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Transport Infrastructure Deficits and Their Implications On AFCFTA Cross-Border Logistics in West Africa

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Abstract: *The African Continental Free Trade Area (AfCFTA) gives Africa's 55 economies the chance to come together and form a single market worth over $3.4 trillion. But its effectiveness depends a lot on how good the transportation and logistics infrastructures are, especially in West Africa, where trade across borders is limited by ongoing shortages. This paper examines the effects of deficiencies in transport infrastructure on the implementation of the AfCFTA, utilizing secondary data from UNCTAD, AfDB, UNECA, ECOWAS, and the World Bank covering the period from 2018 to 2024. A quantitative methodology was utilized to examine parameters like logistics performance scores, freight prices, customs clearing durations, corridor transit efficiency, and intra-African trade volumes. The results show that intra-African trade grew from 15% to 22.3%, but the continent is still behind Asia (61%) and Europe (67%). This is mostly because of bad road and rail connections, port congestion, and inefficiencies in institutions. Targeted investments and coordinated policies can make a big difference in certain areas, as the Abidjan–Lagos and Northern corridors. The report finds that AfCFTA will only be able to drive regional integration and sustainable growth if it closes infrastructure gaps, encourages the use of digital logistics, and improves governance.*

Keywords: occupational health and safety, maritime industry, Nigerian ports, safety systems, fatigue

INTRODUCTION

AfCFTA and the Infrastructure Imperative

The African Continental Free Trade Area (AfCFTA) is the biggest free trade agreement in the world, with 55 African states joining together to make a single market with a GDP of $3.4 trillion (UNCTAD, 2023b; Eke, 2025). Its goals are to boost commerce between African countries, encourage industrialization, and promote growth that includes everyone (UNECA, 2023; World Bank, 2020; Okoye et al. 2025). But the AfCFTA's ability to reach these goals depends a much on how well transport and logistics systems work.

Intra-African commerce is currently only 16–20% of global trade, while it is 61% in Asia and 67% in Europe (World Bank, 2022; UNECA, 2021). Experts say that this gap is mostly caused by problems with infrastructure, weak trade facilitation systems, and high logistical costs (Foster & Briceño-Garmendia, 2019; AfDB, 2023). The African Development Bank (2020) says that if structural transport problems aren't fixed right away, the AfCFTA might not work as well as it should, which would only make Africa's integration problems worse instead of better.

Transport Infrastructure Deficits in West Africa

Road Transport

Road transport is still the most common way to convey freight, carrying more than 80% of commodities between African countries (UNECA, 2023; Rodrigue, Comtois, & Slack, 2020). However, the roads in West Africa are poorly maintained, have inconsistent axle loads, and are broken up at the borders (AfDB, 2020; ECOWAS, 2023). The Abidjan–Lagos Corridor, which goes through Côte d'Ivoire, Ghana, Togo, Benin, and Nigeria, is a good example of both the promise and the problems of regional integration. It carries 70% of regional trade, but it has a lot of checkpoints, traffic jams, and problems with harmonization (Kamau & Muli, 2021; ECOWAS, 2023). Research indicates that nations with enhanced road networks see elevated intra-African trade volumes, whereas landlocked countries like Niger and Mali encounter disproportionate obstacles (Mbaye & Gueye, 2021). Transport expenses in the area are still among the highest in the world, often making up more than 40% of the overall value of trade (Foster & Briceño-Garmendia, 2019; Teravaninthorn & Raballand, 2009).

Ports and Borders

Ports are very important for trade, however many West African ports, including Lagos and Tema, are always crowded, have old infrastructure, and don't handle cargo well (World Bank, 2023; UNCTAD, 2023d). In West African ports, it takes an average of 20 days for a ship to turn around. In the rest of the world, it takes less than 5 days (World Bank, 2020). Customs procedures are also too bureaucratic, with clearance periods averaging 10 to 12 days (Wilson, Mann, & Otsuki, 2005; UNCTAD, 2023a).
One-Stop Border Posts (OSBPs) have cut down on clearance delays in East Africa by more than 50% (TradeMark Africa, 2022; TradeMark Africa, 2023), but they have been difficult to set up in West Africa. This has made border inefficiencies a constant drag on logistical competitiveness.

Rail and Multimodal Systems

Rail transport is not very well developed in West Africa, even though it may be used to transfer enormous amounts of cargo (UNECA, 2021). Nigeria's railway system, which is still based on colonial-era infrastructure, is not well connected to regional corridors. Ghana and Côte d'Ivoire, on the other hand, have broken and underfunded rail lines (World Bank, 2020; AfDB, 2020). The lack of integrated multimodal logistics platforms makes people even more reliant on road transport, which raises prices and lowers reliability (Rodrigue et al., 2020).

