

Public Transport Challenges on User Satisfaction in Cities: A Case of Dar es Salaam

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Abstract — This study examined the challenges of public transport and how they affect passenger satisfaction in Dar es Salaam City. The main goal was to understand how the quality of transport infrastructure, social factors, and daily transport operations influence how satisfied commuters are. A quantitative research approach with an exploratory design was used. Out of 384 targeted participants, 315 valid responses were received, giving an 82% response rate. The results showed that the average ratings for transport infrastructure, social aspects, operational aspects, and satisfaction were around 2.85, meaning most passengers felt neutral about the quality of services. Correlation analysis found very weak and statistically insignificant links between the studied factors and user satisfaction. Similarly, regression results showed low explanatory power, with R^2 values between 1.3% and 3.0%. None of the studied factors had a significant impact on how satisfied users were. These findings suggest that user satisfaction in Dar es Salaam's public transport is influenced by other unmeasured or personal experiences that go beyond service quality. The study adds to the discussion on urban transport by showing that traditional service factors do not always explain satisfaction levels in developing countries. It recommends that policymakers and transport authorities use more inclusive and feedback-based planning approaches that focus on passengers' real experiences. The study also suggests further research on emotional and social aspects such as fairness, safety, and respect in service delivery, especially in fast-growing African cities with limited infrastructure.

Keywords — Public transport, User satisfaction, Service quality, Urban mobility, Dar es Salaam

I. INTRODUCTION

Worldwide transportation accessibility is fundamental for people's need to engage with their community, for obtaining employment, goods and services, health and education, and for socializing (Balcombe, 2021). Public transport forms the basic mobility service to citizens causing nations to continue develop new transport system and improve the existing ones to again form the benefits of good transportation system (Igebe, 2020). Due to growth of cities, demands for work and high migration from rural areas to urban areas, urban population become high and plays a very important role in evaluating the supply and demand of transport. According to Widyastuti (2018) the challenges of public transport worldwide have been associated with globalization, urbanization, fiscal decentralization and economic transition. This had made provision of efficient public transport to become more challenging to most nations all over the world (Jinhua, 2021).

According to Igebe (2020) the prevailing public transport services in developing countries are unable to handle reasonably with demands due to inadequate road infrastructure, uncontrolled expansion of cities, high population growth and low-level income and poor traffic management. Solanke (2019) described traffic congestion, parking problems, accidents and environmental pollution are main cause for unsatisfied public transport users. In sub-Saharan countries, the urbanization level is projected at around 36% of its entire population. South Africa is the most urbanized, with 60% of its population, followed by Angola at 55%, Ghana at 49%; and Nigeria at 47%. Among the nine key markets in the region, Kenya is the least urbanized at 21%. In terms of urbanization rates, however, Mozambique's urban population has been growing the fastest among the nine key markets over the 2005 to 2008 period, at an average of 2.2% per year, with Angola and Tanzania tied for second place at 1.7%. The weakness of transport systems in Sub-Saharan Africa is the lack of transport infrastructures (World Bank, 2020).

Despite of the challenges on public transport, there are proposed initiatives to mitigate the problem. Munuhwa and Muchenje (2020) proposed a strict lane management as different lanes for different types of vehicles, marked on the roads and law and financial penalty should be imposed to make the drivers maintain the lane discipline. Furthermore, Comtois and Slack (2019) outline measures to deal with the public transport and includes signal management, incident management, congestion pricing and the enforcement of public transport

laws and policies are possible effective strategies available in dealing with public transportation situation. Likewise, (OECD, 2018) highlighting that, road transport policies should seek to manage public transport on a cost-effective basis, effective land use planning and appropriate levels of public transport service are essential for delivering high quality access in urban areas, and transport authorities will inevitably need to employ a combination of access, parking and road pricing measures to lock in the benefits from operational and infrastructure measures aimed at mitigating public transport challenges.

In Tanzania Public transport carrying over 90% of the commuters and 75% of the freight traffic. The road network in Tanzania embraces 86,472 km of roads, of which 12,786 km are trunk roads, 21,105 km are regional roads and the remaining 52,581 km are district, urban and feeder roads (TIC, 2021). Nevertheless, having good road networks public transport experience various challenges that undermined user satisfaction (Longo & Mwimbe, 2022). Furthermore, severe congestions, inadequate road infrastructures, poor vehicle standards, high levels of air pollution, unfair bus fares, lack of accessible vulnerable groups and inconsistent service quality are mentioned common challenges in major cities (Makolo & Sende, 2020; Bwire & Kitali, 2019). Dar es Salaam as one of the fastest-growing cities in Sub-Saharan Africa, has not escaped from the impacts of poor public transport services: inefficiency, poor quality of service, and lack of safety for commuters (JICA, 2018). Public transport is mainly by road, making it a very important player in the provision of passenger transportation. However, access to affordable and good quality public transport services is critical as a lack thereof leads to economic, social, and physical isolation, especially among low-income communities located in the city outskirts with inadequate access to public transport and other basic urban facilities which are located at the city center (Kiunsi, 2021).

