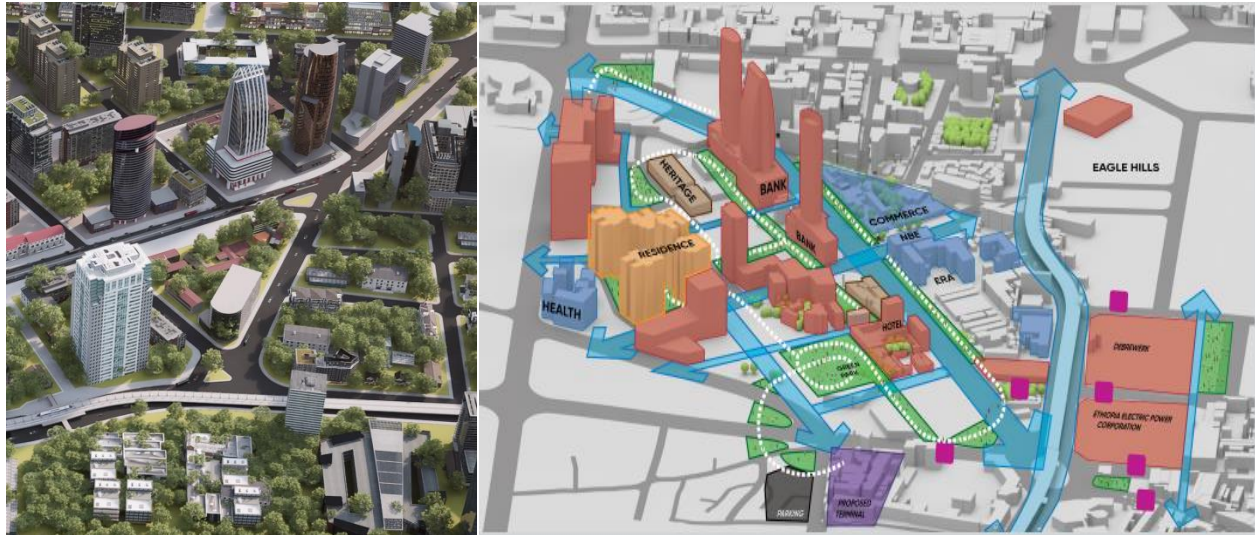


Figure 16: Site plan and 3d illustration of proposed development from Behirawi to Mexico
Source - Corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC

iii. Segment 3 from Mexico to Sarbet

The focus of this segment is to implement a diplomatic and residential corridor by providing a secure yet open embassy row with public art installations celebrating international unity. It has area coverage of over 55 hectares and stretches approximately 1.7 kilometers.

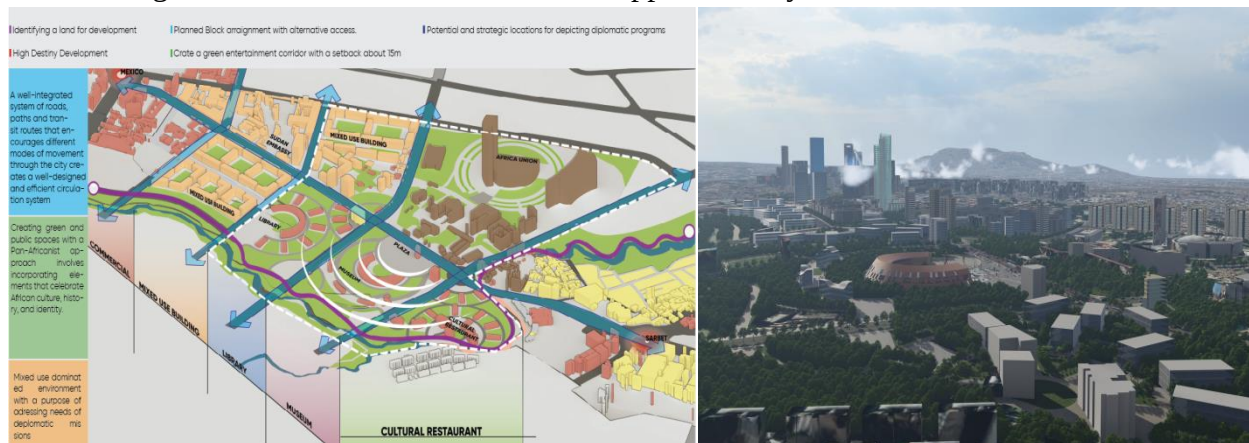


Figure 17: Site plan and 3d illustration of proposed development from Mexico to Sarbet
Source - Corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC

iv. Segment 4 from Sarbet to Gotera

The focus of this segment is to implement manufacturing spaces and innovation hubs to modernize light manufacturing by providing manufacturing and commercial planning activities. It has an area of 45.95ha that can be intervened by further development initiatives.



Figure 18: Site plan and 3d illustration of proposed development from Sarbet to Gotera

Source - Corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC

v. Segment 5 from Gotera to Wolo Sefer

The focus of this segment is to implement social diversity by providing mixed-use planning that creates co-living and co-working spaces with shared amenities for different income groups. It has an overall area of 118.5ha, street coverage area of 21.5ha and a developable land area of 62.5ha



Figure 19: Site plan and 3d illustration of proposed development from Gotera to Wolo

Source - Corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC

2.7.3 The corridor development implementation strategy

The terms of reference (TOR) developed by (Addis Ababa Road Authority , 2023), outlined specific expectations from the implementation strategy. The TOR clarified that the implementation strategy had to be contextualized, appropriate, sustainable and cost-effective. Moreover, the implementation strategy had to address various issues related to inclusive renewal processes, environmentally conscious decisions and favorable long-term community well-being.

Hence, the corridor development plan proposal made by OMAA, CDSWC, AACRA, and AAPDC proposed public-private partnership (PPP) implementation strategy. The selection criterion for such implementation strategy was its successful implementation in previous projects. It has been implemented into some extent on some mega projects, like projects like; Chaka housing project and Tiyit Bet real estate development.

For instance, in the case of Tiyit Bet real estate development project, the government provided the land free of charge to the private company called Ovid Real Estate and the company is engaged in a design, build and transfer (DBT) modality. Hence, the company finances the apartments, builds the apartments and finally, upon completion of construction, the company transfers 30% of the apartments to the government and the rest 70% will be transferred to individuals who bought the apartments.

Hence, PPP and some government offices teamed up during the design, construction, finance, and operation stages of the corridor development. According to the corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC, the following tasks were assigned to specific teams; relocation housing projects were assigned to the city administration and PPP. Street scape, landscape and BRT were assigned to AACRA. Construction of underground parking, on street parking and transport terminals were assigned to Addis Ababa Transport Bureau and PPP. Riverside development projects were assigned to city beautification bureau. Construction of high rise mixed use buildings were assigned to real estate's using PPP modality. Implementation, follow-up and approval were assigned to plan and development commission.

The above tasks and other tasks are planned to be run by 19 stakeholders headed by the Prime Minister Mega Project office and the City Administration.

2.7.4 Advantages associated with the corridor development project.

The corridor development has brought up various advantages to Addis Ababa ranging from infrastructure improvements to boosted economic activities. The following are summary of the advantages of the development referenced from a thematic analysis by Mulugeta G. et al, (2025).

i. Improving road infrastructure

According to Mulugeta G. et al, (2025), the corridor development in Addis Ababa has significantly decreased traffic congestion, enhanced pedestrian and bicycle access, and improved mobility, making commuting more enjoyable and efficient. Moreover their study indicated that the development has promoted sustainability through improved green spaces, open public areas and non-motorized transportation infrastructure.



Figure 20: Improved road infrastructure after the corridor development

Source - Mulugeta G. et al, 2025

ii. Advocating environmental friendly activities

According to same source the corridor development has placed high priority to green and open spaces like parks, recreational areas and river front developments improving sustainability and environmental friendliness of the city termed as one of the ‘Green Legacy’ projects. According to them such strategic moves encourage residents to be healthy and improved image of the city.



Figure 21: Induced environment after the corridor development

Source - Mulugeta G. et al, 2025

iii. Boosting the economy

As per the same source the development of such corridors can strengthen the local economy by attracting investments and facilitating better access to markets, jobs and essential services. The corridor development concentrates on several sectors, including green infrastructure, transportation, water, telecommunication, energy and sewerage. Hence the researchers believed that it significantly affected the city’s overall image and inspired significant interest in enhancing other projects in various sectors.

Their research recommended Addis Ababa’s corridor development as a model for urban planning mobility challenges, by promoting a smart city concept. Moreover their study suggested integrated transit systems, vehicle sharing, traffic calming measures and parking fees as part of the corridor development.

2.7.5 Problems associated with the corridor development project.

As to the knowledge of the researcher based on the literature studies, there are basically four problems associated with the project mentioned below; compensation or displacement problems, social and economic disparities, design and implementation problems, and at last but not least cultural heritage and historic preservation problems.

i. Displacement or compensation problems

A report written by Eshetu, (2024) on a website called Borkena.com indicates the following negative impacts of the project; large-scale infrastructure projects often require land acquisition, which can lead to the displacement of communities and businesses. Displaced residents may face challenges in finding new housing and maintaining their livelihoods. A gentleman who had a G+1 house near the Imperial Hotel got his house demolished within a week's notice from a local government office. His house was worth 40 million birr, but the city government compensated him with a 200m² plot of land and 4 million birr only.

A lot of people who lost their assets due to the corridor plan are undercompensated and their business is shattered. Shanty houses demolished around the Piazza area are worthy of relocation in the hope of blazing development. That is acceptable. However, how many of the relocated families are compensated well is the persisting question to be answered by independent bodies (Eshetu, 2024).

A report written by Endris, (2025) on Addis Standard on the same topic reveals similar information. A resident of Yerer Sefer, who owned a bar and restaurant, which he operated as private property, had his property demolished without prior notice due to the project. As per the same source, the building which occupied a 221 square meter area, was demolished just three months after its construction was completed and operations had resumed. The authorities gave the owner three days to pack his things, and then he rented a place in a nearby area at a monthly rent of 20,000 birr and relocated there.

An interview conducted by the same source around Piasa reveals contrasting information. For instance, an eyeglasses and watch merchant, namely Meron Mesfin, who was displaced during the first phase of the project, was given a space in the Arada Market area and has restarted her

business. She said, “since it’s a new place, it will take time to get used to. Hopefully, customers will come eventually”.

A report written by Endale, (2025) on the reporter newspaper entitled ‘Ethiopia’s corridor development project epidemic: progress or calamity?’ reveals that residents in the capital, who have been relocated to the outskirts, cite a lack of infrastructure and basic services, such as difficulty in finding schools for their children. In an interview with one resident who was residing in Kazanchis stated that “From living in our own house in Kazanchis, we now have to live in a studio at Arabsa condominium, we are left with insufficient information and inadequate compensation. There is no water in Arabsa, and schools are far away. We’ve lost many things,” said the resident.

As per the United Nations charters, Ethiopia signed on, evictions must comply with the following human rights laws;

- Article 11, paragraph 1 of Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights, which states;

‘The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing, and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.’
- Article 17 of the International Covenant on Civil and Political Rights.
Article 17(1) states that ‘No one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, or to unlawful attacks on his honor and reputation.’
Article 17(2) states that ‘Everyone has the right to the protection of the law against such interference or attacks.’
- Guideline no.6 of the guidelines for the implementation of the right to adequate housing (2020) (A/HRC/43/43), which specifies;

a) Forced evictions as defined under international human rights law must be prohibited in all circumstances, regardless of ownership or tenure status of those affected. Victims of forced evictions must receive adequate compensation, reparation, and access to housing or productive land as appropriate.

(b) National laws governing evictions must be compliant with human rights norms, including the principle of respect for human dignity and the general principles of reasonableness, proportionality and due process, and should equally apply to those living in homeless encampments. Access to justice must be ensured throughout the process and not just when eviction is imminent. All feasible alternatives to eviction must be explored, in consultation with affected persons. If, after meaningful engagement with those affected, relocation is deemed necessary and/or desired by the community, adequate alternative housing of similar size, quality, and cost must be provided in close proximity to the original place of residence and source of livelihood. Evictions must not render people homeless. Access to justice must be ensured throughout the process and not just when eviction is imminent. (United Nations)

Proclamation No.1161/2019, a proclamation to determine expropriation of landholdings for public purposes, payment of compensation, and resettlement, allocates various types of compensations starting from Article 2(2) up to Article 2(6).

- Article 2(2) states '*property compensation*' meaning payment to be made in cash or in kind or in both to a person for his property or permanent improvements situated on his expropriated landholding'.
- Article 2(3) states '*displacement compensation*', meaning payment to be made to a landholder for the loss of his use right on the land as a result of expropriation.
- Article 2(4) states '*displacement assistance*' meaning payment to be made, in addition to property and displacement compensations, for a landholder who has been permanently or temporarily displaced to help him adjust to the new place.
- Article 2(5) states '*economic loss compensation*' meaning payment to be made to those who are not displaced but who suffer loss of employment, trade, or rentals, or similar activities as a consequence of expropriation of land for public purposes.

- Article 2(6) states ‘*social ties discontinuance and moral damage compensation*’, meaning payment to be made to displaced people for the breakup of their social ties and moral damage suffered.

The researcher recommends a further study and an in-depth analysis and on the matter from impartial bodies regarding the above mentioned compensations types.

ii. Social and economic disparities

The project benefits certain segments of the population more than others, potentially exacerbating social and economic inequalities. Access to improved infrastructure and services may not be equitable across different neighborhoods or income groups. To certain people along the improved line the development is a blessing while to many more is a curse. Poorer families have been created over a week time as they lost their livelihoods. Thousands of shops are closed or relocated to high rental cost areas or even lost cost areas where income is severely cut (Eshetu, 2024).

iii. Cultural heritage and historic preservation problems

Development projects can threaten cultural heritage sites or historic buildings, leading to loss of cultural identity and heritage for local communities. The city government has improved some of the historic buildings while quite a good number of others are destined for the trash. Improvements in mobility and enhanced public spaces are appealing but can threaten the cultural roots of communities. Corridor projects often prioritize progress at the expense of social equity which endangers both tangible and intangible cultural assets. This gap between ambitious goals and social realities emphasizes the need to reconcile modernity with cultural preservation (Eshetu, 2024). Regarding this topic, a report written on (The Guardian, 2024), reveals that in Piassa alone, 36 of the 42 listed heritage buildings have either been destroyed or earmarked for demolition.

iv. Design and implementation problems

According to Jacobs, (1961), the streets of successful city neighborhoods always do, must have three main qualities; First of all, there must be a clear demarcation between what public space is

and what is private space is. Public and private spaces cannot ooze into each other as they do typically in suburban settings.

Second of all, there must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street. The buildings on a street equipped to handle strangers and to ensure the safety of both residents and strangers must be oriented to the street. They cannot turn their backs or blank sides on it and leave it blind. Last but not least the sidewalk must have users on it fairly continuously, both to add to the number of effective eyes on the street and to induce the people in buildings along the street.

Furthermore, Jacobs, (1961) illustrates this concept clearly by citing an example, the sidewalk and the street peace of the cities is not kept primarily by the police, it is kept primarily by an intricate, almost unconscious network of voluntary controls and standards among the people themselves. The problem of insecurity cannot be solved by spreading people out more thinly, trading the characteristics of cities for the characteristics of suburbs. If this could solve, danger on the city sneers, then Los Angeles should be a safe city because, superficially Los Angeles' is almost all suburban. For example, it has a forcible rape rate of 31.9 per 100,000 populations, more than three times as high as the rate for Chicago and more than four times as high as the rate for New York which is at 7.4.

Keeping the above qualities of a good street mentioned by Jane in mind, according to the researcher's observation and according to the researcher's architecture experience, the design of corridor development focuses on the walkways, bike ways and greeneries with sitting arrangements. It lacks spaces that can be run by small businesses like mini markets, breakfast areas, and shaded spaces that can add to the number of effective eyes on the street, keeping the street safer than completely relaying on security cameras.

In this regard it is fair to mention one simple example from the researcher's experience, when a driver is faced with flat tire and having no spare tire along corridor developed areas, it is impossible find small tire repair shops that used to be found along the street, hence he/she is forced to call a tow truck or to look for some other arrangement to take the car to the nearest available repair shop. Therefore, incorporating such small businesses along the streets is not thought of in the design.

2.8 Country practices regarding corridor development

2.8.1 Jilin Yanji low-carbon climate resilient health city project

According to Asian Development Bank, (2023), report titled, Uniquely Urban Case Studies in Innovative Urban Development, the project is located at Yanji City, Jilin Province, The People's Republic of China, approved in December 2019. The purpose project included urban transport, flood protection, water supply and sanitation systems. The scope of the project is: improving public transport and urban functions by reducing congestion, improving pedestrian and bicycle networks, reducing flooding in the city and improving water safety and security and positive health outcomes. The project applies nature-based solutions, integrating green spaces with hydraulic functions and ecological restoration.

a) Challenges faced by the city

As per the same source, the city was experiencing a general economic slowdown where no single problem. There were the obvious problems of traffic and urban flooding, and the less obvious but still very real problems of the city's aging underground water and drainage infrastructure and missing transportation links. The challenges were related to traffic, flooding and loss of drinking water.

- i. **Traffic:** Vehicle registration in Yanji increased 57% between 2012 and 2017 which contributed to problems like: increasing traffic, air pollution and even less walkable streets because vehicles are parked on sidewalks. Public transportation was mainly by buses, which had to contend with a small bus fleet, heavy traffic and congested routes.
- ii. **Flooding:** during the rainy season from June to July some roads and urban areas were regularly flooded endangering lives, threatening property and distracting productivity. The sewer and drainage pipe system were combined and outdated where only 12% of the pipe network met the domestically required 1-in-3-year flood design standards, causing prolonged flooding during heavy summer rains.
- iii. **Drinking water losses:** Though the city's water supply meets national quality standards it had aged pipes mostly laid in the 1930's and 1970's, which were leaking as much as 37% of the produced water in unknown locations below the ground surface. Moreover 9% of the clean water produced went unpaid by users.

b) Proposed Project

According to Asian Development Bank, (2023), the proposed project is termed as ‘healthy and age-friendly city action and management plan’ that includes transit-oriented development and green spaces, flood disposal systems, and clean water supply systems commonly known as the ‘sponge city’ approach that applies to water-related nature-based solutions and resilient green infrastructure. It aims at sustainable and resilient rain- and stormwater management through wetlands, water retention parks, rain gardens, and green roofs to reduce urban flooding and reduce stormwater.

The project includes the construction of a 20-kilometer BRT corridor serviced by 25 stations equipped with special features for people with disabilities and women waiting at the stations. These will include features such as wheelchair access, alarm buttons, priority seating, and safe lighting. The project will also finance the procurement of 100 clean energy BRT buses.

The project is supporting the construction of at least 30 kilometers of pedestrian links to BRT stations, including safe crossings and routes to schools and hospitals with safe lighting. Sidewalk parking will be prohibited in at least six problematic locations along the BRT corridor and 100 new spaces provided near BRT stations, along with park-and-ride lots. Cyclists will have access to at least 30 kilometers of dedicated bicycle lanes along the BRT route.

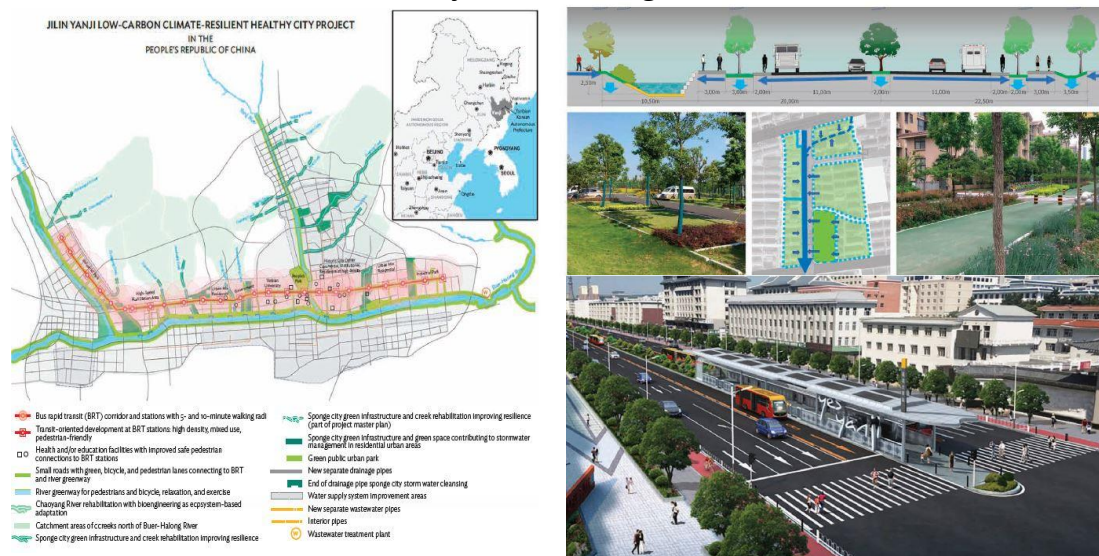


Figure 22 Jilin Yanji low-carbon climate resilient health city project

Source- (Asian Development Bank, 2023)

Expected outcomes

The following are expected outcomes of the project by the year 2028;

- The project is expected to reduce the greenhouse gas emissions of the city by 60,000 tons of carbon dioxide per year.
- Public transport is to be increased by 8%.
- Flood risk in the urban catchment area of Chaoyang River reduced to 1-in-50 years from 1-in-20 years.
- Annual conservation of 4.8 million tons of drinking water.

2.8.2 Visakhapatnam-Chennai industrial corridor development

The project is located regionally across the state of Andhra Pradesh, India, and it was approved in 2016. The purpose project included industry and trade, energy, water, and other urban infrastructure and services. The scope of the project is; supporting the state government's industrial development needs with that will establish a management corporation to oversee business-friendly processes for investors and manufacturers. It is also scoped at financing basic infrastructure needs within industrial and residential areas, and ensuring policies, reforms, institutional development, and workforce training.

Proposed Project

The project integrated transport, power, and other city infrastructure for the development. The corridor contributes 5% to the national gross domestic product, influencing an area of over 110,000 sq. km. The project is organized to produce three outputs. Output one aims to strengthen corridor management by establishing and supporting management to provide a business-friendly environment and processes for manufacturers. Output two improves the infrastructure, both internally within node cities and externally between nodes. Output three supports the project implementation and effectiveness through institutional capacity building and workforce skills development that would match the nodal industrial employment market.

Industrialization can be supplemented by natural resources available in the region, such as natural gas, minerals, and agricultural products. The major ports are well-connected and near many East Asian economies

Expected outcomes

The following are expected outcomes of the project by the year 2025;

- Manufacturing sector output in Andhra Pradesh increased to \$64 billion from \$16 billion in 2015.
- Gross value added per person in the manufacturing sector increased to INR 1.0 million, which was INR 0.483 million per person in 2013.
- Average daily employment of women in factories in Andhra Pradesh increased to 18% from 13% in 2010.
- 24-hour power supply available for all manufacturing firms while the interruption duration not to exceed 1 hour a month which was 5 hours a month in 2016.
- A 24-hour drinking water supply was provided to 64,800 households, and nonrevenue water reduced to less than 15% in the project area in Visakhapatnam.
- Traffic increased to 21,000 passenger car units from 15,000 passenger car units in 2015.

