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An Appraisal on Enforcement of Green Transport Laws in Tanzania: Challenges, Gaps and Policy Directions with Insights from Rwanda and South Africa

THERESIA MATHIAS SAWAYA[1], LUSAJO PETER KANYAMALE[2] AND MASANJA MAJEBELE NKINGA[3]

ABSTRACT

Green transportation is increasingly recognized as a critical pathway to achieving environmental sustainability, public health, and low-emission economic development. In Tanzania, the growing demand for mobility, driven by urbanization and population growth has underscored the urgency of implementing effective and enforceable sustainable transport solutions/frameworks. This paper specifically examines the legal and institutional enforcement mechanisms underpinning green transport in Tanzania, offering a comprehensive doctrinal analysis key statutes and regulatory frameworks, including National Transport Policy (2003) and the National Environmental Management Act (2004). Despite notable and progressive initiatives such as the Standard Gauge Railway (SGR) and the Bus Rapid Transit (BRT) system, enforcement remains weak. This is largely attributed to fragmented legislation, overlapping mandates, limited institutional capacity, and insufficient political commitment.

To contextualize Tanzania's experience, the paper draws comparative insights from Rwanda and South Africa - two African countries that have made notable progress in promoting sustainable transport. Rwanda's centralized and policy-driven implementation model, and South Africa's integrated legal frameworks and institutional mechanisms, offer valuable lessons for enhancing policy coherence and regulatory enforcement in Tanzania.

The paper/study concludes with actionable policy recommendations on legal harmonization, institutional capacity building, and adoption of regional best practices. By contributing to the broader discourse on environmental governance in Africa, this paper offers practical insights for policymakers, legal practitioners, and scholars seeking to advance sustainable mobility across the continent..

[1] Author is an Assistant Lecturer at Department of Humanities and Social Science, National Institute of Transport, Tanzania.

[2] Author is an Assistant Lecturer at Department of Humanities and Social Science, National Institute of Transport, Tanzania.

[3] Author is an Assistant Lecturer at Department of Humanities and Social Science, National Institute of Transport, Tanzania.

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I. INTRODUCTION

Green transportation is increasingly recognized as a cornerstone of sustainable development due to its role in reducing environmental harm, improving public health, and enhancing overall quality of life. Globally, green transport encompasses the use of clean, low-emission, and energy-efficient modes such as electric vehicles, bicycles, hybrid cars, and shared mobility systems. These alternatives help mitigate fossil fuel dependency, reduce greenhouse gas emissions, and ease urban congestion (Mahrous et al., 2020). In addition, green transport strategies are essential in minimizing energy consumption and air pollution, thereby fostering the development of healthier, more livable cities (Sarkis & Dou, 2018; Lu et al., 2019; Sutherland, 2019).

The term "green transportation" refers to the movement of goods, people, or materials using environmentally friendly energy sources or methods, such as electric vehicles, bicycles, animal-powered carts, or human-powered mobility (Wood, 2022; Yu et al., 2022). Globally, businesses and governments are investing in eco-friendly options including green trains, hybrid buses, electric bikes, and monorails to reduce environmental degradation (Mahrous et al., 2020; Psaraftis, 2015). However, the enforcement of green transport principles is often constrained by institutional, infrastructural, and regulatory challenges. These include conflicting policies mandates, outdated vehicle fleets, inefficient service provision, and poor and inadequate infrastructure (Okyere et al., 2019; Li, 2016; Psaraftis, 2015).

In Tanzania, rapid urbanization and population growth have sharply increased the demand for transportation, especially in major cities like Dar es Salaam, Arusha, Dodoma and Mwanza. This demand has contributed to rising greenhouse? emissions, worsening traffic congestion, and growing environmental and public health concerns. Despite ratifying major international environmental agreements such as the Paris Agreement (UNFCCC, 2015), and adopting national frameworks such as the Environmental Management Act (Cap. 191), the National Transport Policy (2003), transport licensing laws, and local authority by-laws, the explicit prioritization of green transport remains limited within the country's legal framework.

A key initiative in Tanzania's green transport agenda is the development of the Standard Gauge Railway (SGR), a modern, electric rail line launched between Dar es Salaam and Dodoma in mid-2024. The SGR is expected to reduce CO_2 emissions by approximately 80,000 tonnes

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annually, having already mitigated an estimated 50,000 tonnes within its first months of operation (Akitanda, 2024; Daily News, n.d.; Mabeja, 2024). By replacing diesel-reliant road freight, the SGR advances both connectivity and Tanzania's environmental goals.