Balcombe (2021) highlighted the systems theory and use the theory to assess transport systems based on service quality indicators such as travel time, frequency, reliability, and comfort. Likewise, Demitron (2022) use the expectancy disconfirmation theory to explain user satisfaction by comparing actual performance with prior expectation. Both theories analyse public transport via improvements in service delivery and understanding user perceptions. However, systems theory neglects subjective focus on user experience while expectancy disconfirmation relies on individuals' expectations, making challenges in improvements (Summala & Näätänen, 2018). Studies shows that, poor customer service and the use of abusive language, corruption, unlawful dealing by traffic police and route cancelling are terrible in public transport (Singogo & Tinali, 2021). Furthermore, Bwire and Kitali (2019) lack of road signs, bus stop and markings and erratic traffic signals due to frequent power cut are critical factor affecting the performance of public transport. In the line of Msumanje and Runyoro (2021) poor driver behavior, pedestrian and other road user behavior and mechanical condition of vehicles are the factors for underperformance of public transport. Congestion and chaotic urban public transport system impacts the quality of the urban transport environment (Munuhwa & Muchenje, 2020)

To reverse situation, the government, in 2003 enacted a National Transport Policy, places transport regulatory authorities to address the transport sub-sector challenges. (LATRA, 2021). Also, the government established DART Agency to improve the quality of public transport in Dar es Salaam (JICA, 2018). Nonetheless, in Dar es Salaam witnesses reported that public transport seems to be unreliable, insufficient, unsafe, uncomfortable, uncoordinated and users are mainly suffering from long waiting time and overcrowding (Msumanje & Runyoro, 2021; Singogo & Tinali, 2021; Kiunsi, 2021; Bwire & Kitali, 2019). Both studies revealed the presence of public transport challenges in cities, however, did not explorer the user satisfactions.

Urban public transport systems are vital for mobility, yet in cities like Dar es Salaam, challenges such as overcrowding, congestion, delays, poor service quality, and safety concerns remain widespread. These issues reduce commuter satisfaction and disrupt transport operations. Although government initiatives, such as the Bus Rapid Transit system and regulatory reforms, have improved some aspects, rapid population growth, limited resources, and weak enforcement continue to stress the system. The persistent issues hinder the creation of an efficient, safe, and accessible transport network. Therefore, this study focuses on analysing public transport challenges and user satisfaction in Dar es Salaam, with specific attention to infrastructural, social, and operational factors.

II. LITERATURE REVIEW

Theoretical Literature Review

This study was guided by the Systems Theory, first developed by Ludwig von Bertalanffy in the 1930s and widely adopted in the 1950s (Rothengatter & Bruin, 2018). The theory views an organization or entity as a system of interrelated parts working together toward common goals (Pulugurta et al., 2019). In public transport, it conceptualizes the network as an interconnected system involving infrastructure, social aspects, operations, and users. Systems Theory emphasizes interdependencies among elements such as policy frameworks, urban

planning, and operator practices that influence efficiency and service quality (Summala & Näätänen, 2018). While critics argue that it can be overly complex and abstract, limiting the identification of specific causes within large systems (Rothengatter & Bruin, 2018), the theory remains useful for understanding how inefficiencies in one area, such as poor infrastructure or management, affect overall user satisfaction. Therefore, Systems Theory provides a holistic framework for analyzing how infrastructural, operational, and social challenges collectively influence public transport efficiency in urban contexts.