Structural and Institutional Barriers

Infrastructure problems are linked to problems with governance and security. Terrorism, especially Boko Haram in Nigeria, has made it harder to get around and raised the cost of logistics in the northeast (Idigo, 2022; Ilo et al., 2023). Piracy is now a major problem in West Africa, where maritime insecurity in the Gulf of Guinea has made it the world's piracy capital. This has raised freight insurance premiums and made foreign investors less likely to invest (Olayemi & Nwokoye, 2022). Corruption and policies that aren't always the same make these problems worse. In 2019, Nigeria closed the border on its own, which went against ECOWAS rules and hindered trade in the area (Okoye, Kalu, Peters, & Okonkwo, 2022). These institutional deficiencies are an example of the "policy fragmentation trap" that UNECA (2023) and AfDB (2023) have talked about. In this case, poor coordination makes the advantages of infrastructure investments less clear.

Digitalization as a Logistics Enabler

Digital systems are just as important as physical infrastructure for contemporary logistics under AfCFTA. Digital freight platforms, blockchain for customs clearance, and electronic single windows all make it easier to see and coordinate the supply chain (Buyukozkan & Gocer, 2018; Kuteyi & Winkler, 2022). Kobo360 and Trella are two examples of platforms that are already filling in the gaps in fragmented trucking markets (Oyedijo, Adams, & Koukpaki, 2021; World Bank, 2019).

TradeMark Africa (2023) says that digital improvements in East Africa's Northern Corridor have almost cut the time it takes to get from Mombasa to Kampala in half. But West Africa is behind in adopting digital technology since the internet isn't evenly available and the rules aren't strong enough (Ikegbunam et al., 2023). This digital divide makes it hard for small and medium-sized businesses (SMEs) to take full advantage of AfCFTA opportunities, which makes structural inequities worse. The current study is conducted against this backdrop, concentrating on the examination of the effects of transport infrastructure deficiencies on AfCFTA cross-border logistics in West Africa, and identifying strategies to enhance the region's trade potential through coordinated investments, policy alignment, and digital innovation.

METHODOLOGY

This study employs a quantitative research design, utilizing just secondary data to examine the effects of transport infrastructure deficiencies on AfCFTA cross-border logistics in West Africa (Creswell & Plano Clark, 2018). The data came from well-known organizations like the African Development Bank, ECOWAS, UNECA, UNCTAD, and the World Bank. They looked at transport infrastructure indices, logistics performance indicators, and trade volume statistics from 2018 to 2024. The data were cleansed, processed, and sorted into measurable factors that showed the quality of infrastructure, the efficiency of logistics, and the amount of trade between African countries. The quantitative method was selected to yield empirical evidence that can guide policy recommendations and infrastructure investment priorities within the framework of AfCFTA.

RESULTS

Table 1: AfCFTA and Transport Infrastructure (2018–2024)

Variable/Indicator	Data/Value	Region/Corridor	Source
Intra-African trade share	Increased from 15.0% (2018) to 22.3% (2024) (+7.3 percentage points)	Continental	UNCTAD (2023b)
Intra-African exports (share of total)	16–22% of total African trade (vs. 61% Asia; 67% Europe)	Continental	UNCTAD (2023b); World Bank (2022)
Global trade contraction	2023: Global trade declined but African volumes remained stable	Global/Africa	UNCTAD (2023a)
LPI scores improvement	+12% (2018–2023) in Kenya, Rwanda, Côte d'Ivoire	Selected countries	World Bank (2022); TradeMark Africa (2023)
Freight costs (per ton-km)	Decreased by 10–15% (2018–2023)	Major corridors	AfDB (2023)
Border clearance times	Often >24 hrs; reduced by 50%+ with OSBPs	East Africa (Kenya, Rwanda, Uganda)	UNECA (2021); TradeMark Africa (2022)
Services trade share	Declined from 60% (2016–2017) to 50% (2023)	Sub-Saharan Africa	UNCTAD (2023c)
FDI inflows	Fell by 3% in 2023 ($53 billion); project finance down 50%	Africa	UNCTAD (2023d)
Northern Corridor transit time	Reduced by 47% (2016–2022)	Kenya–Uganda–Rwanda–DRC	TradeMark Africa (2022)
Central Corridor improvements	Investments boosted agricultural/manufactured goods trade	Tanzania–Burundi–Rwanda–DRC	UNECA (2021)
Abidjan–Lagos Corridor	Facilitates >70% of West Africa's trade; expressway upgrades ongoing	Côte d'Ivoire–Ghana–Togo–Benin–Nigeria	AfDB (2020); ECOWAS (2023)
North–South Corridor	Contributed to +30% trade volumes (2015–2022) among SADC	South Africa–Zambia–Zimbabwe–DRC	Mthembu & Tondani (2021)