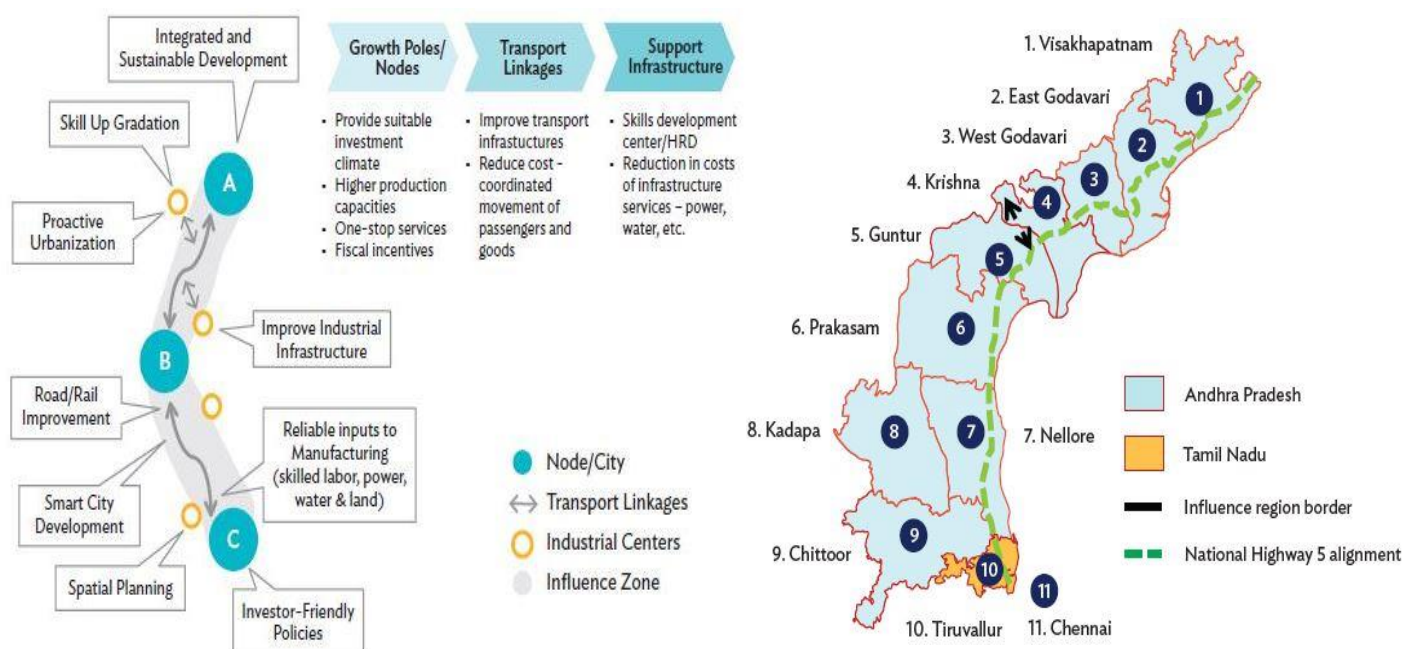


Figure 23: Visakhapatnam-Chennai industrial corridor development proposal

Source- (Asian Development Bank, 2023)

2.9 Findings of the literature review

As seen from the above land-rent, accessibility-rent, and bid-rent theories, the value of a property decreases as it goes further from the CBD, especially for retailing or commercial land use purposes. Likewise as a property is more accessible then it has a relatively higher value. Accessibility is measured in terms of the availability of good road condition, diversified transportation mechanisms like bike, vehicular, and train.

It can also be summarized that a commercial property has a more slanted slope than industrial and residential land uses when property values are interpolated with distance from the center. Meaning the value of land will decrease spontaneously as we move away from the center, especially for a commercial land use.

Table 3: Summary of results of the literature review

Author & year	Title	Methodology	Result
Ryan, 1999	Property Values and Transportation Facilities: Finding the Transportation-Land Use Connection.” Journal of Planning Literature.	Empirical study	Out of ten case studies carried out, four had a negative relationship between distance to freeway and property values, while six had a positive relationship.
Sara et al., 2009	Advanced Acquisition of Right-of-Way: Best Practices and Corridor Case Studies.	Binomial logit model	A mixed result, ✓ Properties adjacent to ‘Highway 36’ appreciated by 9% and non-adjacent properties appreciated by 7.9%. ✓ Properties adjacent to ‘Highway 52’, appreciated by 6.2% while non-adjacent properties appreciated by 12%. ✓ Properties adjacent to ‘Highway 10’ appreciated by 8.6% while non-adjacent properties appreciated by 13.7%. ✓ Therefore, being adjacent does not seem to be an important factor in determining the rate of growth. ✓ Properties that are about to be subdivided or undergo land use

			changes are the properties that should be purchased because they are likely to undergo rapid appreciation.
Rakhmatulloh et al., 2018	What is The Role of Land Value in The Urban Corridor?	Positivistic method with descriptive analysis	Land value on the property closest to the city center is more expensive than the land value which is farthest from downtown.
Ruben et al., 2018	The impact of accessibility by public transport on real estate values: a comparison between the cities of Rome and Santander.	Hedonic pricing model	Accessibility to opportunities was a significant factor in property price increases
Rayyan et al., 2021	Effect of Accessibility on Commercial Property Rental Values Performance in Oja Oba Market, Ilorin Metropolis.	Linear regression between distance from market and rent	A strong positive linear relationship exists between accessibility and rental value.
Sander et al., 2016	House prices and accessibility: Evidence from a natural experiment in transport infrastructure.		The elasticity between house prices and accessibility is equal to 0.8. Meaning, a 1% increase in accessibility leads to an increase in housing price of 0.80%.
R. Ruivo, 2010	Determinants of Rental Rates in Major Cities in the United States	Hedonic pricing model	When population density increases by one hundred per square mile, the average rental rate will increase by a little less than a dollar (\$.80), and for every thousand dollars of an income increment, rental rates increase by seven dollars
Moges Wubet Shita	The Impact of Light Rail Transit on Commercial Property Value: A case of Addis Ababa	Hedonic pricing model (multiple linear regression) by log transformation of the rent per square meter.	✓ The rental price per square meter of the commercial space is independent of the distance from LRT station, rather floor level, the area of space, building type, number of rooms, and other observed characteristics. ✓ High level of tenant displacement from the mid area of two consecutive stations; however, tenant displacement near to LRT station is very low.

2.10 Conceptual Framework

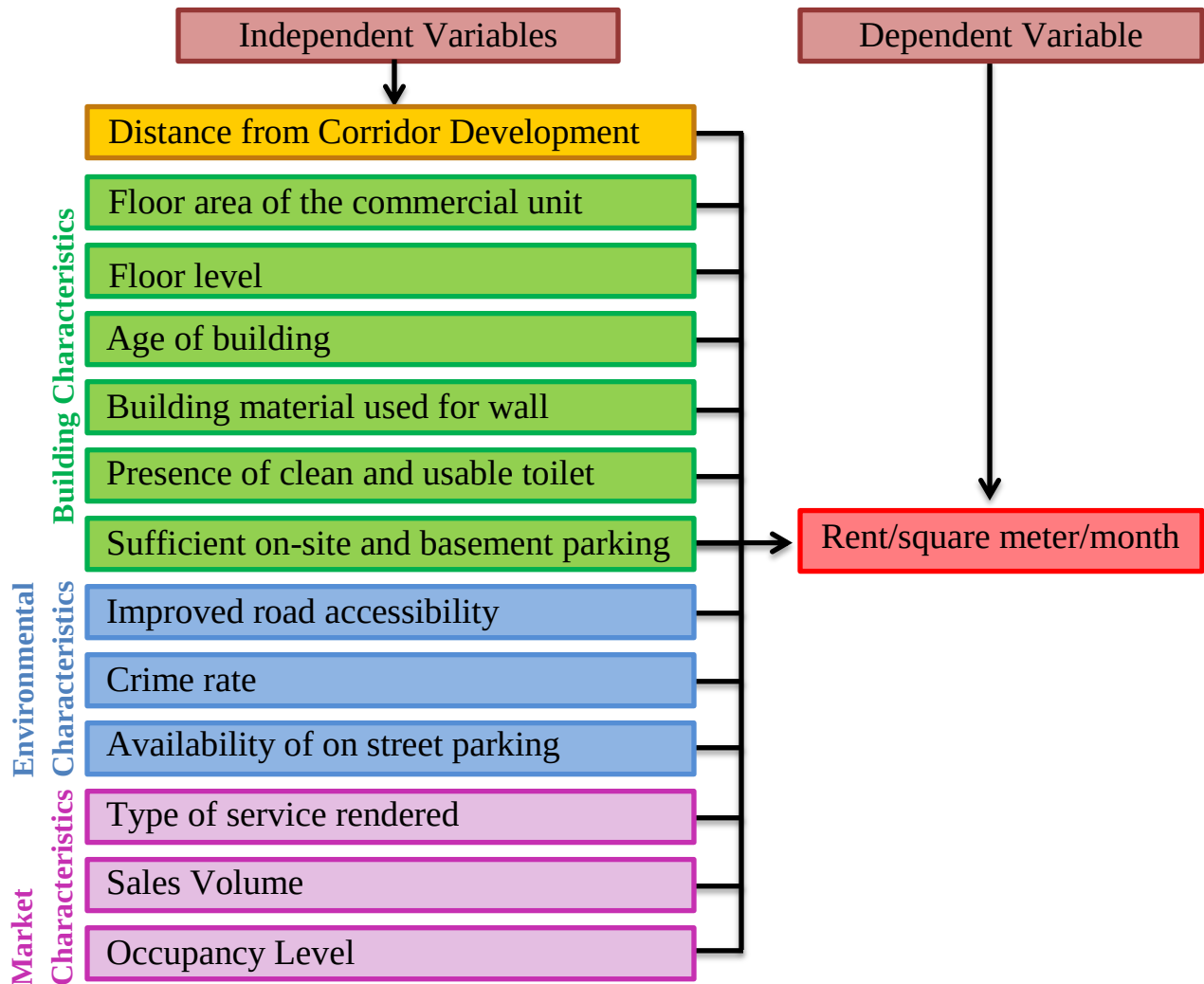


Figure 24: Conceptual framework of the research

Chapter Three: Method of Data Collection

3.1 Site selection

In order to achieve the desired objective, the section from Piasa to Beherawi phase I corridor project was selected by the following site selection criteria set by the researcher.

i. Location

Piasa is considered the heart of Addis Ababa, where tradition, history and modernity co-exist in peaceful harmony. The road from Piasa to Mexico is considered the CBD of Addis Ababa. As per the corridor development plan proposal made by OMAA, CDSWC, AACRA, and AAPDC, retail businesses are dominant with a 65.90% share, followed by the service sector with 28% share. Moreover, the majority of these businesses, with 44.80% share, employ between 2 and 5 employees, while 30.90% are self-owned.



Figure 25: Land use map of the selected area

Source - Corridor development plan proposal made by OMAA, CDSWC, AACRA, and AAPDC

As seen from the above land use map, the majority of activities immediately along Churchill Road are mainly commercial activities highlighted in red; while service activities highlighted in blue come second, administrative activities highlighted in brown come in third, open spaces with greeneries come in fourth, and projects under construction come in fifth place.

ii. Existence of well-structured road network

Starting from the 1960s, the road from Piasa to Beherawi, commonly known as Churchill Road had a well-structured road network with separate vehicular and paved pedestrian movement and access points, though it lacked bike lanes and had less greenery (see **Figure 26**). Hence, it was ideal to understand how much of a difference the corridor development project with; land use adjustment, wider sidewalks, introduced bike lanes and large green and open spaces had brought on the property value of an already accessible location.



Churchill Road in 1960's



Churchill Road in 1980's



Churchill Road in 2000's



Churchill Road in 2017 Ethiopian calendar

Figure 26: Churchill Road from the 1960's up to date

Source- in chronological order; (Lindahl), (Alamy), (Istock) and own survey, 2025.

iii. Relative presence of comparable commercial buildings

Along Cherkil Road there are commercial buildings like; Arada Building, Piasa Mall, Eliana Hotel and Piazza, Banko Diroma Building, Eshetu Mamo Commercial Building, Haron tower, M.K Business Center, Firdu Commercial Center and the like, making the selected site feasible for this study.

3.2 Site description

Addis Ababa, the political capital and the most important commercial and cultural center of Ethiopia, is geographically located at the heart of the nation, 9°2'N latitude and 38°45'E longitude. Its average altitude is 2,400 meter above sea level, with the highest elevations at Entoto Hill to the north reaching 3,200 meters. This makes Addis Ababa one of the high-altitude capital cities of the world (Abnet G. *et al.*, 2020).

The establishment of Addis Ababa as a permanent capital city of Ethiopia in 1886 was associated with the consolidation of new territories by Emperor Menelik II (1844–1913). Prior to that, Menelik II and his predecessor emperors of Ethiopia changed their political centres as they moved from place to place for expansion, and subjugation of local warlords and kings (Mesfin 1976).

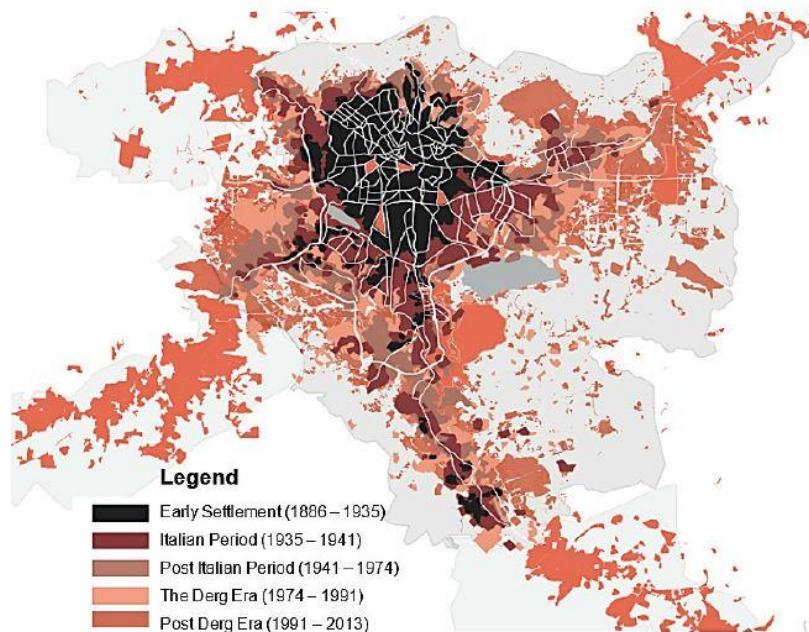


Figure 27: Map showing the growth trend of Addis Ababa from 1886-2013

Source - Abnet G. *et al.*, 2020

Addis Ababa is by far has the strongest economy of all Ethiopian cities. It generates a quarter of the national GDP of Ethiopia. The real GDP of the city was 2.07 billion USD in 2014. It has been showing an average growth rate of 8.9% for in the five years between 2010 and 2014. In 2007 census the housing stock in Addis Ababa was found to be 628,986 units. Out of this stock more than 75 % was made of mud and wood and half of them are more than 20 years old. In terms of services, 98 % get tapped water but only 32% of houses have private connections; 15% have no toilets, while 62 % have shared toilets. Thus more than 80% have no bathing facility and 20 % have no kitchen (Abnet G. *et al.*, 2020).

The selected site for this study is located at Addis Ababa, Arada Sub City, Woreda 01 along Cherkil road from Piasa to Beherawi included in the phase I segment one of the corridor development project, covering over 55 hectares and stretching approximately 1.7 kilometers.



Figure 28: Proposal and actual photos of the corridor development from Piasa to Beherawi
Source – corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC and own survey, 2025.

3.3 Research Approach

This research has followed a diversified research approach by combining qualitative approach and quantitative approach to address the research questions. Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind (Kothari, 2004).

The quantitative approach has been used for regressing rent value of the commercial property based on the relationship of rent per meter square before and after the corridor development within the selected section. Moreover the same parameter was used to compare property values at a distance 0.25km to 1.75km from the selected section. A qualitative approach has also been used to measure how the corridor development is perceived by tenants, property owners and brokers in relation to rent, property value and sales volume of business.

Hence combining the two approaches enabled the researcher to collect diversified quantitative data and qualitative data to have a better understanding about the topic under consideration

3.4 Research Design

Good research design should minimize bias and at the same time maximize the reliability of the data collected and analyzed. The choice of a research design is informed by the nature of the research problem (Kothari, 2004). According to (Mutai, 2000), research design refers to the set of procedures to be employed to achieve the objectives of the research.

In this research both primary and secondary data sources were used to grasp the data needed to come up with reliable and valid information. Three primary data collection tools, namely questionnaire, interview and observation were used for this study.

- i. **Questioner:** - Questioner with structured and unstructured questions were administered to 120 tenants serving various types of commercial activities. The structured questions were designed to collect responses from the choices given, mostly with Likert scale choices and multiple choices. Unstructured questions were designed to survey the responses of the respondents openly.
- ii. **Interview:** - A face to face depth interview and phone interviews were conducted with urban planners, architects, building administration managers, tenants and brokers. It was

administered for the following reasons; firstly to assess monthly rent of commercial units, secondly to measure the relationship of corridor development with commercial property expressed in terms of rents and occupancy level of tenants and finally to investigate the market condition before and after the corridor development measured in terms of the amount of monthly sold products.

Table 4: Body of discussion and composition of an in-depth interview

No.	Body of the discussion	Composition	No. of participants
1.	Short-term and long-term economic impacts of corridor development on commercial property values.	Property owners or property managers and brokers.	8 property managers and 3brokers
2.	Difference in property value between major urban corridors and developed area with non-corridor developed areas.	Property owners or property managers and brokers.	8 property managers and 3 brokers
3.	Business and economic activity before and after the corridor development.	Property owners or property managers and brokers.	8 property managers and 3brokers
4.	Urban planning policies in relation to urban corridor development and property values.	Academicians, Architects and Urban Planners.	1 urban planner, 1 academician from EiABC, 1 academician from Debre Berhan University
5.	Design and implementation of the corridor development.	Academician at EiABC and Debre Berhan University with Architecture and Urban Planning Background and Architects having their own consulting office.	1 academician from EiABC, 1 academician from Debre Berhan University and 1 having his own consulting office.
6.	Perception related to the accessibility of the corridor development.	Citizens of Addis Ababa who travel along the corridor development.	5 pedestrians

- iii. **Observation:** - Observation method was used to assess the market activities of tenants after the corridor development, especially data related with amount of visitations by

potential customers and the number of products sold were observed. Such data has a direct implication on occupancy level of tenants hence this method was used by taking different photos that even strengthen the results of previous methods. This method was used to supplement the data because by its nature it can be superficial.

Secondary data sources like interviews of investigative journalists, a series of books, websites audio and video recordings and publications of national and international organizations were used to further support the primary data collection methods mentioned above.

3.5 Sample size and sampling technique

3.5.1 Sampling frame

The sampling frame for the research included rented commercial properties located along phase I segment one of the corridor development project, running from Piasa to Beherawi and also rented commercial properties located at a distance 0.25km to 1.75km away from Tewodros Square. To identify the relationship between distances from the corridor development and rent value, three concentric circles were made at a distance 0.50km from each other taking Tewodros Square as a center purposefully.

At a distance 0.50km, included rented commercial properties along the four directions are mentioned as the following; in the East direction up to Monarch Hotel along Colson Street, in the West direction up to Nadel Apartments along Gaston Guez Street, in the South direction up to Tracon Tower along Churchill road and in the North direction up to Piassa Shopping Center along Churchill road.

At a distance 1.00km, included rented commercial properties along the four directions are mentioned as the following; in the East no selection was made because most of the area is accompanied by Friendship Park, in the West direction up to Tekelehaymanot Square along Gaston Guez Street, in the South direction up to old Commercial Bank building along Churchill road and in the North direction up to St. George Church along Churchill road.

At a distance 1.75km, included rented commercial properties along the four directions are mentioned as the following; in the East no selection was made because most of the area is accompanied by the National Palace, in the West direction no selection was made because most

of the area is accompanied by Merkato consisting of huge business activities which might create an outlier effect, in the South direction no selection was made because it is part of the section II of the corridor development which is outside the study area and finally in the North direction passing Soramba Hotel along the road from Arada Giyorgis Square to Addisu Gebeya.

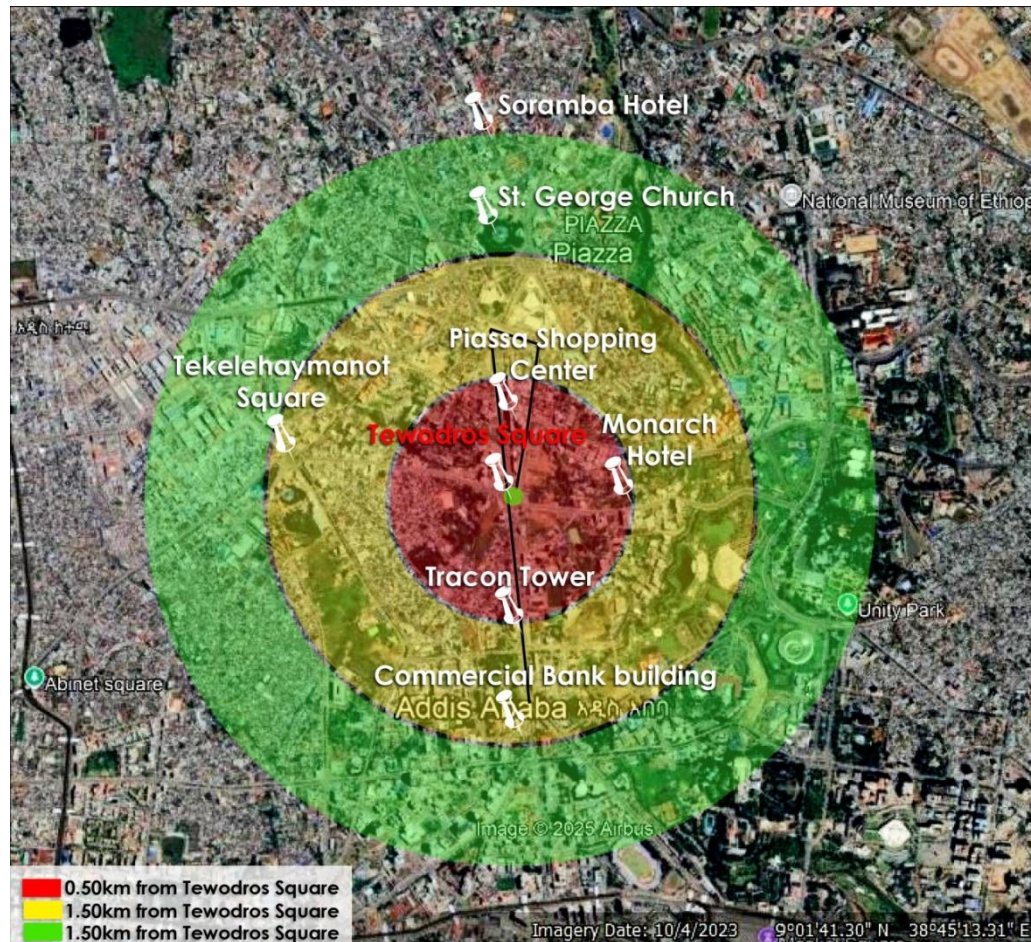


Figure 29: Graphic illustration of the sampling frame

Source – Google Earth image taken at 10/24/2023 and edited by the researcher using Auto Cad and Photoshop.

3.5.2 Sample size and sampling technique

The researcher could not find the exact number of rented commercial units within a 1.75km radius of the selected section of corridor development. Hence using purposive or judgmental sampling technique, 120 commercial units were selected from different distance parameters. According to Chris B. *et al.*, (2010) and Wubet, (2018), a sample in excess of around 100 observations is usually considered sufficient for a test of normality assumption and a sample with

more than 30 samples can ensure statistical analysis for the central limit theorem for real estate researches. Hence the 120 samples taken were found to be enough. The main reason for using judgmental sampling is to select rental units with similar characteristics in order to avoid complications related to building characteristics.