Empirical Review

Transport Infrastructures Quality on User Satisfaction

Msumanje and Runyoro (2021) conducted a study on public transport service reliability in Dar es Salaam City, focusing on the quality of infrastructure, service reliability, and passenger satisfaction. Their findings revealed widespread user dissatisfaction resulting from inadequate bus supply, ineffective ticketing systems, poor scheduling, frequent bus breakdowns and accidents, limited passenger information, unfavorable weather conditions, driver misconduct, and traffic congestion. Similarly, Hasnine (2020) evaluated and developed bus-based public transport in Dhaka City, concluding that the system suffers from weak transport facilities and poor supervision of bus stops and terminals, which cause significant inconvenience to users. In another study, Bwire and Kitali (2019) examined the operational characteristics of the newly introduced Bus Rapid Transit (BRT) in Dar es Salaam and found that the absence of road signs, bus stops, proper markings, and reliable traffic signals critically affects public transport users. Furthermore, Mtizi (2018), in a study on Southern African public transport solutions, revealed that inefficiencies such as overcrowding, irregular schedules, poor infrastructure, and inadequate vehicle maintenance undermine efficiency, safety, and comfort, resulting in longer travel times and reduced passenger satisfaction. However, despite these studies addressing various service-related challenges, they did not specifically examine how transport infrastructure directly influences user satisfaction.

Transport Social Aspects on User Satisfaction

Makolo and Sende (2020) conducted a study on community access to public transport and found that many bus stops are located far from residential areas, making it difficult for users to conveniently access transport services. Similarly, Hasnine (2020), in a study on bus-based public transport in Dhaka City, revealed that poor road conditions and limited transport options disproportionately affect low-income populations, restricting their access to essential social services. Fumagalli et al. (2021) examined challenges in public transportation and found that environmental impacts, such as air pollution and greenhouse gas emissions, harm public health and quality of life, highlighting the need for sustainable transport solutions. The study also noted that regulated bus fares are often not affordable for low-income residents. In Nigeria, Solanke (2019) identified gender disparities in urban transport access, with women facing safety risks and limited mobility options. However, the study acknowledged that infrastructure improvements, such as mass transit systems and road expansions, are underway to promote inclusivity and connectivity across Africa. Additionally, Singogo and Tinali (2021) investigated the influence of monitoring and incentives on inter-regional bus drivers' performance in Tanzania and found that limited education among drivers and conductors on customer service, along with inadequate knowledge of vehicle maintenance among owners, hinders service efficiency. Despite these findings, previous studies have not adequately explained how social aspects of transport such as accessibility, affordability, equity, and user relations directly affect passenger satisfaction.

Transport Operational Aspects on User Satisfaction

Alizadeh (2017) conducted a study on urban digital strategies and found that public transport faces operational challenges, including poor demand management, infrastructure limitations, and financial constraints. Balcombe (2021) highlighted that operational strategies in Africa often fail to ensure accessibility for people with disabilities and other mobility needs, while also struggling to address risks related to vehicle operation, passenger behavior, and security. Jinhua (2021) examined bus service reliability and reported challenges in vehicle inspections, technology adoption, and maintaining service reliability in congested areas. Broadus et al. (2019) noted that demand management strategies, such as congestion pricing, public transport incentives, and shared mobility solutions, can help balance transport supply with user needs. Similarly, Hashim (2021) emphasized that operational quality is influenced by infrastructure constraints, financial limitations, and rapid urbanization. African countries are increasingly adopting multi-modal transport solutions, integrating rail, road, and water transport to improve connectivity. Although these studies address aspects of operational quality, such as demand management, strategies, and techniques, there is a notable gap in research within East Africa, including Tanzania, indicating the need for localized studies on operational challenges and their impact on public transport performance.

Conceptual Framework

The conceptual framework links the independent variables (public transport challenges) to the dependent variable (user satisfaction). The figure 1 below illustrate the relationship