Additional efforts, such as the Bus Rapid Transit (BRT) system in Dar es Salaam and the promotion of non-motorized transport through dedicated cycling paths, underscore Tanzania's commitment to a multi-modal green transport strategy. Key regulatory bodies, including the Land Transport Regulatory Authority (LATRA) the National Environment Management Council (NEMC) and the National Carbon Monitoring Centre (NCMC) are tasked with implementing transport and environmental standards. However, enforcement remains weak due to overlapping institutional mandates, limited technical capacity, inadequate infrastructure, and low public awareness of green transport benefits.

Urban mobility in Tanzania is still heavily reliant on informal transport modes, notably motorcycles *(bodaboda)*, tricycles *(bajaji)* and minibuses *(daladala)* many of which utilize outdated and high-emission vehicles. The absence of effective monitoring systems and weak policy coordination among institutions further deepens the enforcement gap, threatening national efforts to transition to sustainable and climate-resilient transport systems.

Several scholars have addressed these enforcement challenges. For example, (Shemdoe and Kassenga, 2017) cite institutional fragmentation, corruption, and limited operator compliance as major barriers. (Kimambo, 2020) identifies low public awareness and inadequate stakeholder engagement as critical constraints. Similarly, studies by (Okyere et al., 2019) and (Psaraftis, 2015) emphasize infrastructural deficiencies, aging vehicle fleets, and regulatory inconsistencies. However, most of these works remain largely conceptual or descriptive and fall short of assessing how key enforcement bodies such as LATRA, NEMC and NCMC- function in practice to implement and monitor green transport laws in practice. This study seeks to address that gap by critically evaluating the legal and institutional landscape in Tanzania. It investigates the coherence of legal frameworks, institutional coordination, and regulatory capacity of responsible agencies. In doing so, it offers evidence-based policy recommendations aimed at improving enforcement effectiveness. Addressing these issues is vital for achieving Tanzania's environmental goals, fulfilling international commitments under Paris Agreement, and transitioning to a low-carbon transport future.

Despite the presence of national legal frameworks supporting environmentally sustainable transport in Tanzania, enforcement remains inconsistent and largely ineffective. Regulatory institutions often face limited resources, lack of political will, and poor coordination (Chachage,

2018). Consequently, urban air pollution, traffic congestion, and the use of high-emission vehicles continue to rise. Compounding these challenges is a general lack of political will and public awareness of green transport solutions (Mrema & Luanda, 2021). These issues raise fundamental concerns about the adequacy of existing enforcement mechanisms and Tanzania's readiness to support a strong green transport agenda. These concerns range from (i) How effective is the Tanzania's legal and institutional framework relating to enforcement of green transport laws? (ii) What are the key challenges and gaps affecting enforcement of green transport laws in Tanzania? and (iii) What lessons can Tanzania learn from Rwanda and South Africa to strengthen enforcement of green transport laws?

This paper, therefore, critically appraises the enforcement of green transport laws in Tanzania, while drawing insights from the experiences of Rwanda and South Africa. Specifically, it (i) analyzed the legal and institutional framework supporting the enforcement of green transport laws in Tanzania, (ii) assesses the enforcement challenges and institutional gaps in enforcement of green transport laws in Tanzania and (iii) draws comparative lessons from Rwanda and South Africa to strengthen enforcement mechanisms and guide policy reforms of green transport laws in Tanzania.

By identifying key institutional and legal weaknesses, and proposing targeted reforms, this study contributes to ongoing scholarly and policy dialogues on environmental governance in the transport sector. It offers actionable insights for policymakers, regulators, civil society, and development partners working to support Tanzania's transition to a greener and more resilient transport system.

II. METHODOLOGY AND APPROACH

A. Research Design

This study adopts a qualitative doctrinal legal research methodology, supported by comparative analysis and policy evaluation. The research primarily relies on the review and interpretation of legal texts, institutional mandates, policy documents, and secondary literature to critically assess the enforcement of green transport laws in Tanzania.

The doctrinal Legal approach:

The doctrinal approach was used to examine, interpret, and systematize relevant legal principles, statutory provisions, and policy frameworks. This method helps to evaluate the continuity, coherence, and stability of the legal system (Bhaghamma, 2023). It entailed a critical review of core legal instruments such as statutes, regulations, and institutional mandates

governing green transport enforcement. As a form of "black-letter law" analysis, doctrinal legal research facilitates in-depth interpretation of the scope, content, and internal consistency of existing legal frameworks (Hutchinson & Duncan, 2012). The methodology further incorporated the review of secondary sources, including academic texts, peer-reviewed journal articles, institutional reports, and other relevant literature, to establish the current state of knowledge and identify gaps within the legal discourse (Majeed et al., 2023).

Comparative Legal Analysis:

To complement doctrinal analysis, the study employed **comparative legal methodology** to benchmark Tanzania's green transport enforcement legal framework against selected jurisdictions with more advanced green transport systems. Comparative legal analysis relies on logical and inductive reasoning to assess the merits and shortcomings of legal norms, systems, institutions, and procedures in relation to those of other jurisdictions (Bhat, 2015).This enabled the study to extract best practices and policy innovations that could inform reforms in Tanzania's enforcement mechanisms.