3.6 Technique of data analysis

To realize the objective of this study, quantitative and qualitative data analysis techniques were used. Data collected through; open-ended questions of the survey questionnaire, interviews and observations have been described qualitatively using analytical texts. The data collected through closed-ended questions of the survey questionnaire have been analyzed quantitatively using descriptive statistics analyzing tools like frequencies measured by mean, median and standard deviation and presented using tables by using SPSS 25. Basically, the following listed techniques are implemented research.

i. Descriptive statistics

This research has employed descriptive statistics tools like frequencies measured as mean, median and standard deviation to identify the average, middle and dispersion values respectively. Such method was especially used for analyzing data related with general information and perception level of respondents. Moreover data collected from interviews and questioners is presented using frequencies and percentages using tables.

ii. Correlation Analyses

This research has also employed correlation analysis to measure the linear relationship between the dependent and independent variables mentioned in the model development and testing section. It was used to identify the strength and direction of relationship between the variables. Though correlation analysis doesn't show the magnitude between the variables, it is the first step towards conducting a regression analysis because without any correlation between the variables there is no need to conduct a regression analysis.

iii. Multiple linear regression

Multiple linear regression was used to regress the dependent variable, rent per meter square as function of summation of all the independent variables mentioned in the model development and

testing section. It was used to identify the magnitude by which the dependent and independent variables are related.

Table 5: Summary of methodology of data collection and technique of data analysis

No	Research Objective	Methodology of data collection	Technique of data analysis
1	Short-term and long-term economic relationships of corridor development with commercial property rent prices.	An interview was conducted with property owners and questioner was administered to tenants.	Multiple linear regression analysis was applied by taking amount of rent per square meters as dependent variable and the 13 independent variables mentioned in the conceptual frame work.
2	Difference in rent value between major corridor developed areas with non-corridor developed areas.	Questioner and an interview were administered to property owners, tenants and brokers.	Multiple linear regression analysis was applied by taking amount of rent per square meters as dependent variable and the 13 independent variables mentioned in the conceptual frame work.
3	Measurement of how the corridor development is perceived by property owners and tenants in relation to their property value and rent value respectively.	Questioner with a five point scale choices following the Likert scale was administered to tenants and an interview was conducted with property owners on the same topic	Descriptive statistics analyzing tools like frequencies including mean, median and standard deviation were implemented and presented using percentages and tables using SPSS 25.
4	Investigation of how urban planning policies influence the relationship between corridor development and rent values.	Questioner with a five point scale choices following the Likert scale was administered to tenants and an interview was conducted with property owners, academicians, urban planners and architects	Descriptive statistics analyzing tools like frequencies including mean, median and standard deviation were implemented and presented using percentages and tables using SPSS 25.

3.7 Model development and testing

The model used for this study is hedonic pricing model or hedonic regression model. Hedonic pricing model helps to analyze how different attributes of a good or a service influence the overall price or value the good. Hence the model breaks down the total value the good or service into the value of its components. This model was used in this research to quantify rent price per square meter variations of commercial units based on the independent variables discussed summarized in table below together with their characteristics.

Table 6: Summary of the types, character and measurement of the variables used

Variable type	Sub variable(s)	Character	Status on Model	Measurement
Dependent variable (DV)	Commercial property rent value	Continuous		Birr per square meter per month.
Independent variables (IV's)	Distance from Corridor Development	Continuous	accepted	Kilometer(s)
	Floor area	Continuous	accepted	Square meters
	Type of service rendered by the commercial unit	Nominal	accepted	Retail shop, Office space, Café/restaurant, Warehouse
	Floor level	Nominal	accepted	Ground Floor, 1st Floor, 2nd Floor, 3rd, and above 4 th floor
	Age of the building	Continuous	Rejected	Years
	Building material usage.	Dummy	accepted	0=LTZ and 1=HCB
	Presence of clean and usable toilet	Dummy	accepted	0=No and 1=Yes
	Presence of sufficient onsite parking	Dummy	accepted	0=No and 1=Yes
	Improved road accessibility	Dummy	accepted	0=No and 1=Yes
	Availability of on street parking	Dummy	accepted	0=No and 1=Yes
	Crime rate	Ordinal	accepted	Very high, high, average, low and very low.
	Sales Volume	Continuous	accepted	Birr per month.
	Occupancy Level	Continuous	accepted	Vacant cases of rental units in number within the last three months of the same floor.

Chapter Four: Discussion and Data Analysis

This chapter focuses on the analysis and interpretations of the data collected from the selected study area. The central focus of this chapter is explaining the relationship of corridor development with commercial property rent value quantitatively by applying multiple linear regression. The dependent variable, rent price per square meters, is regressed over the independent variables sub characterized under distance parameter, building characteristics, market characteristics and environmental characteristics mentioned in the conceptual framework.

Other focuses of this chapter include; analyzing the perception level of the corridor development by different property owners and tenants, interpreting the relationship of the corridor development with business and economic activity, discussing the relationship between accessibility and rent and finally elaborating the influence of urban planning policies related with corridor development on rent values based on the data collected.

The data was collected using Kobo Tool Box and then it was interpreted and analyzed using Microsoft Excel and SPSS software.

4.1 Geographic and socio-demographic data of respondents

4.1.1 Geographic location of respondents

The data was collected from 120 commercial units located within the study area and up to 1.75km away from the study area. Along the South direction starting from Beherawi Theater, including Tracon Building, going up to Plaza Tower Building passing through Tewodros square, covering Eshetu Mamo Commercial Building, Haron tower, M.K Business Center, Firdu Commercial Center, Banko Diroma Building, and Piasa tower. Moreover buildings along the road to Ras Mekononin Bridge like Ethof Building were also included in the study.

In the North direction, buildings like Ababiya Ramet Tabor Oda Building, St. Giorgis commercial Building, and two new buildings were also covered in the study. Moreover G+0 commercial buildings owned by ‘Kiray Betoeh’, and privately owned buildings were also covered in the survey up to the second road light along the road to Semen Hotel. In the East direction, the research covered buildings up to Teklehaimanot Square covering one new building, one Kiray Betoeh Building, one Commercial Bank Building and G+0 private buildings as shown in **Figure 30** below.

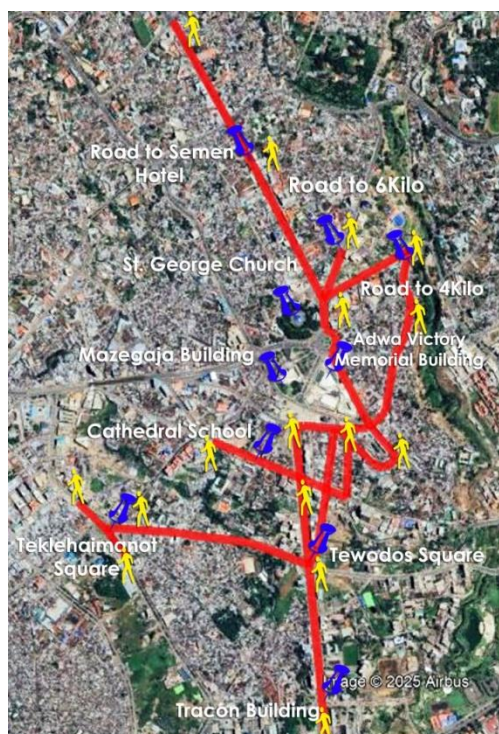


Figure 30: Mapped geographic location of respondents

The survey was conducted using 120 commercial units rendering the following services: 56 retail shops, 17 offices, 4 cafés and restaurants, 4 ware houses and 4 commercial units providing other services like photo studio and arts gallery. The majority of them are located on the ground floor with 63 cases and 29 cases on first and second floors as shown in **Table 8** below.

Table 8: Cross tabulation between floor level and type of service rendered

Cross tabulation between floor level and type of service rendered							
		Type of service					Total
		Retail shop	Office space	Café/restaurant	Warehouse	Other	
Floor level	Ground Floor	56	0	3	3	1	63
	1 st - 2 nd Floor	26	1	0	0	2	29
	3 rd - 4 th Floor	9	4	1	1	1	16
	5 th - 6 th Floor	0	7	0	0	0	7
	Above 6 th Floor	0	5	0	0	0	5
Total		91	17	4	4	4	120

4.1.2 Socio-demographic data of respondents

From the total 120 respondents, 49 were male and 71 were women. Regarding the educational level of respondents, 45.90% of them had a degree or above, while 42.60% of them had a certificate or diploma, as indicated in **Table 9** below.

Table 9: Sex and education level of respondents

Cross-tab between sex and educational level						
		Educational Level				Total
		Primary (Grade 1-8)	Secondary (Grade 9-12)	Certificate/D iploma	Degree and above	
Sex	Male	1	2	25	21	49
	Female	1	10	27	33	71
Total		2	12	52	54	120

Regarding the age of respondents, 53.3% were aged between 18-30 years, 40.00% were aged between 31-45 years, and 6.7% were aged between 46-65 years.

Table 10: Age of respondents

Age					
		Frequency	Percent	Valid %	Cumulative %
Valid	18-30	64	53.3	53.3	53.3
	31-45	48	40.0	40.0	93.3
	46-65	8	6.7	6.7	100.0
	Total	120	100.0	100.0	

4.2 Relationship of corridor development with commercial property rent value

The relationship of corridor development with commercial property rent value is analyzed by using correlation analysis and multiple linear regressions. In doing so, 120 commercial units were involved in this study. Correlation analysis was used to determine the relationship of the dependent variable with the independent variables. A hedonic regression model of analysis was implemented to quantify the correlational relationship between rental value and the independent variables.

4.2.1 Data tabulation and coding

Coding is the first step before starting to analyze the data obtained from the survey. Data of continuous variables such as total rent (TR), the area of commercial space unit (FA), building age (BA) and distance from corridor development (DC) are recorded directly. Other variable parameters such as discrete and dummy variables are coded as the following;

Table 11: Data tabulation and coding of variables

Independent variable	Rep.	Coding values
Floor Level	FL	Coded from 1-5 for parameters; ground floor, 1 st - 2 nd floors, 3 rd -4 th floors, 5 th to 6 th floors and above 6 th floor respectively.
Building material	BM	1, for LTZ or metal sheet, and 2, for hallow concrete block
Availability of toilet	AT	1, for a commercial unit lacking toilet facility, and 2, for a commercial unit having toilet facility.
Availability of onsite/basement parking	BP	1, for a commercial unit lacking onsite parking, and 2, for a commercial unit having onsite parking
Distance from corridor development	DC	Coded starting from 1-7 for parameters; alongside the corridor, 0.25-0.50km away, 0.51-0.75km away, 0.76-1.00km away, 1.01-1.25km away, 1.26-1.50km away and 1.51-1.75km away for the corridor respectively.
On-street parking	SP	1, for restricted street parking, and 2, for permitted.
Crime rate	CR	Coded starting from 1-5 for parameters; very high, high, average, low and very low respectively.
Improved road infrastructure	RI	1, for improved road infrastructure after the corridor, and, 2 for non-improved road infrastructure.
Sales volume	SV	Coded starting from 1-5 for parameters; decreased very well, decreased moderately, same as before, increased moderately and increased very well respectively.
Type of service	TS	Coded starting from (1-5) for parameters; retail, office, café or restaurant, warehouse and other respectively.
Occupancy level	OL	Coded starting from (1-3) for parameters; decreased, stayed the same and increased.

4.2.2 Correlation analysis

Correlation analysis measures the linear relationship between the dependent variable rent per square meters and the independent variables mentioned above using correlation coefficient 'r' values between -1 to +1. If the relationship is above 0 it is positive and if it is below 0 it is negative. If the relationship is close to 0 the relationship is weak. Pearson correlation was implemented to the four contentious variables such as rent per square meters, age of building, area of the commercial unit and distance from the corridor development. The remaining relationships of discrete and dummy variables with the dependent variable were interpreted using spearman correlation coefficient.

Relationships like building material, availability of building parking, availability of street parking and occupancy level have very weak positive relationship with log rent square meters while very weak negative relationship is observed with availability of toilet, crime rate, sales volume, and improved road infrastructure. A moderate inversely relationship was also observed with the type of service the commercial unit rendered. The researcher believes the negative relationships between improved road infrastructure and rent is due to the availability most 'Kiray Betoç' rental houses in Piassa having less rent value compare to privately owned properties.

As expected the dependent variable log rent per square meter has an inverse relationship between floor area and floor level. Meaning as floor level is increased rent per squared is decreased and the vice versa. Regarding floor area, businesses renting large area face less rent per square value than a business renting small area. This usually true because small units rent an area on a fixed price arrangement called 'Kurt gimit' than an area based calculation.

Surprisingly log rent per square meter has shown a positive relationship with building age. This relationship is observed because most of the remaining buildings in Piasa are old and scarcity of available shops for rent has created competition among business owners causing rent value to rise even though the buildings are old. Due the same reason rent per square had an inverse relationship with distance from corridor though it is very weak. Meaning the scarcity of shops has forced business the look for rentable spaces in close proximity to Piasa which also increased rent prices in nearby areas as well hence distance from corridor and rent resulted in an inverse relationship.

Table 12: Correlations between dependent and independent variables

	Correlations													
	FA	FL	BA	BM	AT	BP	DC	SP	CR	RI	SV	TS	OL	Log R/ m ²
FA	1													
FL	0.243	1												
BA	0.066	-0.425	1											
BM	0.163	0.187	0.172	1										
AT	0.005	0.206	0.066	0.335	1									
BP	-0.036	0.303	-0.240	0.176	0.039	1								
DC	-0.081	-0.334	0.016	-0.414	-0.173	-0.242	1							
SP	-0.167	-0.383	0.129	-0.387	-0.243	-0.253	0.630	1						
CR	0.104	0.220	0.080	0.218	0.134	0.079	-0.683	-0.513	1					
RI	0.261	0.314	0.139	0.417	0.172	0.169	-0.586	-0.679	0.470	1				
SV	-0.011	0.146	0.029	-0.097	0.058	-0.084	0.235	0.228	-0.221	-0.110	1			
TS	0.496	0.424	-0.098	0.006	-0.074	0.098	-0.284	-0.052	0.050	0.129	.214	1		
OL	-0.109	-0.248	0.378	-0.082	0.088	-0.128	0.142	0.118	0.073	-0.042	0.253	-.122	1	
Log Ren t /m ²	-0.333	-0.502	0.298	0.107	-0.055	0.043	0.324	0.079	-0.082	-0.069	-0.029	-0.556	0.271	1

4.2.3 Hedonic pricing regression model

This model was used to identify the relationship of sets of attributes or characters called independent variables on rent value called the dependent variable. The rent price per square meter of a commercial unit is regressed against independent variables such as distance from corridor development, floor area of the commercial unit, floor level, age of building, building material used for wall, presence of clean and usable toilet, sufficient on-site and basement parking, improved road accessibility, crime rate, availability of on street parking, type of service rendered, sales volume, and occupancy level.

4.2.3.1 Multiple linear regression assumptions

There are basically five assumptions to be satisfied to run a regression model these are normality test, linearity test, multicollinearity test, heteroscedasticity test, and autocorrelation test.

i. Normality test

The first assumption for conducting multiple regression is normality test, which assumes the relationship between the dependent and independent variables must be linear. Thus, to check the normality of the dependent variable, monthly rent amount was converted into rent per square meters, and then the data was checked using the Shapiro-Wilk normality test.

Table 13: Normality test of the dependent variable

Normality test	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Rent per square meters	.241	120	.000	.601	120	.000

As seen in the above table, the 'p' value for Shapiro-Wilk is less than 0.05, implying there is significant difference in the distribution of data, showing the data is not normal. To solve this issue the data was log transformed and tested again. As seen in the table below, the Kolmogorov-Smirnov test has shown a minor change, while Shapiro-Wilk test did not show any change.

Table 14: Normality test of the log transferred dependent variable

Normality test	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Log rent per square meters	.093	120	.013	.944	120	.000

The normality of the data was affected by the high rent prices of the commercial units located along the corridor, especially in Mebrat Hail Building, indicating outliers in the model.

Table 15: Cross tabulation between 'p' value and distance from the corridor development

Normality test per distance from the corridor	Distance from corridor development	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
log10rentmetersquare	Alongside the corridor	.141	64	.003	.874	64	.000
	0.25-0.50km	.130	27	.200	.916	27	.031
	0.51-0.75km	.258	8	.126	.924	8	.464
	1.01-1.25km	.243	4	.	.932	4	.604
	1.26-1.50km	.296	6	.108	.873	6	.240
	1.51-1.75km	.175	9	.200	.884	9	.175

As indicated in the table above, the log rent per square meters becomes normal further away from the corridor, with 'p' values greater than 0.05 at a distance 0.51km away from the development, indicating the outliers are located alongside the corridor. Moreover, as rent prices are higher around Merkato, at a distance 1.26km away from the corridor development, the 'p' value begins to decrease, though it is still greater than 0.05. The researcher has chosen to proceed with the log rent per square meters, because the other assumptions are fulfilled, and the outliers are actually caused as the result of the corridor development itself, and cannot be neglected.

ii. Linearity test

The other assumption of the regression model is that, the relationships between the dependent variable and the independent variables are linear, both for each independent variable and globally. To determine the linearity of the variables, normal probability (P-P) plot was used, which shows the normal distribution of the data plotted against a theoretical distribution line, departure from the straight line indicates deviation from normality. Hence, as seen from the images below the data before log transformation indicates non linearity, with observations deviating from the straight line. After log transformation, the relationship between the dependent

variable and the independent variables is along the theoretical distribution line, indicating the relationship is linear.

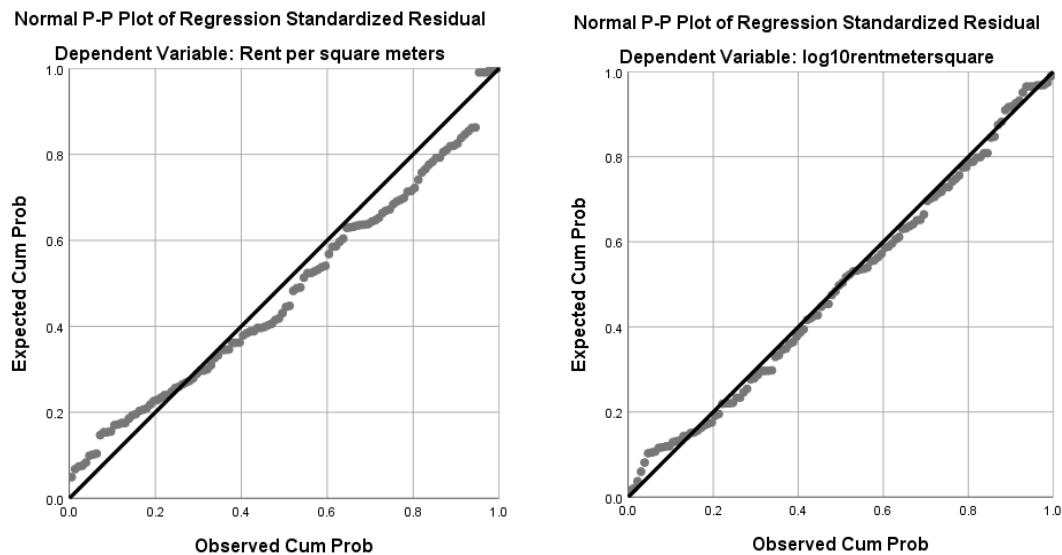


Figure 31: Normal P-P Plot before and after log transformation

iii. Multicollinearity test

Multicollinearity occurs when there is a relationship between the independent variables. This problem affects the estimation of coefficients. However, it does not affect the R-squared. To estimate the correct coefficients variable, the problem of multicollinearity should be tested, and solved (Chris Brooks and Sotiris Tsolacos, 2010).

This research has employed VIF (variance inflation factor) to test the issue of multicollinearity. A VIF value greater than 10 indicates a high relationship among the independent variables, thus, the data multicollinear. A VIF value is less than 10, has less issues related to multicollinearity, and values closer to one indicate there is almost no linear relationship between the independent variables, indicating the model is good.

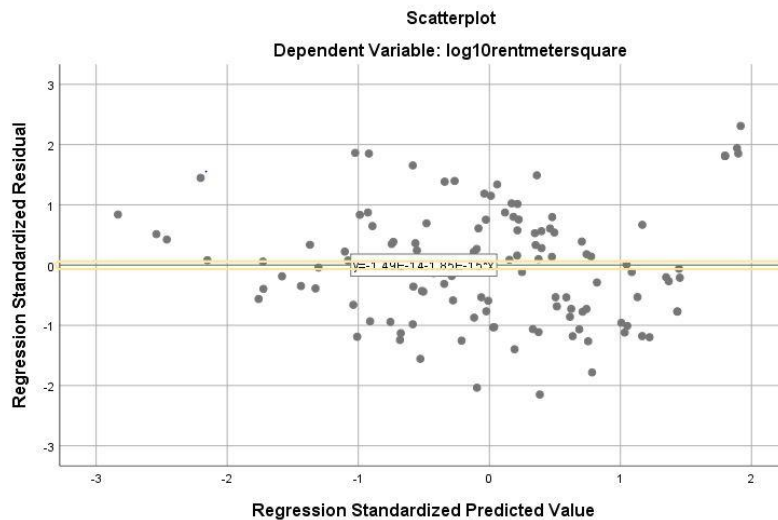
As seen in **Table 16** below, this study has no multicollinearity issues, with the largest value for VIF being 3.205. Hence, there is a very small or no linear relationship among the selected independent variables, indicating the model is good.

Table 16: Multicollinearity test using variance inflation factor

Model		Collinearity Statistics	
		Tolerance	VIF
1	Floor area	.739	1.354
	Floor level	.542	1.845
	Age of the building	.546	1.830
	Building material	.665	1.503
	Availability of toilet	.808	1.237
	Availability on-site and or basement parking	.838	1.193
	Distance from corridor development	.312	3.205
	Availability street parking	.344	2.908
	Crime rate	.557	1.794
	Improved road infrastructure	.404	2.477
	Sales volume after the corridor development	.706	1.417
	Type of service	.723	1.382
	Occupancy level	.739	1.354

iv. Heteroscedasticity test

Based on the scatterplot shown below, the spots are diffused and do not form a clear specific pattern when a straight line drawn, so it can be concluded that the model does not have heteroscedasticity problems.

**Figure 32: Scatter plot**

v. Autocorrelation test

The Durbin-Watson was used to determine the presence of autocorrelation, the test lies between 0 and 4, and d-value near to 2 indicates the absence of autocorrelation. If the Durbin-Watson test value is between 1.5 and 2.5, it indicates that the residuals are not auto correlated. The computed Durbin-Watson test for this study indicates, 1.597, which is between 1.5 and 2.5, implying the residuals were not auto-correlated in this study, as seen in **Table 17** below.

Table 17: Autocorrelation test using Durbin-Watson

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.762 ^a	.581	.530	.19831	1.597
a. Predictors: (Constant), Occupancy level , Improved road infrastructure , Type of service, Availability on-site and or basement parking, Availability of toilet , Sales volume after the corridor development , Floor area , Age of the building , Crime rate, Building material , Floor level , Availability street parking, Distance from corridor development					
b. Dependent Variable: log10rentmetersquare					

4.2.3.2 Analysis and interpretation of the multiple linear regression model

The next step after discussing and checking the model is interpretation. According to Cornell Statistical Consulting Unit (CornellUniversity), a log transformation is often useful for data which exhibit right skewness (positively skewed), and for data where the variability of residuals increases for larger values of the dependent variable. When some variables are log-transformed, estimating parameters of interest based on the model may involve more calculation than simply taking the anti-log of certain regression coefficients.

- A. If the dependent variable is log transformed and the independent is not log transformed, the relationship between dependent and independent variable can be expressed as $(e^{\beta_1} - 1)$. Hence, an increase in one unit of the independent variable would cause $(e^{\beta_1} - 1) * 100$ percentage change in a dependent variable, where β_1 represents the coefficient of the independent variable.

- B. If the independent variable is log transformed and the dependent is not, the relationship can be interpreted as; $\beta_1 * \ln(\frac{101}{100})$ percentage changes in an explained variable, where β_1 is the coefficient of the log is transformed variable.
- C. If both dependent and independent variables are log-transformed, the relationship between dependent and independent variable can be interpreted as one percent change in an independent variable would result in, $(1.01^{\beta_1} - 1) * 100$, percentage change in an explained variable, where β_1 is the coefficient of log-transformed independent variables.

