Journal of Leadership and Policy (JPL)
Vol. 13 Issue 1, Pg 1-18, 2026
www.mu.ac.tz/jpl
DOI: https://doi.org/10.70563/jpl.v13i1.159
Published by the School of Public Administration and Management, Mzumbe University

Mobility Justice, Safety Concerns, and Resilience in School Transportation Among Rural Students in Selected Districts of Morogoro region in Tanzania

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ABSTRACT

Despite increasing policy attention to education access and road safety in Tanzania, the daily mobility experiences of students in rural secondary schools remain underexplored, particularly from the students' own perspectives. This study examined learners' views on safety concerns and their recommendations for improving school transportation and mobility justice, as prerequisites for achieving Sustainable Development Goals 4.2, 3.6, and 11.2. Focusing on rural public secondary day schools, the study investigated daily travel conditions, safety risks, wellbeing, and educational participation. Using a qualitative approach, including surveys, interviews, and observations across selected schools in three districts of Morogoro Region, the study captured students' experiences of school-route safety, walking distances, road infrastructure, and transport regulation. Findings reveal that students are aware of mobility risks and demonstrate resilience; however, structural constraints, weak institutional support, and uncoordinated enforcement heighten vulnerability and compromise learning engagement. Students' recommendations emphasize the need for safe pedestrian pathways, regulated transport, improved roads, and proximity-based school placement. By integrating students' voices with a Mobility Justice perspective, the study underscores the need for coordinated, rights-based, and context-specific interventions to ensure equitable access to education for rural and economically disadvantaged learners. The study contributes empirical evidence that centers students lived experiences in debates on transport safety, a perspective often overlooked in rural education and mobility research, and recommends institutionalised cross-sector policy coordination, dedicated financing, and enforceable standards for school transport provision and safety.

Article Info:

Received: 22/01/2026

Accepted: 13/05/2026

Published: 11/06/2026

Keywords: Mobility justice, safety concerns, academic engagement, and travel conditions

How to cite: Nalaila, S., & Nhondo, M. (2026). Mobility justice, safety concerns, and resilience in school transportation among rural students in selected districts of Morogoro in Tanzania. *Journal of Policy and Leadership, 13(1), 1-18.* https://doi.org/10.70563/jpl.v13i1.159

INTRODUCTION

Access to safe, reliable, and affordable transport is fundamental to equitable education and social inclusion. The Mobility Justice framework (Sheller, 2018) explains how political, social, and economic structures shape who can move, how they move, and who is excluded, with transport inequalities reinforcing broader structural disadvantages (Everuss, 2019). Empirical studies consistently show that students from low-income households experience long, unsafe, and inefficient commutes, which negatively affect attendance, wellbeing, study time, and academic performance (Burzacchi et al., 2024; Kaushik et al., 2024; Yeung & Nguyen Hoang, 2020). Globally, inclusive transport is recognised as central to human development, as unsafe and inaccessible mobility disproportionately harms children and youth in low-resource settings (World Bank, 2025; WHO, 2023).

Children's safety during school travel remains a major global concern. Road traffic injuries are the leading cause of death among individuals aged 5–29 years, accounting for approximately 1.19 million deaths annually (WHO, 2023). Children are particularly vulnerable, with nearly 220,000 fatalities recorded each year (UNICEF, 2022). While high-income countries have reduced risks through investment in school transport systems, pedestrian infrastructure, and enforcement, developing countries continue to face persistent challenges due to weak infrastructure, limited resources, and poor regulatory compliance.

Road safety outcomes for schoolchildren are shaped by transport modes, infrastructure quality, and policy enforcement (Olsson & Thomas, 2024). In many developing contexts, over 90% of global road traffic deaths occur due to inadequate road design, weak enforcement, and financial constraints (Walugembe et al., 2020). In Sub-Saharan Africa, more than 60% of students walk long distances to school, exposing them to traffic accidents, harassment, and violence, with girls facing heightened gender-specific risks (UNESCO, 2019; Kazemeini & Kermanshah, 2023).

In Tanzania, road traffic accidents remain a significant public health challenge, with 1,368 fatalities reported in 2021 (Global Status Report on Road Safety, 2023). Secondary day school students from low-income households often rely on walking, bicycles, motorcycles, overcrowded public transport, or informal lifts using lorries. These risks are intensified by bushy pathways, lack of sidewalks and pedestrian crossings, poor speed regulation near schools, and weak enforcement of traffic laws. Existing policies on school transport remain limited in scope and specificity, leaving students vulnerable to accidents, harassment, and violence.

