

Enhancing Road Infrastructure Financing in Malawi: A Comprehensive Analysis & Recommendations

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Abstract

Purpose: This research study aims to critically analyze the effectiveness of Malawi's road funding model, identify its strengths and weaknesses, and propose sustainable and innovative road funding model for improving road infrastructure financing in the country. **Background:** The inadequate state of road infrastructure in Malawi has hindered economic growth, connectivity, and social well-being. The existing road funding model faces challenges in generating sufficient funds for infrastructure development, maintenance, and rehabilitation. This study seeks to address these challenges and provide insights for a more effective and sustainable road financing approach.

Methodology: A comprehensive mixed-methods approach was employed, combining qualitative and quantitative research techniques. Stakeholder perceptions were collected through surveys and interviews to assess the current road conditions and funding model's performance. Budgetary evaluations and expert interviews were utilized to analyze the financial dynamics and governance aspects of road infrastructure financing in Malawi.

Results: The evaluation of the road funding model highlighted a significant perception gap between desired and actual infrastructure quality, with stakeholders rating road conditions as poor. The research projected a substantial funding shortfall of US\$3.5 Billion by 2037, equivalent to 28% of Malawi's GDP, due to growing demand and inadequate financing. Despite efficient revenue collection mechanisms, the model struggled to meet infrastructure development needs.

Given the critical findings of this study, the study recommends the integration of Public Private Partnership (PPPs) to leverage private investment thereby reducing the fiscal burden on the government. Additionally, introducing a dedicated road fund sourced from multiple revenue streams such as fuel taxes, road tolls, and international donor funds could diversify and stabilize funding sources. A governance oversight committee comprising financial experts, policymakers, and community representatives should be instituted to ensure transparency and effectiveness in fund allocation and utilization

Keywords: Road infrastructure, financing model, infrastructure development, Sustainable, Innovative, fuel levy.

1. Introduction

Situated in southern Africa, Malawi is a landlocked country grappling with challenges that are symptomatic of larger developmental issues, such as poverty, unemployment, inadequate healthcare, education, economic inequality and corruption. While the nation has seen some economic growth, critical infrastructure such as the road networks, have not kept pace with growth, and this has repercussions not just for Malawi but serves as a case study for similar economies.

In this crucial economic landscape, road transportation is a backbone and an indispensable factor in Malawi's socio-economic development. It is responsible for a staggering 74% of the country's domestic and 90% of its international freight movement (Atkins & Ernst and Young, 2017). Moreover, the road network acts as a lifeline for rural areas, linking them to major urban production centers, markets and health facilities, thereby playing an essential role in providing health services and distributing agricultural produce and other goods. Malawi has a total road network of

However, despite its important catalytic role, the road network in Malawi is facing substantial challenges that are stymieing economic growth, limiting public and private services, and curbing foreign investment (Msuku et al., 2020) In Malawi, the officially recognized road network extends to 15,451 kilometers, a not insignificant length given the country's population of 19.647 million (2021). However, a mere 28% of this network features paved roads, a statistic that underscores significant infrastructural deficits. The remaining 72% consists of unpaved, earthen roads, the functionality of which is largely seasonal. During dry periods, these roads are accessible, albeit not optimally so. However, the situation deteriorates markedly in the rainy season, rendering these stretches difficult to traverse and, in some instances, completely impassable. The rural access index according to (World Bank, 2023) This seasonal dichotomy in road accessibility presents a salient challenge for economic activities and social welfare . .

These challenges are further exacerbated by, a constrained national budget due to the after effects of the COVID-19 pandemic (Jackson et al., 2021) and recent natural disasters like Cyclone Freddy (Actionaid,2023). The current infrastructure investment by the government of 2% of GDP is leading to a widening road infrastructure investment gap (Gwengwe, 2022). According to the World Bank's 2023 report titled "Malawi Transport Infrastructure Sector Assessment Program (InfraSAP): The Comprehensive Medium-term Investment Framework (2020-2025)," there is a pronounced financial deficit in road infrastructure development in Malawi. The framework estimates MKW 2.30 trillion (approximately \$2.24 billion) for various categories of roads, inclusive of earmarked or confirmed donor contributions for 355.7 kilometers of road maintenance and rehabilitation activities. Breaking down these financial needs further: main roads require MK1.3 trillion (\$1.27 billion), secondary roads call for MK620.7 billion (\$605.6 million), tertiary roads require MK256.7 billion (\$250.4 million), district roads need MK19.5 billion (\$19.02 million), and urban road projects are slated for MK64.5 billion (\$62.9 million). However, current available funds under this medium-term framework amount to MK703.1 billion, which represents only 30% of the total estimated investment. This leaves an alarming financial deficit of MK1.57 trillion, or 70% of the total projected cost, for both paved and unpaved road projects. The discrepancy highlights a critical financing gap that warrants urgent attention.

Furthermore, a lack of investment in alternative transport modes such as , rail, air and waterways has overburdened the road network, escalating operational inefficiencies and costs (Kandaya, 2019; Peven et al., 2021). These factors collectively pose a risk to Malawi's economic stability and the well-being of its population, particularly in rural areas that are disproportionately impacted by inadequate transport services.

While infrastructure accounts for a 3.5 percentage point contribution to Malawi's yearly per capita GDP growth (Foster & Shkaratan, 2015), the quality of roads has been highlighted as a bottleneck to realizing the full potential of this growth (Goldberg et al., 2010). The conventional funding model anchored on fuel levies and general tax have proven to be inadequate and unsustainable, covering merely 20-30% of the road infrastructure needs (Gwilliam & Kumar, 2003a; Roads Authority, 2017; World Bank, 2021).

Against this background, there is an urgent need to investigate innovative and sustainable financing models that can effectively address the financing gap and facilitate the development of a resilient and efficient road network. This study aims to critically assess effectiveness of the existing road financing model in Malawi and propose a sustainable, innovative financing framework tailored to the unique needs and constraints of the country. This work is not only essential for Malawi but could serve as a template for other countries facing similar infrastructural constraints.

2. Literature Review

The financing of road infrastructure is a complex issue that warrants multi-disciplinary attention, especially within the context of developing countries, where resource constraints often exacerbate existing challenges. This literature review aims to explore the existing knowledge on road infrastructure financing, with a particular focus on the developing world and, more specifically, the African context.