In this research only the first case is applied, hence, the relationship between dependent and independent variable can be expressed as; an increase in one unit of the independent variable would cause $(e^{\beta_1} - 1) * 100$, percentage change in the dependent variable, where β_1 represents the coefficient of the independent variable.

As seen in **Table 18** below, the calculated F-statistic for model 1 is high indicating the model is statistically significant with (F 13, 106 = 11.309 and p-value 0.000 < 0.01). Hence, the regression analysis suggests to maintain all the independent variables: occupancy level (OL), improved road infrastructure (RI), type of service (TS), availability on-site and or basement parking (BP), availability of toilet (AT), sales volume after the corridor development (SV), floor area (FA), age of the building (BA), crime rate (CR), building material (BM), floor level (FL), availability street parking (SP), and distance from corridor development (DC), in the regression equation to jointly explain variation in performance of road projects. Hence, all the predictors are statistically significant to predict the rent per square meters of the commercial property.

Table 18: Regression model summary for interpretation

Model Summary^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.762 ^a	.581	.530	.19831	.581	11.309	13	106	.000
a. Predictors: (Constant), Occupancy level , Improved road infrastructure , Type of service, Availability on-site and or basement parking, Availability of toilet , Sales volume after the corridor development , Floor area , Age of the building , Crime rate, Building material , Floor level , Availability street parking, Distance from corridor development									
b. Dependent Variable: log10rentmetersquare									

Thus, as per the above **Table 18**, $R = 0.762$, and R^2 is 0.581, implying a strong relationship between the dependent variable and the predictors, suggesting the model is a relatively good predictor of the outcome. Hence, the 13 independent variables all together are explaining 53.00% of the variations on the dependent variable rent per square meters. Hence 53.00% of the changes in rent amount could be attributed to the combined effect of the 13 predictor variables. However, the remaining 47 % of the variances are explained by other factors that are not covered in this research. Thus, the researcher recommends other fellow researchers to include other predictor variables and conduct a study.

Table 19: Beta coefficients of the predictor variables

Coefficients^a								
Model		Unstandardized Coefficients		Standardized Coeff.	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.633	.349		7.550	.000	1.942	3.324
	Floor area	-.002	.001	-.220	-3.009	.003	-.003	-.001
	Floor level	-.141	.022	-.548	-6.417	.000	-.185	-.098
	Age of the building	.000	.001	.024	.281	.779	-.002	.003
	Building material	.269	.111	.186	2.418	.017	.048	.489
	Availability of toilet	-.104	.092	-.078	-1.122	.264	-.287	.079
	Availability on-site and or basement parking	.144	.040	.247	3.596	.000	.065	.224
	Distance from corridor development	.050	.017	.328	2.914	.004	.016	.084
	Availability street parking	-.144	.074	-.209	-1.953	.053	-.291	.002
	Crime rate	.044	.029	.127	1.514	.133	-.014	.103
	Improved road infrastructure	.068	.071	.094	.950	.344	-.074	.209
	Sales volume after the corridor development	.022	.027	.060	.808	.421	-.032	.075
	Type of service	-.029	.022	-.097	-1.312	.192	-.073	.015
	Occupancy level	.080	.029	.199	2.717	.008	.022	.138
a. Dependent Variable: log10rentmetersquare								

The above (Table 19) shows, the coefficient of variables and respective significance levels with a 95% confidence level. The relationship between the dependent variable natural logarithm of rent per square meters to; floor area, floor level, building material, availability of on-site or basement parking, distance from the corridor development, and occupancy level are statically found to be significant with ‘p’ values less than 0.05.

Moreover, from the independent variables with significant ‘p’ values, floor area and floor level have negative relationship with logarithm of rent per square meters. Hence, the beta coefficients for the significant independent variables are; $\beta = -0.002$ for floor area, $\beta = -0.141$ for floor level, $\beta = 0.269$ for building material, $\beta = 0.144$ for availability on-site and or basement parking, $\beta = 0.05$ for distance from corridor development, and $\beta = 0.08$ for occupancy level.

The regression equation is computed as the following;

$$\text{LnRP} = \beta_0 + \beta_1\text{FA} + \beta_2\text{FL} + \beta_3\text{BA} + \beta_4\text{BM} + \beta_5\text{AT} + \beta_6\text{BP} + \beta_7\text{DC} + \beta_8\text{SP} + \beta_9\text{CR} + \beta_{10}\text{RI} + \beta_{11}\text{SV} + \beta_{12}\text{TS} + \beta_{13}\text{OL} + \varepsilon$$

Where: LnRP is log rent per square meters, β_0 is the regression constant or intercept, FL is floor level, BA is building age, BM is building material, AT is availability of toilet, BP is availability of on-site or basement parking, DC is distance from the corridor development, SP is availability of street parking, CR is crime rate, RI is improvement in road infrastructure, SV is sales volume, TS is type of service provided, OL is occupancy level, and ε is the error term.

Substituting the beta coefficients the final regression model is written as the following:

$$\begin{aligned} \text{LnRP} = & 2.633 + (-0.002)\text{FA} + (-0.141)\text{FL} + (0.00)\text{BA} + (0.269)\text{BM} + (-0.104)\text{AT} \\ & + (0.144)\text{BP} + (0.05)\text{DC} + (-0.144)\text{SP} + (0.044)\text{CR} + (0.068)\text{RI} \\ & + (0.022)\text{SV} + (-0.029)\text{TS} + (0.08)\text{OL} + \varepsilon \end{aligned}$$

As it can be seen from the above formula the beta coefficient for age of the building is zero and any number multiplied by zero is zero, hence, age of the building can be omitted from the equation. ***This result reveals crucial finding***; it shows that there is a scarcity of rentable commercial units in Piasa. Most buildings left from expropriation, due to the corridor development are old. Limited number buildings and high demand, has led to competition for the available rentable commercial units, even to those located in old buildings with high rent prices.

Hence, the age of the building has no relationship with rent amount of commercial units in the study area.

Therefore, the regression model is re-run again by avoiding age of building and maintaining the 12 independent variables as shown in the table below.

Table 20: Final regression model summary for interpretation

Model Summary^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin - Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.762 ^a	.581	.534	.19745	.581	12.351	12	107	.000	1.607
a. Predictors: (Constant), Occupancy level , Improved road infrastructure , Type of service, Availability on-site and or basement parking, Availability of toilet , Sales volume after the corridor development , Floor area , Crime rate, Building material , Floor level , Availability street parking, Distance from corridor development										
b. Dependent Variable: log10rentmetersquare										

When a comparison is held between the previous regression model, with 13 variables, and the above new regression model, the adjusted R^2 changed from 0.530 to 0.534, the Durbin-Watson value changed from 1.597 to 1.607, and the error reduced from 0.19831 to 0.19745, implying, the regression model is better fit now, with the 12 predictor variables. Hence, the new beta coefficients for the predictor variables are described in **Table 21** below.

Table 21: The final beta coefficients for the predictor variables

Coefficients^a								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.608	.335		7.774	.000	1.943	3.273
	Floor area	-.002	.001	-.217	-3.014	.003	-.003	-.001
	Floor level	-.144	.020	-.558	-7.235	.000	-.184	-.105
	Building material	.275	.108	.191	2.547	.012	.061	.489

Availability of toilet	-.102	.092	-.077	-1.110	.269	-.284	.080
Availability on-site and or basement parking	.142	.039	.244	3.610	.000	.064	.221
Distance from corridor development	.050	.017	.326	2.914	.004	.016	.083
Availability street parking	-.139	.071	-.201	-1.959	.053	-.279	.002
Crime rate	.045	.029	.129	1.550	.124	-.013	.103
Improved road infrastructure	.073	.068	.102	1.075	.285	-.062	.208
Sales volume after the corridor development	.022	.027	.062	.832	.407	-.031	.075
Type of service	-.030	.022	-.098	-1.335	.185	-.073	.014
Occupancy level	.082	.028	.205	2.948	.004	.027	.138
a. Dependent Variable: log10rentmetersquare							

As seen from the above table, the new beta coefficients for the significant independent variables are; $\beta = -0.002$ for floor area (same as the previous), $\beta =$ for floor level changed from (-0.141 to -0.144), β for building material changed from (0.269 to .275), β for availability on-site and or basement parking changed from (0.144 to 0.142), β for distance from corridor development remained the same with 0.05, and β for occupancy level changed from (0.08 to .082). Hence, the final regression model with the significant predictor variables becomes as the following;

$$\text{LnRP} = 2.608 + (-0.002)\text{FA} + (-0.144)\text{FL} + (0.275)\text{BM} + (0.142)\text{BP} + (0.05)\text{DC} + (0.082)\text{OL} + \epsilon$$

The above beta coefficients are interpreted as the following. Concerning floor level, this study shows that, an increase by one story will result in a decreased rent amount of $(e^{0.144} - 1) * 100 = 15.49\%$ for a rental commercial unit. Moreover, this variable has the highest (t) value, -7.235, indicating the major predictor variable in the model. This result is as expected, because many large scale businesses with greater capital compete to hold on to commercial units located at the lower floors especially in the ground and first floors for the ease of access to potential customers.

Offices prefer to be located at the upper floors for the reduced rent amount and the reduced commercial activity, inducing working environment.

The second most significant predictor in the model is the availability of basement or on-site parking with a (t) value of 3.61. This study shows that, an increase in one parking spot will result in a $(e^{0.142} - 1) * 100 = 15.28\%$ increase in rent amount for a commercial unit. This finding is further supplemented in the descriptive analysis section, regarding Mebrat Hail building. Since parking is restricted, in most corridor developed sections, businesses pay higher rent prices for buildings with ample parking space that can be used for their own use and their client's needs.

The third most significant predictor in the model is floor area with a (t) value of -3.014. An increase in one square meter of a rentable commercial unit will lead to a decrease in $(e^{0.002} - 1) * 100 = 0.20\%$ of rental amount. Though the percentage is less, this result indicates that commercial rentable units with large area have a higher monthly rent price, hence, not many business afford such large rental price per month, so the rent price per square meters of such unit is less than those with small areas. Moreover, renters prefer to rent to large scale businesses requiring large area than manage plenty shops with smaller area for ease of management, hence, by reducing rent price per square meters to attract such businesses.

The fourth most significant predictor in the model is occupancy level of buildings with a (t) value of 2.948. A building with high concentration of shops will have an increased rent price of $(e^{0.082} - 1) * 100 = 8.55\%$ compared to similar building with lesser occupancy. Hence, as occupancy level increases rent price also increases due to the demand for a unit in the building.

The fifth most significant predictor in the model is distance from the corridor with a (t) value of 2.914. To the researchers surprise, this relationship has shown a positive value. The result shows that, a commercial unit located 0.25 kilometers away from the corridor development will have an increase in rental price by $(e^{0.05} - 1) * 100 = 5.13\%$. This is because the further one travels the East direction from the study area, Merkato is located, having higher rent values, but businesses located the immediate have lesser mean rent value than the corridor. The other major reason for such rise in rent price is the shortage of available new buildings in the area as discussed in the third case study. Moreover, this issue is further elaborated in the accessibility and rent sub section. The other insignificant predictors having a 'p' value greater than 0.05, need no

explanation, since the variables are insignificant in the predicting the rental price of a commercial unit. Moreover, the values can be interpreted like the above significant predictors from the table easily.

4.3 Corridor development and business activity

This section of the research explains qualitative data that were collected using in-depth interviews from key informants, responses of tenants from questionnaires and observations of the researcher. Moreover it aims to analyze the effect of the corridor development on businesses of commercial units by examining; design parameters, mandatory restrictions and pedestrian and vehicular traffic flow.

Regarding the influence of the corridor development on business activity, 65% (78 respondents) indicated a negative influence, while 31.70% (38 respondents) replied there was no influence and 3.30% (4 respondents) replied there was a positive influence. When the influence of the corridor development on business is cross tabulated with distance from the corridor; 47 respondents that were located along the corridor, 22 respondents within 0.25-0.50km radius, 6 respondents within 0.51-0.75km radius and 1 respondent within 0.76-1.00km radius indicated negative influence of the corridor development. Hence as distance from the corridor is increased the negative influence on business turns neutral as shown in **Table 22** below.

Table 22: Cross tabulation between distance from corridor and influence on business

Cross tabulation between distance from corridor development and its influence on business					
		Influence of the corridor development on business			Total
		Negative	None	Positive	
Distance from the corridor development	Alongside the corridor	47	15	2	64
	0.25 km-0.50km	22	4	1	27
	0.51km-0.75km	6	1	1	8
	0.76-1.00km	1	1	0	2
	1.01-1.25km	1	3	0	4
	1.26-1.50km	0	6	0	6
	1.51-1.75km	1	8	0	9
Total		78	38	4	120

The negative influence of the corridor is the result of many reasons discussed in following sub sections. If these reasons are alleviated and started projects are completed the researcher believes there relationship might be changed into positive.

Moreover businesses along corridor developed areas are not affected in the same manner, some places are beginning to revive and some are showing signs of recovery while others are struggling to hold on while some business are slowly drifting away from the corridor development to places in close proximity to the corridor development. According to this research the variations are attributed to four basic reasons associated with the corridor development itself and external parameters to the corridor development.

The first reason is related with different restrictions set by the City Administration that is implemented along corridor developed areas. The second reason is related with proximity of the commercial units to and from the newly assigned taxi and bus terminals. The third reason related with Arada Building which is currently out of service. At last but not least the fourth reason is related with the presence or absence of governmental offices and banks that usually create walking customers.

4.3.1 Restrictions along the corridor development

There are basically four types of restrictions set by the City Administration that have directly or indirectly influenced businesses along the development. These restrictions are parking restrictions, movement restrictions, advertisement restrictions and cantilevered shade or canopy restrictions which are discussed below.

4.3.1.1 Parking restrictions

According to data obtained from the survey, the major reason creating discomfort to clients and business along the corridor Piasa to Beherawi is related with parking ban along the corridor development with 65 responses. Since parking is not allowed in the corridor and adjoining roads, most clients are forced to park at Adwa Victory Memorial Building or park along parking permitted areas. For instance along the road from Tewodros square to Monarch Hotel or along the road from Eliana Hotel to Cathedral School parking where is allowed after 4am in the morning local time.

Such locations are far for commercial units located along Churchill Road forcing the commercial units to lose their potential customers. Parking restriction along the corridor is the major reason that caused negative influence on businesses as shown in the tables below.

Table 23: Cross tab between amount of sales volume and reason for decreased sales volume

Cross tabulation between amount of sales volume and reason for decreased sales volume				
		Sales volume after the corridor development		Total
		Decreased very well	Decreased moderately	
Reasons for decreased sales volume	Parking restrictions	32	33	65
	People from the surrounding area are relocated	25	19	44
	People don't come to Piasa like they used to	32	32	64
	Economic & political situation of the country	24	29	53
	Inflation	18	17	35
	Other	16	22	38
Total		35	46	81

Table 24: Reason for decreased sales volume frequencies

Reasons for decreased sales volume frequencies			
		Responses	
		N	Percent
Reason for decreased sales volume	Parking restrictions	65	21.7%
	People from the surrounding area are relocated	44	14.7%
	People don't come to Piasa like they used to	64	21.4%
	Economic & political situation of the country	53	17.7%
	Inflation	35	11.7%
	Other	38	12.7%
Total		299	100.0%

As seen from the above survey data **Table 24**, with a multiple response question, the major reason specified for decreased sales volume is related with parking restrictions with 21.7% followed by people don't come to Piasa like they used to with 21.40%.

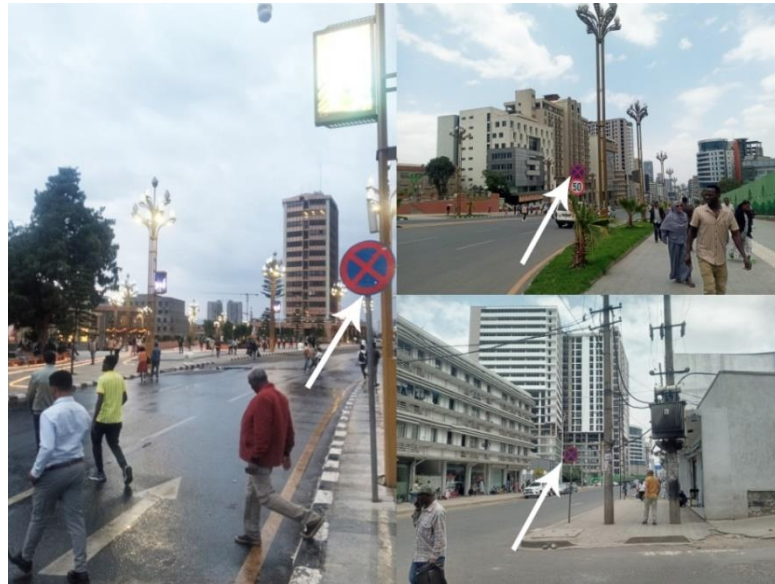


Figure 33: Some parking restricted roads along and surrounding the corridor development

Source- Own survey, 2025

4.3.1.2 Movement restrictions

According to data obtained from tenants, the second restriction negatively affecting businesses along the selected corridor development is the movement restriction. These restrictions can be classified into two; two ton movement restrictions and total movement ban for both vehicles and pedestrians.

i. Two ton movement restrictions

This restriction has created havoc especially for most electronics and furniture retail shops located along the section of the corridor development. Cars weighing over two tons are not allowed to use the corridor developed road neither for parking nor for movement. Hence most cars that are usually used for loading and unloading purposes like vehicles commonly known as ISUZU weigh above two ton so such vehicles are not allowed to use the road at all.

Therefore most electronics and furniture retail shops are forced to unload their products in a non-corridor developed areas where parking is allowed especially along the road to Cathedral School

or along the road to Monarch Hotel after 4am in the morning. Moreover after unloading their product they are forced to take it to their commercial unit by using man power creating additional cost and even causing damage to the products during transportation. Even some are forced to unload their products at mid night where there is less control.



Figure 34: Two tone movement restrictions and permitted parking along cathedral school

Source- Own survey, 2025

ii. Total movement ban for both vehicles and pedestrians

The other restriction related with movement is the total closure or partial closure of some road sections when the government organizes events to be held at the newly established Adwa Victory Memorial building. For instance, as per the data from the interviews conducted with building administrators and tenants, the road in front of Arada Building was closed for seven days during AU summit forcing tenants to close their commercial units hampering their revenue during such events. Even one tenant specifically mentioned she couldn't take crucial bidding documents from her commercial unit because the road was blocked.

4.3.1.3 Advertisement restrictions

The third type of restriction affecting commercial units along the corridor development is related with advertisement. After the completion of the development, only a digital form of advertisement is allowed along the section banning other forms of advertisements like banners, stickers and curtains. This restriction is intended to create beautiful image to the city by avoiding

non-uniform and scattered advertisements. According to the researcher it is good in creating seamless and uniformity of adverts while maintaining good city image.

Though the intention is good, commercial unites located at the back or those located in upper floors, which do not have direct visual connection with the road do not have an easy way of communicating with customers unless the building owners install a digital advertisement screen. Even then they are forced to pay addition monthly fee for building owners for the advertisement alone adding to the total rent, affecting their total sales volume.

4.3.1.4 Cantilevered shade or canopy restrictions

The fourth restriction affecting business is related with the ban on the construction of cantilevered shades or canopies, especially for commercial unites located at the ground floor. Most cafeterias, electronics, retail shops and furniture shops located along the West direction, facing the harsh sun are affected. Some electronic shops are even forced to install cooling and ventilation systems to avoid damage to sensitive parts of their electronics and furniture because constructing shads and installing curtains is restricted. Moreover this restriction has caused discomfort to workers and customers due to the absence of privacy and the heat generated from the harsh sun since there is no mechanism to block it.



Figure 35: Some west facing buildings around the selected corridor segment

Source- Own survey, 2025

4.3.2 Proximity to or from the newly assigned taxi and bus terminals

After the corridor development is completed, the existing bus and taxi terminals are reconfigured to accommodate the above restrictions and to use the new parking stations that have been constructed. For instance taxis that are assigned on the route from Megena to Piasa through 4kilo and those assigned on the route from Mexico to Piasa are stationed in front of Taitu Hotel.

Moreover, taxis that are assigned on the route from Bole to Piasa and Saris to Piasa, are stationed around Atikilt Tera and those that have been assigned to the route Piasa to Adisu Gebeya are stationed in front of St. George Church road to Semen Mazegaja. The newly constructed bus terminal at Adwa Victory Memorial Building has also started serving a bus terminal.



Figure 36: Newly assigned public transport locations

Source- Edited Google Earth Imagery at 03/02/2025 and Own Survey 2025

Therefore businesses located around the newly designated taxi terminals are favored because there are walking customers while businesses located above Tewodros Square up to Arada building and those located at back of Banko Diroma Building are heavily affected because of a very small number of walking customers.

To make matters even worse, to those commercial units, the road between Mazegaja Building and the Adwa Victory Memorial building is restricted to pedestrian movement for security reasons shown in blue in the above map. Hence walking customers have to travel longer distances to get certain taxi route. Most pedestrians are seen traveling in masses in at the Back of Mazegaja Building and at the East and South side of Adwa Victory Memorial building. This preference favors those businesses located at Mebrat Hail Building, Ethiopian Orthodox Apartment Building and those buildings located around the road to Taitu Hotel.

4.3.3 The closure of Arada building

Arada building is an icon of Piasa and Addis Ababa at large which used to host vast number of businesses, entertainment centers and offices starting from the semi basement floor up to second floor. As seen in the image below it had a variety of commercial unites that attracted a large number of walking customers. During the study period of this research, it was undergoing renovation works and its future is undecided. According to two tenants there was a plan to transfer the shops to bidders but the plan was canceled to reasons unspecified.



Figure 37: Arad building before the corridor development

Source- (Africanimagelibrary) and (McMorrow)



Figure 38: Arada building after the corridor development

Source- Own Survey 2025

The key informants believe that if Arada Building is functional again like it was before, the business activities that are beginning to awaken along Mebrat Hail Building will eventually develop and continue to businesses located along Churchill Road connecting it with the electronics market found around Cathedral School.

4.3.4 Presence or absence of governmental offices and banks

The presences or absences of governmental offices and banks have also played a vital role to the varied degree amount of affected businesses. Businesses located along Churchill Road below Tewodrows Square towards Tracon building are relatively averagely affected because of the presence of on-street parking stations at side of Tracon building and the presence of passport and immigration bureau and various banks which have created many walking customers. The more there are walking customers the more a business thrives.

Businesses located above Tewodrows Square up to Arada building are heavily affected by the corridor development because of the parking and the two ton movement restrictions. Moreover as discussed above the closure of Arada building and the complete expropriation of the area behind Banko Diroma building has resulted in a negative relationship with business activity especially with in this section of the development. Most electrical appliance shops are shifting their location towards the road to Cathedral School where similar shops are concentrated and where parking, loading and unloading is allowed after 4am in the morning.

4.4 Corridor development and rent

4.4.1 Supply and demand

Promising market conditions are reviving around the road from Taitu Hotel uphill towards ‘Mebrat Hail Building’ and towards the demolished ‘Mohamud Musica Bet’ due to the increased accessibility attributed to the presence of the new taxi station shown in yellow shown in the map below. Moreover the existence of un-demolished buildings mostly owned by ‘Kiray Betch’ for preservation (highlighted in red) has kept the commercial units located in the area intact and still functional. Hence the area highlighted in orange is beginning to show signs of recovery.