Regulatory bodies such as SUMATRA and local traffic enforcement agencies are mandated to enhance road safety, yet their effectiveness is constrained by limited resources and coverage, particularly in rural and low-income areas (SUMATRA, 2023). Despite initiatives such as road safety awareness campaigns and Safe Schools programmes, secondary day school students, especially those in rural settings, remain highly exposed due to fragmented public transport systems, poor road connectivity, and the absence of formal school transport arrangements. As a result, many students become captive walkers or rely on unsafe transport options, including motorcycles and bicycles.

Although several studies acknowledge transport-related risks, the safety of school commuting among secondary day school students from low-income households in rural Tanzania remains underexplored. Existing research has insufficiently examined students lived experiences, the effectiveness of current interventions, and the extent to which policies address context-specific vulnerabilities (Akasreku et al., 2023; Poswayo et al., 2019). Moreover, limited data

on school transport-related safety incidents constrains evidence-based policy responses and undermines efforts to advance mobility justice for students.

These gaps not only compromise students' physical safety but also affect psychological wellbeing, classroom concentration, and educational outcomes (Mosha et al., 2022; Mfungo, 2020). Addressing these challenges aligns with global commitments under Sustainable Development Goals 3.6 and 11.2, which emphasise road safety and inclusive transport systems for vulnerable populations. However, translating these commitments into effective, context-sensitive interventions remains a key challenge.

Against this background, the present study explores secondary day school students' perspectives on safety concerns related to school transportation in low-income households in Tanzania, as well as their recommendations for improving transport safety. By foregrounding students' lived experiences, the study seeks to generate evidence to inform transport policy, school placement decisions, and inclusive education strategies aimed at reducing commuting risks and promoting mobility justice.

LITERATURE REVIEW

Theoretical Underpinning

This study is pinned to the Mobility Justice Framework by Mimi Sheller (2018), who locates the movement, access and immobility within a broader perspective of social and spatial justice. The author posits that, mobilities are entangled with structural inequalities of gender, class, racial variations, ability, and geography, thereby producing what she calls "*uneven mobilities*". Borrowing from this perspective, the ability or inability to travel safely and freely, is a matter of justice rather than merely either of infrastructure or efficiency. Consequently, students' daily transport to and from school is likely to expose them to circumstances which account for the uneven mobilities, mainly due to limited and unsafe transport alternatives, long walking distances and social risks mainly shaped by age, gender, and low-income level (Olsson and Thomas, 2024). In the view of the framework, the current study conceives students' transport and safety experiences not as logistical challenge alone, but as features of deeper socio-spatial injustices that are entrenched in the design, accessibility and governance of mobility systems in rural settings (Sheller, 2018). Therefore, policies and practices must seek to address the transport burden of students as a typical intervention for unequal academic opportunity (Burzacchi et al., 2024; Yeung and Nguyen-Hoang, 2020). Justifying this, Hopson et al. (2024) posit that, fair provision of transport, through safe, affordable, and accessible means, is essential to redressing structural inequities that deny students equitable opportunities to attend and succeed in school.

Review of the Related Literature

This study is guided by the Mobility Justice framework to examine students' experiences and resilience in traveling to school. Everuss (2019), drawing on Sheller's (2018) perspective, emphasizes how political, social, and economic powers determine who can move, how they move, and who is excluded from fair mobility. Based on Sheller, mobility injustices are embedded in the structure of transport systems, where access to infrastructure and travel opportunities is unevenly distributed by class, geography, and social status. Substantial empirical evidence highlights the relevance of this framework: Kaushik et al. (2024) show that students from lower socio-economic backgrounds often endure long, inefficient commutes, reducing study time and wellbeing; Graham et al. (2014) link unreliable transport to diminished socio-emotional wellbeing and academic engagement; while Burzacchi et al. (2024) and Yeung and

Nguyen-Hoang (2020) demonstrate associations between travel mode, commuting time, and academic achievement. Collectively, these findings indicate that unequal access to safe, reliable, and affordable transport constitutes a structural injustice that limits students' ability to learn, attend school regularly, and compete equitably. Therefore, providing safe, accessible, and affordable transport is critical to redressing structural inequities and ensuring equitable educational opportunities for all students.

