International Journal of
Law, Politics and Governance
ISSN: Applied | https://www.ioro.org/ijlpg

Urban Transportation Governance, Accessibility, and Spatial Economic Development: A systematic Review of Spillover Effects in Secondary Cities of Ethiopia

Gizachew Ayele

PhD, candidate, Department of Geography & Environmental Studies, Addis Ababa University College of Social Sciences, Arts, and Humanities

ABSTRACT

This paper examines the relationships between urban transport governance, accessibility and spatial economic development in Ethiopia with a focus on spillover effects in secondary cities. It grounded in spatial economic theory and accessibility frameworks, the paper integrates empirical evidence from Ethiopian cities and comparable developing country contexts. Using qualitative analytical approach based on a total of approximately 40 theoretical and empirical studies were systematically reviewed, together with key policy reports and institutional publications, the study finds that transport investments generate significant positive spillover such as market integration, labor mobility, and productivity achievements ,but these effects are uneven due to centralized governance , weak institutional coordination and infrastructure disparities. The study conclude that while, effective urban transportation governance and transportation accessibility have a major impact on spatial economic development, regional disparities in Ethiopia still caused by poor institutional coordination and unequal accessibility. To promote balanced sustainable regional growth, authorities should enhance institutional coordination, strength investment in secondary cities, and expand integrated accessibility based transportation planning. By connecting theory with empirical observations and recommending policy paths for attaining balanced regional development, the work adds to the body of literature.

Keywords: secondary cities, urban transport governance, accessibility, spatial economics, spillover effects

1. Introduction

Urban transportation systems are becoming more widely recognized as important services behind spatial economic growth spatially in nations that are quickly urbanizing. Secondary cities are becoming crucial hubs in Ethiopia national urban system as a result of the country's rapid urbanization. However, inadequate accessibility and economic performance have been caused by differences in transportation infrastructure and governance (World Bank, 2020; UN-Habitat, 2016 &OECD, 2019). The idea of governance itself suggests that governments are no longer in complete control rather than "Authorities continue to perform tasks, but they do considerably more in conversation with other people" explained by Mr.Balkenende the prime minster of the Netherlands(2011). According to Havekes et al. (2016), the shift of authority and power by international corporations, religious organizations, non-governmental organization, new economic and other stakeholders could all be classified as others. Government was discovered that the state's transmissions were aimed at de-concentration, decentralization, devolution , Europeanization , and globalization as examples of both lower and higher levels of jurisdiction and also markets that including contracting out, self-styled markets, public-

private partnerships and privatizations, participation in civil society, networks and self-governance (Davas, 2004, p27 and UNH, 2009b, p75).

Secondary cities are frequently ranked low national priorities of central governments and because their capacity to complete for resources is far weaker than that of major cities , the provision and management of urban infrastructure and services is sometimes extremely subpar and occasionally nonexistent while, it have historically gotten little policy attention(UN-Habitat, 1991; Tacoli, 2008). They are an important but little studied part of the global urban system in this setting. More than 4000 cities with population ranging, approximately 2400 of them are classified as minor cities which have populations under 750000 that are specially important and found in developing regions such as Africa and Asia(Angel, Parent, Civco, &Blei, 2012; World bank, 2009 & Roberts, 2014). Secondary cities are becoming significant hubs of economic activity that support local economic growth, commerce and investment that taking on quasi-governance responsibilities often associated with nation states but it still face issues including traffic , inadequate infrastructure , ineffective governance, and spatial inequality that are common to major metropolitan areas(Henderson, 2010; OECD,2012 &Roberts, 2014).

Ethiopia is the country that has fast urbanization that faced governance to enact legislative frameworks; urban development package and the urban good governance's package to improve connectivity and promote economic growth, these programs give priority to investments in urban infrastructure, particularly transportation networks(Ministry of Urban Development Construction (MUDC), 2013)). According to world bank (2015), mirror cities advantage are still unclear and also regional growth is nonetheless hampered by enduring issues such as poor transportation governance, a lack of institutional capacity, and ineffective service delivery. Secondary cities necessitates efficient governance, accountability and fair resource distribution to infrastructure investment, solving urban poverty and fostering inclusive growth (Emily.S, and Mekamu,K.(2009).

Infrastructure –led development strategies have historically been predicated on the idea that spending on transportation infrastructure will always lead to economic expansion. However, recent theoretical and empirical study has challenged this linear perspective more and more that including accessibility, governance quality and spatial interactions moderate the relationship between transport infrastructure and development Outcome (Banister&Berechman, 2001; vickerman, 2018; Gibbons, Lyytikainen, overn&Sanchis Guarner, 2019).