2.1. Traditional Financing Models

Traditional means of financing road infrastructure predominantly involve government spending, often supplemented by loans or grants from international agencies (Gaspar et al., 2019; World Bank, 2018). However, according to (Foster & Briceño-Garmendia, 2010; Mulu & Smith, 2008; Osei-Kyei & Chan, 2015; Vällilä, 2005) note that these models often fall short of meeting the infrastructure gap, largely due to inefficiencies, inadequate resources and broader fiscal constraints. Additionally, (Aschauer, 1989; Rensburg & Krygsman, 2015) has underscored that traditional financing methods are not always sustainable in the long-term, particularly for low-income countries.

2.2. Public-Private Partnerships (PPPs)

Given the limitations of traditional financing models, Public-Private Partnerships (PPPs) have increasingly been proposed as an alternative, especially in developing economies ((Arimoro, 2021; Edobor Arimoro, 2022; Engel et al., 2013; Yescombe & Farquharson, 2018) . Studies indicate that PPPs can bring not only additional capital but also managerial expertise and operational efficiency to road infrastructure projects ((Batjargal & Zhang, 2021; Darrin Grimsey and Mervyn K. Lewis, 2004). However, the applicability of PPPs in the African context remains a subject of debate, owing to concerns over equitable risk-sharing, regulatory challenges, and long-term sustainability (Jokar et al., 2021; Loxley, 2013).

2.3. The Role of International Donors and Multilateral Agencies

International donor agencies like the World Bank, the African Development Bank, IMF and the European Investment Bank have played pivotal roles in road infrastructure financing, especially in Africa (Tarp, 2000) Nonetheless, (Flyvbjerg et al., 2017) point out that over-reliance on external funding could lead to debt sustainability issues, limiting the fiscal space for other development priorities.

2.4. Governance and Institutional Challenges

Another crucial aspect highlighted in literature is governance. Studies by (Kenny, 2018; Macdonald, 2016; Sobják, 2018) explore into how governance and corruption often hinder the effective allocation and utilisation of funds in infrastructure projects, a concern particularly relevant in the developing world. In Africa, the governance of road funds and their susceptibility to political influence have been studied by (Gwilliam & Kumar, 2003b), who argue that improving governance is fundamental for achieving better outcomes in road infrastructure financing.

2.5. The African Context

The African context presents unique challenges and opportunities in road infrastructure financing, given its diverse economic landscape, governance issues, and rapidly urbanizing population (Estache et al., 2015; Servén, 2008). Studies like (Vivien Foster and Cecilia Briceño-Garmendia, 2010) have specifically looked at how these dynamics shape the state of road infrastructure on the continent, emphasizing the need for context-sensitive models of financing.

In conclusion, while traditional models of government and donor funding have had some success, they often prove inadequate due to fiscal limitations and inefficiencies. While Public-Private Partnerships (PPPs) and enhanced governance mechanisms present viable options for mitigating infrastructural deficits, they are not panaceas, particularly given the intricate socio-economic landscape that characterizes the African continent. Consequently, there exists a need for the development of innovative, and financially sustainable approaches that can effectively address the present financing gaps in road infrastructure.

3. Methodology

To evaluate the effectiveness of Malawi's current road infrastructure financing model, this research deploys a mixed-methodological paradigm informed by a pragmatic research philosophy. The investigative framework aims to be comprehensive, not merely appraising the model's capability for maintenance but also its capability in addressing road rehabilitation and new construction initiatives. This multi-dimensional assessment entails a multi lens, encapsulating perspectives from an array of stakeholders, government entities, private investors, and road construction companies, thus facilitating a comprehensive understanding of the subject matter.

3.1. Data Collection

To engender a balanced representation of the complexities inherent in infrastructure financing, data were collected through an amalgamation of methodologies: case studies, quantitative surveys, and qualitative interviews. The quantitative component consisted of structured questionnaires disseminated to a targeted cohort across different sectors, including governmental departments, parastatal organizations, pension funds, transport operators, consultancies, the banking sector, and international development agencies.

3.2. Sample Population and Sampling Technique

The survey population comprised 184 stakeholders, meticulously selected through Stratified Random Sampling techniques to yield a representative cross-section of sectors involved in road infrastructure financing. Notably, the sample size for the entire study stood at 100, indicating a robust data set for inferential analysis.

3.3. Response Rate

The response rate varied across different categories of stakeholders, as delineated in the table below:

Table 1: Response rate

Institution/Department	Distributed	Returned	Response Rate
Government/Ministries	18	7	39%
Parastatals	32	14	44%
Pension Funds	2	0	0%
Transport & Construction Firms	18	14	78%
Consultancies	16	8	50%
Banking Sector	8	4	50%
International Development Partners	14	10	71%
Total	108	57	53%

3.4. Data Analysis

Quantitative data underwent rigorous statistical evaluation, focusing on correlations and trend patterns to discern the strengths and limitations of the current financing model. Qualitative insights, extracted from semi-structured interviews conducted via digital platforms, were subjected to coding and thematic analysis. These interviews comprised a subset of the initial survey participants, thereby ensuring continuity and depth in data interpretation.

The quantitative and qualitative findings are thereafter synthesized to furnish an integrative appraisal of the financing model's performance in Malawi's unique socio-economic and infrastructural context. The questionnaire included a spectrum of inquiries, encompassing questions related to policy efficacy, stakeholder satisfaction, and procedural bottlenecks, thereby offering a 360-degree view of the financing model's operational intricacies. By adhering to this methodological construct, the study aspires to offer scholarly and practical contributions that could redefine Malawi's road infrastructure financing landscape.

4. Results

The core objective of this study was to evaluate the effectiveness of Malawi's road funding model in delivering an efficient and extensive road network that would connect the rural areas to productive points. Utilizing a mixed-method approach, the research examined stakeholders' opinions on the model and coupled this with qualitative evaluation of existing road conditions, backed by supplementary information from past reports and media coverage.