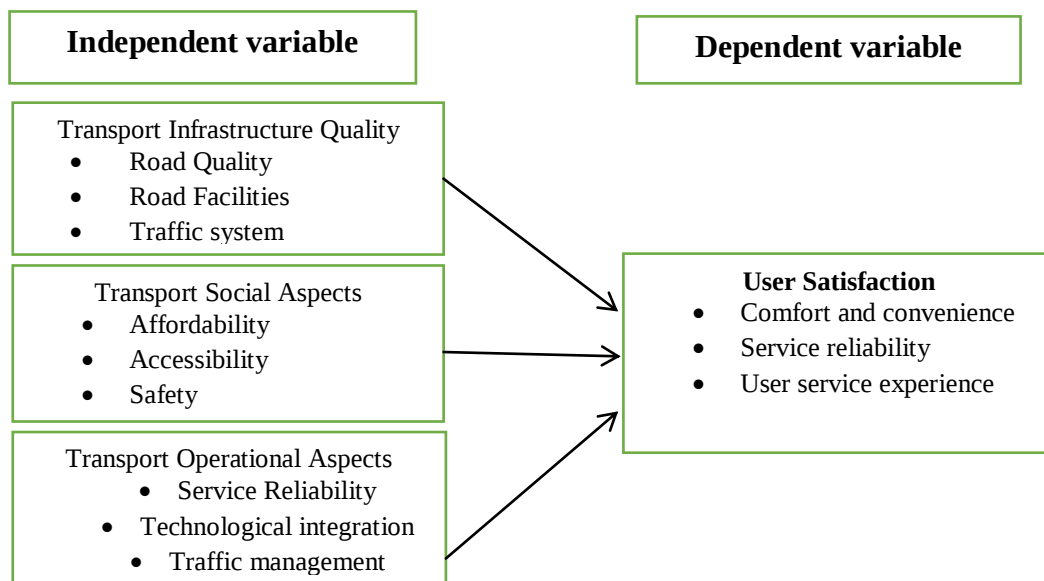


Figure 1: Conceptual Framework
Source: Author, 2025

III.METHOD

This study was guided by ontological assumptions within the research philosophy, which shaped the investigation of public transport challenges and user satisfaction in Dar es Salaam (Sekaran & Bougie, 2016; Saunders, 2016; Kumar, 2011). Ontology informed how the research objectives were approached, ensuring alignment between the study's focus and the methodology used.

A quantitative research approach was employed, emphasizing verification, validation, and objective measurement (Kumar, 2011; Sekaran & Bougie, 2016). An exploratory research design was adopted to examine public transport challenges and user satisfaction in depth, covering infrastructural, social, and operational aspects of the transport system (Sekaran & Bougie, 2016; Johnson & Onwuegbuzie, 2019; Krueger & Casey, 2015). This approach allowed the study to investigate underexplored issues and capture detailed insights from users.

Dar es Salaam was selected as the study area due to its high concentration of urban public service vehicles, ongoing infrastructure expansion, and significant traffic incidents (Benmaamar, 2019; LATRA, 2021; Criminal and Traffic Incidents Statistics, 2022). The target population consisted of public transport users, reflecting the city's reliance on urban transport amidst congestion (LATRA, 2020). Using a 95% confidence level and a 5% margin of error, a representative sample of 384 respondents was determined from the city's population of approximately 10 million residents (NBS, 2022). The sample size was determined by the formula below.

$$n = \frac{Z^2 \times P \times (1 - P)}{E^2}$$

n : The sample size

z : The Z-score, which depends on the significance level = 95%

p : The population proportion 50%.

E : The margin of error = 5%

This study employed probability sampling to ensure representativeness, giving each member of the target population an equal chance of selection (Johnson & Onwuegbuzie, 2019; Gozar & Tajik, 2022). Stratified sampling was adopted to capture variability and increase accuracy in the sample (Rahi, 2017). The study collected primary data using questionnaires, which are suitable for wide geographical coverage and provide respondents with freedom while reducing bias (Kumar, 2011; Gozar & Tajik, 2022). The questionnaire consisted of two sections: demographics and objective-based questions, with a total of nine questions distributed in both English and Kiswahili, ensuring accessibility and clarity for all respondents.

Structured questionnaires were used as the primary data collection instrument, employing an ordinal scale to facilitate easy processing and coding (Johnson & Onwuegbuzie, 2019; Rahi, 2017). Each respondent received identical questions in the same order to ensure consistency, and the instrument allowed detailed capture of information aligned with research objectives. Reliability of the instrument was measured through internal consistency using Cronbach's Alpha, with values of 0.7 and above considered reliable (Surucu & Maslakçi, 2020; Haradhan, 2017; Saunders, 2016). Content validity was ensured by expert evaluation and calculated using Lawshe's formula, where items rated as inappropriate by experts were removed to guarantee that the instrument accurately measured the intended concepts (Lawshe, 1975; Haradhan, 2017; Surucu & Maslakçi, 2020).

Data analysis involved coding and processing using IBM SPSS to study characteristics of the variables and examine relationships among them. Descriptive statistics were used to summarize data, while correlation and multiple regression analyses were employed to investigate patterns and relationships among variables. This approach ensured that data was presented in a clear, understandable, and meaningful manner, supporting the study's aim of analyzing public transport challenges and user satisfaction in Dar es Salaam.

IV. RESULT AND DISCUSSION

Demographic information of Respondents

In this study, gender, age, educational level, and experience in the use of public transport was taken into consideration to enable to analyse patterns, disparities and needs within the focus of the study.