In light of this the paper makes the case that accessibility is largely shaped by transportation governance, which has a domino impact on spatial economic development. The study aim to fills a significant gap in the literature, and advance a more sophisticated knowledge of the dynamics of urban and regional development in emerging nations by concentrating on secondary cities. Specifically , it investigate how urban transport governance affects accessibility, examine how accessibility affects spatial economic development, evaluate the type and degree of spillover effects among secondary cities, and offer policy recommendations to support more equitable, inclusive and sustainable urban and regional development.

2. Theoretical Framework and empirical evidences

2.1. Transport governance, accessibility, and spatial inequality

There is strong evidence in the theoretical and empirical literature on accessibility, urban transportation, and spatial economic development showing transportation investments have a major impact on regional growth patterns.

The new economic geography (NEG), which offers a strong analytical lens for comprehending the spatial distribution of economic activity and regional development dynamics, serves as the foundation for this study. It describes how transportation costs, agglomeration economies, and growing returns to scale combine to affect the concentration of economic activity in particular areas. Infrastructure expenditures, especially, in transportation, can disproportionately boost the economic advantage of existing strong urban centers and regional disparities may worsen in peripheral and secondary regions due to weak, even negative spillover effects (Krugman, 1991; Fujita,Krugman &Venables, 1999).

The NEG framework also emphasizes the importance of resource efficient and intelligent urban systems, where long term economic sustainability is facilitated by institutional capacity, technology innovation, and efficient governance (World Bank, 2009; Lindfield &Steinberg, 2012). According to Brian H. Roberts (2014), secondary cities face two crucial challenges that need to support endogenous growth models that bolster domestic markets and increase local consumption capacities and relocation and restructuring of production systems toward developing regions within the global economy. By adding the idea of transportation governance and accessibility as important mediating variables and governance quality is crucial in determining how infrastructure translates into development outcomes, whereas classical NEG stresses geographical concentration driven by market factors and transportation cost and transportations networks affect spatial economic growth is through accessibility, which characterized as the ease of accessing markets , services an economic opportunities (Banister&Berchman,2001;Geurs & Van Wee,2004;Vickerman, 2018)

Therefore institutional efficacy and geographical interconnections determine the relationship between transportation infrastructure and economic growth, which is neither automatic nor consistent. This integrated viewpoint shows, Ethiopians secondary cities frequently have poor infrastructure, poor government, and little economic dynamism. By the expectations EG, the capitals concentration of economic activity and investment has strengthened spatial inequality, whereas secondary cities find in difficult to benefit from beneficial spillover effects and this emphasizes the need for a more sophisticated policy approach that not only increases infrastructure but also strengthens governance and improves accessibility that supports balanced regional development. Placing this relationship within the large NEG paradigm, conclude that theoretical framework asserts that accessibility is influenced by transportation governance, which in turn affects the results of spatial economic growth through foundations for examining spillover effects and regional disparities in secondary cities.

There is strong evidence in the empirical literature on accessibility, urban transportation, spatial economic development showing transportation, and investments have a major impact on regional growth patterns. However, governance quality, accessibility condition, and spatial interdependencies all have a significant impact on the size and dispersion of these effects.

2.2. Urban Transport and Economic Development

In urban and regional economics, has long been a major focus on the connection between transportation infrastructure and economic growth**.** Neoclassical development theory views, infrastructure as a type of capital that supports output development from a macroeconomic standpoint and Endogenous Growth Theory highlights how infrastructure investment can boost long term economic growth productivity, and innovation through knowledge spillovers and higher returns (Solow, 1986; Romer,1986). As whole thes theories offer a fundamental understanding of how transportation infrastructure affects economic performance and capital accumulation.

Infrastructure –led development theory emphasizes the catalytic function of transportation systems in promoting regional development, building on these macroeconomic viewpoint and investing in infrastructure boosts economic activity by lowering transaction costs, increasing accessibility, and facilitating trade and market integration but transportation investments may result in uneven development results with secondary and peripheral cities suffering negative spillover effects(Aschauer,1989;Fujita, Krugman,and Venables,1999). These theoretical idea are supported by empirical data that shows how investments in transportation can improve labor mobility, promote trade and boost productivity and complimenting the elements including institutional quality, governance efficacy, and policy coordination are crucial for the economic effects of transport infrastructure(Banister and Berechman, 2001;Gibbons et al.,2019).