The current literature on students' school transport in Tanzania setting is inadequate and further limited geographically and on school-level basis. The least available evidence shows that, transport services for students in both rural and urban setting is a significant challenge in Tanzania. There is however a consensus that challenges in school transport have had serious repercussion in the areas of attendance, academic engagement and safety particularly among students from under resourced settings (Hopson et al., 2022; Mfungo, 2020; Chilewa, 2019). Geographically, the available studies in Tanzania have limited coverage, mainly in urban setting (Msuya, 2024; Tengecha, et al., 2024: 2022; Mosha, et al., 2022; Greyson et al., 2021; Mfungo, 2020; Bwire, 2020; Chilewa, 2019 and Mlagara, 2016; Mugoro, 2014). Comparatively, little has been done in rural setting, where schools are located in remote areas, often long distance-away from residential areas, separated by relatively heavy bushes and unpaved roads/paths, making students prone to risks and academic disadvantages such as fatigue, lateness, truancy and gender-based violence, during their travel to school (Hopson et al., 2022).

Studies in Sub-Saharan Africa indicate that travel times to school are often much longer and structurally driven than the 10-minute threshold reported in urban contexts elsewhere (Mehdizadeh, Mamdoohi and Nordfjærn, 2017). In Ghana, nearly 30 % of students report walking more than 30 minutes to school, with average distances close to 1 km, and walking remains the dominant mode of active travel (Aboagye et al., 2024). These SSA findings contrast with studies from urban Iran that used a ≈10-minute walking threshold to identify a behavioural decline in active school travel among younger children; such a threshold reflects mobility and safety constraints rather than structural necessities (Mehdizadeh et al., 2017). This contrast suggests that while short thresholds may be meaningful in dense urban settings with younger students, longer walking times in SSA are often compelled by school location, limited transport options, and settlement patterns, highlighting the importance of context and age in interpreting walking times.

The Tanzania's National Panel Survey (NPS) (World Bank, 2022) show that, both secondary and primary education is largely day-based, forcing pupils to commute daily to and from school. Based on the survey, walking is the predominant mode of transport for 92%, majority of whom are in rural (96.9%) over urban settings (82.4%). Qualitative reports also describe many Tanzanian students walking distances requiring over an hour or up to 10 km or more, especially in rural and remote areas (Human Rights Watch, 2017). This shows an increase in walking times over time, from 27.6 minutes in 2014/15 to 29.9 minutes in 2020/21, where rural students walk longer (31.5 minutes) than urban counterparts (25.5 minutes). Although this may be viewed as advantageous in physical activity of the students, the walking patterns attract some considerations about safety, exposure to environmental hazards, and limited access to alternative transport, which have implications for students' active mobility, equitable access to education, and mobility justice.

The pattern of literature on students' transport specific to Tanzanian context also indicate a comparably more attention on university setting (Msuya, 2024; Tengecha et al., 2022; Mosha et al., 2022; Greyson et al., 2021; Mfungo, 2020), leaving a significant research gap on mobility associated risks in low-level schools (Tengecha et al., 2024; Greyson

et al., 2021). Based on the review and indeed empirical experience, the mobility challenges of students in universities are different from those in low-level schools. Majority of universities are urban-located, where infrastructure is relatively supportive of diverse modes of transport (Hopson, et al., 2022). In such context, students of different socio-demographic characteristics and life-course situations can find diverse choices of the mode to use (Nash & Mitra, 2019). Bouzarth (2018) observed that, mobility issues among low-level school students are not just logistical, but also reflect deeper systemic inequalities connected to school location, students' household socioeconomic status and transport infrastructure in place. As such, unlike the university level students, who often exercise greater mobility autonomy, primary and secondary school students are constrained by government or community-based planning decisions. Citing the "*Optimisation Models",* Bouzarth (2018) views that, integrated planning approaches should be deployed to address the commuting risks and disparities in school access.

The discussion on reliable modes of transport favors the global North countries, marking a sharp contrast with that of the Global South, SSA and Tanzania among others. School transport for students in Sweden, Canada, UK, USA, and Nordic countries among others is a choice, mainly shaped by favorable infrastructure, policy priorities, socio-economic conditions and institutional capacity (Hopson et al., 2022). In contrast, the discussion in the Global south revolves around transport as a challenge to schooling, in both rural and urban settings (Ribeiro et al., 2020). The literature presents students in SSA who walk to school as captive walkers, conceiving walking as a basic and the only mode of transport to school (Mack, 2009; Mosha et al., 2022).