Variable/Indicator	Data/Value	Region/Corridor	Source
Transport time (Mombasa–Kampala)	Reduced from 10 days (2018) to 6 days (2023)	East Africa (Northern Corridor)	AfDB (2023)
Transport costs (landlocked countries)	>70% of total cost of goods	Central/East/West Africa (landlocked states)	World Bank (2020)
Infrastructure disparities	DRC, Chad remain highly constrained by poor roads & insecurity	Central Africa	World Bank (2023)
Security challenges	Piracy in Gulf of Guinea; terrorism in Sahel/Boko Haram raise logistics risks	West & Central Africa	Olayemi & Nwokoye (2022); Idigo (2022)

Table 1 gives a complete picture of the main trends and performance metrics that will affect trade and transport infrastructure in the African Continental Free Trade Area (AfCFTA) from 2018 to 2024. The data shows both the progress that has been made and the ongoing problems that make it hard for African countries to trade with each other.

First, the share of commerce between African countries climbed from 15% in 2018 to 22.3% in 2024, which is a 7.3 percentage point rise (UNCTAD, 2023b). This is a substantial improvement, although intra-African exports as a percentage of overall commerce (16–22%) are still far below those of other areas, such as Asia (61%) and Europe (67%) (World Bank, 2022; UNCTAD, 2023b). This ongoing disparity shows how poor infrastructure makes it harder for Africa to compete in trade.

The time period being looked at was also affected by global headwinds. In 2023, worldwide commerce shrank, but African trade volumes stayed about the same (UNCTAD, 2023a), showing that Africa is still strong but also showing that it is still vulnerable to changes in global demand. The Logistics Performance Index (LPI) went up by an average of 12% between 2018 and 2023 in some countries, including Kenya, Rwanda, and Côte d'Ivoire (World Bank, 2022; TradeMark Africa, 2023). These LPI benefits show that focused investments and changes can make trade easier in real ways.

The expense of transportation is still a big problem. Freight costs per ton-kilometer went down by 10–15% across major corridors, which shows that things are getting more efficient (AfDB, 2023). However, in landlocked states, transportation costs are typically more than 70% of the overall cost of commodities (World Bank, 2020). Also, the use of One-Stop Border Posts (OSBPs) has cut border clearance times in East Africa by more than half, from an average of more than 24 hours to less than 12 hours (UNECA, 2021; TradeMark Africa, 2022). These changes show how trade facilitation measures can work better when they are combined with improvements to infrastructure.

Sectoral dynamics show mixed results. The percentage of services in Sub-Saharan Africa's commerce fell from 60% in 2016–2017 to 50% in 2023 (UNCTAD, 2023c). This shows that there are gaps in digital and logistics services. Foreign Direct Investment (FDI) inflows also declined by 3% in 2023, and project finance deals plummeted by 50% (UNCTAD, 2023d). This raised worries about how to pay for road and port infrastructure projects that are necessary for AfCFTA to work.

Analysis that is specific to each corridor shows that performance is variable. Between 2016 and 2022, the Northern Corridor (Kenya–Uganda–Rwanda–DRC) saw a 47% drop in transit time (TradeMark Africa, 2022). The Central Corridor (Tanzania–Burundi–Rwanda–DRC) saw big increases in trade in agricultural and manufactured goods (UNECA, 2021). The Abidjan–Lagos Corridor, which is responsible for more than 70% of West Africa's trade, is still being upgraded to expressways, but there are still delays (AfDB, 2020; ECOWAS, 2023). The North–South Corridor also helped commerce between Southern African Development Community (SADC) members grow by 30% from 2015 to 2022 (Mthembu & Tondani, 2021). These numbers show that key corridors are important for making regional integration easier.

However, differences and dangers are still quite real. Countries like the Democratic Republic of Congo (DRC) and Chad still have big problems with their infrastructure since the roads are bad and there is a lot of crime (World Bank, 2023). There are still problems with security, such as piracy in the Gulf of Guinea and terrorism in the Sahel and northeastern Nigeria, which make logistics more expensive and make trade less predictable (Olayemi & Nwokoye, 2022; Idigo, 2022). The data in Table 1 shows that AfCFTA has made small gains to infrastructure and trade facilitation, but there are still problems with cost, efficiency, investment, and security. These results highlight the importance of ongoing infrastructure development, policy alignment, and governance changes to fully exploit AfCFTA's potential for enhancing regional integration.