The context –specify of the relationship between transportation and development is further highlighted by recent contributions and emphasizes how Geographic structure and governance dynamics influence the effects of transportation investment, transportation networks, and spatial economic process combine to produce development results, infrastructure alone is not enough to produce long-term economic growth (Roger Vickerman, 2018; Yin et al., 2024; world bank, 2024). This integrated approach offers solid basis for examining urban transportation steams and how they influence spatial economic growth, specially, in secondary cities where regional disparities and governance limitations are more noticeable and conclude that, the theoretical and empirical study shows transportation infrastructure is a vital force behind economic growth, a complex interaction of institutional, spatial and economic elements determines how effective it is.

2.3. The mediating role of accessibility

Accessibility is described as the ease with which people and businesses may access opportunities, services and markets. It is often acknowledged that accessibility plays a crucial role in the relationship between transportation systems and socioeconomic results (Walter G.Hansen(1959). Accessibility focuses on functional outcomes, especially how well transportation systems link individuals to social economic possibilities, in contrast to traditional infrastructure based methods that prioritize physical provision. it also a crucial mediating factor in Ethiopia's secondary cities, because of this cities frequently deal with structural issues like inadequate transportation infrastructure, poor connection , and institutional limitations. Improvements in accessibility boosts social inclusion and economic success, influencing company productivity and location decisions, and improving access to necessary services, and promotes labor market efficiency(Pojani and Stead,2015; world bank, 2020).

The Spatial Interaction Model (SIM), which describes flows between locations based on distance, cost and appeal, as well as the Gravity Model (GM) which postulates that an interaction rises with destination size. Also Land use- Transport Interaction Model(LUTIM) emphasizes feedback loops between transportation systems and spatial development by integrating accessibility with land use patterns in urban studies and Time Geography emphasizes how personal limitations like time , nobility and everyday activity patterns influence accessibility . When combined, these frameworks offer a thorough foundation for quantifying and comprehending accessibility dynamics (Hansen, 1959; Haestrand, 1970; Wilson, 1971 &Wegener, 2004).

Improvements in accessibility are rarely shared equally, through major cities that gain disproportionally from infrastructure expenditures in many developing nations, including Ethiopia, whereas minor communities get only modest increases in accessibility. Secondary cities also limiting ability to draw in investment and spur economic growth, this unequal allocation perpetuates geographical inequality and these differences demonstrates how crucial governance is in determining accessibility results. Significantly, accessibility serves as the primary transmission mechanism that connects spatial economic development with transportation

infrastructure and it boost economic prospects, promotes regional integration and increase productivity (Hansen, 1959; Sub-Saharan Africa Transport Policy program, 2018; World Bank, 2020)

Accessibility theory offers an essential analytical link between economic results and transportation systems and it emphasizes that infrastructure expenditure by themselves are insufficient in the context of Ethiopia's secondary cities rather their efficacy rests on their capacity to increase accessibility in a fair and effective way.

2.4. Institutional Dynamics and Transportation Governance

Infrastructure investment planning, execution and administration are heavily influenced by transportation governance, especially in fast urbanizing environments. Transportation governance in Ethiopia's secondary cities is marked by a number of institutional difficulties. Institutional performance is shaped by formal regulation, informal norms, and enforcement mechanisms and new institutional economics emphasizes the significance of institutional arrangements, property rights, and transaction costs in influencing the effectiveness of public service delivery, including transportation systems (Williamson, 1985; North, 1990; Devas, 2004; Devas et al., 2014; Brown, 2015).

Governance Theory emphasizes the significance of coordination, accountability and multi-level interaction among stakeholders involved in the creation and execution of policies from the standpoint of the public sector and Principal –Agent Theory describes how inefficiencies in service delivery can result from knowledge asymmetries and mismatched incentives between governments, regulators, and serves providers. This combined these frameworks, to know how institutional quality affects transportation governance and policy results (Rhodes, 1996; Jensen &Meckling, 1976).

According to World Bank (2020), the significance of governance in influencing the functioning of the transportation systems is further supported by empirical data that effective transportation planning and implementation inn Ethiopia has been shown to be significantly hampered by centralized governance structure and dispersed institutional arrangements.