B. Data Collection

Data for this study was collected primarily through **documentary review** of both **primary legal sources** and **secondary academic and institutional literatures**. **Primary sources** included national legal instruments such as; The Environmental Management Act (year), The Transport Licensing Act (year), The National Transport Policy (Year) and International environmental treaties ratified by Tanzania, such as the **Paris Agreement** (UNFCCC, 2015). On the other hand, secondary sources emanated from scholarly journal articles, reports from regulatory authorities such as LATRA and NEMC, policy briefs and media coverage on major projects like the **Standard Gauge Railway (SGR)** and **Bus Rapid Transit (BRT)** and development reports from organizations such as the World Bank and UNEP.

A purposive sampling approach guided the selection of literature and policy documents to ensure relevance to the themes of enforcement, institutional performance, and policy effectiveness.

C. Data Analysis

The study applied doctrinal legal **analysis** as the principal analytical tool, with a focus on identifying **legal gaps**, **enforcement inconsistencies**, and **institutional enforcement challenges**. This approach involved a detailed interpretation of relevant legal documents, including statues regulations and institutional mandates. Both **inductive** and **deductive**

reasoning techniques were applied, along with principles of **statutory interpretation**, to derive meaningful conclusion of green transport laws.

Additionally, **constant comparative analysis** was utilized to support the comparative legal component of the study. This technique involves systematically comparing legal data from Tanzania with that of Rwanda and South Africa to identify recurring patterns, similarities, and divergences, The use of cross-jurisdictional insights enriched the analysis by highlighting best practices and institutional innovations that could inform enforcement reforms in Tanzania.

D. Scope and Limitation

The study is confined to the enforcement aspect of green transport laws and policies in Tanzania, with a primary focus on **urban and inter-urban transport systems**. The cities of **Dar es Salaam, Arusha, Dodoma and Mwanza** are emphasized due to their growing transport demands and relevance to ongoing green transport initiatives. Although Tanzania's green transport agenda may be influenced by regional and global frameworks, the study limits its scope to **national enforcement mechanisms and institutions involved in enforcement.**

Rural and informal transport systems, while acknowledged, are not the central focus of this study unless they intersect significantly with enforcement related issues such as regulatory oversight, emissions, or compliance.

E. Ethical Considerations

This research relies solely on secondary data and public domain materials. No interviews, surveys, or human subjects were involved. Ethical academic practices were maintained through proper citation of all sources, avoiding plagiarism, and ensuring objectivity in legal interpretation and critique. Where institutional reports and policy data were used, the most recent and credible versions were prioritized.

III. RESULTS AND DISCUSSION

This section presents an integrated analysis of the enforcement of green transport laws in Tanzania based on doctrinal review, institutional assessment, and comparative insights from Rwanda and South Africa. Key themes include legal and regulatory gaps, institutional inefficiencies, the informal sector challenges, infrastructure deficits, policy inconsistencies, and public engagement barriers. The analysis reveals that while Tanzania has made progress in green transport initiatives, enforcement remains weak due to a combination of factors: fragmented legal mandates, institutional overlaps, socio-political constraints, and economic incentives to drive compliances.

A. Legal and Institutional Framework regulating Green Transport in Tanzania.

Environmental sustainability is regulated by a combination of international, regional and national legal instruments that establish standards and obligations for green transport. In Tanzania, apart from the presence of binding legal frameworks, several institutions have been mandated to oversee compliance and enforce relevant laws and policies. This section therefore, analyses the key legal provisions and institutional arrangements governing enforcement of green transport laws in Tanzania.

1. International and Regional Legal Framework

Tanzania is party to the Paris Agreement, a legally binding international treaty on climate change adopted in 2015 under the United Nations Framework Convention on Climate Change (UNFCCC). The agreement's primary goal is to limit global warming to well below 2°C above pre-industrial levels, with efforts to further limit the raise to 1.5°C. This commitment is operationalized through various measures, including Nationally Determined Contributions (NDCs), for emissions reductions which are to be filed by state parties outlining its specific commitments to reduce greenhouse gas emissions. Despite Tanzania being committed, it still faces several enforcement challenges in implementing the Paris Agreement, especially within the transport sector and broader climate commitments (Kassi, 2025). These challenges range from institutional, financial, legal, and technical limitations.