In rare cases, studies indicate limited options for school transport among students in rural areas. Tengecha et al. (2024) study in Ukerewe, an Island in Lake Victoria-Mwanza region, applied the-so-called Health Belief Model (HBM) to ascertain the extent to which the perceived severity, vulnerability and lack of safer alternatives contributed to parental concerns and learning challenges of students who used canoe transport. Similar concerns prompted Msuya (2024) and Greyson et al. (2021) to explore sustainable and alternative transport options, such as school buses and e-bicycles as eco-friendly and cost-effective mobility means, whose uses requires further studies, especially due to unreliable infrastructure and incidences of risks associated with disadvantageous mobility space in both urban and rural settings. For instance, Mosha et al. (2022) and Mack (2009) confirm heightened risks of sexual harassment during commutes, affecting attendance and educational attainment among urban and peri-urban settings. Additionally, Mfungo (2020) and Chilewa (2019) documents transport delays, high costs, and safety concerns that directly impair students' punctuality, attendance, and classroom readiness in urban setting. The proxy for this study was actually the view that the documented risks in urban contexts and limited rural areas may be more pronounced in rural settings where public transport is scarce, walking distances are long, and infrastructure is underdeveloped.

The current review has shown that, that mobility injustices critically shape the educational experiences of students, especially in low-income and rural contexts of Tanzania, like other developing countries. Yeung and Nguyen-Hoang (2020) comment that school transport modes affect students' quality of learning, stressing how unequal access to safe and affordable transport manifests structural disadvantage. Burzacchi et al. (2024) and Kaushik et al. (2024) highlight that long, inefficient travels reduce study time, increase fatigue, and negatively affect both academic performance and wellbeing, disproportionately bearing a burden onto students who cannot afford private or closer housing. Hopson et al. (2024) indicate an intersection between transport barriers and socioeconomic disadvantage, resulting in lower attendance and grades. Graham et al. (2014), similarly, link unreliable transport with reduced socio-emotional wellbeing and engagement practices of students. Citing the mobility justice point of view, Everuss (2019) argues that, structural and political systems determine who can move and under what conditions, systematically

excluding marginalized students. The reviewed literature underscores that equitable access to safe, affordable, and reliable transport is essential for educational opportunity in disadvantaged settings. That makes it urgent to appeal for context (rural) specific and low-school-level policy interventions in Tanzania.

METHODS

Study Design

The current study uses a typical qualitative design, mainly seeking students' experience of socio-economic and geographical factors influencing transportation safety and accessibility in their setting (Johnson and Parry, 2021; Pasque, 2021). The study used questionnaires, interviews and observation as methods of primary data collection in the selected schools. In addition, the study used secondary data, mainly studies documenting the best practices and policy recommendations to enhance school transportation infrastructure, safety measures, and support mechanisms for vulnerable student populations elsewhere.

Sampling Techniques

The study used 9 schools, purposively selected in rural settings of Morogoro region. Prior to actual the study, the research assistants (undergraduate students), trained in Research Methods in Education course, were guided to carry out a pilot study in a school nearby the university. The use of the students as research assistant was meant to provide an opportunity for the students to gain technical and personal skills in research (Landrum and Nelsen, 2002). The pilot study results were not only used to improve the tools but also introduced the research assistants to the actual setting of data collection, familiarize them with research protocols and enhance their capacity to handle real-world research experiences. Questionnaire data were collected from 516 students across all the selected schools. The questionnaires were administered by research assistants under the supervision of the principal researcher. Interview data from the respondents were recruited purposively to focus on students experiencing mobility challenges, consistent with the study's focus on mobility justice. Research assistants identified students who reported late arrivals to school and those who expressed experiences of long-distance travel. Observation data were collected through direct observations of school arrival and departure times, focusing on travel modes, arrival patterns, and visible mobility challenges. Observations were conducted by both the principal researcher and the trained research assistants using a structured observation checklist.

Data Analysis

This study used questionnaires, interviews, and observation as methods of primary data collection, each of which was treated differently during data analysis. Data obtained from the questionnaire were subjected to descriptive analysis to obtain the quantifiable aspects related to transport-related risks, such as long distance, time taken to commute to school, and various aspects of mobility justice, emerging from the survey data. These data were summarized using frequencies and percentages to establish the magnitude of transport challenges among students. The interview data were analyzed using thematic analysis to address respondents' opinions regarding commute experiences of safety, awareness and opinions on policies and recommendations. With the integration of the two approaches to analysis, the study not only reveals the magnitude of the transport challenges but also the actionable measures that are context-specific and rooted in experiences. Similarly, observation data were subjected to thematic analysis through systematic review of field notes to identify recurring patterns related to transport risks, arrival and departure routine, road crossing practices, and observable risks within school environments.