Ethiopia secondary cities often have poor transportation system integration, inadequate service coverage, and inefficient infrastructure provision. Additionally, recent studies shows that the quality of governance has a crucial role in determining the results of transportation by coordination, resource distribution, and equal access to infrastructure and services are all improved by effective governance (World Bank, 2024).

Understanding institutional dynamics is essential to comprehending secondary city transportation system, because the success of infrastructure investments depends on the ability of governance systems that direct their development and management, according to theoretical and practical conclusion. To ensure that transportation networks in Ethiopia efficiently contribute to accessibility and spatial economic growth. It is authoritative to expand institutional capacity, improve coordination, and accountability.

According to empirical studies, local administrations lack financial independence, planning is spread throughout multiple industries, the capacity for execution is not uniform, and these governance issues make transportation investments less successful.

2.5. Spatial interdependencies and spillover effects

Investments in transportation have an impact that transcends their local geographic bounds, creating a variety of spillover effects that influence regional development. The development I include economic spillovers (increased trade and investment), network spillovers (enhanced system efficiency and connectedness), and spatial spillover (redistribution of economic activity across regions). Endogenous Growth Theory (EGT) emphasizes the role that knowledge spillovers play in promoting long term economic

growth through the development of human capital an innovations (Lucas, 1988; Romer, 1986; Vickerman, 2018).

Spatial econometrics offers a methodological framework for recording interactions across geographic units in order to properly study these spatial interdependencies. In addition, network effects describe how agent interactions magnify spillover effects, especially in networked systems like transportation networks. When combined, these frameworks offer strong instruments for recognizing, simulating and quantifying spillover processes in regional economies (Katz&Shapiro, 1985; Anselin, 1988).

Spillover effects, however, are rarely dispersed throughout space where the core regions typically reap a disproportionate share of the advantages, while periphery and secondary cities have fewer gains in line with the New Economic Geography projections (Krugman, 1991; Vickerman, 2018). This unequal distribution emphasizes how important accessibility and governance are in moderating spillover consequences and deciding whether benefits are concentrated. These dynamics are especially noticeable in the Ethiopian context and many secondary cities continue to be poorly connected into regional and national a economic system which limits their potential for growth (world bank, 2020).

Furthermore, a number of important variables, such as institutional capability, governance quality, and regional connectedness, influence the extent and direction of spillover effects that can support balanced regional growth in areas with well integrated transportation networks and efficient governing structures. Significance of coordinated policy approaches is further reinforced by recent results from climate-Resilient Green Economy Studies, which show how spatial spillovers interact with more comprehensive development plans (Furo, 2016).

Comprehending the wider implications of transportation investments requires an awareness of spatial interdependencies and spillover effects. These consequences are influenced by inadequate accessibility, unequal infrastructure distribution, and governance limitations in Ethiopian secondary cities. Therefore, to guarantee that spillover effects contribute to more equitable and inclusive regional development, an integrated strategy that boosts accessibility, institutional capacity, and connection is crucial. The cause of poor governance, ineffective resource distribution, and inadequate regional integration decreased efficiency of spillover.

2.6. Secondary cities and spatial inequality

The significance of secondary cities within national and regional urban systems in becoming more widely acknowledged and these cities serve as vital intermediaries by connecting rural areas with large metropolitan centers and promoting regional economic integration(world bank, 2009&2024). According to Brian H. Roberts (2020), secondary cities capacity to compete with bigger urban centers is hampered by inadequate policy attention and resource allocation, which limits their contribution to the growth of the national economy.

According to New Economic Geography(Krugman,1991) and Growth Pole theory(Perroux, 1950), economic activity tends to concentrate in core areas, frequently at the expense of smaller, less linked cities, which aggravates spatial in equality and secondary cities might not immediately profit from the in the absence of solid connections and encouraging laws.

Furthermore, Urban System theory highlights the significance of secondary cities in balancing development and lessening regional inequalities by emphasizing the functional links between cities of various sizes within a national system (Berry, 1964). In addition Indigenous Growth Theory emphasizes the significance of human capital, innovation, and localized spillover effects in promoting sustained economic growth in urban areas

(Romer, 1986). Together, these theoretical stances imply that, given favorable circumstances, secondary cities can serve as catalysts for regional integration, economic diversification, and spatial equity. The benefits of infrastructure development remain uneven and spatially concentrated in the absence of efficient governance frameworks, coordinated planning, and focused policy interventions (Sub-Saharan Africa Transport Policy Program, 2018; World Bank, 2024).