Gender of Respondents

The gender distribution revealed that 53% of the respondents were male, while 47% were female, indicating a fairly balanced representation of both genders. This balance enhances the credibility of the findings, as transport experiences and satisfaction levels can be influenced by gender-specific concerns such as safety, accessibility, and convenience. The Table 1 presents distribution of respondent's gender.

Table 1: Distribution of respondent's gender

Respondents' category	Frequency	Percentage	Mean	Median	Mode	Std. Deviation	Variance
Male	168	53	1.467	1	1	0.499	0.249
Female	147	47					
Total	315	100					

Source: Field data, 2025

Age of Respondents

The age composition of the respondents showed that a majority were in the age categories of 35–44 years (29%), followed by 25–34 years and 18–24 years, each representing 21% of the sample. This implies that the study predominantly captured the views of economically active individuals who are most likely to rely on public transport for commuting to work, educational institutions, or daily errands. The inclusion of younger and older age groups ensures a comprehensive understanding of satisfaction levels across different life stages, thereby enriching the depth of analysis.

Table 2: Distribution of respondent's age

Respondents' category	Frequency	Percentage	Mean	Median	Mode	Std. Deviation	Variance
18-24 Years	67	21	2.787	3	3	1.307	1.709
25-34 Years	66	21					
35-44 Years	91	29					
45-54 Years	49	16					
55 and above	42	13					
Total	315	100					

Source: Field data, 2025

Education Level of Respondents

With regard to educational attainment, the majority of respondents (48%) held a diploma, advanced diploma, or bachelor's degree, while 23% had certificate-level education. A relatively smaller proportion (11%) held postgraduate qualifications, and only 4% had primary education. This educational profile suggests that most users possess a moderate to high level of formal education, which may influence their expectations of service quality and their ability to critically assess public transport operations. Educated users are also more likely to articulate their satisfaction or dissatisfaction, which adds nuance to the study findings.

Table 3: Distribution of respondent's education level

Respondents' category	Frequency	Percentage	Mean	Median	Mode	Std. Deviation	Variance
Primary level	13	4	3.488	4	4	1.001	1.002
Secondary level	43	14					
Certificate level	72	23					
Diploma/Advanced diploma/Bachelor	151	48					
Postgraduate (PhD, Masters, PGD)	36	11					
Total	315	100					

Source: Field data, 2025

Involvement in Public Transport of Respondents

All respondents indicated that they were actively involved in the use of public transport, with 100% reporting current usage. This uniformity confirms the relevance and accuracy of the responses in relation to the research objectives.

Table 4: Distribution of respondent's involvement in public transport

Respondents' category	Frequency	Percentage	Mean	Median	Mode	Std. Deviation	Variance
Yes	315	100	1	1	1	0	0
No	0	100					
Total	315	100					

Source: Field data, 2025

Experience of Respondents in use of Public Transport

The data reflects the real experiences of public transport users rather than speculative opinions. Regarding the duration of experience, 23% of respondents had used public transport for 5–9 years, another 23% had more than

10 years of experience, and 17% had used it for 2–4 years. This shows that a significant portion of the sample comprises long-term users who are well-positioned to evaluate trends, systemic improvements, or persistent challenges within the public transport sector in the city.

Table 5: Distribution of respondents' experience in use of public transport

Respondents' category	Frequency	Percentage	Mean	Median	Mode	Std. Deviation	Variance
2 -4 Years	45	17	3.7	4	4	0.485	0.236
5 - 9 Years	62	23					
10 and above Years	62	23					
Total	315	100					

Source: Field data, 2025

Transport Infrastructures Quality on User Satisfaction

This section presents the findings which assessed the extent to which the quality of transport infrastructure influences user satisfaction in the context of public transport in cities.

The analysis of transport infrastructure quality and its effect on user satisfaction in Dar es Salaam incorporated nine predictor variables related to road condition, station accessibility, terminal adequacy, congestion, and enforcement mechanisms. The descriptive statistics revealed moderate agreement levels across all items. The roads used by public transport in my area are in good condition recorded a mean of 2.86 (SD = 0.497), indicating a neutral to slightly positive perception. Similarly, statements such as bus stops, terminals, and waiting areas in my city are accessible and there are adequate seating and shelter at public transport stations also showed mid-range means, reflecting modest satisfaction with infrastructure features.