CONCLUSION/RECOMMENDATIONS

This study analyzed the effects of inadequate transport infrastructure on the execution of the African Continental Free Trade Area (AfCFTA), concentrating on cross-border logistics in West Africa. The results show that intra-African trade has only expanded a little, from 15% in 2018 to 22.3% in 2024. This means that Africa is still not doing as well as other regional groups, where intra-regional trade is over 60%. High transportation costs, long wait times at borders, insufficient road and rail connections, and crowded ports are still major problems that make regional trade flows less efficient and less competitive. These problems are made worse by weak institutions, security threats, and a lack of investment in modern logistical systems, which continue to make AfCFTA less useful. Evidence from specific trade corridors, like the Abidjan–Lagos, Northern, and North–South corridors, shows that targeted infrastructure improvements and coordinated trade facilitation measures can lead to real efficiency gains, such as shorter transit times, lower freight costs, and more trade. Digital platforms and customs innovations also have the potential to improve supply chain visibility and lower non-tariff barriers. However, West Africa falls behind other regions when it comes to using digital technology.
The report indicates that the complete achievement of AfCFTA's integration objectives is contingent upon the resolution of Africa's transport infrastructure challenges. Not only do we need to keep investing in roads, trains, ports, and border modernization, but we also need to make changes to institutions to cut down on corruption, make trade policies more consistent, and make regional governance frameworks stronger. Also, increased digitalization in logistics will be necessary to close structural gaps, give small and medium-sized businesses more power, and make sure that everyone can take part in cross-border trade.

The AfCFTA gives Africa a once-in-a-lifetime chance to change the way it trades and become less dependent on other countries. But if urgent action isn't taken to fix gaps in transportation infrastructure and reduce dangers to governance and security, the project might not reach its full potential for change. West Africa, as a key center of the continental market, must therefore focus on infrastructure-led integration initiatives that bring together physical investments, digital innovation, and policy consistency to make it a driver of Africa's economic resurgence.

REFERENCES

African Development Bank (AfDB). (2020). *Abidjan-Lagos Corridor Highway Development Project.* https://www.afdb.org/en/projects-and-operations/p-z1-db0-121

African Development Bank. (2023). *African economic outlook 2023: Mobilizing private sector financing for climate and green growth.* African Development Bank Group. https://www.afdb.org/en/documents/african-economic-outlook-2023

Balassa, B. (1961). *The theory of economic integration.* Homewood, IL: Richard D. Irwin.

Buyukozkan, G., & Gocer, F. (2018). Digital supply chain: Literature review and a proposed framework for future research. *Computers in Industry, 97,* 157–177. https://doi.org/10.1016/j.compind.2018.02.010

Eke, E. I. (2025). Optimizing cross-border logistics in Africa: Unlocking the potential of the African continental free trade area. *International Journal of Leadership, Quality Education and African Development, 2(2),* 192–213.

Okoye C. A. C.,Osegbue P. C., Azubuike J.C., & Idigo B.C. (2025). Assessment of the Impact of Road Transport Infrastructure on Intra-African Trade Volumes Under African Continental Free Trade Area (2018–2024),*International Journal of Humanities Social Science and Management (IJHSSM) Volume 5*(2), 1048-1058

Economic Community of West African States (ECOWAS). (2023). *Annual report on the Abidjan-Lagos Corridor development.* ECOWAS Commission.

Foster, V., & Briceño-Garmendia, C. (2019). *Africa's infrastructure: A time for transformation.* World Bank.

Idigo, B. C. (2022). Terrorism and national security in Nigeria: A case of Boko-haram 2009–2019. *International Journal of General Studies, 2(1).*

Ikegbunam, U. L., Okoye, C. A. C., Onyejegbu, D. C., & Ilo, K. O. (2023). Exploratory study of the internet and business operations in Nigeria. *Journal of Contemporary African Research, 5(1),* 45–59.

Ilo, K. O., Ikegbunam, U. L., Okoye, C. A. C., & Onyejegbu, D. C. (2023). Terrorism in contemporary Nigeria society: The case of Boko-Haram. *International Journal of Research, 10(09),* 58–75.

Kamau, J., & Muli, P. (2021). Regional infrastructure investment and economic integration in West Africa: Evidence from the Abidjan-Lagos Corridor. *African Journal of Economic Policy, 28(1),* 78–94.