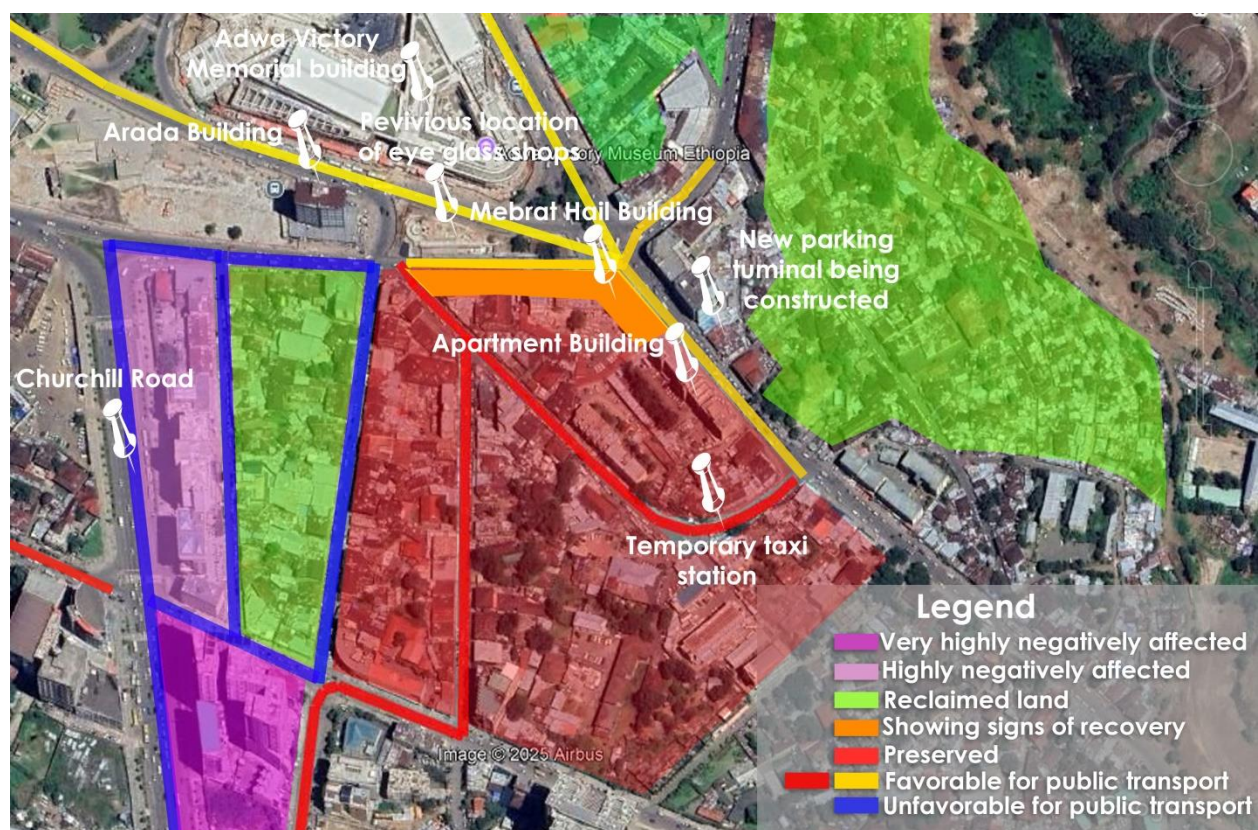


Figure 39: Map showing relationship of accessibility with business

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

The famous gold and eye glass shops are returning and beginning to heavily concentrate inside Mebrat Hail Building with a very high rent price unseen before when it is compared with the surrounding buildings. This is because of the scarcity of existing buildings leading to less favorable number of available shops for rent at the vicinity.

For instance eye glass shops are teaming up to occupy large area in the building and splitting the total area into small shops for the members with each unit having an area of 2-3square meters. These small units pay a monthly rent price of 27,000 birr giving 9,000-13,500 birr per square meters per month. Moreover they have renovated the space as per their need by their own expense. Some even borrowed large sums of money to sustain a place in the location, showing signs of hope for high business activity in the near future.

Another similar example is related with the gold shops in the same building, these shops are bidding for 12-16 square meters of area for 135,000 to 200,000 birr per month giving an average of 12,000 birr per square meters per month as shown in the panoramic image below. Though the reasons for such high rent prices are discussed in the case study section, the major reasons are related with demand supply and accessibility of the compound.



Figure 40: Panoramic image of the reviving businesses around Mebrat Hail building

Source- Own Survey 2025

Most gold shops located along the way from Cinema Ampere Building to Ras Meonin Bridge and all commercial units located at Arada Building are expropriated which created high demand for rent in the area. Though there is high demand there are less numbers of rental spaces readily available because there are no new buildings until started projects are completed. The shortage of commercial units has led to competition for the available units which has led to increased rent amounts.

4.4.2 Accessibility and rent

As seen from the literature reviews, when accessibility is increased rent and property values also increase implying positive relationship. According to the survey data, from the total 120 respondents 66 (55%) replied there was no increase in rental price due the corridor development while 54 (45%) chose to differ. But focusing on the 64 commercial units located along the corridor development, the majority or 35 (55%) respondents faced an increase in rent prices while 29 (45%) did not face an increase as seen in **Table 25** below.

Table 25: Cross tabulation between increase in rent and distance from corridor

Cross tabulation between distance from corridor development and an increase in rental prices due to the corridor development				
		Increase in rental prices due to the corridor development		Total
		No	Yes	
Distance from the corridor development	Alongside the corridor	29	35	64
	0.25 -0.50km	15	12	27
	0.51-0.75km	4	4	8
	0.76-1.00km	1	1	2
	1.01-1.25km	3	1	4
	1.26-1.50km	5	1	6
	1.51-1.75km	9	0	9
Total		66	54	120

Moreover, commercial unites located further away from the corridor were not subjected to an increase in rent amount because there was no improvement in road infrastructure. For instance, from the 19 respondents located in 1.00-1.75km away from the corridor only two respondents have indicated in increase while the majority or 17 respondents faced no change.

The responses of the surveyed commercial units to the statement, the corridor development has increased property values in my area, further strengthens the above result. Most respondents 65 (54%) of them agree, 27 (23%) disagree, and the remaining 28 don't have any say regarding the topic of discussion as shown in **Table 26** below.

Table 26: Property value and distance from the corridor development

Cross tabulation between distance from corridor development and increased property values							
		The urban corridor development has significantly increased property values in my area.					Total
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Distance from corridor development	Alongside the corridor	1	11	9	41	2	64
	0.25 -0.50km	0	5	5	17	0	27
	0.51-0.75km	0	1	3	4	0	8
	0.76-1.00km	0	2	0	0	0	2
	1.01-1.25km	0	1	3	0	0	4
	1.26-1.50km	1	1	4	0	0	6
	1.51-1.75km	1	3	4	1	0	9
Total		3	24	28	63	2	120

The above justifications can also be strengthened by computing average rent amount versus distance parameters from the corridor. For instance, the table below shows that the average rent amount of total respondents is 2042.61 birr, along the corridor is 2109.15 birr and at a distance 0.25-0.50 km is 1855.58 birr. Moreover, the maximum rent amount 12000birr per square meters is also registered alongside the corridor. But the average rent increases to 2,417.86 along the road to Semen Hotel, at 0.51-0.75km away, because of the favorable conditions mentioned in the second case study. At a distance greater than 1km way from the corridor the rent price rises again due to other favorable condition in Merkato. Hence, depending on the available favoring conditions for business mentioned above the rent price varies accordingly.

Table 27: Rent per square meters and distance from the corridor development

	Total Rent(m²)	Alongside the corridor	Distance 0.25-0.50km	Distance 0.51-0.75km	Distance 0.76-1.00km	Distance 1.01-1.25km	Distance 1.26-1.50km
N	120	64	27	8	2	4	6
Mean	2042.61	2109.15	1855.58	2417.86	1321.43	2036.11	1867.11
Minimum	500	550	500	2000	1000	1667	1000
Maximum	12000	12000	3750	2800	1643	2500	3200

Therefore, this research has similar findings with (Rakhmatulloh A., *et al*, 2018), (Balchin *et al.*, 1995), (Teulings, *et al*, 2014), (Sander H. *et al*, 2016), (Rayyan Y. *et al.*, 2021) and many others mentioned in the literature, that is, as accessibility is increased property values and rent values are also increased showing positive linear relationship.

4.5 Case studies

4.5.1 Case1 Mebrat Hail building

Mebrat Hail Building is being favorable place for commercial units for the following three major reasons; the first reason is its close proximity to Adwa Victory Memorial Building where there are plenty of visitors, where events are organized, where there is ample parking space and where there is a presence of a bus terminal inside the building. Thus these reasons created favorable conditions for many potential customers.

The second reason is the presence of large scale on-site parking at the back of the building for both tenants and customers since parking restrictions are heavily affecting businesses in the area. The third reason is its close proximity for taxi dropping point for the rout Megenagna through Arat Kilo ending at Ampier Cnima Piasa.



Figure 41: Site location and photos of case 1 'Mebrat Hail Building'

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

As indicated above this building has the largest rent amount compared to other buildings covered in this survey due to the favorable conditions set by the corridor development related with

parking availability and improvements in transport accessibility options that led to better walking customers.

4.5.2 Case 2 New building along the road to Semen Hotel

A new building that is recently completed which is located approximately 650 meters away from the corridor development towards Semen Hotel, which is conducting inner aluminum partitions as per tenant area requirements is fully booked with one 30m² office space remaining while all floors are fully occupied.



Figure 42: Site location and photos of case 2 ‘New building along the road to Semen Hotel’

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

This is basically attributed for three main reasons; the first reason is the relocation of small and medium businesses like stationery and printing services from ‘Doro Manekia’ to this new building and other available buildings. The second reason is associated with the locational characteristics of the building. It is located beside the Ministry of Justice General Division Arada Branch Office, which is ideal location for businesses that provide stationary services, print and copy services, language translation services, and office purpose for lawyers. The third reason is associated with the risk of being expropriated again if the corridor development continues along this section of the road. Most businesses are choosing to hold on to the available multi-story buildings than single story buildings which are at risk of being expropriated. Hence due to the above reasons this building has almost full occupancy level despite being new.

4.5.3 Case 3 New building along the road to 6 Kilo

Another new building which is under construction, located 550meters form the corridor development along ‘Wibe Bereha’ on the road going to 6Kilo has started renting the completed commercial units located at the ground to second floors. The rent amount of this building is very high compared to other buildings, despite being located further away from the corridor. For instance the rent per square meters of the building at the ground floor is about 2,700 birr while rent per square meters of commercial units found along the corridor developed Churchill Road on average is between 1600 and 2000 birr and for small commercial units it is 3,000birr.

According to three brokers, the reasons for such high prices are attributed to three major reasons. The first reason is related with demand and supply where commercial units competed to hold on to the available rentable spaces which raised the rent value. The second reason is related with the construction of similar high rise buildings within the compound which gives hope in the future the area will be vibrant after the projects are completed. The third reason is related with the rent period which usually for one year. Property owners couldn’t add rent with in the specified rent period mentioned in the agreement. Hence new buildings usually set high rent value to comprehend with the rising rent value.



Figure 43: Site location and photos of case 3 ‘New building along the road to 6kilo’

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

Business wise commercial units selling sport products were concentrated in the building at the time of the study. Surprisingly, though the rent is very high business is very low, for instance two shops located in the building closed the shop until the rent period expires. It has been two months since they opened their shop due to the absence of customers. Hence, the competition between businesses increased the rent but eventually business was not as expected, hence they are again looking for places where walking customers are found.

4.5.4 Case 4 New building around Teklehaimanot Square

This case building is located 1.10km away from the corridor development around Teklehaimanot Square. The paradigms of this location are very different from the previous locations. The building is found in one of the busiest business locations in Addis Ababa, known as Merkato. It is a place where one of the largest markets in Africa found. There are vast numbers of businesses and customers hence, rent is high relative to other places.

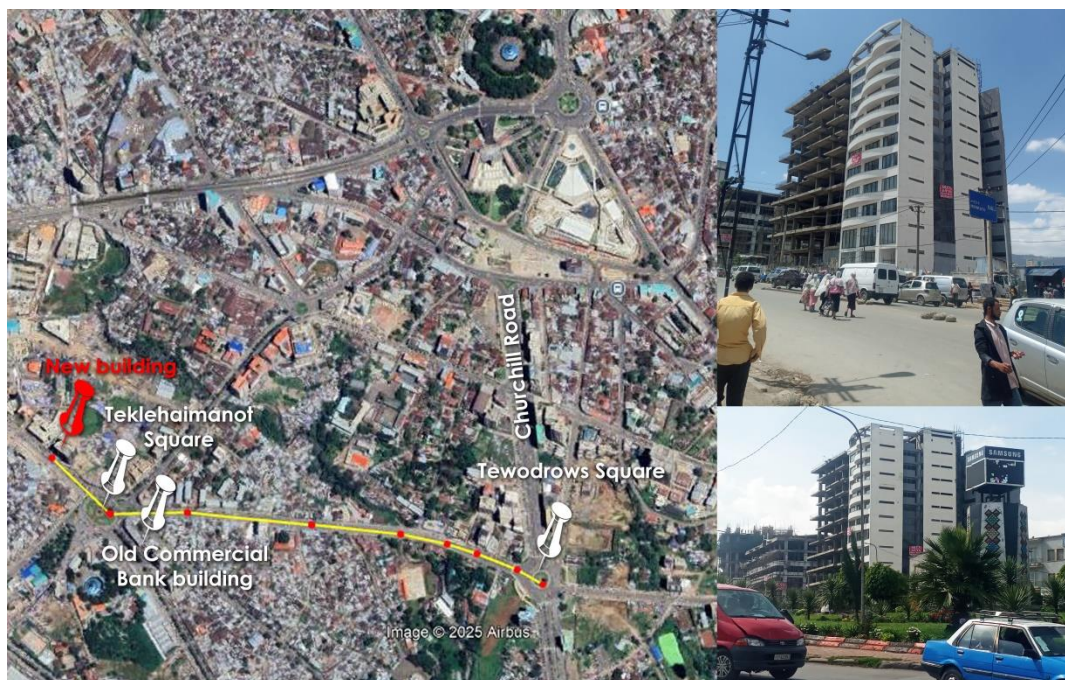


Figure 44: Site location and photos of case 4 ‘New building around Teklehaimanot Square

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

During the study period of this research, the building administration was competing bidders or renters who were offering highest price per square meters for the designated floors. The notion of bidding by itself implies there is high demand for rentable space in the area.

Bidders have offered 1,500-1,700 birr per square meters even in 4th and 5th floors which was the renting price for businesses located in ground floor in Churchill Road. An old Commercial Bank building in the same location and shops owned by Teklehaimanot Church have a rent price of 2700-2800 birr per month for ground floors.



Figure 45: Old Commercial Bank building around Teklehaimanot Square

Source- Own Survey 2025

This high rent price like above cases is attributed to major four reasons. Like the previous cases, the shortage between demand and supply is the first reason. There are less numbers of rentable buildings compared to the demand, which is fueling the rent price. The second reason, unlike to the previous cases, is attributed to the high business activity in the area, because Merkato by itself is considered as one of the CBD's in Addis Ababa. The third reason like the previous cases is associated with the newness of the building related with rent period.

The fourth and final major reason is associated with the future risk of being expropriated. The corridor development project is at the beginning stages in the area, businesses located in non-corridor developed areas along the road are in fear of being relocated if the corridor continues, since no one knows what is yet to come. Thus, the posed risk has forced businesses to compete for the available rentable commercial units.

4.6 Policies related to the development along the selected section

This subsection identifies urban planning policies influencing the relationships between corridor development and rent values. Moreover, it discusses policies that influence business activities.

4.6.1 Planning policies related to rent

The City Administration has introduced a rental increment restriction policy or laws for residential units aimed at easing the heavy load on citizens who rent residential units but can't catch up with the rising rental price, which affects their livelihood. It restricts increasing rent price for two years, then the renter is allowed to increase rent on scale based arrangement, usually set by the City Administration.

Respondents were asked if this policy would be helpful if it were implemented for rental commercial units as well. The majority of respondents, 78.30% supported such policies and the remaining 21.7% were against such policies or laws, specifying their reasons as shown in **Table 28** below.

Table 28: View towards rental price increment restriction policy

Rental price increment restriction policy		
	Frequency	Percent (%)
No	26	21.7
Yes	94	78.3
Total	120	100.0

Regarding their reasons for supporting such policies, they were basically summarized into three core reasons which are linked to one another, as shown in **Table 29** below. The first major reason was found to be its support for tenants with 46.80%. They mentioned that, it is getting harder and harder by the day to sustain business in the area because of less number of customers coming to the area, and other issues discussed above, until the started projects are completed and the market around Piasa returns like it was before.

Even some businesses, especially those located along Churchill Road, explicitly mentioned that their survival in the area is because of the support from their other well-functioning branches in other areas. Most mentioned that they are staying there not to lose their spot when things are

better in the future hoping the future is better when started projects are completed. Until then they hoped such restrictions would help businesses survive and maintain their statues.

The second major reason mentioned by the respondents, with 37.23% is related with stabilizing the market by restricting the rising cost of goods. The notion behind this concept is that when rent prices are increased the tenants usually add the increased amount onto each product or service, at end falling into the pocket of the consumer. Hence, they believed that such polices play a part in reducing the rising inflation. The remaining third reason is related to business survival which is usually the result of the above mentioned two reasons.

Table 29: Reason for supporting rental price increment restriction policy

Cross tabulation between support to rental price increment restriction policy and reason for supporting such policy					
		Yes reason			Total
		Supports tenants	Good business survival	Helps to restrict the rising cost of goods	
Rental price increment restriction policy	Yes	44	15	35	94
Percentage		46.80	15.97	37.23	100

Responses for not supporting such policies were also grouped into three. Out of the 26 respondents who did not support such a policy, 13 respondents or 50% of respondents mentioned renters also have expenses. They mentioned that renters are also facing rising costs of service facilities and taxes. Hence, the respondents believed that renters have to increase rent to comprehend with raising renovation, service and taxation costs.

The second reason was related with implementation problems. According to 11 responses, once there was information that there was such policy to be implemented for residential units, renters increased rent as soon as possible before signing an agreement. Moreover, even though such an agreement was signed it didn't prevent renters from increasing rent. Hence these respondents

believed that such a policy by itself wouldn't play a role that much without a thorough control mechanism and consent between renters and tenants.

The third reason mentioned by 2 respondents was attributed to the economic system our country follows. They mentioned that, since Ethiopia follows a free market economic system or market led economic system, renters have the right to increase rent when the market demands.

Table 30: Reasons for not supporting such policies

Cross tabulation between Rental price increment restriction policy and reason for not supporting such policy					
		No reason			Total
		Free market economy	Renters also face rising costs of service facilities & taxes	Not implemented properly	
Rental price increment restriction policy	No	2	13	11	26
Percentage		7.70	50	42.30	100

Even though both groups have forwarded their own reasonable views majority of respondents or 94 supported such policy hence the concerning governmental body should look into such policy. Moreover 81.7% of the total respondents agree that the city administration should control speculative increases in commercial property rental prices as shown in **Table 31** below.

Table 31: Level of agreement regarding stricter regulations

The City Administration should introduce stricter regulations to control speculative increases in commercial property rental prices					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	1.7	1.7	1.7
	Neutral	20	16.7	16.7	18.3
	Agree	77	64.2	64.2	82.5
	Strongly agree	21	17.5	17.5	100.0
	Total	120	100.0	100.0	

4.6.2 Policies related with business

As seen in the corridor development and business activity sub section above and **Table 32** below, the corridor development has led to decreased sales volume around the study area to 81 or 67.50% of respondents.

Table 32: Sales volume after the corridor development

Sales volume after the corridor development		
	Frequency	Percent (%)
Decreased very well	35	29.2
Decreased moderately	46	38.3
The same as before	38	31.7
Increased moderately	1	0.8
Total	120	100.0

According to data obtained from most respondents, even though business has decreased the City Administration has not provided them with any sort of support, even until businesses sprout again. From the total replies, 90.80% observations disagree to the statement ‘the government has provided adequate support for commercial property owners and tenants along the corridor’. Even some indicated that, despite having no support from the administration, penalties and stricter regulations are being imposed on them every time. Some even mentioned, one simple instance related with penalties; businesses that failed to report a monthly income statement at the specified date, had to pay a penalty of 1000 birr but now it has reached 3,000 birr. The data in the following **Table 33** summarizes the discussed issue in detail.

Table 33: Support from the government

The government has provided adequate support for commercial property owners and tenants along the corridor.		
	Frequency	Percent (%)
Strongly disagree	34	28.3
Disagree	75	62.5
Neutral	11	9.2
Total	120	100.0

Policies related with incentives such as, tax breaks and loans would help those that had decreased sales volume to sustain business. The data obtained from this research reveals that, 99.10% of the respondents agree to such incentives. Hence, if such measures are implemented, it strengthens the bond between the government, and the business community. Moreover, it plays a crucial role in regulating or stabilizing the market helping the end users as well.

Table 34: Level of support for policies related to government incentives

Government incentives (e.g., tax breaks, loans) would encourage further investments in commercial properties.		
	Frequency	Percent (%)
Neutral	1	0.8
Agree	25	20.8
Strongly agree	94	78.3
Total	120	100.0

4.6.3 Architectural and urban planning policies related to the corridor development

The following sub section identifies architectural, urban planning and landscaping aspects of the corridor development from the researcher's observations, discussions from the key informants in the same field of study as the topic and interviews with some walking customers.

4.6.3.1 Architectural and urban planning aspects

The development has reshaped the city in many ways starting from improved road infrastructure with reduced traffic congestion, enhanced environment with clean surroundings, improved accessibility with the introduction of bikeways and favorable environment for walking.

Despite the many advantages of the development some planning issue need due attention from the researcher's observation and discussions with some intellectuals in the field. According to the corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC, one of the planning principles in the section from Piassa to Beherawi is the preservation of the city's historical value by incorporating expansive compounds with defined boundaries to *minimize street activities*. Even though keeping the historic values of Piassa while ingenerating new developments is ideal and crucial according to the researcher and some academicians in the field of architecture and urban planning, employing a minimized street activity in the area is a heavily mistaken move staring from planning.

Piasa is well known for its vibrant activities like: café's, restaurants, pubs, and night clubs that usually make the streets lively, by inviting a large crowd of people from different social groups. Once Piasa was a place where the poor and the rich coexist in mutual harmony with no racial and economic status discrimination, hence, the name 'Arada'. A video documentary (EBS) made by Ethiopian Broadcasting Service (EBS) further reveals the social makeup and activities Piasa had.

A book review of Mohammed Salman's book titled 'Piassa, Mohammed Gar Tebikign' by Seble T (Ezaganews, 2011). reveals that Piassa took the first step in the process of modernizing Ethiopia. It is marked by the first hotel in Ethiopia named Taitu Hotel, the first public bathroom, the first bank named Abyssinia Bank, the first cinema hall, the first music house, the first café that served cake and many other modern activities. Hence Piassa's historical makeup and social activities required a planning intervention that invites people not that minimizes street activity.



Figure 46: Aerial view of Piassa

Source- Screenshot from the video link mentioned in the footnote 13

As discussed in the literature review, regarding urban structure of cities, concentric zone model and sector models explain condition in Piasa. It was once the center of the city occupied by modern residences and entertainment areas but through time more developments were beginning to sprout in different parts of the city leaving the center. This led to a situation where low class residential units to be concentrated in the center while high class modern residences developed in the outskirts of the city like Country Club Developers.

Hence, it is clear and evident that the houses were densely populated and the roads were degraded due to their age and due to absence of organized maintenance. It sheltered people with poor living conditions having social problems. Nonetheless, it had rich history and urban character that needed an intervention with no doubt. The type of intervention to be implemented was a key answer to solving the many social ills while keeping its rich history and vibrant social structure.



Figure 47: 'Doro Manekia' before and after

Source- (EBS) and own survey 2025.

Moreover, the proposal made by OMAA, CDSWC, AACRA and AAPDC suggested the following land use interventions: commercial land use 21%, high density mixed use 5%, historic structure 0.95 %, and road network 32.3 %, implying emphasis is given to commercial units than residential units. As indicated in the above sections, businesses in Piasa faced a business decline because of three main reasons: parking problems, people not coming to Piasa as they did and relocation of the people from the surrounding areas. The second and third problem would be solved by implementing inclusive mixed use projects than buildings with full commercial services.