4.1. Evaluation of the Model's effectiveness Perception Analysis

The sustainability and performance of Malawi's current road funding model stands at the intersection of infrastructure quality and fiscal adequacy. Given the crucial role road infrastructure plays in a nation's socio-economic well-being, this assessment critically examines the model's output performance and its financial resilience. A dual evaluative lens is employed: firstly, a tangible inspection of its impact on the road network condition, and secondly, its fiscal prowess in maintaining, rehabilitating, and facilitating new constructions.

4.1.1. State of Road Condition in Malawi

In light of the fiscal constraints endemic to Africa's infrastructure landscape, as underscored by the (Welde et al., 2020), investigation into Malawi's road network conditions adopts a qualitative methodology. This methodological choice serves to improve a notable gap in literature, one that has been rigorously pointed out by (Upadhyaya et al., 2021): namely, the frequent marginalization of qualitative attributes due to their ostensibly subjective nature.

The survey yielded predominantly unfavorable opinions about Malawi's roads condition and status of the road furniture (Road signs and Markings). Specifically, 42 participants out of 56 respondents, representing 75% of respondents were dissatisfied, with 30% labeling the conditions as "very poor," and another 45% as "poor." Conversely, only 21% , 12 respondents gave a "fair" rating, and a scant 4% ,2 respondents rated conditions as "excellent." The mean rating stood at 1.98, thereby amplifying the overarching narrative of widespread discontent with the current road network condition. This disconsolate picture not only validates the pertinence of our qualitative approach but also serves as an exigent call for infrastructural improvement within Malawi's transportation ecosystem. Figure 1 presents the results of the perception of the road condition survey conducted.

Complementarily, Figure 2 offers a comparative road transport index, situating Malawi vis-à-vis other nations within the Southern African Development Community (SADC). Malawi occupies the foot of the SADC road transport index, third from the bottom, signalling critical deficiencies that warrant immediate policy attention. This position underscores the urgency of infrastructural and fiscal interventions to improve Malawi's standing in regional transportation metrics.

Figure 1: Road condition and road furniture survey results

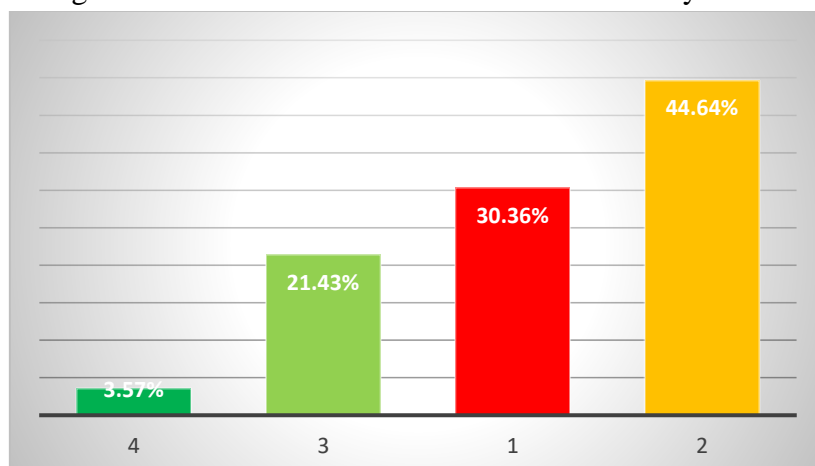
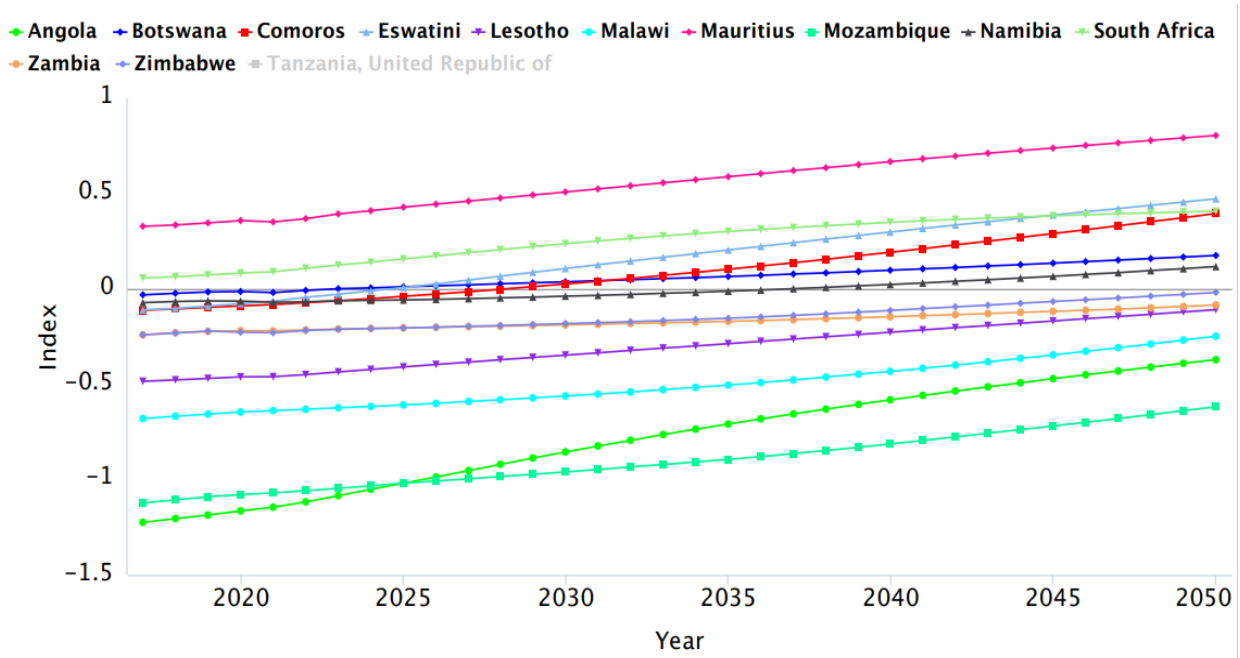


Figure 2: Infrastructure Index , Transportation - IFs index



Source (International Futures, 2023)

4.1.2. Dominance of Road Transport

In the quest to dissect the hegemony of road transport within the socio-ecological fabric of Malawi, the study deployed an exploratory questionnaire probing the ease of accessibility to various forms of public transportation, viz., buses, trains, and taxis. The 49 responses, yields a nuanced tapestry of public sentiment, vividly illustrating the complexities of urban and peri-urban mobility in the Malawian context.