Table 6: Transport infrastructure quality on user satisfaction

	Mean	Median	Mode	Std. Deviation	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)					2.908	0.158		18.392	0.000
The roads used by public transport in my area are in good condition	2.48	2.00	1	1.498	-0.002	0.013	-0.011	-0.184	0.854
Potholes and uneven road surfaces negatively affect my public transport experience	3.93	4.00	4	0.973	-0.012	0.021	-0.033	-0.564	0.573
I frequently experience delays due to road maintenance or poor road conditions	3.62	4.00	4	1.077	-0.012	0.019	-0.036	-0.633	0.527
Bus stops, terminals, and waiting areas in my city are accessible	3.02	3.00	4	1.129	-0.031	0.018	-0.100	-1.734	0.084
There is adequate seating and shelter at public transport stations	2.06	2.00	2	1.014	0.026	0.020	0.077	1.350	0.178
Public transport stations and terminals meet the needs of passengers, including those with disabilities	2.07	1.00	1	3.209	0.003	0.006	0.030	0.512	0.609
Traffic signals and control measures reduce congestion for public transport	2.20	2.00	1	1.316	-0.015	0.015	-0.057	-0.990	0.323
Enforcement of dedicated bus lanes and traffic rules improves public transport efficiency	2.82	2.00	2	1.314	0.021	0.015	0.079	1.386	0.167
Traffic congestion significantly delays my public transport journeys	3.56	4.00	4	0.951	0.014	0.021	0.037	0.640	0.523

a. Dependent Variable: User satisfactions

Source: Field data, 2025

Model Summary

The multiple regression model produced an R-value of 0.170, an R Square of 0.029, and an Adjusted R Square of 0.000, suggesting that only 2.9% of the variation in user satisfaction could be explained by the nine infrastructure-related predictors.

Table 7: Model summary of transport infrastructure on user satisfaction

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.179 ^a	0.032	0.004	0.349	0.032	1.125	9	305	0.345	1.826

Dependent Variable: Usersatisfactions

Source: Field data, 2025

Analysis of variance (ANOVA)

The ANOVA test was not statistically significant ($F = 1.013$, $df = 9, 305$, $p = 0.430$), indicating that the collective influence of infrastructure elements does not significantly predict user satisfaction. The individual regression coefficients for all predictors were not statistically significant. The coefficient for Potholes and uneven road surfaces negatively affects my public transport experience was $B = -0.037$, $p = 0.155$, and for bus stops, terminals, and waiting areas are accessible was $B = -0.018$, $p = 0.371$. Even though users moderately agreed with the presence or absence of infrastructure issues, these perceptions did not translate into a significant impact on satisfaction.

Table 8: ANOVA for transport infrastructure on user satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.233	9	0.137	1.125	.345 ^b
Residual	37.142	305	0.122		
Total	38.375	314			

Dependent Variable: User satisfactions

Source: Field data, 2025

This suggests that while infrastructure quality is acknowledged by users, its role in shaping satisfaction may be limited unless integrated with more reliable service experiences or seen as part of a holistic improvement. It is possible that over time, users have normalized infrastructure inadequacies, or consider them outside the control of service providers, thus reducing their effect on satisfaction ratings.

The findings challenge the common narrative in transport planning literature that infrastructure quality is a primary driver of satisfaction. Although studies such as Hasnin (2020) emphasize the importance of well-maintained infrastructure in improving user experience, the current findings suggest that in Dar es Salaam, users may have become accustomed to infrastructural inadequacies, leading to diminished expectations and neutral satisfaction ratings. Alternatively, it may be that infrastructural improvements alone without concurrent improvements in service delivery and operational consistency are insufficient to improve user perception. This reflects the argument made by Munuhwa & Muchenje (2020) that public transport satisfaction is most improved when infrastructure investments are combined with user-focused service innovations.

Transport Social Aspects on User Satisfaction

This section presents the findings which assessed the transport social aspects on user satisfaction in cities. The transport social aspects model evaluated variables related to fare affordability, safety, accessibility for vulnerable populations, and service equity. The descriptive results revealed that respondents generally held neutral to slightly positive views on these social indicators. The statement “Public transport fares are affordable in relation to my income” had a mean close to 2.84 (SD = 0.459), while “I feel safe while using public transport, especially at night” showed similar neutrality. Notably, some responses such as “I frequently witness or experience incidents of crime or harassment” likely skewed negatively, but these still fell within the mid-range.