Hence, redevelopment schemes incorporating mixed residential units with post-modern or classical architectural look would keep its rich history while maintain the social structure intact as well. Because mixed use buildings have vast residential units that make the environment lively. Moreover such developments allow varied types of business to thrive due to the presence of vast market demand. There are two best examples in the area that can be model for such development schemes, the Ethiopian Orthodox Apartment Building and Enat Building.



Figure 48: Ethiopia Orthodox apartment building and Enat building

Source- Own survey 2025.

4.6.3.2 Landscape aspects of the corridor development

After the corridor development, the streets are being equipped with: bike ways, wide walk ways, and greeneries. Such elements of road infrastructure are very crucial for developing cities like Addis Ababa, where many auspicious events are held. Regarding landscaping, simple sitting arrangements along green areas with no shade wouldn't do much for a pedestrian using the street in the sunny and rainy days, because it won't protect people neither from harsh sun nor rain.

As per the observations and discussions with pedestrians, small scale commercial units with modern design and sitting arrangements have to be thought of for two main reasons; the first is to keep the streets lively and vibrant because small scale commercial units like fast food shops, coffee and tea shops, tire pumping shops, and the like tend to attract walking customers of varied economic status, while being efficient as well. The second reason is related with the provision of shade to pedestrians.



Figure 49 Walkways indifferent areas of the corridor

Source- Own survey 2025, (Pinterest) and (Pinterest2).

As seen from **Figure 49** in the left, taken around the study area, the sidewalks are very comfortable to pedestrians, but it is not lively because of the absence of small scale businesses, that could have added warmth to the place like the image in the right. Similar instance are seen in the following **Figure 50**, many people are sitting under a tree to pass the scorching heat while no one is seen using the space in the image at the left due to the exposure to harsh sun. Hence, sitting arrangements with shades paired with small businesses is ideal for creating lively walk ways comfortable to pedestrians.



Figure 50: Comparison between landscapes with shade and unshed

Source- Own survey 2025.

4.7 Socioeconomic relationship of the development around the selected section

The socioeconomic impacts of the corridor development can be grouped into four categories related with business activity. These are: absence of affordable small scale businesses, reduced market competitions, market drift, and break down of informal market network ties.

4.7.1 Absence of affordable small scale businesses

This problem is cited by most employees working in offices and the commercial units. Small businesses, like for instance, affordable dining areas also known as ‘ye entat guada or mother’s kitchen’, grocery vending shops commonly known as ‘suks’, stationaries that gave copy and print services, and like are expropriated due to the corridor development along the selected section.

Employed workers, especially single males, that used eat lunch at affordable dining areas, couldn’t do so now. Hence, they are forced either to pay additional fee to dine at the expensive restaurants that are opened, which is mainly above their pay grade, or travel longer distances where such dining areas are located away from the corridor developed areas.

Moreover, even one pregnant employee cited she couldn’t find roasted barley commonly known as ‘kolo’ to satisfy her craving due to the absence of grocery vending shops. Hence her work colleagues had to travel longer distances outside the corridor to find such arrangement. Similar situation was cited as an experience by the researcher in the literature regarding absence of small pumping stations for car tires along the corridor development.

Similarly, 109 respondents strongly agree and the remaining 11 respondents agree that the corridor has led to the displacement of small businesses.

Table 35: Corridor development and small businesses

The corridor development has led to the displacement of small businesses.		
	Frequency	Percent (%)
Agree	11	9.2
Strongly agree	109	90.8
Total	120	100.0

4.7.2 Reduced market competition

Usually, people tend to buy a product by comparing many parameters like for instance: price, originality, quality, and the like from different vendors. It can be said that, the small scale businesses are the back bones of the large scale businesses, located at the shopping malls. Absence of such small businesses affects the bigger ones or the vice versa. For instance, large businesses rendering printing services and those that provide aluminum works related accessories are such best examples in Piasa.

Most small businesses that used to provide aluminum and metal related accessories like; door locks and handles, located at the back of Banco Diroma building are expropriated leading to fewer competitions for potential customers. Hence, such similar business located on shopping malls are planning swap their location to other places where there is such competition.



Figure 51: Reclaimed land behind Bbanko Diroma Building

Source- Own Survey 2025

Similarly, businesses that rendered printing services are facing the same scenario. There were many small businesses that provided printing services located around ‘doro manekia’. Absence of such businesses heavily impacted those that are located in big buildings because of reduced competition. Since people don’t come just to compare two or three shops located on buildings, such business are either stuck with their former clients that usually contact them through phone, or they are forced to look for other places where there are vast similar markets.

4.7.3 Temporal dimension of the corridor development on businesses

Piasa used to be vibrant in the evening till 5-6pm in the evening in local time due the presence of night clubs, vast entertainment areas, retail shops, and butcher shops especially in Doro Manekia. Moreover, there were residences residing on the spot adding life to the surrounding area, even though they were living in poor living conditions. Temporally, the corridor development's negative influence on Piasa can be seen as early as 1:00pm in the evening in local time. It slowly begins to turn into ghost town, where a very limited number of people are seen using the streets shown in (Figure 52) below, taken between 12:45-1:30 pm in the evening in local time.



Figure 52: Night view of the corridor development

Source- Own Survey 2025

There are basically two reasons for such absence of pedestrians in the evening. The first major reason is attributed the reduced number of resident around Piasa. This is because most of the residents are relocated, and existing buildings are mostly comprised of either commercial or governmental buildings. The second reason is related with the relocation or complete closing of entertainment centered areas, especially those located in Arada building as discussed above.

4.7.4 Satisfaction level of respondents regarding the corridor development

According to the data obtained from the research, 2 respondents or 1.7% were highly satisfied, 49 respondents or 40.80% were satisfied with the project, and 34 respondents or 28.3% showed no signs of satisfaction or dissatisfaction. Moreover, 34 respondents or 28.30% were dissatisfied, and 1 or 0.8% respondent was highly dissatisfied with the project, as shown **Table 36** below. Hence, the data reveals that the majority or 42.50% of the respondents were satisfied with the project, while non-neglectable percentage or 29.10% of the respondents are dissatisfied with the project.

Table 36: Satisfaction level of respondents with the corridor development

Satisfaction level		
	Frequency	Percent (%)
Highly dissatisfied	1	0.8
Dissatisfied	34	28.3
Neutral	34	28.3
Satisfied	49	40.8
Highly satisfied	2	1.7
Total	120	100.0

The cross tabulation between the satisfied respondents and their reason reveals that, 8 respondents are satisfied with the improved infrastructure, 39 respondents are satisfied with the clean and beautiful environment, and finally the remaining 4 respondents mentioned the low crime rate and its importance for future generations.

Table 37: Reasons for satisfaction with the corridor development

Cross tabulation between satisfaction level and reasons for satisfaction						
		Reasons for satisfaction				Total
		Improved infrastructure	Clean and beautiful environment	Low crime rate	Good for future generation	
Satisfaction level	Satisfied	8	38	0	3	49
	Highly satisfied	0	1	1	0	2
Total		8	39	1	3	51



Figure 53: Improved green and open spaces after the development

Source- Own Survey 2025

The multiple response data obtained from the 34 dis-satisfied respondents reveals that, the major reason for dissatisfaction among tenants is the negative effect of the development on business with 26.20% which is highly related with parking problems and with people not coming to Piasa like before as discussed in the business and corridor development sub section above.

The second reason is related with design problems associated which is again associated with parking holding a figure of 20.40%, the third reason is related with inadequate compensation with 19.40% responses and the fourth reason is related with the priority level of the project meaning, there are other nationwide matters that need prior attention and budget than the development with 17.50% responses.

The government and the concerned bodies should deal with these problems in order to increase the satisfaction and acceptance level of the corridor development by citizens.

Table 38: Reasons for dissatisfaction with the corridor development

Reasons for dissatisfaction frequencies				
		Responses		Percent of Cases
		N	Percent	
Reasons for dissatisfaction	My business is negatively affected	27	26.2%	77.1%
	The road in my area is already accessible	5	4.9%	14.3%
	Affected people are not properly compensated	20	19.4%	57.1%
	The design has short comings like parking	21	20.4%	60.0%
	There are other nationwide matters that need prior attention and budget than the development.	18	17.5%	51.4%
	Other	12	11.7%	34.3%
Total		103	100.0%	294.3%

4.8 Future plans and intentions

4.8.1 Relocation plan

Regarding future plans or intentions, 93 (77.50%) respondent did not plan to relocate their current location while 27 (22.50%) were planning to relocate to other locations. When plan of relocation is cross tabulated with distance from the corridor, it is found that as distance from the corridor increases relocation plan decreases, showing an inversely proportion. As seen in the following **Table 39**, from the 27 respondent who were planning to relocate, 18 were located alongside the corridor.

Table 39: Cross tabulation between relocation plan and distance from the corridor

Cross tabulation between plan for relocation and distance from corridor development									
		Distance from corridor development							Total
		Alongside the corridor	0.25-0.50km	0.51-0.75km	0.76-1.00km	1.01-1.25km	1.26-1.50km	1.51-1.75km	
Plan to relocate	No	46	24	6	1	2	5	9	93
	Yes	18	3	2	1	2	1	0	27
Total		64	27	8	2	4	6	9	120

The various reasons given for not planning to relocate were grouped as the following; the majority or 40 (43.00%) hoped business will improve in the future, when started projects are completed. Piasa is the center of Addis Ababa and businesses don't wish miss a chance when the light shines again, and when the market booms. Some even mentioned that they were born and raised there, and would hate to be relocated to other place, and adopt from the beginning. Hence, despite the deceased sales volume, and the increased rent amount due to the corridor development, most hope for a better day.

Table 40: Reason for not planning to relocate

Reason for not planning to relocate	Frequency	Percent (%)
We are fine or doing good	18	19.4
Adopting to other places is difficult	10	10.8
Hope business improves in the future	40	43.0
Don't want to lose regular customers	6	6.5
We are new	9	9.7
The building administration is good	3	3.2
Similar service giving shops are located here	7	7.5
Total	93	100.0

Meanwhile, the 27 respondents who were planning to relocate mentioned the following reasons: the decline of business mentioned by 13 respondents is the major reason, followed by the increased rent amount mentioned by 7 respondents. The remaining reasons include, searching for better locations where people live, and the risk of expropriation is mentioned by those located in close proximity to the development, who felt the urgency of looking for other places.

Table 41: Reasons for planning to relocate

Reasons for planning to relocate	Frequency	Percent (%)
Decline of business	13	48.1
Higher rent prices	7	26
Searching for better locations for business where people live	5	18.5
Risk of expropriation	2	7.4
Total	27	100.0

4.8.2 Expansion plan

Most of the respondents felt they are in survival state; hence, they don't have a plan to expand or open another branch in the area as indicated by the 100 responses. While, 15 respondents are neutral and 5 respondents replied they would consider expanding their business.

Table 42: Interest in expanding business along the corridor

Interested in expanding business within the urban corridor	Frequency	Percent (%)
Strongly disagree	44	36.7
Disagree	56	46.7
Neutral	15	12.5
Agree	5	4.2
Total	120	100.0

The data collected from the field survey shown in **Table 43** below indicates, the majority of the people 61 respondents (50.80%) agree that the long term benefits of the corridor outweigh the inconveniences, 35 (29.20%) respondents disagree, because the inconveniences are far greater than its benefits and 24 (20.00%) of respondents chose to be neutral.

Table 43: Long term benefits versus the inconveniences of the corridor development

The long-term benefits of the urban corridor project outweigh any temporary inconveniences.	Frequency	Percent (%)
Strongly disagree	2	1.7
Disagree	33	27.5
Neutral	24	20.0
Agree	60	50.0
Strongly agree	1	0.8
Total	120	100.0

Chapter Five Conclusion and Recommendations

5.1 Conclusion

The corridor development in Addis Ababa is the first of its kind covering large area, advancing the existing road infrastructure with in short period of time by deploying huge capital. During the period of this research the corridor development has reached the second phase and it is expected to continue in most parts of city in the coming years. This research has primarily tried to analyze the relationship of the corridor development with commercial rent value by taking different distance parameters. Moreover it has also studied the occupancy level of buildings and sales volume of commercial units by taking into account accessibility of the corridor development.

Most literatures related with this study have shown that an improved accessibility due to improved road infrastructure has appreciated rent and property values of the surrounding areas. Implying that more businesses are drawn to accessible areas where there are plenty of potential customers. This research has also shown that the improved road infrastructure due to the corridor development has resulted in an increase in rent amount of commercial properties implying a positive relationship between rent of a commercial property and improved accessibility.

Moreover, rent value for a commercial property was found to be negatively related with floor area and floor level. Hence, it was observed that commercial unites renting large area and those renting higher floors had lesser rent price per square meters than those renting small areas or located in lower levels. Despite most theories age of the building has shown positive relationship with rent price due to the high demand and shortage of supplies caused by the process of expropriation due to the corridor development.

Quantitatively, the regression model reveals that monthly rental price per meter square is significantly negatively related with floor level by 15.49% and floor area by 0.20%. While it has significant positive relation with; availability of basement or onsite parking by 15.28%, occupancy level by 8.55% and distance from the corridor by 5.13%. The major reasons behind the positive relationship of these predictors to rent value is related with; accessibly and demand supply issues. Moreover, 53.40% of the changes in rent amount could be attributed to the combined effect of the 12 predictor variables, while the remaining 46.60% of the variances are

explained by other factors that are not covered in this research. Thus, the researcher recommends other fellow researchers to include other predictor variables and conduct a study.

Regarding the corridor development and business activities, it has resulted in decreased sales volume to 67.50% of commercial units covered in the survey in varied degree. The major reasons for such decline are related with the corridor development and external parameters to the development. Parking restrictions, people not visiting Piasa as they used to and relocation of the people from the surrounding area are related with development while the political economic situation of the county mentioned is external to the development.

Moreover, the corridor development has resulted in a mixed relationship with different areas around Piasa. Commercial units located along Churchill Road above Tewodras Square to Piasa Mall are heavily affected, those located around Taitu Hotel are affected in a lesser degree and those located in around Mebrat Hail Building are showing signs of recovery. The maximum rent amount in the survey 12000birr per square meters is also registered in this building implying high demand for rent of a commercial property around this building. Most gold shops and eye glass shops are giving emphasis to this area for its proximity to the newly assigned taxi stations and closure to Adwa Victory Memorial Building where parking services are readily available in the vicinity compared to other locations.

The corridor development has led to the displacement of small scale business and the closure of most entertainment areas which have resulted in lust for people in contrary to historical makeup of Piasa. The closure of Arada Building, the complete expropriation of Doro Manekia and the demolition of gold shops from Cinema Ampère to Ras Mekonin Bridge have resulted in decreased number of people visiting Piasa for pleasure and business. Moreover, it has led to less market competition and decreased sales volume.

Most respondents believe the long term benefits of the corridor development outweigh the inconveniences it has caused. Hence the responses imply that people support such developments but design, implementation and policy related problems concerning parking, relocation, compensation, importance of the project at the current state of the country have raised serious concerns decreasing the acceptance level of the project.

5.2 Recommendations

Based on the findings of this research the following recommendations have been suggested.

- The major problem associated with the corridor development cited by most commercial unites is related with parking. Hence, to solve this issue, the strict parking restrictions along the corridor development should be eased to accommodate the parking demand. Temporary parking restrictions with certain time frames, like from 12 to 4 am local time in the morning, should be implemented instead of totally restricting parking.
- The two tone movement restriction should also be amended with limited time frame, possibly in late evening hours, after the road is free from traffic, to allow the loading and unloading requirement of large commercial units such as furniture and electronic shops.
- The responsible government body should amend the height regulation around Piasa, restricting building height to only five stories possibly to eight to ten stories, while also maintaining the history and skyline of Piasa. This amendment helps to attract more investors, because constructing a minimum of three basements below ground level just to accommodate only five stories above ground floor wouldn't be profitable.
- To avoid the ghostly character of the place at night, where residents are minimal, mixed use redevelopment scheme, containing apartments with 40-60 modality, where 40% of the building is commercial and 60% of the building is residential should be encouraged, than buildings with full commercial uses.
- Small and medium scale commercial unites should be encouraged along the corridor development, with modern and clean designs, to accommodate the needs of pedestrians, which will even add eyes on the street keeping the area secured and vibrant.
- Regarding landscaping, some hardscaping elements like sitting arrangements with shades should be implemented so as to enjoy the softscaping elements.
- Canopy or shade retractions should be amended, to allow modern and beautiful designs that comply with the corridor development design, especially for West facing buildings.
- The government should introduce affirmative actions like: tax breaks, reduction of penalty costs, and loans for the business societies around the corridor developed areas for the decreased business activities until businesses are vibrant again.
- Rent price increment restriction policies, implemented on a scale based arrangement, would encourage businesses to thrive, if applied efficiently.

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Annex I: Publishable article

Urban Corridor Development and Commercial Property Rental Values; in the case of Urban Development Corridor in Addis Ababa, Ethiopia

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Abstract

The corridor development in Addis Ababa is the first of its kind in Ethiopia deploying huge shear capital with vast area coverage. The adverse effects of corridor development on commercial property values and rent values have been studied in detail in different countries but not in Ethiopia, due to the novelty of the project, hence, it is found necessary to examine the initial impacts of the development on business activities, property values and rental prices. The corridor development section from Piasa to Beherawi was used for the study. Data were collected through questionnaire, interviews and field observations alongside secondary data. Multiple regression analysis was used to quantify cross sectional data of rent per square meters against the independent variables. Descriptive analysis was also used for interpretation of qualitative and quantitative data. The findings of the research indicate, an inverse significant relationship between rent per square meters with floor level and floor area while significant positive relationship was observed with availability of onsite parking, occupancy level and distance from the corridor development. Advancements in road infrastructure have led to increased accessibility which led to appreciations of commercial rent and property values alongside the development while the increased risk of expropriation has led to the depreciation of property values to non-corridor developed areas. The relationship with business activities is diversified, with most businesses being negatively affected, facing decreased sales volume due to the development itself and extraneous to it. Exaggerated rent prices and agglomeration of businesses are observed, on some portions of corridor development segments, having sufficient parking and accessible public transportation roots. The vice versa is noted for inaccessible and parking restricted sections of the development. Socio-economically, the development has led to the displacement of small scale businesses reducing competition and impeding the availability of goods and services easily. The project is acceptable by the majority of surveyed people; for the improved road infrastructure, and for the clean and beautiful environment it has created. Nonetheless; design, implementation, and policy related problems concerning parking, relocation, compensation, and importance of the project at the current state of the country, have raised serious concerns, decreasing the acceptance level of the project.

Keywords: Urban Corridor, Property Value, Rent, Accessibility, Sales Volume

1. Introduction

According to Ajitabh et al., (2012), urban corridors are a pattern of urban systems that gradually developed along transport routes which provided linkages between the major urban hubs and resulted in the growth of urban peripheral areas. Land change is a consequence or impact of economic growth in cities, high urbanization, population change, and increased activities in urban areas (Rakhmatulloh et al., 2018). The main factors causing land use change are population, land value and transportation system, that are embodied in the form of land use patterns (Meyer and Miller, 1984).

The comprehensive NMT Strategy developed by the AARTB (Addis Ababa Road and Transport Bureau, 2018), describes better walking and cycling transport facilities to complement the city's mass transit network, including two existing light rail transit (LRT) corridors and seven planned bus rapid transit (BRT) corridors.

Urban corridor development in Addis Ababa is a new type of project necessitated by years of congestion and a high rate of urbanization in the capital. Weak road networks, poor drainage systems, housing shortages, and unregulated land use patterns have puzzled the city. Thus, an intervention was needed to alleviate such problems to commence on the path of modernization. One such intervention is land readjustment, which involves reclaiming and redeveloping a plot of land to much future city and population needs. The urban corridor development is one such redevelopment scheme aiming to improve accessibility and cleanliness in the city.

The development has impacted property values positively and negatively. Properties are expected to be positively impacted due to the improved road infrastructure, increased accessibility, beautiful environment, and induced greenery. Negatively impacted properties are those whose properties were expropriated and those that lost their shops and market ties.

This study has been found critical to identify the relationship of corridor development on commercial property rent prices and sales volume. Moreover, it has also been found necessary to identify socio-economic claims related to acceptance level and precipitance of the project by different social groups of the community. The general objective of this study is to analyze the relationship between corridor development and the property value of commercial properties in Addis Ababa measured in terms of monthly rent of commercial houses and sales volume.

Geographically, this study is conducted in Addis Ababa, where phase one section one corridor development project was carried out, stretching from Piasa to Beherawi. Temporarily the study primarily focuses on the period following the commencement of Addis Ababa's urban corridor development in December, 2022. Given that the project is ongoing, the study examines the initial impacts and trends emerging after its implementation. The temporal scope is defined by the post-commencement of phase I of the urban corridor, allowing for an analysis of early economic, property rental price, and developmental effects. This timeframe provides that the study captures relevant changes while acknowledging the evolving nature of the project.

2. Literature Review

2.1 Definitions and concepts related with corridor development.

According to Youssef, (2021), corridor developments are strategic mechanisms that allow a coordinated and integrated approach to transport, transit, trade facilitation, and interrelated issues at regional, sub-regional and national levels. As per a report by Fana Broadcasting Agency web site², Addis Ababa Mayor stated the primary objective of the corridor and redevelopment projects is to enhance the beauty and cleanliness of the capital, making it a comfortable and attractive place for its residents, while maintaining its status as an international diplomatic hub. So far there are two phases of the project covering a total of 4,747 hectares as shown in **Figure 54** below.

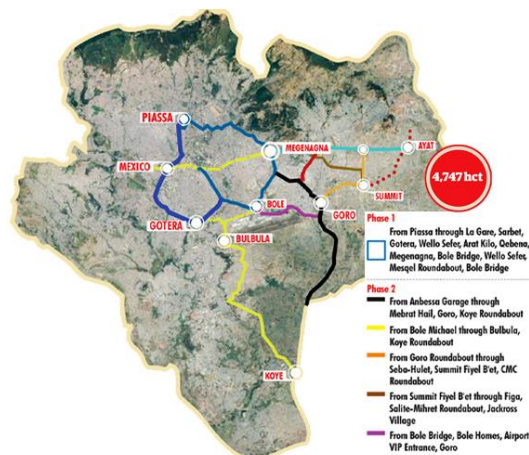
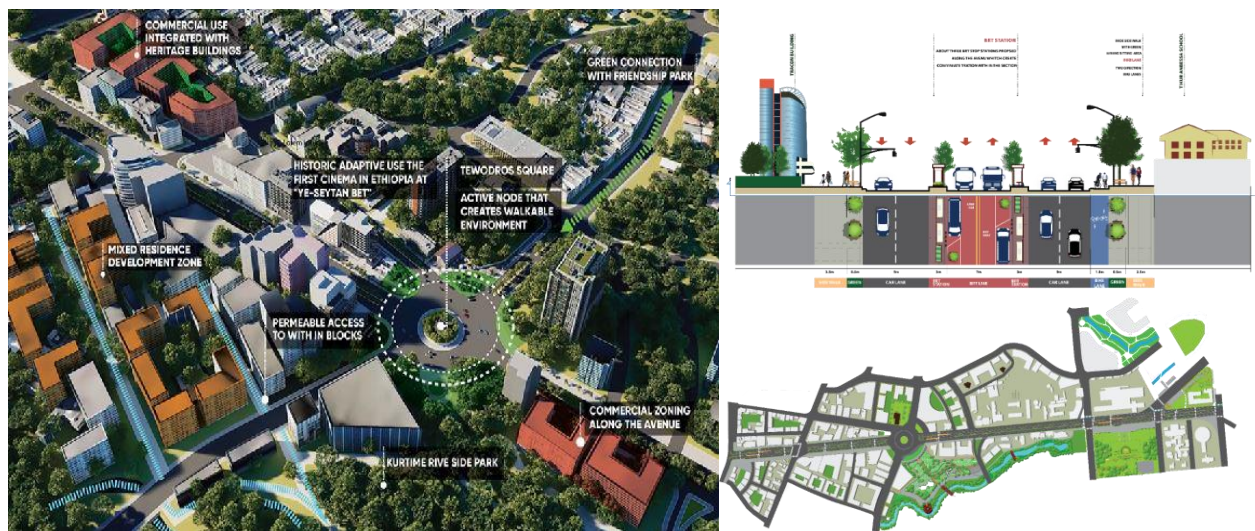


Figure 54: Map of Addis Ababa showing roots of Phase I and Phase II of the corridor project

Source - <https://addisfortune.news/phase-two-begins/> and edited by the researcher.