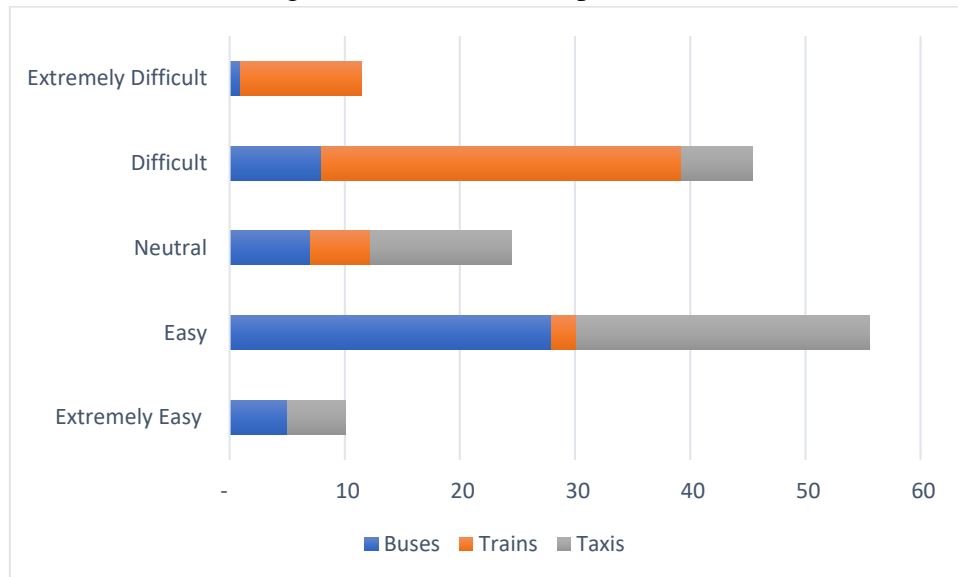
Turning first to the realm of bus transportation, it is evident that the modality is largely deemed accessible, with the majority of respondents categorizing it as either "Easy" or "Extremely Easy." This suggests that buses serve as the backbone of public transportation in Malawi, an inference corroborated by their extensive reach and affordability.

Contrastingly, the train network emerges as an enigma, an outlier characterized by pronounced inaccessibility. A disquieting proportion of the respondents, both in absolute and relative terms, labeled access to train services as either "Difficult" or "Extremely Difficult." These responses underscore the glaring incongruities in Malawi's transportation matrix, flagging the train network as a dormant asset awaiting vital policy interventions.

Taxis occupy an intermediate echelon in this hierarchical structure of accessibility. While not as ubiquitously accessible as buses, they nonetheless exhibit a profound ease of use, as indicated by the prevalence of "Easy" and "Extremely Easy" ratings. This suggests that taxis fill the accessibility void left by the inadequacies of the train network, but at a potentially higher economic cost to the consumer. The results provide a clear picture of the dominance of road transport in contrast to other modes of transport. This mosaic of public perception serves not merely as an academic catalogue but as an instrumental dataset for policy authorities, urban planners, and stakeholders. The insights generated herein expose the

complexities and imbalances inherent in Malawi's transportation infrastructure, thereby facilitating a more targeted and equitable allocation of fiscal and administrative resources.

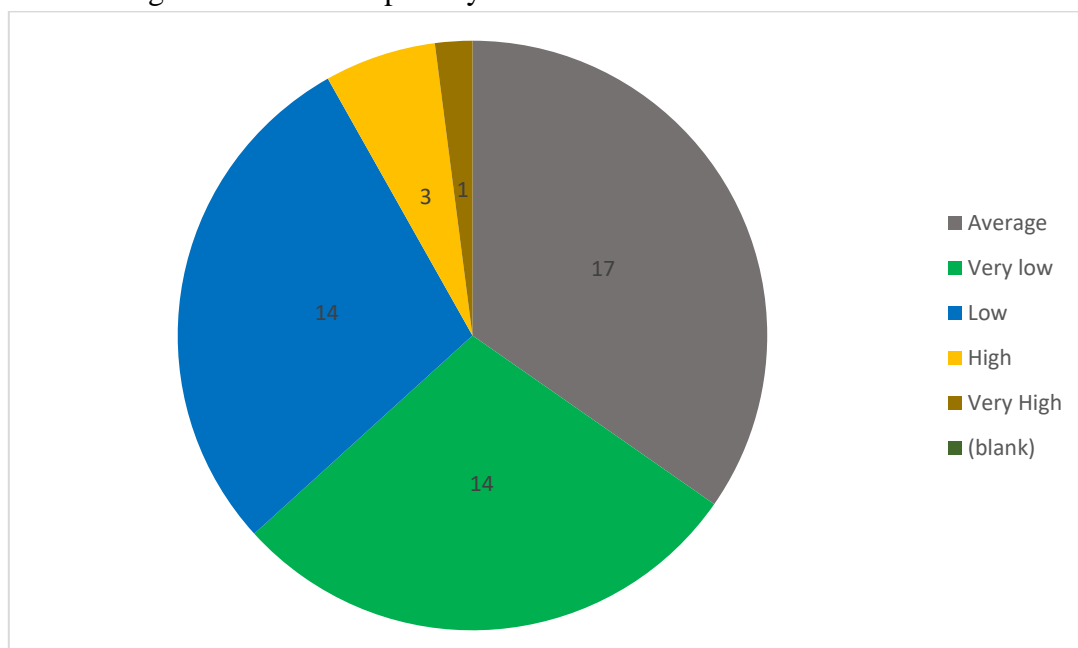
Figure 3: Access to transport modes



4.2. Fiscal prowess in maintaining, rehabilitating, and facilitating new constructions

Refer to Figure 4 for a graphical representation of the survey data. A significant 57% ,representing 28 participants of the surveyed stakeholders identified the existing model's capacity for maintenance financing as either "Very Low" or "Low." On the contrary, a moderate 35% representing 17 respondents viewed the model as delivering "Average" performance, and a marginal 8% rated it as "High" or "Very High."