Secondary cities play a critical role in easing regional disparities and influencing spatial economic development. Although theoretical frameworks emphasizes their potential to encourage balanced growth, empirical data shows that structural, institutional, and spatial variables frequently limit this potential for more secondary cities in Ethiopia to more successfully contribute to the reduction of spatial inequality and the promotion of inclusive development, accessibility, governance, and integrated urban systems must be strengthened.

According to empirical data secondary cities like hawassa, bahir dar, dire dawa in Ethiopia provide poor connectivity, and restricted accessibility hinder their economic performance and lessen their capacity to profit from national transportation investments(SSATP, 2018). Cities cannot resolve these things alone, national government need to lead by guiding the development of cities, developing urban mobility policies, improving the implementation frameworks, and mobilizing finance.

2.7. Synthesis and Research Gap

The existing literature demonstrates strong theoretical and empirical connection between transportation infrastructure accessibility, and economic development is established by the corpus of current learning. The New Economic Geography's foundational perspectives emphasize how agglomeration dynamics and market accessibility are two ways that transport systems influence spatial economic structures (Krugman, 1991). Additionally, complementary lines of study show that increased accessibility promotes regional integration, labor mobility, and productivity, all of which support economic growth (Geurs&Van Wee, 2004; Pojani&Stead, 2015). Simultaneously, there is mounting evidence from spatial econometric studies showing transportation investments have spillover effects across regions, impacting development outside of their immediate localities (Anselin, 1988; Vikerman, 2018).

There are still a number of important gaps in the literature despite these developments. First, a significant amount of current research takes an infrastructure centric method, undervaluing the importance of governance and concentrating mostly on the physical provision of transportation systems. However, new investigation indicates that governance structures, policy coordination, and institutional quality are critical to the success of transportation investments (Banister &Berechman, 2001; Vickerman, 2018). This suggests that more governance-oriented assessments are required in place of more conventional infrastructure- led methods.

Secondly, despite the fact that accessibility is widely acknowledged as a key idea connecting transportation system to socioeconomic results, its function as a mediating variable has not received enough attention. Instead than looking accessibility as an intermediary mechanism through which governance promote spatial economic growth, a large portion of the literature views in t as a result of infrastructure provision. A detailed understanding of how transportation systems translate into development results is hampered by this conceptual gap, especially in complicated urban areas.

Third, empirical studies looking at spatial spillover effects in secondary cities are clearly lacking , particularly in developing nations. Despite their increasing significance in national urban systems, secondary cities have not received enough attention in previous research, which has mostly concentrated on large metropolitan areas.

This disparity is especially noticeable in Ethiopia, where Addis Ababa, the primate city, dominates the country's highly uneven urban growth. Although secondary cities frequently have poor institutional capacity, restricted accessibility, and limited economic performance, there is still a dearth of empirical data about their spatial interdependencies and spillover dynamics.

This study creates an integrated analytical framework that incorporates knowledge from NEG, accessibility theory, and spatial spillover analysis in order to close these gaps. In particular, the study views transportation governance as a crucial factor that determines accessibility, which in turn has a direct and indirect impact on spatial economic development through spillover effects. It advances a more sophisticated knowledge of regional development dynamics in rapidly urbanizing situations by concentrating on Ethiopia's secondary cities. Additionally, it offers empirical and policy relevant insights into how accessibility and governance can be used to support more equitable, inclusive, and spatially connected urban development.

Table 1, Summary of gaps

Gap Area	Description	Evidence
Governance integration	Limited focus governance in transport studies	Banister&Berechman(2001)
Accessibility role	Often treated as secondary variable	Geurs&van Wee(2004)
Secondary cities	Understudied compared to major cities	Roberts(2014)
Developing countries	Bias toward developed regions	World bank(2020)
Spillover effects	Limited empirical quantification	Anselin(1988)

2.8. Conceptual Framework

A conceptual framework that clarifies the connection between urban transport governance, accessibility, spatial economic development, and spillover effects in Ethiopia's secondary cities serves as the basis for investigation. A cohesive foundation for empirical analysis is provided by a conceptual framework, which offers an organized method of classifying important variables and elucidating their relationships (Creswell &Creswell, 2018).

Urban transport governance such as institutional coordination, policy creation, regulatory processes, and infrastructure investment choices, which are main factor impacting the effectiveness of transportation systems. Batter governance reduces travel time, lowers transportation costs, and improves connectivity between areas, all of which contribute to grater accessibility. Accessibility is a crucial factor in determining development outcomes since it indicates how easily peoples and businesses may access markets, services, and economic opportunities (Litman, 2021 & Rodrigue, 2020).