Tanzania's green transport initiatives also align closely with the Sustainable Development Goals (SDGs) and the African Union Agenda 2063, both of which emphasize environmentally sustainability and resilient infrastructure. Notably, projects such as the Dar es Salaam Bus Rapid Transit (BRT), the electrified Standard Gauge Railway (SGR), and the efforts to promote electric vehicles (EVs) and compressed natural gas (CNG) technologies support **SDG 11.2** (sustainable transport for all) and **SDG 13** (climate action). The efforts also contribute to **Agenda 2063 Aspirations 1 and 7**, which envision modern, low-carbon transport networks across Africa (African Union Commission, 2015; United Nations, 2015; UNDP, 2024;). Although both these frameworks are **not legally-binding**, Tanzania has voluntarily mainstreamed their principals into national development strategies and climate actions (URT, 2021). However, significant implementation gaps remain particularly in areas like non-motorized transport infrastructure and the equitable rural access. These challenges highlight the need for stronger domestic policy enforcement and financing mechanisms to bridge the gap between international commitments and local realities.

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2. Domestic Legal Framework

Domestically, the **National Transport Policy (2003)** provides the foundational framework for developing an efficient, cost-effective, and environmentally sustainable transport system in Tanzania. The policy emphasizes on the promotion of modal shifts towards rail and maritime transport, the expansion of non-motorized transport, and the reduction of fossil fuel dependence-objectives that align with green transport principles. However, the policy is now considered outdated, and misaligned with recent global climate frameworks like the Paris Agreement and Agenda 2063, signalling the need for comprehensive policy revision to reflect contemporary decarbonization targets and sustainablity goals.

Complementing the transport policy, the **Environmental Management Act (Cap 191 R.E. 2023)** and its recent **2025 Amendment** provide a legal basis for integrating environmental sustainability into national development. The 2025 Amendment strengthens regulatory enforcement by mandating climate risk assessments in major infrastructure projects, which directly impacts how transport initiatives are approved and managed.

The above statutory instruments, draws their inspiration from the Constitution of the United Republic of Tanzania (Cap. 2, 1977) as amended (CURT). Specifically, Article 14 of the Constitution, guarantees right to life, which has been judicially interpreted to include the right to a clean, safe and healthy environment. This constitutional right is echoed in section 4 of the Environmental Management Act.

Although the Constitution does not explicitly mention environmental rights, landmark cases such as *Festo Balegele v. Dar es Salaam City Council (Misc. case No. 90 of 1991)* and *Felix Joseph Mavika v. Dar es Salaam City Council (Civil case No. 316 of 2000)* have demonstrated that environmental degradation can violate the constitutional right to life and health.

This evolving legal interpretation creates a growing legal foundation for environmental litigation and enforcement-including within the transport sector. While Tanzania has yet to experienced major litigation focused on transport emissions or sustainable mobility, existing laws especially the Environmental Management Act and constitutional jurisprudence support the view that pollution from fossil-fueled transportation can threaten life and health. Therefore, this interpretation can be used to push for greener transportation systems, invoking the constitutional right to life and environmental statutes to demand for cleaner air, safer urban mobility, and long-term climate resilience.

B. Institutional Framework

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Several regulatory institutions are tasked with enforcing and monitoring compliance with green transport laws in Tanzania. Their roles span transport regulation, environmental protection, and climate monitoring, each contributing uniquely to the legal and operational enforcement landscape.

Tanzania's Land Transport Regulatory Authority **(LATRA)** is the principal government agency responsible for regulating land transport services, as established under the Land Transport Regulatory Authority Act (Cap. 413, 2019). Its core functions include licensing operators, regulating transport fares, enforcing safety standards, and promoting sustainable mobility. In the context of green transport, LATRA has taken steps to encourage the adoption of low-emission vehicles such as those powered by compressed natural gas (CNG) and electricity. It also supports efforts to develop non-motorized and public transport systems like the Bus Rapid Transit (BRT).

On the other hand, the **National Environment Management Council (NEMC)**, established under the Environmental Management Act (Cap. 191), plays a critical role in regulating the environmental dimensions of development projects, including transport infrastructure. It is responsible for conducting Environmental Impact Assessments (EIAs), monitoring pollution, and ensuring that transport initiatives comply with national environmental standards. Recently, the **Environmental Management (Amendment) Act No. 5 of 2025** has expanded NEMC's scope by integrating climate risk assessments and climate-smart criteria into its project evaluations.

Another key institution is the **National Carbon Monitoring Centre (NCMC)** established in 2025 through the Environmental Management (Amendment) Act of 2025 to help Tanzania implement its climate commitments under the Paris Agreement by tracking greenhouse gas (GHG) emissions. NCMC is tasked with collecting transport-related emissions data, maintaining a national carbon inventory, and supporting the development of carbon credit systems in sectors such as rail and public transport.