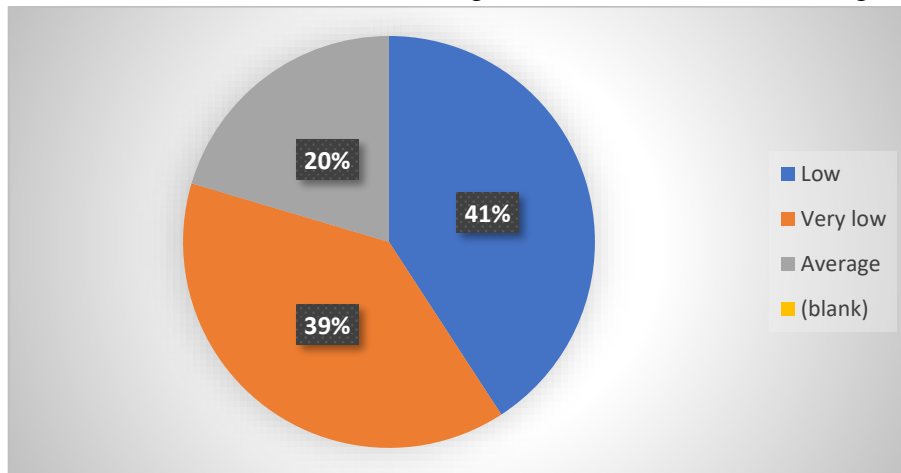
Figure 4: Model's capability to meet current maintenance demands



4.2.1. Rehabilitation Project Funding

As denoted in Figure 5, an overwhelming 80% representing 39 of the respondents expressed scepticism about the model's effectiveness in financing rehabilitation projects, rating it as "Very Low" or "Low." The remainder (20%) representing 10 respondents assigned an "Average" rating, suggesting room for improvement.

Figure 5: Model's effectiveness in meeting current rehabilitation funding demand



4.2.2. New Construction Financing

Figure 9 showcases that for financing new construction, 74% representing 36 respondents assign a "Very Low" or "Low" rating. Meanwhile, 22% representing 11 respondents deem it "Average", and a minimal 4% representing 2 respondents regard it as "High" or "Very High".

4.3. Current Fiscal Disparities and Policy Implications

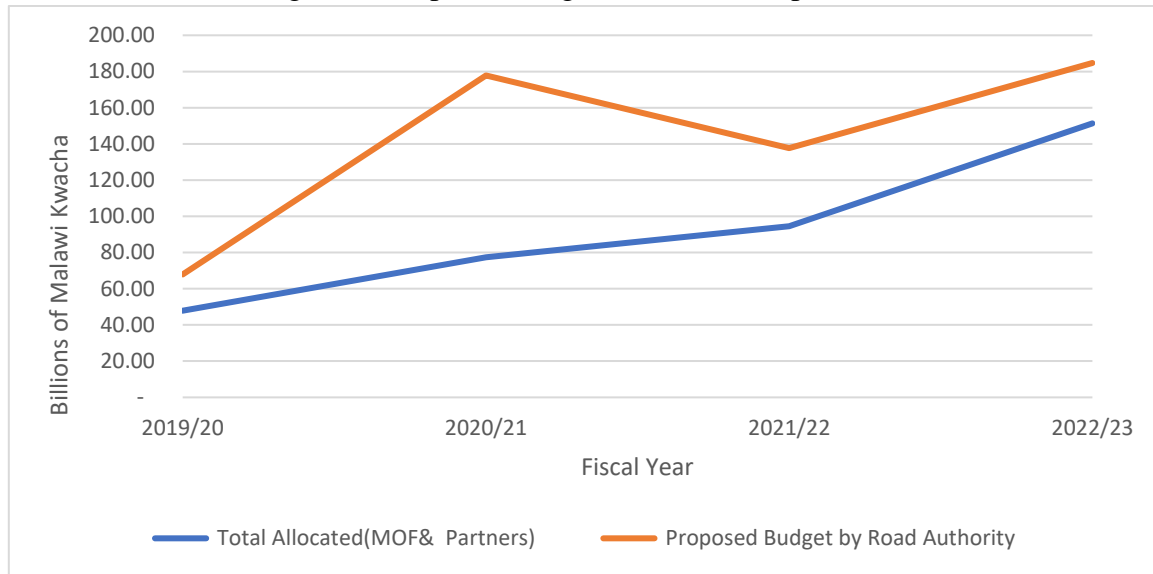
In pursuit of a comprehensive understanding of the fiscal mechanisms underpinning road infrastructure in Malawi, this study adopted a methodologically robust approach that synergistically combined empirical budgetary data with subjective public perception on the capability of the model to finance roads development and preservation. This documentary analysis incorporated an array of sources, including but not limited to, annual reports, strategic plans, and budgetary allocations, thereby ensuring a holistic vantage point.

Figure 6 provides a compelling visual narrative that explains the pronounced fiscal incongruities inherent in the current financing model. Specifically, these figures demarcate the significant disjuncture between the proposed budgets as articulated by the roads authority and the financial provisions actually allocated. This gap is not merely numerical but symptomatic of systemic inefficiencies that compromise the overall sustainability and effectiveness of Malawi's road infrastructure.

In an intriguing confluence of quantitative and qualitative data, these documentary findings resonate strongly with the subjective perspectives garnered from the public perception survey. This methodological triangulation reveals a striking harmony: namely, that the extant financing model is profoundly insufficient in catering to the multilayered financial exigencies required for maintaining, rehabilitating, and innovating road infrastructure.

The implications of this fiscal shortfall are both immediate and far-reaching, transcending the ambit of mere budgetary inadequacy to encroach upon issues of socio-economic mobility, regional competitiveness, and national well-being. The findings serve as a catalytic impetus for both policy reevaluation and scholarly discourse, inviting an intersectional dialogue that traverses the domains of economics, urban planning, and public policy.