² <https://www.fanabc.com/english/addis-ababa-to-launch-2nd-phase-of-corridor-devt-works-this-week/>

As per the corridor development plan proposal, made by OMAA, CDSWC, AACRA and AAPDC, the goal of the corridor development project is to; enhance the residents living conditions by establishing functional workspaces, to revitalize economic engagements along the corridor through the improvement of mixed-use development, and to create a lively urban impression by designing the street environment of the corridor.



2.2 Theories related with rent value

The value of a commercial property is mainly determined by its accessibility to other land uses; accessibility is a critical component in determining the costs and rewards of any investment (Rayyan Y. *et al.*, 2021). Improved accessibility, for instance as a result of new transport infrastructure, better enables people to work at a place that fits their skills and live at a spot that matches their needs (Teulings, *et al*, 2014).

On the other hand, accessibility might also bring disadvantages. For instance, more competitors will increase prices for non-transportable production factors like land. This induces an outflow from the center to peripheral locations, from where one can now service more customers. The relative importance of these centrifugal and centripetal forces may differ between types of firms (Sander H. *et al*, 2016). It often remains unclear whether economic development results from improved infrastructure or the other way around (Sander H. *et al*, 2016), which corresponds to the concept of the land use transportation cycle.

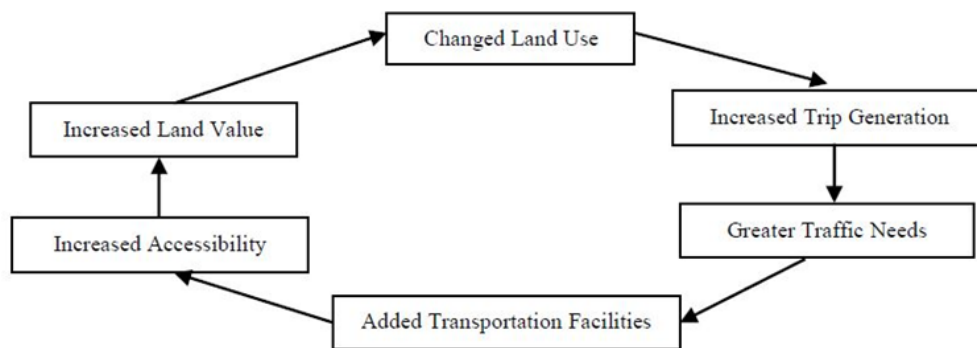


Figure 56: Land use and transportation cycle

Source - (Rakhmatulloh A., *et al*, 2018)

Land use change will lead to an increase in trip generation. This rise will lead to increased level of accessibility that will lead to an increased land value in the area. The increasing land value will eventually lead to the emergence of activities that are compatible with the conditions in the region, triggering the development of high rise buildings. When transportation access to the activity space (land parcel) is improved, then the activity space will become more developed. With the development of space activities, it will also increase the need for transportation. This increase then causes an overload transport that must be addressed (Rakhmatulloh A., *et al*, 2018).

2.2.2 Bid rent theory

One of the seminal works in land-use economics is William Alonso's bid-rent theory, published in 1960. In his paper *A Theory of the Urban Land Market* (1960), Alonso hypothesized a bid-rent gradient to describe the relationships between land value, commercial location, and transportation (Bochnovic, 2014). The effect of distance from an assumed central business district (CBD) on the value of land is illustrated by a negative curve reflecting the decrease in price with an increase in distance. (Alonso, 1960).

3. Site description and methodology

3.1 Site description

Addis Ababa, the political capital and the most important commercial and cultural center of Ethiopia, is geographically located at the heart of the nation, 9°2'N latitude and 38°45'E longitude. Its average altitude is 2,400 meter above sea level, with the highest elevations at Entoto Hill to the north reaching 3,200 meters. (Abnet G. *et al.*, 2020). The selected site for this study is located at Addis Ababa, Arada Sub City, Woreda 01 along Churchill Road, from Piasa to Beherawi included in the phase I segment one of the corridor development project.



Figure 57: Map of Addis Ababa from 1886-2013 and proposal design with actual photos

Source - Abnet G. *et al.*, 2020, Corridor development plan proposal made by OMAA, CDSWC, AACRA and AAPDC and own survey, 2025



Churchill Road in 1960's

Churchill Road in 1980's

Churchill Road in 2000's

Figure 58: Churchill Road from the 1960's up to 2000's

Source-https://commons.m.wikimedia.org/wiki/File:Churchill_road_ca_1960.jpg,
<https://www.alamy.com/stock-photo-ethiopia-addis-ababa-churchill-road-48042214.html>,
<https://www.istockphoto.com/photo/churchill-avenue-in-addis-ababa-gm458258663-27759922>

3.2 Materials and methods

The study has implemented both primary and secondary data sources to grasp the data. Three primary data collection tools namely: questioner, interview, and observation methods were used. Secondary data sources like: interviews of investigative journalists, a series of books, websites audio and video recordings, and publishments of national and international organizations were used to further support the primary data.

The sampling frame for the research included, rented commercial properties located along the study area and also rented commercial properties located at a distance 0.25km to 1.75km away from Tewodros Square. The researcher could not find the exact number of rented commercial units within a 1.75km radius of the selected section of corridor development. Hence, using a purposive or judgmental sampling technique, 120 commercial units were selected from different distance parameters. According to Chris B. *et al.*, (2010) and Wubet, (2018), a sample in excess of around 100 observations is usually considered sufficient for a test of normality assumption, and a sample with more than 30 samples can ensure statistical analysis for the central limit theorem for real estate researches.

The technique used for analysis is hedonic pricing or regression model, which is used to regress the dependent variable, rent per meter square as function of summation of all the independent variables. The study has also implemented descriptive statistics to analyze the data collected from questioner, interviews, and observations presented using tables.

4. Result and discussions

4.1 Geographic and socio-demographic data of respondents

The data was collected from 120 commercial units, located within the study area and up to 1.75km away from the study area, rendering the following services: 56 retail shops, 17 offices, 4 café and restaurants, 4 ware houses and 4 commercial units providing other services. The majority of them were located in ground floor with 63 cases, 29 cases within first and second floors, 16 cases from 3rd and 4th floors, 7 cases from 5th and 6th floors, and the remaining 5 from above 6th floors. From the total 120 respondents, 49 were male and 71 were women. Regarding educational level 45.90% of them had a degree or above while 42.60% of them had certificate or diploma.

4.2 Relationship of corridor development with commercial property rent value

The relationship of the corridor development with commercial property rent value is analyzed by using correlation analysis and multiple linear regressions. Correlation analysis was used to determine the relationship of the dependent variable with the independent variables. Hedonic regression model was implemented to quantify the correlational relationship.

4.2.1 Correlation analysis

Correlation analysis measures the linear relationship between the dependent variable rent per square meters and the independent variables mentioned above using correlation coefficient 'r' values between -1 to +1. If the relationship is above 0 it is positive and if it is below 0 it is negative. If the relationship is close to 0 the relationship is weak. Pearson correlation was implemented to the four contentious variables while discrete and dummy variables were interpreted using spearman correlation coefficient.

Relationships like building material, availability of building parking, availability of street parking and occupancy level have very weak positive relationship with rent square meters while very weak negative relationship is observed with crime rate and improved road infrastructure. The researcher believes the negative relationships between improved road infrastructure and rent is due to the availability most 'Kiray Betoç' rental houses in Piassa having less rent value compare to privately owned properties.

As expected the dependent variable rent per square meter has an inverse relationship between floor area and floor level. Meaning as floor level is increased rent per squared is decreased and the vice versa. Regarding floor area, businesses renting large area face less rent per square value than a business renting small area. This usually true because small units rent an area on a fixed price arrangement called 'Kurt gimit' than an area based calculation.

Surprisingly rent per square meter has shown a positive relationship with building age. This relationship is observed because most of the remaining buildings in Piasa are old and scarcity of available shops for rent has created competition among business owners causing rent value to rise though the buildings are old.

4.2.2 Hedonic pricing regression model

This model was used to identify the relationship of sets of attributes called independent variables with rent value called the dependent variable. The rent price per square meter of a commercial unit is regressed against the 12 independent variables; distance from corridor development, floor area of the commercial unit, floor level, building material used, presence of clean and usable toilet, sufficient on-site or basement parking, improved road accessibility, crime rate, availability of on street parking, type of service rendered, sales volume, and occupancy level.

The data was positively skewed; hence, log transformation was applied to the dependent variable rent price per square meters. Then the five assumptions of regression: normality, linearity, multicollinearity, heteroscedasticity, and autocorrelation were tested. Then, the equation for the regression model was developed with the corresponding beta values, as shown below;

$$\begin{aligned}\text{LnRP} = & 2.608 + (-0.002)\text{FA} + (-0.144)\text{FL} + (0.275)\text{BM} + (-0.102)\text{AT} + (0.142)\text{BP} \\ & + (0.05)\text{DC} + (-0.139)\text{SP} + (0.045)\text{CR} + (0.073)\text{RI} + (0.022)\text{SV} \\ & + (-0.030)\text{TS} + (0.082)\text{OL} + \varepsilon\end{aligned}$$

Significant (p) values, less than 0.05, were observed with the five predictor variables. Floor level is the major predictor with (t) value, of -7.235, showing strong negative relationship with rent, an increase by one story will result in a decreased rental amount of 14.40 % for a rental commercial unit. The second most significant predictor in the model is the availability of basement or on-site parking, with (t) value of 3.61. This study shows that, an increase in parking spots for a commercial unit will result in a 14.20% increase in rent amount.

The third most significant predictor in the model is floor area, with (t) value of -3.014. An increase in one square meter of a rentable commercial unit will lead to a decrease in 0.20% of rental amount. The fourth most significant predictor in the model is occupancy level of buildings, with a (t) value of 2.948. A building with high concentration of shops will have an increased rent price of 8.20% compared to similar building with lesser occupancy level. The fifth most significant predictor in the model is distance from the corridor with a (t) value of 2.914. A commercial unit located 0.25 kilometers away from the corridor development will have an increase in rental price by 5.00%, because of the shortage of available new buildings in the area.

4.3 Corridor development and business activity

Regarding the relationship of the corridor development with business activity; the majority of the respondents 78 (65%) indicated a negative influence while 38 (31.70%) respondents replied there was no impact. When the influence of the corridor development on business is cross tabulated with distance from the corridor; 47 respondents located along the corridor and 22 respondents within 0.25-0.50km radius, indicated negative influence implying as distance from the corridor is increased, the negative influence turns neutral shown in **Table 44** below.

Table 44: Cross tabulation between distance from corridor and influence on business

Cross tabulation between distance from corridor development and its influence on business		Influence of the corridor development on business			Total
		Negative	None	Positive	
Distance from corridor development	Alongside the corridor	47	15	2	64
	0.25 km-0.50km	22	4	1	27
	0.51km-0.75km	6	1	1	8
	0.76-1.00km	1	1	0	2
	1.01-1.25km	1	3	0	4
	1.26-1.50km	0	6	0	6
	1.51-1.75km	1	8	0	9
Total		78	38	4	120

Businesses along corridor developed areas are not affected in the same manner, some places are beginning to revive and some are showing signs of recovery while others are struggling to hold on while some business are slowly drifting away from the corridor development to other places. The variations are attributed to four basic reasons mentioned below;

4.3.1 Restrictions along the corridor development

Basically four types of restrictions have directly or indirectly influenced businesses;

4.3.1.1 Parking restrictions

The major reason creating discomfort to clients and business along the corridor Piasa to Beherawi is related with parking ban mentioned by 21.80% of the respondents. Since parking is not allowed in the corridor and adjoining roads, most clients are forced to park at Adwa Victory Memorial Building or park along parking permitted areas.



Figure 59: Some parking restricted roads along and surrounding the corridor development
Source- Own survey, 2025

4.3.1.2 Movement restrictions

- iii. **Two ton movement restrictions:** Cars weighing over two tons are not allowed to use the road neither for parking nor for movement. Hence most cars that are usually used for loading and unloading purposes like vehicles commonly known as ISUZU weighing above two ton are not allowed to use the road at all affecting business.



Figure 60: Two tone movement restrictions and permitted parking along cathedral school
Source- Own survey, 2025

- iv. **Total movement ban for both vehicles and pedestrians:** The other restriction related with movement is the total closure or partial closure of some road sections when the government organizes events to be held at the newly established Adwa Victory Memorial building.

4.3.1.3 Advertisement restrictions

Only a digital form of advertisement is allowed along the corridor banning other forms of advertisements like banners, stickers and curtains. The restriction is intended to create beautiful image to the city by avoiding scattered advertisements. Though the intention is good, businesses located at the back or located in upper floors with no visual connection to the road are affected

4.3.1.4 Cantilevered shade or canopy restrictions

The ban on the construction of cantilevered shades or canopies, especially for commercial unites located at the ground floor. Most cafeterias, electronics, retail shops and furniture shops located along the West direction, facing the harsh sun are affected.

4.3.2 Proximity to or from the newly assigned taxi and bus terminals

The existing bus and taxi terminals are reconfigured due to the development. Businesses located around the newly designated taxi terminals are favored because there are walking customers. Businesses located above Tewodros Square up to Arada building and those located at back of Banko Diroma building are heavily affected, because of a very small number of walking customers, and due to pedestrian movement restrictions on the road between Mazegaja Building and the Adwa Victory Memorial building for security reasons shown in blue, in **Figure 61** below.

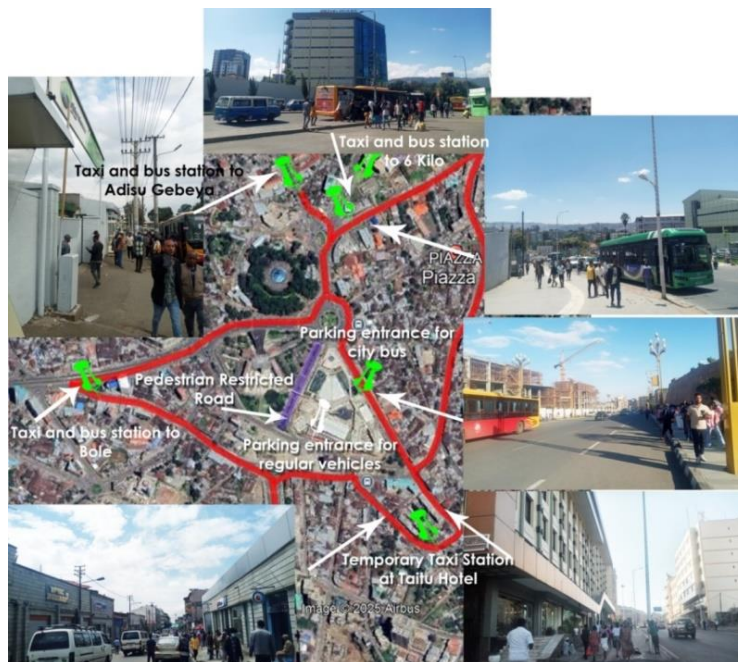


Figure 61: Newly assigned public transport locations

Source- Edited Google Earth Imagery at 03/02/2025 and Own Survey 2025

4.3.3 The closure of Arada building

Arada building is an icon of Piasa and Addis Ababa at large which used to host vast number of businesses, entertainment centers and offices starting from the semi basement floor up to second floor. As seen in the image below it had a variety of commercial unites that attracted a large number of walking customers. During the study period of this research, it was undergoing renovation works and its future is undecided. According to two tenants there was a plan to transfer the shops to bidders but the plan was canceled to reasons unspecified.



Figure 62: Arad building before and after the corridor development

Source- <https://www.pbase.com/bmcmorrow/image/109218669> and own survey, 2025

4.3.4 Presence or absence of governmental offices and banks

The presences or absences of governmental offices and banks have also played a vital role to the varied amount of businesses. Businesses located along Churchill Road below Tewodrows Square towards Tracon building are relatively averagely affected because of the presence of passport and immigration bureau and various banks which have created many walking customers.

4.4 Corridor development and rent

4.4.1 Supply and demand

Promising market conditions are reviving around the road from Taitu Hotel uphill towards ‘Mebrat Hail Building’ and towards the demolished ‘Mohamud Musica Bet’ due to the increased accessibility attributed to the presence of the new taxi station shown in yellow shown in the map below. Moreover the existence of un-demolished buildings mostly owned by ‘Kiray Betoeh’ for

preservation (highlighted in red) has kept the commercial units located in the area intact and still functional. Hence the area highlighted in orange is beginning to show signs of recovery.

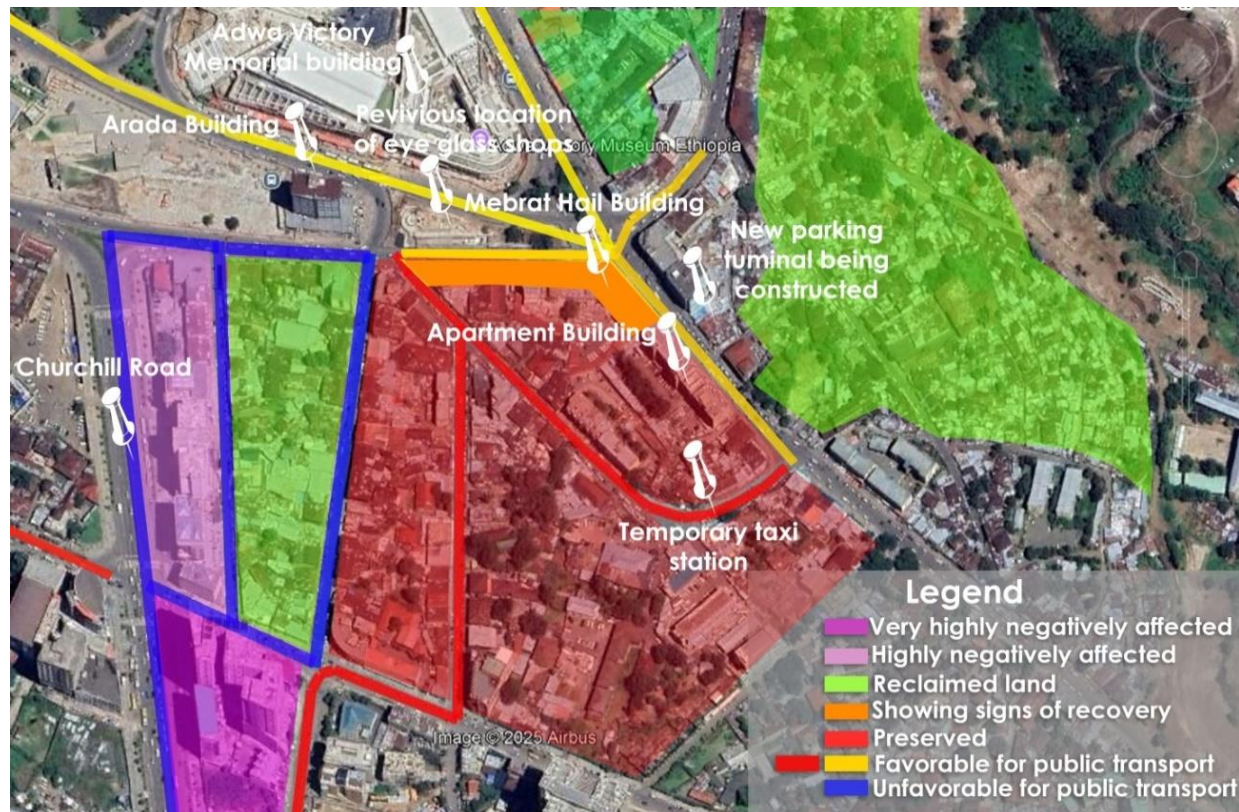


Figure 63: Map showing the relationship of accessibility with business

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

The famous gold and eye glass shops are returning and beginning to heavily concentrate inside Mebrat Hail Building with a very high rent price unseen before. This is because of the scarcity of existing buildings leading to less favorable number of available shops at the place. Eye glass shops are teaming up to occupy large area and splitting the total area into small shops for the members with each unit having an area of 2-3square meters paying a monthly rent price of 27,000 birr or 9,000-13,500 birr per square meters per month The gold shops in the same building, are also bidding for 12-16 square meters of area for 135,000 to 200,000 birr per month giving an average of 12,000 birr per square meters per month.

4.4.2 Accessibility and rent

From the total 120 respondents, 66 (55%) replied there was no increase in rental price due the corridor development, while 54 (45%) chose to differ. But focusing on the 64 commercial units located along the corridor development, the majority or 35 respondents faced an increase, while 29 did not face an increase. Hence, commercial unites located further away from the corridor were not subjected to an increase in rent, since there was no improvement in road infrastructure.

Table 45: Cross tabulation between increase in rent and distance from corridor

Cross tabulation between distance from corridor development and increase in rental prices		Increase in rental prices		Total
		No	Yes	
Distance from corridor development	Alongside the corridor	29	35	64
	0.25 -0.50km	15	12	27
	0.51-0.75km	4	4	8
	0.76-1.00km	1	1	2
	1.01-1.25km	3	1	4
	1.26-1.50km	5	1	6
	1.51-1.75km	9	0	9
Total		66	54	120

By computing the average rent amounts at versus distances from the corridor, it is seen that, along the corridor it is 2109.15 birr, and at a distance 0.25-0.50km is 1855.58 birr showing reduction further away from the corridor. Moreover, the maximum rent amount 12000 birr per square meters is also registered alongside the corridor. But the average rent price increases to 2,417.86 birr along the road to Semen Hotel, at 0.51-0.75km away due to the favorable conditions mentioned in the second case study.

Table 46: Rent per square meters and distance from the corridor development

	Total Rent(m ²)	Alongside the corridor	Distance 0.25-0.50km	Distance 0.51-0.75km	Distance 0.76-1.00km	Distance 1.01-1.25km	Distance 1.26-1.50km
N	120	64	27	8	2	4	6
Mean	2042.61	2109.15	1855.58	2417.86	1321.43	2036.11	1867.11
Minimum	500	550	500	2000	1000	1667	1000
Maximum	12000	12000	3750	2800	1643	2500	3200

4.5 Case studies

4.5.1 Mebrat Hail building

Mebrat Hail Building is being favorable place for commercial units for the following three major reasons; the first reason is the close proximity to Adwa Victory Memorial Building where there are plenty of visitors, where events are organized, where there is ample parking space and where there is a presence of a bus terminal inside the building that created favorable conditions for many potential customers.

The second reason is the presence of large on-site parking at the back of the building for both tenants and customers since parking restrictions are heavily affecting businesses. The third is the close proximity for taxi dropping point for the rout Megenagna through Arat Kilo ending at Ampier Cnima Piasa.



Figure 64: Site location and photos of case 1 'Mebrat Hail Building'

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

This building has the largest rent amount compared to other buildings covered in this survey due to the favorable conditions set by the corridor development such as availability of parking and improvements in transport accessibility options.

4.5.2 New building along the road to Semen Hotel

A new building that is recently completed which is located approximately 650 meters away from the corridor development towards Semen Hotel, which is conducting inner aluminum partitions as per tenant area requirements is fully booked with one 30m² office space remaining while all floors are fully occupied.