C. Challenges and Gaps relating to Enforcement of Green Transport in Tanzania

1. Normative Gaps in the Legal Framework

A central finding of this study is the absence of explicit legal provisions on green transport in Tanzanian legislation. While, core legal documents such as the Environmental Management Act (Cap.191) read together with its amendment of 2025, the National Transport Policy (2003), and the Transport Licensing Act mention environmental sustainability but do not define or mandate green transport standards. Terms like "green mobility" or "low-carbon transport" are

missing, leaving enforcement dependent on general environmental principles (Shemdoe & Kassenga, 2017; Mrema & Luanda, 2021). The Environmental Management (Amendment) Act of 2025 have made initiatives of defining words like climate change, emissions and energy transition which can be indirectly interpreted in relation to green transport. See the provisions of section 3 of the Act. This legislative silence, as described by Hutchinson and Duncan (2012), weakens implementation and creates ambiguity.

As Tanzania seeks to meet international obligations under the Paris Agreement and the Sustainable Development Goals (SDGs), the legal system must explicitly articulate principles of low-emission mobility, clean fuel standards, define green transport standards, and empower institutions to act accordingly (UNEP, 2021).

Comparatively, Rwanda's National Transport Policy and Strategy (2021) clearly mandates green transport, including the promotion of electric vehicles, cycling infrastructure, and emission reduction targets (Republic of Rwanda, 2021). South Africa's Green Transport Strategy (2018-2050) and the National Land Transport Act (2009) go further by embedding enforceable obligations for emissions reduction and clean mobility (Department of Transport, 2018). These examples shows that legal clarity and binding language are essential to support enforcement, accountability, and policy continuity something that Tanzania's legal framework currently lacks.

2. Institutional Fragmentation and Overlapping Mandates

Enforcement of green transport laws in Tanzania is hindered by institutional fragmentation. Regulatory agencies such as LATRA, NEMC, NCMC, and municipal authorities operate in isolation with minimal coordination. Each body operates under different legislation with little coordination, leading to a diffusion of responsibility and poor accountability. (McConville and Chui, 2007) argue that such fragmentation is typical in postcolonial legal systems where agencies evolve separate without integrated policy planning. For example, LATRA which has been established under the Land Transport Regulatory Authority Act (Cap.413, 2019) is mandated under the provisions of section 5 of the Act to license transport operators however it does not monitor emissions. While, NEMC is mandated under the provisions of section. 18 of the Environmental Management Act (Cap.191) to monitor emissions but lacks jurisdiction over transport routes or operator compliance (Chachage, 2018; Kimambo, 2020), on the other hand, **the NCMC** established under the Environmental Management (Amendment) Act of 2025 is tasked with collecting transport-related emissions data, maintaining a national carbon inventory, and supporting the development of carbon credit systems in sectors such as rail and public

transport, see the provisions of section 29A to 29C of the Act. This disjointed structure creates regulatory blind spots where environmental compliance in the transport sector is inadequately monitored and enforced.

By contrast, Rwanda has streamlined its regulatory structure through the Rwanda Utilities Regulatory Authority (RURA), which oversees both transport and energy sectors, including their environmental performance (RURA, 2022). In South Africa, intergovernmental coordination mechanisms such as the Integrated Public Transport Network (IPTN) and National Climate Change Response Policy align transport, environmental, and planning objectives under a unified governance framework (Department of Transport, 2018). These models emphasize the value of integrated regulatory authority in achieving coherent enforcement and implementation of green transport policies.

3. Socio – Economic Realities *vis a vis* Informal Transport

Tanzania's informal transport sector particularly motorcycles (*bodaboda*), tricycles *(bajaji)* and minibuses (*daladala*) present significant enforcement challenges. These modes dominate urban mobility in cities such as Dar es Salaam, Arusha, Dodoma, and Mwanza, but operate with minimal regulation. Most vehicles are aged, poorly maintained, and highly polluting. Although occasional roadworthiness inspections occur, emissions testing is rare due to limited technical capacity and lack of enforcement personnel (Li, 2016; Psaraftis, 2015).

Socioeconomic realities further complicate enforcement, as informal transport provides critical employment and affordable mobility for low-income groups. Regulatory crackdowns often face political resistance, creating a tension between environmental goals and social inclusion (Mrema & Luanda, 2021). Shemdoe & Kassenga (2017) emphasize that enforcement strategies must be equitable, offering financial incentives or alternatives such as subsidies for electric motorcycles, rather than relying solely on punitive measures.

Rwanda has successfully piloted electric motorcycle programs supported by regulatory and fiscal incentives, while South Africa’s Taxi Recapitalization Programme backed by legislation offers subsidies to replace ageing vehicles (Walubita et al., 2021). These approaches demonstrate how legal instruments and public-private partnerships can enable an inclusive transition toward greener informal transport systems.