Economic gains may spread throughout nearby peri-urban and regional areas as aresult of these spatial spillovers, which are well known in regional science. It design governance of urban transportation — Accessibility —Spatial Economic Development— Spillover Effects (Anselin, 1988).

Table 2, Results from conceptual framework

Variables	Influences	Outcome
Transport governance	Accessibility	Improved mobility
Accessibility	Economic development	Productivity growth
Economic development	Spillover effects	Regional integration
Spillover effects	Secondary cities	Uneven benefits

3. Methodology

This study adopted a systematic literature review approach to examine the relationships between urban transport governance, accessibility, and spatial economic development, with a focus on spillover effects in secondary cities in Ethiopia. A review based methodology is appropriate for synthesizing existing theoretical and empirical evidence and identifying research gaps (Creswell, 2018)

3.1. Research Design

The study employed a qualitative review design, focusing on the analysis and synthesis of published and unpublished literatures related to urban transport systems, governance, accessibility, and spatial economic development. This approach allows for comprehensive understanding of concepts, frameworks, and empirical findings across different contexts (Snyder, 2019).

3.2. Data Sources

Data was gathered from secondary sources, such as Journal publications that have undergone peer review, academic publications and books, reports from global institutions including the United Nations and World Bank, Ethiopian government policy documents and reports on urban development. These sources provided local and international viewpoints on urban growth and transportation governance.

3.3. Search Methodology and Selection Standards

Following Preferred Reporting Items for Systematic Reviews and Meta- Analysis (PRISMA) guidelines and principles, a systematic search was conducted using keywords such as urban transport governance, accessibility, spillover effects , and Ethiopians secondary cities that written in English language. .

3.4. Method of Data Analysis

Thematic analysis, which entails locating, categorizing, and interpreting important themes and patterns across research, was used to examine the gathered literature (Braun&Clarke, 2006). The study analysis concentrated on institutional systems, and governance frameworks, measures and indicators of accessibility, connections between economic development and transportation networks, proof of the impacts of spillover were analyzed and combined.

3.5. Validity and Reliability

Throughout the review process, consistent inclusion criteria, and methodology analysis techniques were used (Snyder, 2019). The study examined several sources (triangulation) and concentrated on reputable, peer-reviewed publications to ensure validity and trustworthiness.

Table 3, Critical Evaluation of Study Literature

Method types	No. of studies	Evidence	Strengths	Weakness
Theoretical	~15	Krugman(1991), Fujita et al., (1999)	Strong conceptual foundation	Limited empirical validation
Empirical quantitative	~12	Gibbons et al.,(2019), Yin et al.,(2014)	Statistical rigor	Context specific
Qualitative	~8	Roberts(2014),world bank(2020)	Contextual insight	Limited generalizability
Review studies	~5	Vickerman(2018),Geurs&van Wee(2004)	Synthesis of knowledge	Lack new data

Table 4, Classification of Citation

Classification of citation	Count(approx.)
Journal articles (published)	~23
Books of academic volumes	~12
Institutional reports(published)	~11
Policy or government documents	~2
Unpublished or working papers	~2

4. Results and Analysis

4.1. Inequitable Distribution of Infrastructure

The empirical reviews results show that investments in Ethiopia's transportation infrastructure are mostly focused in the country's largest city. Since, secondary cities ability to integrate into regional and national economic systems is hampered by this concentration.

4.2. Limitations on governance

Transportation systems are less successful due to institutional defects like centralized decision-making and disjointed governance structures. These limitations restrict the impact of investments and slow down coordinated planning.

4.3. Differences in accessibility

Due to poor connectivity and expensive transportation, secondary cities like Hawassa, Bahir Dar, and Dire Dawa etc. have constrained accessibility, that access to markets, services, and job prospects is thus limited.

4.4. Uneven Spillover Impacts

Positive spillovers are produced by transportation investments, although they are concentrated geographically; while, secondary cities see only uncertain improvements, core cities receive a disproportionate share.

Generally, the conceptual model of this study, conforms a sequential relationship supported from evaluated papers, in which accessibility, is influenced by urban transport governance and it turn propels spatial economic development and produces spillover effects. the review highlights an important issues that may restrict these results in developing nations, such as poor institutional coordination, poor infrastructure, and the predominance of unofficial transportation systems.