Table 9: Transport social aspects on user satisfaction

	Mean	Median	Mode	Std. Deviation	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
					B	Std. Error	Beta		
(Constant)					2.684	0.142		18.905	0.000
Public transport fares are affordable in relation to my income	3.20	4.00	4	1.245	0.024	0.017	0.085	1.383	0.168
Fare increases reduce my ability to use public transport	3.58	4.00	4	0.900	-0.013	0.022	-0.033	-0.580	0.562
The current fare structure is fair and reasonable	2.49	2.00	1	1.383	0.027	0.015	0.106	1.759	0.080
Public transport is accessible for people with disabilities, the elderly, and other vulnerable groups	1.88	1.00	1	1.250	-0.008	0.016	-0.029	-0.498	0.619
Public transport is convenient for reaching key destinations such as workplaces, schools, and hospitals	3.46	4.00	4	1.206	0.001	0.017	0.004	0.061	0.951
Public transport services are available during both peak and off-peak hours	2.50	2.00	2	1.171	0.037	0.018	0.125	2.138	0.033
I feel safe while using public transport, especially at night	2.58	2.00	2	1.390	-0.016	0.015	-0.062	-1.067	0.287
I frequently witness or experience incidents of crime or harassment while using public transport	2.79	3.00	2	1.249	0.009	0.016	0.033	0.579	0.563
Safety measures and regulations in public transport are adequately enforced	3.11	3.00	4	1.212	0.002	0.017	0.008	0.135	0.893

Source: Field data, 2025

Model Summary

The regression model for social aspects yielded an R-value of 0.173, R Square of 0.030, and an Adjusted R Square of 0.001, indicating that 3% of the variance in user satisfaction could be explained by these social variables.

Table 10: Model summary of transport social aspects on user satisfaction

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.187 ^a	0.035	0.006	0.348	0.035	1.224	9	305	0.280	1.825

Dependent Variable: Usersatisfactions

Source: Field data, 2025

Analysis of variance (ANOVA)

The ANOVA test was not significant ($F = 1.043$, $df = 9, 305$, $p = 0.406$), confirming that the model lacked predictive strength. Individual regression coefficients also failed to reach statistical significance. The statement “Safety measures and regulations in public transport are adequately enforced” had a coefficient $B = -0.001$, $p = 0.963$; and “Fare increases reduce my ability to use public transport” had $B = -0.038$, $p = 0.124$. Despite relatively neutral or mildly positive perceptions, these social attributes did not significantly impact user satisfaction.

Table 11: ANOVA of transport social aspects on user satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.338	9	0.149	1.224	.280 ^b
Residual	37.037	305	0.121		
Total	38.375	314			

Dependent Variable: Usersatisfactions

Source: Field data, 2025

The implication is that, although affordability, safety, and inclusiveness are foundational to a socially equitable transport system, they do not currently exert a measurable influence on satisfaction. This could be due to inconsistency in service provision across the city or users considering these factors as essential rights rather

than variables that define satisfaction. The weak explanatory power suggests a need for more systemic, visible, and equitable application of social measures to influence perception meaningfully.

These results are surprising given that social aspects particularly affordability and safety are often cited as key drivers of satisfaction and access in urban transport systems (World Bank, 2020). The lack of significant influence may indicate that the aspects are either inconsistently applied across the network or considered fundamental expectations rather than value-adding features. If users assume that safety and affordability should be guaranteed, they may not report increased satisfaction when such standards are met, but would react strongly if they are violated. This perspective aligns with Mtizi (2018) and Benmaamar (2019) who posits that satisfaction is determined not by performance alone but by the gap between expectations and perceived outcomes.

Transport Operational Aspects on User Satisfaction

This section presents the findings which assessed operational characteristics of public transport and their influence on user satisfaction. The operational aspects of public transport such as frequency, scheduling adherence, digital integration, congestion management, and technical reliability were assessed for their effect on user satisfaction. The descriptive statistics showed moderate agreement. The statement about public transport vehicles adhere to scheduled departure and arrival times and Digital payment systems are convenient had mean scores near 2.85 (SD = 0.430), indicating a neutral to moderately agreeable stance.