Figure 65: Site location and photos of case 2 ‘New building along the road to Semen Hotel’

Source- Edited Google Earth imagery taken at 10/24/2023 and Own Survey 2025

This is basically attributed for three main reasons; the first reason is the relocation of small and medium businesses like stationery and printing services from ‘Doro Manekia’ to this new building and other available buildings. The second reason is associated with the buildings location. It is located beside the Ministry of Justice General Division Arada Branch Office, which is ideal location for businesses that provide stationary services, print and copy services, language translation services and office purpose for lawyers. The third reason is associated with the risk of being expropriated again if the corridor development continues along this section of the road, thus, most businesses are computing to hold on to the available multi-story buildings than single story buildings which are at risk of expropriation.

4.6 Policies related to the development along the selected section

This subsection identifies urban planning policies influencing the relationship between corridor development, rent values, and business activities.

4.6.1 Planning policies related to rent

The City Administration has introduced a rental increment restriction policy or law for residential units aimed at easing the heavy load on citizens who rent residential units but couldn't catch up with the rising rental price, which affects their livelihood. It restricts increasing rent price for two years then the renter is allowed to increase rent on scale based arrangement, usually set by the City Administration.

Respondents were asked if this policy would be helpful if it were applied for rental commercial units as well. The majority of respondents, 94 (78.30%) supported such policies and the remaining 26 (21.7%) were against such policies. Regarding their reasons for supporting such policies, major reason was found to be its support for tenants with 46.80% by mentioning it is getting harder and harder by the day to sustain business in the area because of less number of customers. The second major reason mentioned by respondents, with 37.23% is related to stabilizing the market by restricting the rising cost of goods.

4.6.2 Policies related with business

The corridor development has led to decreased in sales volume to 81 or 67.50% of respondents. The major reasons being; parking restrictions with 21.80%, people not coming to Piasa as they did with 21.50%, economic & political situation of the country with 17.50%, people from the surrounding area are relocated with 14.90%, inflation with 11.60% , and remaining reasons are; mandatory working hours in the evening, advertisement and canopy restrictions with 12.90%

Even though business has decreased, 90.80% stated the City Administration has not provided them with any sort of support even until businesses sprout again. Some even indicated that despite having no support from the administration, penalties and stricter regulations are being imposed on them every time. For instance, businesses that failed to report monthly income statement at the specified date had to pay a penalty of 1000 birr but now it has reached 3,000birr. Thus, policies related with incentives such as tax breaks and loans would help those that had decreased sales volume to sustain business, 99.10% of the respondents agree to such incentives.

4.6.3 Architectural and urban planning policies related to the corridor development

The following sub section identifies architectural, urban planning, and landscaping aspects of the corridor development from the researcher's observations, discussions from the key informants in the same field of study as the topic and interviews with some walking customers.

4.6.3.1 Architectural and urban planning aspects

The development has reshaped the city in many ways starting from improved road infrastructure with reduced traffic congestion, enhanced environment with clean surroundings, improved accessibility with the introduction of bikeways, and favorable environment for walking. Despite the many advantages of the development some planning issue need due attention.

One of the planning principles proposed by OMAA, CDSWC, AACRA and AAPDC, in the section from Piassa to Beherawi is the preservation of the city's historical value by incorporating expansive compounds with defined boundaries to *minimize street activities*. Even though keeping the historic values of Piassa while ingerating new developments is ideal and crutial according to the researcher and some acadamicians in the field of architecture and urban planning, employing a minimized street activity in the area is a heavily mistaken move from planning ponit of view.

Piasa is well known for its vibrant activities like café's, restaurants, pubs and night clubs that usually make the strees lively inviting a large croud of people form different social groups. Once Piasa was a place where the poor and the rich coexist in mutual harmony with no racial and economic status discrimination hence the name 'Arada'. A vedio documentary³ made by Ethiopian Broadcasting Service (EBS) further reveals the social makeup and activities Piasa had.

It is clear and evident that the houses were densely populated and the roads were degraded due to their age and due to absence of organized maintenance. It sheltered people with poor living conditions having social problems. None the less it had rich history and urban character that needed an intervention with no doubt. The type of intervention to be implemented was a key answer to solving the many social ills while keeping its rich history and vibrant social structure. Thus interventions should focus on maximizing street activities than to minimizing it.

³ <https://youtu.be/2O1KI6vr7So?si=5mh92He2cNeI8VoR>

Moreover the proposal made by OMAA, CDSWC, AACRA and AAPDC suggested the following land use interventions; commercial land use 21%, high density mixed use 5%, Historic structure 0.95 % and road network 32.3 %, implying that emphasis is given to commercial units than mixed residential units indicating. Businesses faced a decline because of three main reasons; parking problems, people not coming to Piasa as they did and relocation of the people from the surrounding areas. The second and third problem would be solved by implementing inclusive mixed use projects than projects with full commercial services.

4.6.3.2 Landscape aspects of the corridor development

The development has created streets with bike ways, wide walk ways and greeneries. Such elements of road infrastructure are very crucial for the capital city but regarding landscaping, simple sitting arrangements along green areas with no shade wouldn't benefit a pedestrian in the sunny and rainy days because it won't protect people neither from harsh sun nor rain.

Small scale commercial units with modern design and sitting arrangements have to be thought of to provide shade to pedestrians and to keep the streets lively and vibrant because small scale commercial units like fast food shops, coffee and tea shops, tire pumping shops and the like tend to attract walking customers of varied economic status shown in **Figure 66**, at the right.



Figure 66: Walkways in indifferent areas of the corridor

Source- Own survey 2025, <https://images.app.goo.gl/9PQQqNmxTyCMe3Ea8>, and <https://images.app.goo.gl/Sn1s88mzyaGqocbM9>.

4.7 Socioeconomic relationship of the development around the study area

The socioeconomic impacts of the corridor development can be grouped into four categories related with business activity, as mentioned below;

4.7.1 Absence of affordable small scale businesses

This problem is mentioned by most employees working in offices and the commercial units. The absence of small businesses for instance affordable dining areas also known as ‘ye entat guada or mother’s kitchen’, grocery vending shops commonly known as ‘suks’, stationaries that gave copy and print services and like are expropriated. Moreover 109 (90.80%) of respondents strongly agree that the corridor development has led to the displacement of small businesses.

4.7.2 Reduced market competition

People tend to buy a product by comparing many parameters like for instance: price, originality, quality, and the like from different vendors. It can be said that the small scale businesses are the back bones of the large scale businesses located at the shopping malls. Absence of such small businesses, affects the bigger ones or the vice versa. Small businesses that used to provide aluminum and metal related accessories, located at the back of Banco Diroma building, and those rendering printing services, located around ‘doro manekia’, are expropriated. Absence of such businesses impacted those located in big buildings due to reduced market competition.



Figure 67: Reclaimed land behind Bbanko Diroma Building and road to Ras Mekonin Bridge

Source-<https://www.alamy.com/haile-selassie-street-piazza-addis-ababa-ethiopia-image66660735.html> and Own Survey 2025

4.7.3 Temporal dimension of the corridor development on businesses

Piasa used to be vibrant in the evening till 5-6pm in the evening in local time, due the presence of: night clubs, vast entertainment areas, retail shops, and butcher shops in Doro Manekia. Moreover, there were residences on the spot adding life to the surrounding. Temporally, the corridor development's negative influence on Piasa can be seen as early as 1:00pm in the evening. It slowly begins to turn into ghost town where a very limited number of people are seen using the streets shown in the images below taken between 12:45-1:30pm in the evening in local time.



Figure 68: Night view of the corridor development

Source- Own Survey 2025

4.7.4 Satisfaction level of respondents regarding the corridor development

According to the data obtained from the study the majority 51 (42.50%) of the respondents were satisfied with the project, 34 (28.3%) showed no signs of satisfaction or dissatisfaction and non-neglectable percentage 35 (29.10%) of respondents were dissatisfied with the project. The cross tabulation between the satisfied respondents and their reason reveals that 8 respondent are satisfied with the improved infrastructure, 39 respondents are satisfied with the clean and beautiful environment and finally the remaining 4 respondent mentioned the low crime rate and its importance for future generations.

The multiple response data obtained from the 34 dis-satisfied respondents reveals that; the major reasons for dissatisfaction among tenants is the negative effect of the development on business with 26.20%, design problems associated with parking with 20.40%, inadequate compensation problems with 19.40%, and the priority level of the project meaning, there are other nationwide matters that need prior attention and budget than the development with 17.50% responses. The remaining percentages are varied other responses. The government and the concerned bodies should deal with these problems in order to increase the satisfaction and acceptance level of the corridor development by citizens.

4.8 Future plans and intentions

Regarding future plans or intentions, 93 (77.50%) respondent did not plan to relocate their current location while 27 (22.50%) were planning to relocate to other locations. When plan of relocation is cross tabulated with distance from the corridor, it is found that as distance from the corridor increases relocation plan decreases showing an inversely proportion. From the 27 respondent who were planning to relocate 18 were located alongside the corridor.

Various reasons given for not planning to relocate were grouped as the following; the majority or 40 (43.00%) hoped business will improve in the future when started projects are completed, 19.4% replied they are doing good, 10.8%, mentioned adopting to other places is difficult, we are new with 9.7%, similar service giving shops are located here with 7.5%, we don't want to lose regular customers with 6.5% and the building administration is good with 3.2%. Meanwhile the 27 respondents who planned to relocate mentioned the decline of business and the increased rent amount as the major reasons for relocation.

Moreover, the study shows that the majority of the people 61 (50.80%) respondents agree that the long term benefits of the corridor outweigh the inconveniences, 35 (29.20%) respondents disagree because the inconveniences are far greater than its benefits and 24 (20.00%) of respondents chose to be neutral.

5. Conclusion

This research has primarily tried to analyze the relationship of the corridor development with commercial rent values by taking different distance parameters. Moreover, it has also studied its relationship with business activities by taking into account sales volume of commercial units by analyzing accessibility of the development due to the improved road infrastructure.

Most literatures related with this study have shown that an improved accessibility due to improved road infrastructure has appreciated rent and property values of the surrounding areas. This research has also shown that the improved road infrastructure due to the corridor development has resulted in an increase in rent amount of commercial properties implying a positive relationship. Moreover, 53.40% of the changes in rent amount could be attributed to the combined effect of the 12 predictor variables, while the remaining 46.60% of the variances are explained by other factors that are not covered in this research.

Regarding the corridor development and business activities, it has resulted in decreased sales volume to 67.50% commercial units covered in the survey in varied degree. Thus commercial units located along Churchill Road above Tewodras Square to Piasa Mall are heavily affected, those located around Taitu Hotel are affected in a lesser degree and those located in around Mebrat Hail Building are showing signs of recovery with maximum rent amount in the survey, 12000 birr per square meters being registered in this area implying high demand for rent of a commercial property around this area.

The development has led to the displacement of small scale businesses and the closure of most entertainment areas resulting in lust for people in contrast to the historical makeup of Piasa. The closure of Arada Building, the complete expropriation of Doro Manekia and the demolition of gold shops from Cinema Ampère to Ras Mekonin Bridge have resulted in decreased number of people visiting Piasa for pleasure and business leading to less market competition.

Most respondents believe the long term benefits of the corridor development outweigh the inconveniences it has caused. Hence, the responses imply that people support such developments but design, implementation and policy related problems concerning parking, relocation, compensation, and importance of the project at the current state of the country have raised serious concerns decreasing the acceptance level of the project.

Annex II: Survey questioner

Dear respondents, you are kindly requested to give an honest response for the following questions, which will be used for the fulfillment of MA degree in Urban Land and Property Valuation at EiABC, Addis Ababa University. The title for this study is ‘Urban Corridor Development and Commercial Property Rental Values; in the case of Urban Development Corridor in Addis Ababa, Ethiopia’. The information you supply will be used for academic purposes only. Thank you in advance for your kind cooperation.

Part I: General Information

1. Sex: Male ☐ Female ☐
2. Age: A. Below 18 ☐ B. 18-30 ☐ C. 31-35 ☐ D. 46-65 ☐ E. above 65 ☐
3. Educational Level:
A. Read and write ☐ B. Primary (Grade 1-8) ☐ C. Secondary (Grade 9-12) ☐
D. Certificate/Diploma ☐ E. Degree and above ☐ F. No formal education ☐
4. For how long have you rented the commercial unit in months? _____

Part II: Issues related to the topic of the research

5. At what distance from the corridor development is your commercial unit located?
A. Alongside the corridor ☐ B. 0.25- 0.50 km ☐ C. 0.56-0.75km ☐
D. 76km-1.00km ☐ E. 1.01-1.25km ☐ F. 1.26-1.50km ☐ G. 1.51-1.75km ☐
6. What type of commercial property do you rent?
A. Retail shop ☐ B. Office space ☐ C. Café/restaurant ☐
D. Warehouse ☐ E. If Other (Specify) _____
7. At which floor level is your commercial unit located?
A. Ground Floor ☐ B. 1st Floor - 2nd Floor ☐ C. 3rd Floor - 4th Floor ☐
D. 5th Floor - 6th Floor ☐ E. Above 6th Floor ☐
8. What is the age of the building your commercial unit located at measured in years? _____
9. What is the floor area of your rented commercial unit in m²? _____
10. What is the current monthly rent amount of your commercial unit in birr? _____
11. Have you experienced an increase in rental prices due to the corridor development?
No ☐ Yes ☐
12. If your answer to the above question is yes, by how much? _____

13. What influence has the corridor development brought up on your business?

Negative ☐

None ☐

Positive ☐

14. If your answer to question 13 is negative, what are the negative impacts of the corridor development on your business? _____

15. If your answer to question 13 is positive, what are the positive impacts of the corridor development on your business? _____

16. What is the building material used for the walls of you commercial unit?

A. LTZ with metal sheet ☐

B. Hallow Concrete Block (HCB) ☐

What service facilities does the commercial unit you rented have, from the check points below?

No.	Service facilities	No	Yes
17.	Clean and usable toilet		
18.	Sufficient on-site and basement parking		

What neighborhood characteristics does the commercial unit you rented have, from the listed check points below?

No.	Neighborhood characteristics	No	Yes
19.	Improved road infrastructure.		
20.	Availability of on street parking along the accesses road.		

21. What is the crime rate of your compound?

A. Very high ☐ B. High ☐ C. Average ☐ D. Low ☐ E. Very low ☐

22. How do you measure your sales volume after the corridor development compared to your sales volume before the corridor development?

A. Decreased very well ☐ B. Decreased moderately ☐ C. The same as before ☐
D. Increased moderately ☐ E. Increased very well ☐

23. If your answer to the above question is decreased, on average by how much is it decreased measured in birr per month? _____

24. If your answer to question 25 is decreased, what reason do you attribute the change in volume to? (Select the ones that apply to you)

- ☐ A. The corridor development design has short comings (e.g. parking in my area is restricted)
☐ B. People from the surrounding area are relocated
☐ C. People don't come to Piasa like they use to before because most shops, entertainment areas and historic place are expropriated.
☐ D. Economic & political situation of the country
☐ E. Inflation
F. If other (Specify) _____

25. If your answer to question 25 is increased, on average by how much is it increased measured in birr per month? _____

26. If your answer to question 25 is increased, what reason do you attribute the change in volume to? (Select the ones that apply to you)

- ☐ A. Improved road and transport networks
- ☐ B. Increased foot traffic and business activity
- ☐ C. Better infrastructure (e.g., parking, utilities, drainage and lighting)
- ☐ D. Government regulations and policies
- ☐ E. If other (Specify) _____

27. After the corridor development is completed, How do you measure the occupancy level of rental commercial units within the same floor as yours?

A. Decreased ☐ B. Stayed the same ☐ C. Increased ☐

28. If your answer to question 27 is decreased, specify number of cases? _____

29. If your answer to question 27 is increased, specify number of cases? _____

30. Do you support the rental price increment restriction policy set by the City Administration
No ☐ Yes ☐

31. If your answer is to question 30 is no, what is your reason?

32. If your answer is to question 30 is yes, what is your reason?

33. What is your satisfaction level regarding the corridor development project?

A. Highly dissatisfied ☐ B. Dissatisfied ☐ C. Neutral ☐
D. Satisfied ☐ E. Highly satisfied ☐

34. If your answer to the question 33 is highly dissatisfied or dissatisfied with the project, what are your reasons form the listed check points below? (Select the ones that apply to you)

A. My business is negatively affected ☐ B. The road in my area is already accessible ☐
C. Affected people are not properly compensated ☐ D. The design has short comings ☐
E. There are other nationwide matters that need prior attention and budget than the development. ☐
F. If other (Specify) _____

35. If your answer to question 33 is satisfied or highly satisfied, what are your reasons?

36. If your answer to question 33 is highly dissatisfied or dissatisfied, what changes do you propose to the design? _____

37. Do you wish to relocate your business to other places? No ☐ Yes ☐

38. If your answer to the above question is no why? _____

39. If your answer to question 37 is yes why? _____

Part III: Assessment of project performance and perception level of the development.

No	Latent Variables	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I	Relationship with commercial property value					
1.	The urban corridor development has significantly increased property values in my area.					
2.	The demand for commercial rental properties has risen due to corridor development.					
3.	The urban corridor project has led to unfair increases in commercial rent prices.					
4.	The benefits of increased property values outweigh the rising costs of rent and property taxes.					
5.	The urban corridor development has attracted more investors to commercial real estate in this area.					
II	Business and economic activity					
6.	More business coming to this area after corridor development.					
7.	The urban corridor development has positively impacted my business revenue.					
8.	The number of customers visiting commercial properties has increased due to the corridor development.					
9.	The economic benefits of the urban corridor are fairly distributed among property owners and businesses.					
10.	The development has contributed to economic opportunities in the area like new job opportunities and vast market condition.					
11.	The corridor development has led to the displacement of small businesses.					
III	Infrastructures and accessibility					
12.	The improvements in roads and transport systems have enhanced commercial activities in my area.					
13.	Public transportation improvements have made it easier for customers to access my business.					

14.	The urban corridor development has led to better infrastructure? Like improved road network, better street lighting, ample green space and the like.					
15.	There is enough parking space to accommodate the increased parking requirement for commercial activity along the corridor.					
16.	The pedestrian-friendly infrastructure has improved accessibility and foot traffic for businesses.					
IV	Government policies and regulation					
17.	The government has provided adequate support for commercial property owners and tenants along the corridor.					
18.	The government has provided adequate compensation to expropriated bodies.					
19.	Policies regulating rental prices are necessary to prevent excessive rent increases due to corridor development.					
20.	Government incentives (e.g., tax breaks, loans) would encourage further investments in commercial properties.					
21.	The urban corridor development was well-planned, considering economic growth.					
22.	The urban corridor development was well-planned, considering social equity.					
23.	The City Administration should introduce stricter regulations to control speculative increases in commercial property prices.					
VI	Future intention/perception					
24.	I am interested in expanding my business within the urban corridor.					
25.	I would consider purchasing or renting another commercial property along the corridor if the opportunity arises.					
26.	The long-term benefits of the urban corridor project outweigh any temporary inconveniences.					
27.	More commercial property developments should be encouraged along the urban corridor.					
28.	The urban corridor development has made this area a more attractive location for business investment.					

29.	The urban corridor development has made this area more secured.					
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Annex III: KII checklist

Job position	Field of study	Number
Academician	Architecture and urban planning	2
Senior Architect	Architecture and urban planning	1
Urban Planner	Architecture and urban planning	1
Brokers	Varied	3
Property managers	Varied	8
Street user		
Pedestrians	Varied	5
Total		20

A. For architects and urban planners

1. What is your view about the corridor development?
2. What do you think about the design and implementation strategies of the development?
3. How do you evaluate land use and policy changes associated with the corridor development?
4. What are the negative impacts of the corridor development?
5. What are the positive impacts of the corridor development to the capital city and the country?
6. What changes do you propose to the design of the corridor development?
7. What sort of redevelopment approaches do you propose to alleviate social and economic problems associated with urbanization in Addis Ababa?
8. How do you measure your satisfaction level regarding the corridor development project?

B. For brokers

1. What is your view about the corridor development?
2. How do you measure the property values in your compound before and after the corridor development?
3. How do you measure rent price of commercial unites in your compound before and after the corridor development?
4. What negative impacts has the corridor development brought upon the property market?
5. What positive impacts has the corridor development brought upon the property market?
6. How do you measure the business activity in your area after the corridor development?
7. What is your satisfaction level regarding the corridor development project?

C. For property managers

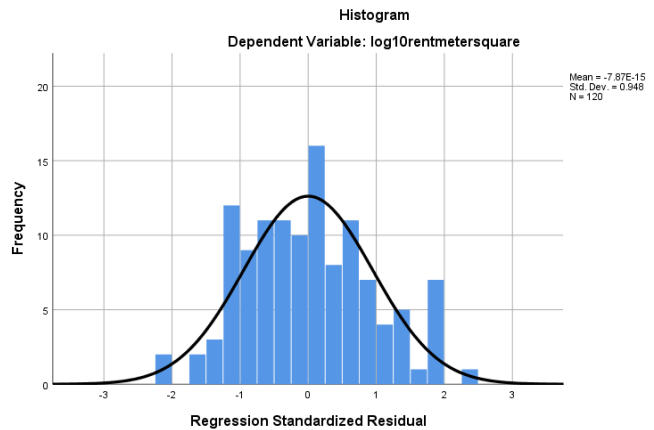
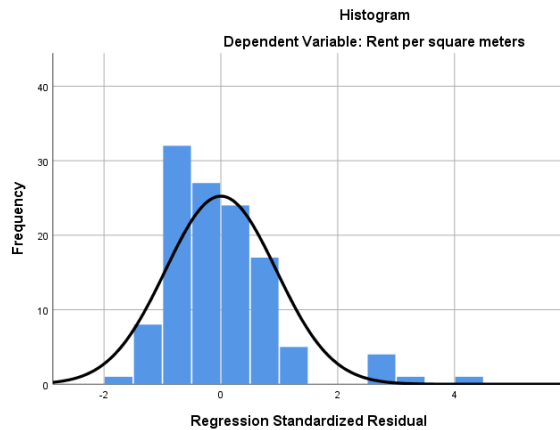
1. What is the age of the building measured in years?
2. Do you think the property value of the building is increased after the corridor development due to the improved road infrastructure?
3. What negative impacts has the corridor development brought upon the property?
4. What advantages has the corridor development induced to the property?
5. How do you measure the occupancy level of the building after the corridor development, compared to occupancy level prior to the development?
6. What is the current rent amount per meter square for tenants at different floor levels?
7. Have you increased rent price per meter square after the completion of the corridor development?
8. How do you measure accessibility to the property after the corridor development?
9. Is there on-street parking available in your compound?
10. Do more people customers visit the building after the development?
11. What is your satisfaction level regarding the corridor development project?
12. What changes do you propose to the design of the corridor development?

D. For pedestrians

1. What is your view about the corridor development?
2. What do you think about the design of the corridor development?
3. Do you think the road infrastructure is improved after the corridor development?
4. Is the road comfortable for pedestrian movement?
5. Do you feel safe while walking at night?
6. Can you easily satisfy your refreshment desires like for instance affordable fast foods and coffee and tea services while using the street?
7. How do you measure the suitability of the newly located public transport transit stations?
8. At what time of the day do you usually use the street?
9. What is your view towards the green spaces provided by the development?
10. Can you easily access shaded sitting areas along the corridor development?
11. What changes do you propose to the design of the corridor development?
12. What is your satisfaction level regarding the corridor development project?

Annex IV: Statistical results

A. Normality histogram before and after log transformation



B. Anova table

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.779	12	.482	12.351	.000 ^b
	Residual	4.172	107	.039		
	Total	9.950	119			
a. Dependent Variable: log10rentmetersquare						
b. Predictors: (Constant), Occupancy level , Improved road infrastructure , Type of service, Availability on-site and or basement parking, Availability of toilet , Sales volume after the corridor development , Floor area , Crime rate, Building material , Floor level , Availability street parking, Distance from corridor development						