4. Inconsistent Implementation of Green Infrastructure Projects

Tanzania has undertaken commendable infrastructure projects such as the Standard Gauge Railway (SGR) and the Bus Rapid Transit (BRT) in Dar es Salaam, both of which align with green transport objectives. The SGR, which commenced operations in 2024, is electric-powered

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and is estimated to offset 80,000 tonnes of CO_2 annually (Akitanda, 2024). The BRT has also improved mass transit access and reduced urban congestion.

However, these projects are largely infrastructure-led rather than policy-led. The absence of complementary legal instruments such as emissions benchmarks, modal shift targets, or enforcement of clean logistics chains limits the systemic impact of these investments (Mabeja, 2024; Psaraftis, 2015). Projects are often implemented without sufficient legal integration, leading to weak enforcement of reserved lanes, lack of coordination with land use policy, and encroachment by informal operators.

In contrast, Rwanda legally binds infrastructure projects to climate action plans and monitoring frameworks, while South Africa's Carbon Tax Act (2019) integrates emissions reporting and accountability into transport infrastructure (Republic of South Africa, 2019). These approaches illustrate how legal mechanisms can reinforce the environmental impact of green infrastructure by ensuring compliance, monitoring, and long-term sustainability.

5. Low Public Awareness and Weak Legal Incentives

Public awareness of green transport and its benefits remains low in Tanzania. Most citizens prioritize cost, speed, and convenience over environmental considerations. Furthermore, there is absence of legal frameworks supporting behavioral change through education, incentives, or disincentives. Currently, Tanzania lacks tax incentives for electric vehicle imports, eco-zone access policies, or fuel subsidies for low-emission vehicles (Mahrous et al., 2020; Sutherland, 2019).

Lack of strong public engagement strategy and data monitoring mechanisms weakens the uptake of green transport. Policymakers face difficulty in tracking behavior and performance due to fragmented and incomplete data. According to (Yu et al., 2022), without community participation and real-time data, enforcement becomes reactive rather than preventive.

In Rwanda, legal instruments mandate public education and reduced import duties for EVs. South Africa’s strategy includes legal mandates for public awareness campaigns, educational outreach, and pilot programs for electric mobility (Department of Transport, 2018). These examples show that legal structures must go beyond regulation they must also foster market transformation and social acceptance of green transport through incentives and public engagement.

6. The Role of Political Will in Green Transport

Finally, political will remains a decisive factor in the enforcement of green transport laws.

Despite growing evidence of pollution and traffic congestion, green transport has not been prioritized in Tanzania's broader political agenda. Resource constraints, institutional fragmentation, and competing development interests often delay policy implementation (Majeed et al., 2023). The absence of political will affects not only legal reform but also the allocation of budgets, training of personnel, and mobilization of stakeholders.

As Mrema & Luanda (2021) noted, "policy without political ownership is policy without implementation." Effective enforcement of green transport laws requires visible political commitment, including support for legal reforms, inter-agency cooperation, and funding for enforcement mechanisms. Rwanda's progress has been driven by strong political will aligned with its national climate targets. Similarly, South Africa's integrated planning approach reflects deliberate political coordination between environmental and transport ministries.

Tanzania must embrace a whole-of-government approach where green transport is not an isolated agenda but part of national development planning. This would ensure that legal instruments, policies, and infrastructure initiatives are not only coherent but also enforceable and sustainable.

IV. Conclusion and Policy Recommendations

This study has critically examined the enforcement of green transport laws in Tanzania using doctrinal and comparative legal methodologies. The findings indicate that, despite national policy aspirations and international commitments to sustainable development, enforcement remains limited in both scope and effectiveness. While Tanzania has adopted important initiatives such as the Standard Gauge Railway (SGR) and Bus Rapid Transit (BRT), these are often implemented in isolation, without integration into a strong legal or institutional framework for green transport governance.

The research identified key challenges, including the absence of clear legal definitions and mandates for green transport, institutional fragmentation between LATRA, NEMC, and other agencies, dominance of high-emission informal transport modes, low public awareness, and a general lack of incentives for compliance. The persistence of these gaps not only undermines the country's environmental objectives under the Paris Agreement and the Sustainable Development Goals (SDGs), but also threatens public health, economic efficiency, and urban habitability. It is evident that without a transformative approach to laws, policies, and institutional practice, green transport in Tanzania will remain more aspirational than operational.

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Comparative lessons from Rwanda and South Africa demonstrate the effectiveness of codified legal commitments, centralized regulatory authorities, and incentive-driven approaches in fostering sustainable mobility. Legal reform is therefore central to advancing Tanzania's green transport agenda not merely as a policy choice but as a national legal imperative.

To ensure long-term environmental, economic, and social benefits, Tanzania must transit from fragmented policy frameworks to a strong, enforceable legal regime that promotes inclusive, climate-resilient, and equitable urban transport systems. Only through such a shift can the country align its transport sector with global sustainability standards and its own development goals.