Figure 6: Proposed budget versus Actual provision



4.3.1. Anticipatory Financial Analysis: Assessing the Prognostic Effectiveness of Malawi's Road Infrastructure Financing Model in an Era of Rapid Urbanization

The imperative for fiscal sustainability and adaptability in Malawi's Road Infrastructure Financing Model (RIFM) serves as a bellwether for the nation's capacity to respond to mushrooming infrastructure demands in an era marked by rapid demographic and vehicular growth. Extant literature (Estache et al., 2015; Fourie, 2006) problematizes the operational dilemma inherent in infrastructure financing across the African continent, focusing on the Gordian knot of maintenance, rehabilitation and expansion of the road network.. Building upon this scholarly foundation, the current investigation aims to prognostically assess the resilience and scalability of the RIFM.

4.3.2. Longitudinal Demand and Financial Projections

Leveraging the analytical rigor of the Compound Annual Growth Rate (CAGR) methodology, the research forecast a monumental escalation in Malawi's vehicle population, poised to reach an estimated 625,187 units by the close of 2028. This portends an incremental mechanical burden on the existing road infrastructure, necessitating concurrent increases in maintenance and infrastructural expansion

4.3.3. Integrated Forecasting

To synthesize the predictive landscape, Figures 7 and 8 have been amalgamated into a single comprehensive graphic. The resultant figure delineates both the trajectory of anticipated road funding requirements and the resultant funding projections extending to the year 2037, exclusive of external financial injections such as grants and loans.