4.5. Synthesis of Findings

The review conforms a sequential relationship that governance, accessibility, spatial economic development, and spillover effects

Table 5, Synthesis of Findings

Factor	Status in Ethiopia's secondary cities	Economic impacts
Governance	Centralized and fragmented	Reduced investments efficiency
Accessibility	Limited public transport, high costs	Restricted market access
Spillovers	Localized to core corridors	Determined regional disparities

5. Discussion

The results demonstrate how governance, accessibility, and spatial economic development are intertwined. It takes more than just transportation infrastructure to promote equitable growth , rather, accessibility services as the primary means of transmission by which infrastructure affects economic results. The most important elements influencing the efficiency and allocation of transportation benefits is found to be governance that decreasing investments efficiency, weak governance mechanisms worsen spatial inequality by preventing spillover effects from spreading. These results support the significance of integrated policy approaches and are consistent with theoretical predictions from Krugman(1991) and actual data from Yin et al.,(2024).

Table 6, Discussion and Core Argument

Theme	Key authors	Core Argument	Implication
Governance	Devas; North; Rhodes(2004;1990;1996)	Governance shapes infrastructure effectiveness	Strong institutions are critical
Accessibly	Hansen,1959; Geurs &van Wee, 2004	Accessibility links transport to outcomes	Mediating variable
Economic development	Solow, 1956; Romer,1986	Infrastructure supports growth	Conditional impact
Spillover effects	Vikerman,2018;Anselin,1988	Benefits extend across regions	Uneven distribution
Secondary cities	Robers,2014;UN-Habitat,2022	Important for balanced growth	Require targeted policy

6. Conclusion and Recommendation

6.1. Conclusion

With a focus on the uneven spatial effects of transportation investments, this study investigated the relationships between transportation accessibility, urban transportation governance, and spatial economic development in Ethiopia. The results show that urban change and economic growth are greatly supported by transportation infrastructure, but the advantages of this infrastructure are not equally dispersed because of differences in institutional governance capabilities and accessibility.

The empirical investigation produced a number of significant conclusions. First, investments in transportation infrastructure have a favorable impact on economic development; however the extent and efficacy of these

effects differ depending on the spatial context and degree of urban development. Second, accessibility turned out to be a crucial mediating factor between transportation systems and economic performance, showing that infrastructure by itself is inadequate in the absence of fair access to transportation possibilities services. Third, the effectiveness and durability of transportation investments are significantly influenced by the standards of urban transportation governance. The developmental results of infrastructure projects are diminished by inadequate administrative capabilities, disjointed planning systems, and poor institutional coordination.

Significant spatial spillover effects linked to transportation development were also found in the study. However, these spillovers tend to benefit core urban centers over secondary and peripheral cities and are uneven. As result, secondary cities still have to deal with structural issues such poor integration into regional transportation networks, slight institutional support, insufficient infrastructure, and limited investment capacity. These problems prevent them from reaping the full benefits of economic progress driven by transportation.

Overall, the results highlight the need for integrated and spatially balanced development plans that incorporate coordinated regional development policies; accessibility oriented planning, efficient governance structures, and transportation investment. In Ethiopia, encouraging inclusive urbanization, decreasing regional inequities, and guaranteeing sustainable economic development all depend on undertaking these interrelated issues.

6.2. Recommendation

The following policy suggestions are put out in light of the study's findings:

Improvement institutional coordination and decentralization

The government should strengthen the capabilities of regional and local organizations in charge of managing and planning urban transportation. To guarantee integrated and effective urban development, transportation, land use , and economic planning authorities must better coordinate with one another.

Give accessibility based transportation planning fist priority.

Transportation strategies should concentrate on enhancing accessibility for various social and geographic groups rather than just expanding infrastructure. To encourage fair service allocation, accessibility indicators ought to be included in urban and regional planning frameworks.

Invest more in secondary cities

Secondary cities should receive more public funding to enhance their connection, economic competitiveness, and transportation infrastructure. Encouraging subsidiary communities can promote balanced regional growth and lessen the overcrowding in large urban centers.

Combine land use planning with transportation

To control urban growth, encourage commercial development, and reduce spatial inequality, urban transportation systems should be designed in tandem with land use planning. Sustainable urban growth and increased mobility efficiency are two benefits of integrated planning. The long term sustainably, inclusivity, and resilience of Ethiopia's urban and regional development trajectory are at risk if these policy measures are not put into place.