Thus, it is recommended that, Tanzania should develop and enact a dedicated Green Transport legislation to consolidate existing policies and embed enforceable legal provisions. This law should define key concepts (e.g., green transport, sustainable mobility, low-emission vehicles), establish national emission standards, and mandate green planning principles in urban transport development. Rwanda's National Transport Policy (2021) and South Africa's Green Transport Strategy (2018) offer practical legislative models to that effect. Existing laws, including the Environmental Management Act and Transport Licensing statutes, should be revised to reflect environmental priorities more explicitly.

In addition, legal reforms should also address institutional fragmentation by clearly defining the scope, roles and responsibilities among LATRA, NEMC, NCMC, and local authorities. A legally mandated National Transport Environment Coordination Committee could facilitate inter-agency planning and enforcement, modeled after South Africa's Integrated Public Transport Networks. There is also a need to strengthen environmental monitoring and data systems through investing in real-time emissions monitoring tools, traffic data systems, and vehicle inspection infrastructure. This will empower regulators to make evidence-based decisions and track compliance over time.

It is also recommended that, the government should promote adoption of clean transport technologies through tax exemptions, customs reliefs, or subsidies for electric vehicles, hybrid buses, and non-motorized transport infrastructure. Drawing from Rwanda's support for electric motorcycles and South Africa's Taxi Recapitalization Programme, Tanzania should pass regulations enabling gradual formalization and environmental compliance.

In the same line the government should provide support for bodaboda and daladala operators to transition to cleaner technologies through financing schemes, training, and fleet renewal

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programs. Formalizing informal operators under regulated cooperatives can also improve enforcement and emissions tracking.

Accordingly, infrastructure developments should be aligned with green transport goals. All national transport infrastructure projects should be legally required to conduct environmental performance reporting, emissions audits, and climate risk assessments. The Carbon Tax Act (2019) in South Africa and Rwanda's climate-mainstreamed infrastructure planning offers good precedents to that effect.

Finally, mainstreaming public awareness and green mobility education through launching of national wide education campaigns targeting schools, transport unions, environmental clubs and the general public on the environmental and economic benefits of green transport. Behavioral change is essential for policy uptake and voluntary compliance.

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V. REFERENCE

1. African Union Commission. (2015). *Agenda 2063: The Africa we want*. https://au.int/en/agenda2063.(Accessed 21st July 2025)
2. Akitanda, C. (2024, December 13). *SGR: A landmark achievement driving Tanzania's economic development*. The Guardian. Retrieved from https://www.ippmedia.com/the-guardian/features/read/sgr-a-landmark-achievement-driving-tanzanias-economic-development-2024-12-13-113757(Accessed 30th June 2025)
3. Bhaghamma, G. (2023). A comparative analysis of doctrinal and non-doctrinal legal research. *ILE Journal of Governance and Policy Review*, *1*(1), 88-94.
4. Bhaghamma, G. (2023). *Legal analysis of environmental sustainability in African transport systems*. Journal of African Law and Policy, 45(2), 113–129.
5. Bhat, P. I. (2015). Comparative method of legal research: nature, process and potentiality. *Journal of the Indian Law Institute*, 147-173
6. Chachage, C. S. L. (2018). *Governance and accountability in environmental regulation: Challenges in Tanzanian transport enforcement*. Journal of African Governance, 6(2), 45-60.
7. Daily News. (n.d.). *SGR transport revolution: Cutting carbon emissions*. Daily News. Retrieved from https://old.dailynews.co.tz/sgr-transport-revolution-cutting-carbon-emissions (Accessed 8th July 2025)
8. Department of Transport (South Africa). (2018). *Green Transport Strategy for South Africa: (2018–2050)*. Retrieved from https://www.transport.gov.za
9. Hutchinson, T., & Duncan, N. (2012). Defining and describing what we do: doctrinal legal research. *Deakin law review*, *17*(1), 83-119.
10. Kassi, I. (2025, June). *Green economy laws: Tanzania's big environmental and climate leap*. LinkedIn. https://www.linkedin.com/pulse/green-economy-laws-tanzanias-big-environmental-climate-iddi-kassi-agqfe. (Accessed 22nd July 2025)
11. Kimambo, N. J. (2020). *Public awareness and environmental sustainability in Tanzania's urban transport sector*. Journal of Environmental Policy and Management, 12(2), 56-69.
12. Li, Y. (2016). Green transport strategies in Sub-Saharan Africa: Challenges and opportunities. *African Transport Review*, 8(1), 21–34.