Mbaye, A. A., & Gueye, F. (2021). Road infrastructure investment and regional trade in Africa: A panel econometric approach. *Journal of African Trade, 8(1),* 25–39. https://doi.org/10.1016/j.joat.2021.01.003

Olayemi, S., & Nwokoye, A. (2022). Regional insecurity and logistics disruptions in West Africa. *Journal of African Logistics and Development Studies, 9(2),* 45–59.

Okoye, C. A. C., Kalu, O., Peters, U., & Okonkwo, A. E. (2022). United States' military assistance to Nigeria 2007–2015: Wither Nigerian sovereignty? *International Journal of Advanced Research in Social Sciences, Environmental Studies & Technology, 7(3),* 1–15. https://internationalpolicybrief.org/wp-content/uploads/2023/10/ARTICLE1-170.pdf

Oyedijo, A., Adams, K., & Koukpaki, S. (2021). Supply chain management systems in Africa: Insights from Nigeria. In *Business in Africa in the Era of Digital Technology* (pp. 121–140). Springer International Publishing.

Rodrigue, J.-P., Comtois, C., & Slack, B. (2020). *The geography of transport systems* (5th ed.). Routledge. https://doi.org/10.4324/9780429346323

Teravaninthorn, S., & Raballand, G. (2009). *Transport prices and costs in Africa: A review of the international corridors.* World Bank/The International Bank for Reconstruction and Development.

TradeMark Africa. (2022). *Impact of One Stop Border Posts (OSBPs) in East Africa.* https://www.trademarkafrica.com/news/impact-of-osbps-on-trade-in-east-africa/

TradeMark Africa. (2023). *Northern Corridor transport observatory report 2023.* https://www.trademarkafrica.com

United Nations Conference on Trade and Development (UNCTAD). (2023a). *Global Trade Update – February 2024.* https://unctad.org/system/files/official-document/ditcinf2024d1.pdf

United Nations Conference on Trade and Development (UNCTAD). (2023b). *Africa's $3.4 trillion opportunity: Turning vulnerabilities into resilience.* https://unctad.org/news/africas-34-trillion-opportunity-turning-vulnerabilities-resilience

United Nations Conference on Trade and Development (UNCTAD). (2023d). *World Investment Report 2023 – Regional Trends: Africa.* https://unctad.org/system/files/non-official-document/wir2024-regional_trends_africa_en.pdf

United Nations Economic Commission for Africa (UNECA). (2021). *Africa's transport corridors: Enabling regional trade.* https://repository.uneca.org

United Nations Economic Commission for Africa (UNECA). (2023). *AfCFTA and infrastructure: Enhancing connectivity for inclusive growth.* https://www.uneca.org

Wilson, J. S., Mann, C. L., & Otsuki, T. (2005). Assessing the benefits of trade facilitation: A global perspective. *World Economy, 28(6),* 841–871. https://doi.org/10.1111/j.1467-9701.2005.00709.x

World Bank. (2019). *Future of food: Harnessing digital technologies to improve food system outcomes.* World Bank.

World Bank. (2020). *Connecting to compete 2020: Trade logistics in the global economy.* https://documents.worldbank.org/en/publication/documents-reports/documentdetail/888761600470661227/connecting-to-compete-2020-trade-logistics-in-the-global-economy

World Bank. (2022). *Africa's pulse: An analysis of issues shaping Africa's economic future (April 2022 ed.).* World Bank. https://www.worldbank.org/en/region/afr/publication/africas-pulse

World Bank. (2023). *Logistics performance index 2023.* https://lpi.worldbank.org

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.

African Development Bank (AfDB). (2020). *Abidjan-Lagos Corridor Highway Development Project.* https://www.afdb.org/en/projects-and-operations/p-z1-db0-121

African Development Bank. (2023). *African economic outlook 2023: Mobilizing private sector financing for climate and green growth.* African Development Bank Group. https://www.afdb.org/en/documents/african-economic-outlook-2023

Economic Community of West African States (ECOWAS). (2023). *Annual report on the Abidjan-Lagos Corridor development.* ECOWAS Commission.

United Nations Economic Commission for Africa (UNECA). (2023). *AfCFTA and infrastructure: Enhancing connectivity for inclusive growth.* https://www.uneca.org

United Nations Conference on Trade and Development (UNCTAD). (2023d). *World Investment Report 2023 – Regional Trends: Africa.* https://unctad.org/system/files/non-official-document/wir2024-regional_trends_africa_en.pdf

World Bank. (2020). *Connecting to compete 2020: Trade logistics in the global economy.* https://documents.worldbank.org/en/publication/documents-reports/documentdetail/888761600470661227/connecting-to-compete-2020-trade-logistics-in-the-global-economy

World Bank. (2023). *Logistics performance index 2023.* https://lpi.worldbank.org