7. Reference

[1] G. Wilson (1971). The calibration of a family of spatial interaction models. Regional Science Essays, 3(1), 1–32.

[2] J. L. Berry (1964). Cities are systems inside systems of cities. Regional Science Papers, 13(1), 147-163.

[3] Berechman, J., and Banister, D. (2001). Investment in transportation and economic growth promotion. Transport Policy, 8(3), 209-218.

[4] A. Aschauer (1989). Does public spending yield results? Monetary Economics Journal, 23(2), 177-200.

[5] Pojani and D. Stead (2015). Beyond megacities: sustainable urban transportation in developing nations. Sustainability, 7(6), 7784-7805.

[6] Devas, N. (2004). Earthscan: Urban Governance, Voice, and Poverty in the Developing World.

[7] Perroux (1950). Theory and applications of economic space. Economics Quarterly Journal, 64(1), 89-104.

[8] Gibbons, S., Overman, H. G., Lyytikäinen, T., and Sanchis-Guarner, R. (2019). The impact of new road infrastructure on businesses. Urban Economics Journal, 110, 35–50.

[9] H. Havekes and associates (2016). Principles and Practice of Water Management and Governance. IWA Publishing.

[10] Krugman, P. (1991). Economic geography and increasing returns. Political Economy Journal, 99(3), 483-499.

[11] L. Anselin (1988). Methods and Models of Spatial Econometrics. Publishers: Kluwer Academic.

[12] North, D. C. (1990). Economic Performance, Institutions, and Institutional Change. Press of Cambridge University.

[13] P. M. Romer (1986). boosting long-term growth and returns. Political Economy Journal, 94(5), 1002-1037.

[14] R. A. W. Rhodes (1996). Governing without a government is the new kind of governance. 44(4), 652-667; Political Studies.

[15] R. M. Solow (1956). An addition to the economic growth hypothesis. 70(1), 65-94, The Quarterly Journal of Economics.

[16] R. Vickerman (2018). Is it possible for transportation infrastructure to vary by region? 11–19 in Regional Studies, 52(1).

[17] Roberts, B. H. (2014). Secondary City System Management. Cities Alliance.

[18] T. Hæstrand (1970). How about those who work in regional science? Regional Science Papers, 24(1), 7-24. Hansen, W. G. (1959). How land usage is influenced by accessibility. American Institute of Planners Journal, 25(2), 73-76.

[19] The Ministry of Urban Development and Construction (MUDC). (2013). Packages for Good Governance and Urban Development Policy. Ethiopian government.

[20] The Sub-Saharan Africa for Transport Policy Program (SSATP) (2018). Policies for Sustainable Mobility and Accessibility in African Cities. World Bank. UN-Habitat (2016). Urbanization and Development, World Cities Report, 2016. UN Human Settlements Program.

[21] The World Bank (2020). Ethiopia Transportation Sector Evaluation: Opportunities and Difficulties for Spatial Integration. World Bank [source: 1].

[22] Van Wee, B., and Geurs, K. T. (2004). Review and future research directions for the accessibility assessment of land-use and transportation policies. Transport Geography Journal, 12(2), 127-140.

[23] Venables, A. J., Krugman, P., and Fujita, M. (1999). MIT Press, "The Spatial Economy: Cities, Regions, and International Trade."

[24] Wegener, M. (2004). Land-use transportation interaction models: an overview. Transport Geography and Spatial Systems Handbook, 5, 127-146.
[25] Williamson, O. E. The Economic Institutions of Capitalism (1985). Free Press.
[26] World Development Report 2009: Reshaping Economic Geography, World Bank, 2009. World Bank. The World Bank (2015). Ethiopia Urbanization Review: Promoting Development and Changing Lives. World Bank [source: 1].
[27] Yin and colleagues (2024). Dynamic panel evidence on economic development, transportation infrastructure, and geographical spillovers. Policy and Practice in Transportation Research Part A, 179, 103-118 [cite: 1].

ABBREVIATION/ACRONYM

EET	Endogenous Econometric Theory
GM	Gravity Model
LULC	Land Use /Land Cover
LUTIM	Land Use Transport Interaction Model
MUDC	Minister of Urban Development Construction
NEG	New Economic Geography
OECA	Operational efficiency and Cost Analysis
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta- Analysis
SEM	Spatial Econometric Model
SIM	Spatial Interaction Model
SSATP	Sub-Saharan Africa Transport planning
UNH	United Nation Habitat
WB	World Bank