13. Lu, C., Wei, Y., & Zhang, D. (2019). Green logistics and air quality: Impacts of low-emission transport systems. *Transportation Research Part D: Transport and Environment*, 67, 131-145. https://doi.org/10.1016/j.trd.2018.11.003(Accessed 22nd July 2025)

14. Mabeja, P. (2024, August 9). *Transforming trade: Tanzania's new SGR unleashes economic potential*. The Guardian. Retrieved from https://www.ippmedia.com/the-guardian/business/read/transforming-trade-tanzanias-new-sgr-unleashes-economic-potential-2024-08-08-173550(Accessed 26th July 2025)

15. Mahrous, A. A., El-Hosany, A., & Ramadan, R. (2020). Sustainable transport and environmental resilience: A global perspective. *International Journal of Transport and Logistics*, 5(4), 77-89.

16. Majeed, A., Kweka, A., & Ndunguru, P. (2023). *Public transport and climate resilience: Legal perspectives from East Africa*. African Journal of Environmental Law, 12(1), 65–80.

17. Majeed, N., Hilal, A., & Khan, A. N. (2023). Doctrinal Research in Law: Meaning, Scope and Methodology. *Bulletin of Business and Economics (BBE)*, *12*(4), 559-563.

18. Ministry of Works and Transport (Tanzania). (2011). *National Transport Policy*. Government of Tanzania.

19. Mrema, S. J., & Luanda, F. A. (2021). *Urban transport and air quality in Tanzania: Policy failures and environmental risks*. East African Environmental Law Journal, 4(1), 92-108.

20. Mushi, J., & Mwaipopo, E. (2022). *Transport regulation in Tanzania: Institutional overlaps and enforcement challenges*. Tanzania Law Review, 18(3), 87-101.

21. Okyere, S., Mensah, H., & Tetteh, F. (2019). Barriers to implementing sustainable transport in Sub-Saharan Africa. *Transport Policy*, 74, 55–64. https://doi.org/10.1016/j.tranpol.2018.11.002

22. Psaraftis, H. N. (2015). *Green transportation logistics: The quest for win–win solutions*. Springer. https://doi.org/10.1007/978-3-319-12394-0

23. Republic of Rwanda. (2021). *National Transport Policy and Strategy*. Kigali: Ministry of Infrastructure.

24. Republic of South Africa. (2009). *National Land Transport Act No. 5 of 2009*. Government Gazette.

 [ISSN 2581-5369]

25. Republic of South Africa. (2019). *Carbon Tax Act No. 15 of 2019*. Government Gazette.

26. Rwanda Utilities Regulatory Authority (RURA). (2022). *Annual Report 2021/2022*. Retrieved from https://www.rura.rw(Accessed 27th July 2025)

27. Sarkis, J., & Dou, Y. (2018). Green transportation in supply chains: A case-based analysis. *Journal of Cleaner Production*, 196, 520–530.

28. Shemdoe, R., & Kassenga, G. R. (2017). *Governance and environmental enforcement in urban transport: A Tanzanian perspective*. African Journal of Environmental Studies, 9(3), 144-159.

29. Sutherland, M. (2019). Urban transport and air quality in East Africa: The role of green mobility. *Urban Studies Review*, 11(2), 101-117.

30. UNDP. (2024, October). *UNDP Tanzania makes the switch: Embracing SGR and solar-powered EVs for a greener Tanzania*. https://www.undp.org/tanzania/stories/undp-tanzania-makes-switch-embracing-sgr-and-solar-powered-evs-greener-tanzania(Accessed 27th July 2025)

31. UNEP. (2021). *Electric mobility development in Rwanda: Progress and lessons*. United Nations Environment Programme.

32. UNFCCC. (2015). *The Paris Agreement*. United Nations Framework Convention on Climate Change. Retrieved from https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement(Accessed 28th July 2025)

33. United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. https://sdgs.un.org/2030agenda(Accessed 28th July 2025)

34. Walubita, G., Ghanbari, M., & Horak, E. (2021). *Sustainable transport and mobility transitions in South Africa*. *Journal of Transport and Development*, 147(3), 1-10.

35. Wood, R. (2022). *Redefining mobility: A global view on green transportation systems*. Cambridge Environmental Series.

36. World Bank. (2020). *Tanzania Urban Transport Overview*. Retrieved from https://www.worldbank.org(Accessed 29th July 2025)

37. Yu, H., Wang, L., & Chen, J. (2022). Alternative energy in urban transport systems: Trends and challenges. *Energy for Sustainable Development*, 68, 94–102. https://doi.org/10.1016/j.esd.2022.03.004(Accessed 29th July 2025)

38. The Constitution of the United Republic of Tanzania (Cap. 2 of 1977)

39. The Land Transport Regulatory Authority Act (Cap 413 of 2019)

40. The Environmental Management Act (Cap 191 R.E. 2023)

41. The Environmental Management (Amendment) Act No. 5 of 2025

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