Table 12: Transport operational aspects on user satisfaction

	Mean	Median	Mode	Std. Deviation	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
					B	Std. Error	Beta		
(Constant)					2.694	0.142		18.949	0.000
Public transport vehicles adhere to scheduled departure and arrival times	2.40	2.00	2	1.114	0.005	0.018	0.014	0.254	0.800
Public transport services are frequent in my area	2.89	3.00	1	1.452	-0.002	0.014	-0.007	-0.111	0.912
Public transport provides alternative routes during traffic congestion or road closures	2.92	3.00	2	1.480	0.014	0.014	0.060	1.038	0.300
Digital payment systems are convenient for paying public transport fares	2.54	2.00	1	1.421	0.008	0.014	0.031	0.533	0.594
Mobile apps or real-time tracking systems help in planning public transport trips	3.52	4.00	4	1.149	0.023	0.018	0.075	1.284	0.200
I experience technical issues while using public transport services	2.32	2.00	1	1.386	0.003	0.014	0.013	0.220	0.826
Dedicated public transport lanes help reduce travel time	3.32	4.00	4	0.929	-0.022	0.022	-0.057	-0.981	0.328
Authorities effectively manage traffic congestion for public transport	2.24	2.00	1	1.243	0.015	0.016	0.052	0.909	0.364
I experience long delays in public transport due to traffic congestion	3.48	4.00	4	1.107	0.013	0.018	0.042	0.734	0.463

Dependent Variable: Usersatisfactions

Source: Field data, 2025

Model Summary

The regression model produced an R-value of 0.113, an R Square of 0.013, and an Adjusted R Square of -0.016, meaning that the model explained only 1.3% of the variation in user satisfaction.

Table 13: Model summary of transport operational aspects on user satisfaction

R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.129 ^a	0.017	-0.012	0.352	0.017	0.572	9	305	0.820	1.805

Dependent Variable: User satisfactions

Source: Field data, 2025

Analysis of variance (ANOVA)

The ANOVA was not statistically significant ($F = 0.435$, $df = 9$, 305 , $p = 0.916$), indicating that the collective influence of operational aspects does not predict satisfaction reliably. None of the operational predictors demonstrated statistical significance. For instance, “I experience long delays due to traffic congestion” had a coefficient $B = 0.032$, $p = 0.214$, and “Authorities effectively manage traffic congestion” had $B = -0.003$, $p = 0.876$. Although these aspects were moderately acknowledged by users, they did not statistically affect satisfaction outcomes.

Table 14: ANOVA of transport operational aspects on user satisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.637	9	0.071	0.572	.820 ^b
Residual	37.738	305	0.124		
Total	38.375	314			

Dependent Variable: User satisfactions

Source: Field data, 2025

This weak association suggests that users may not yet perceive consistent operational improvements or that operational features such as mobile apps and real-time scheduling are either underutilized or inaccessible to large portions of the commuting public. Furthermore, persistent challenges like congestion and irregular service may have eroded confidence, thus diminishing the perceived value of any operational enhancements. For operational improvements to yield tangible gains in satisfaction, they must be scaled, sustained, and clearly visible to the commuting population.

The findings contrast with studies in more advanced urban systems, where operational efficiency especially reliability and real-time information has been shown to significantly influence satisfaction (Balcombe, 2021). In Dar es Salaam, the results may suggest limited penetration or uneven implementation of these operational tools. Users may not perceive operational features like mobile apps or smart payments as consistent or accessible enough to impact their overall satisfaction. Additionally, persistent issues such as vehicle shortages, congestion, and unpredictability may overshadow any operational gains.

This aligns with findings by Balcombe (2021), who argue that when basic service reliability is lacking, enhancements in operational tools have a diminished effect on satisfaction. It also reflects the idea that satisfaction is an outcome of sustained, reliable delivery, not isolated innovations. For operational enhancements to influence perception, they must be consistent, visible, and benefit a wide range of users.

CONCLUSIONS

This study found that the link between public transport services and user satisfaction in Dar es Salaam is not as simple as many people think. Although factors like infrastructure quality, safety, affordability, and reliability are often seen as key to good public transport, the analysis showed they do not strongly affect commuter satisfaction. The weak results suggest that problems in the system are more about perception and structure rather than just service quality. To improve satisfaction, transport planning should focus more on the commuter experience, including trust, dignity, and expectations, instead of only physical improvements. The government should make transport policies that involve people in planning and monitoring, while agencies such as LATRA and TANROADS should improve communication, digital feedback systems, and consistent service delivery. Communities and commuters should also take part in discussions, report problems, and support campaigns that promote safety and respect in public transport.

The findings also have theoretical, practical, and policy lessons. Theoretically, they question traditional ideas that focus only on infrastructure and operations, suggesting that feelings, expectations, and perceptions also shape satisfaction. In practice, the results show that even when services improve, users may not notice or value the changes unless they are clear and consistent. Policymakers should therefore include user feedback, satisfaction surveys, and equity issues such as the needs of women, people with disabilities, and low-income groups when making transport decisions. Future research should explore psychological and emotional factors, use both qualitative and quantitative methods, and compare results across different cities or over time to better understand how satisfaction changes with new transport policies or projects.

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