Figure 7: Road Funding provision by the Model forecast

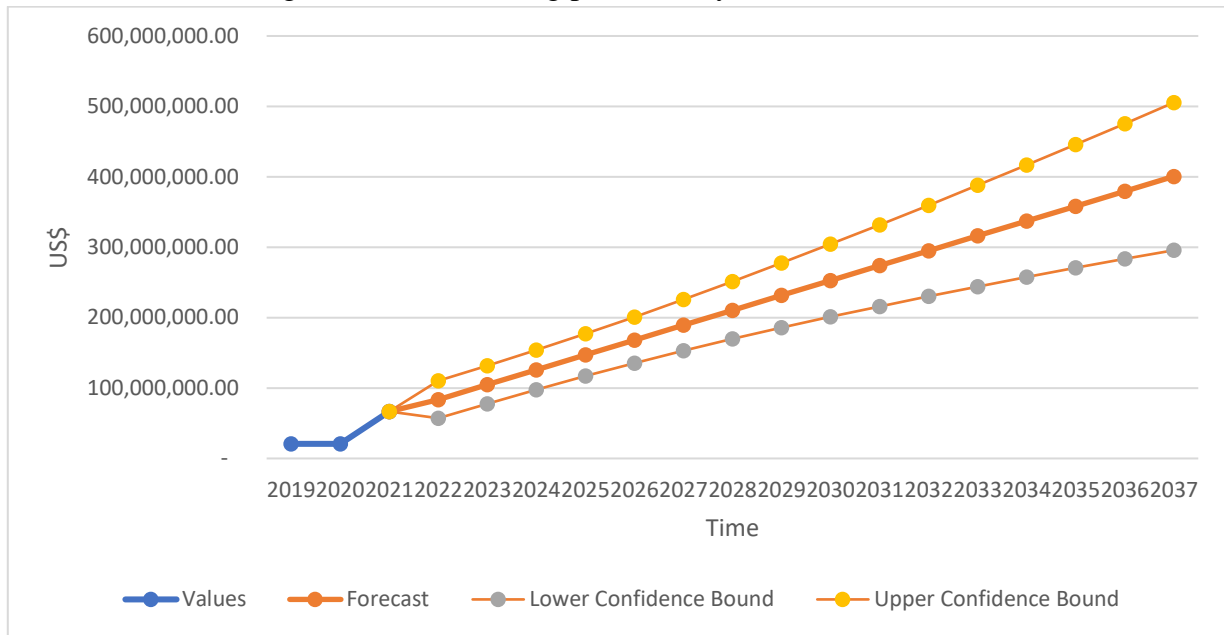


Figure 8: forecast on Road Funding requirements

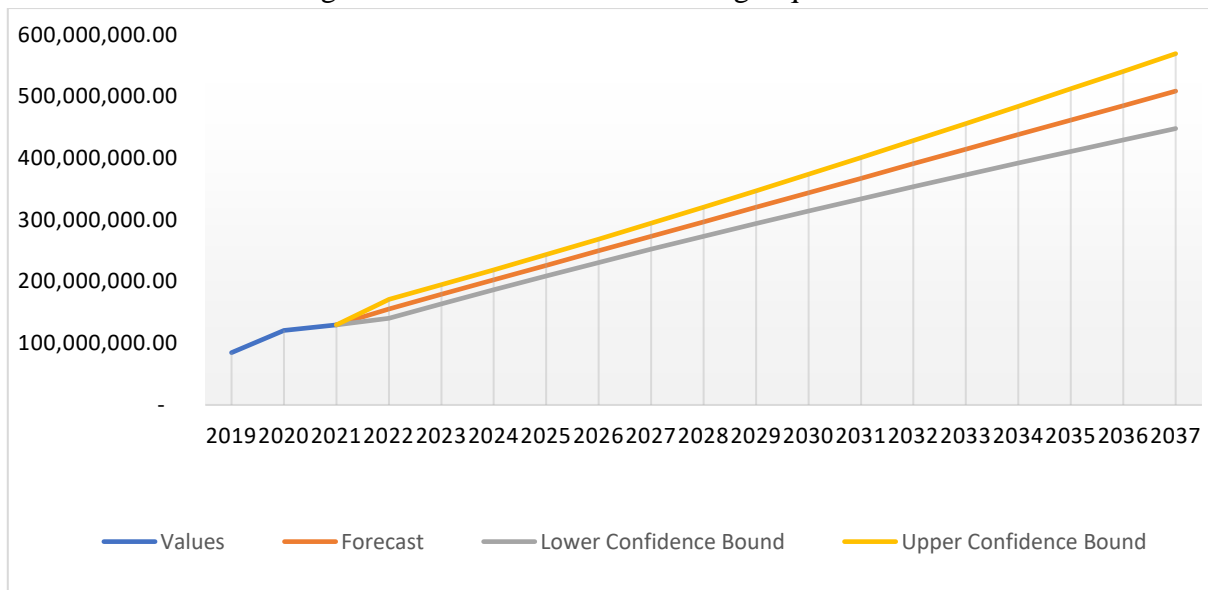
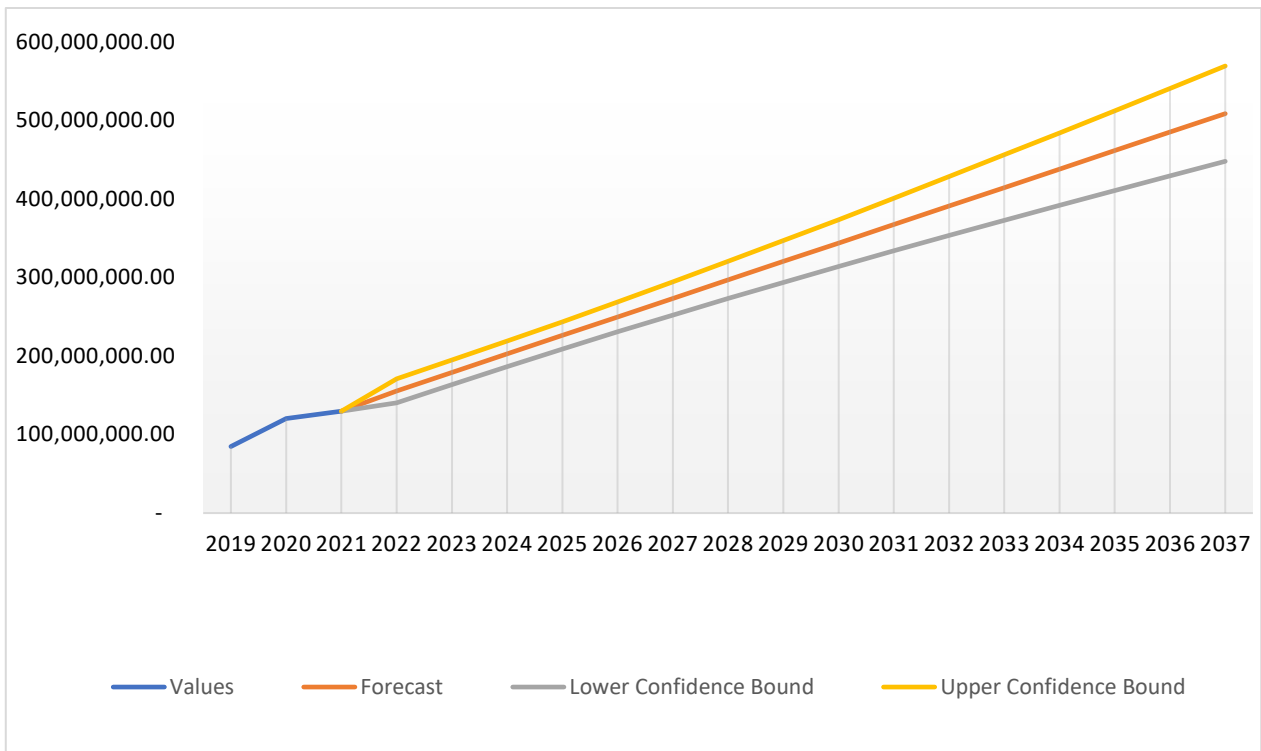


Figure 9: Funding forecast to 2037 excluding grants and loans

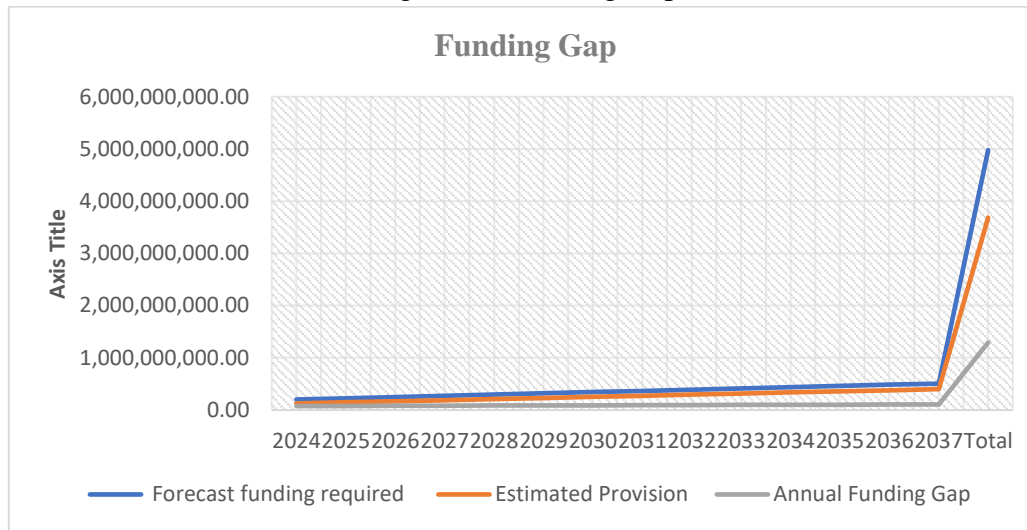


4.3.4. Dissection of the Fiscal Gap

The analysis unveils a widening gap between forecasted infrastructural investment needs and the prospective financial outlays that could be marshalled by the RIFM. The projected annual funding deficit oscillates between a low-water mark of US\$76 million in the year 2024 to an apogee of US\$108 million in 2037. Aggregated over the span of the study, this temporal divergence culminates in a startling cumulative deficit approximating US\$1.3 billion by 2037.

The emergent narrative here is not merely one of fiscal shortfall but of an impending infrastructural crisis, the ramifications of which extend beyond mere budgetary calculus to envelop broader socio-economic dimensions. As such, the findings of this prognostic evaluation serve as a critical augury for policy architects and fiscal stewards, demanding immediate action to recalibrate and fortify the RIFM for the challenges and opportunities that lie ahead.

Figure 10: Funding Gap



4.4. Assessment of Stakeholder Preferences for Road Infrastructure Financing in Malawi

To create a sustainable and effective financing model for road infrastructure in Malawi, it is crucial to understand stakeholder preferences for various potential funding sources. This section aims to explain these preferences by aligning them with existing academic literature, thereby offering a comprehensive viewpoint. A structured survey was administered to a range of stakeholders to gather their opinions on different sources of funding for road infrastructure. These sources included:

1. Public Financing Only
2. Private Financing
3. Public + Private Financing (Blended)
4. Property Tax
5. Tolls
6. Import Duties on Motor Vehicles and Spare Parts

4.4.1. Public + Private Financing (Blended Model)

The blended financing model gained the most support, with 87.7% of respondents in favor. Within this group, 45.6% agreed, and 42.1% strongly agreed that this is a viable option. This high level of approval aligns with global shifts toward using both public and private resources to fill public financing gaps in infrastructure projects (Andre’ Pottas, 2022; Cirolia et al., 2022; Jacobs, 2020; Jerome, 2015).

4.4.2. Tolls

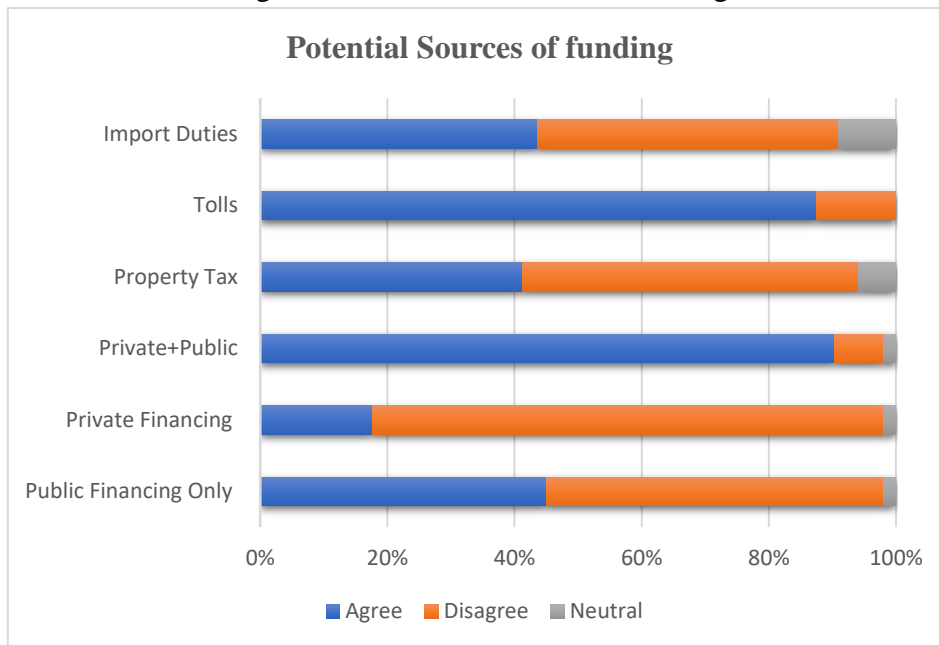
Tolls were the second most favored option, supported by 87.2% of respondents. Their increasing popularity is likely due to the declining effectiveness of traditional, fuel-based revenue streams (Kim & Samudro, 2021; Rizzi, 2014). Tolls are user-centric, offering an alternative to the indiscriminate nature of fuel levies (Rizzi, 2014; Solak, 2022).

4.4.3. Import Duties on Motor Vehicles and Spare Parts

Stakeholder opinions on import duties were polarized. While 48.2% opposed using this funding source, 42.9% supported it. The prominence of second-hand vehicles in Malawi adds an additional layer of complexity to this issue (Atkins & Ernst and Young, 2017; Netherlands Human Environment and

Transport Inspectorate, 2020).

Figure 11: Potential sources of funding



5. Discussion

The majority of respondents (75%) were dissatisfied with the condition of Malawi's roads, rating them as either "very poor" or "poor." The prevalent dissatisfaction aligns with the literature highlighting infrastructural inadequacies in African countries (Lee & Locke, 2021; Mandiriza et al., 2021; Welde et al., 2020). These findings underscore the urgent need to develop an innovative financing model to cater for the growing demand on roads infrastructure as the dominant transport mode..

A significant majority of stakeholders rated the current road funding model as "Low" or "Very Low" in its effectiveness across maintenance, rehabilitation, and new construction financing. This perception of ineffectiveness is corroborated by documentary evidence revealing a consistent funding gap between proposed budgets and actual allocations (Figures 10). The findings indicate that the model faces both qualitative and fiscal shortcomings, a finding that can be paralleled with similar challenges in other emerging economies (Antonis, 2010; Estache et al., 2015; Fourie, 2006).

When considering future demands, a worrisome gap between projected funding needs and expected allocations was observed. Using CAGR analysis, the study forecasts an escalating annual funding deficit reaching up to US\$108 million by 2037, a gap which could cumulatively result in a shortfall of approximately US\$1.3 billion. This reveals the incapacity of the current model to meet the infrastructure demands of a growing economy.

5.1. Preferences for Alternative Funding Sources

The blended financing model, a combination of public and private financing, gained the most support from stakeholders. This result aligns with global shifts in infrastructure financing that increasingly rely on mixed funding sources to bridge financial gaps (Arimoro, 2021; Darrin Grimsey and Mervyn K. Lewis, 2004; Engel et al., 2013; Farlam, 2005; Khmel & Zhao, 2016; Loxley, 2013; Mulyani, 2021; Osei-Kyei

& Chan, 2015).

5.2. Policy Implications

Given the prevalent dissatisfaction with the road conditions and the existing funding model, a significant policy overhaul is imperative. Adopting a blended model of public and private financing, as supported by a majority of stakeholders, could be a viable solution to tackle the current fiscal inadequacy.

5.3. Future Research Directions

While this study provides an in-depth understanding of the current state of road funding in Malawi, additional research is needed to explore the potential governance structures and risk mitigation strategies associated with adopting a blended financing model. Comparative studies involving countries with similar economic profiles could also offer valuable insights.

5.4. Conclusion

The study reveals the ineffectiveness of Malawi's current road funding model in meeting both existing infrastructure needs and future demands. A strategic overhaul, potentially involving blended financing models, is urgently required to bridge the substantial and growing funding gap. This study contributes to the broader discourse on sustainable infrastructure financing in emerging economies.

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