Validity and Reliability

Content validity was established by designing the research instruments that align with the study objectives, the Mobility Justice framework, and relevant existing studies on school transportation and safety. The research tools were then translated into Swahili and revised to enhance clarity, relevance, and contextual appropriateness. Reliability was addressed through training research assistants on fieldwork procedures and maintaining continuous communication with the supervisor to ensure effective administration of the tools. Dependability was ensured by applying consistent data collection procedures across all selected schools in Morogoro. Furthermore, credibility was strengthened through careful recording of participants' responses and the use of verbatim quotations to amplify students' voices.

Ethical Considerations

Consistent with APA (2023) guidelines on the use of AI, the authors used ChatGPT to support the translation of Swahili questionnaire transcripts into English and for language editing to ensure that the manuscript is free from errors, while the content remains an original product of the fieldwork (Rentier, 2025). Furthermore, the researchers obtained respondents' informed consent, clearly communicated the study objectives, and maintained the confidentiality and privacy of participants' identities. In presenting the findings, anonymity is ensured by excluding personal identifiers and using codes when reporting qualitative responses.

RESULTS

Demographic Information of Respondents

Table 1: Demographic Information of Respondents

Category	Sub-category	Frequency	Percent	Cumulative Percent
School	School 1	20	3.90	3.90
	School 2	135	26.20	30.00
	School 3	83	16.10	46.10
	School 4	63	12.20	58.30
	School 5	67	13.00	71.30
	School 6	19	3.70	75.00
	School 7	35	6.80	81.80
	School 8	44	8.50	90.30
	School 9	50	9.70	100.00
	Total	**516**	**100.00**	
Age (Years)	12–14	189	36.80	37.00
	15–17	323	62.80	99.80
	Total	**514**	**100.00**	
Gender	Male	205	39.80	39.80
	Female	310	60.20	100.0
	Total	**515**	**100.00**	
Class of Study	Form 1–2	330	64.10	64.10
	Form 3–4	182	35.30	100.00

	Total	**512**	**100.00**	

Source: *Field data (2026)*

The data for the current study were collected from students in nine (9) schools, making a total of 516 students. The school involved have varying representations; for example, highest in school 2 (26.20%), followed by school 3 (16.10%) and school 5 (13%). The least represented school is school 6 (3.70%). The uneven representation of participants in different schools was a result of nature of schools and associated logistical factors, especially accessibility and willingness of participants. The age range of respondents was 12 to 17, with majority (62.80%) of them in the age group between 15-17 years, reflecting higher participation of students older ages. Additionally, out of 515 respondents, 60.20% are female and 39.80% are male, describing a gender variation. This does not necessarily reflect the composition in schools, but rather their accessibility. Furthermore, 64.10% are in lower classes (form 1-2) while 35.30% are in higher classes (form 3-4).

Table 2: Socio-economic and Cultural Information of Respondents

Age (Years)	Below 15 Minutes	15–30 Minutes	30–60 Minutes	More than 60 Minutes	Total
12–14	12	42	78	54	186
15–17	35	63	108	108	314
Total	47	105	188	162	502

Source: *Field data (2026)*

The study examined the amount of time students spent walking to school across different age groups. As shown in Table 2, more than 70% of students reported walking for over 30 minutes to reach school. This includes 37.2% who walk for 30–60 minutes and 37.4% who walk for more than one hour, while only 21% reported walking for less than 30 minutes. Overall, over two-thirds of the students spend prolonged periods walking to school, reflecting structural and contextual constraints in access to education. Although extended walking may offer physical activity benefits, it also raises concerns related to safety, exposure to hazards, and unequal access to schooling.

The cross-tabulation of age and walking time indicates that students across all age groups constitute the majority of those experiencing long travel times to school, with this pattern being slightly more pronounced among older students (15–17 years). This persistence of prolonged walking across age groups highlights systemic inequities in school accessibility, student safety, and the balance between educational participation and physical burden.

Ownership of Means of Transport and Living House

The study sought to establish if students' families owned a car or any motorized vehicle as means of transport and a living house, both as indicators of income levels of the students' household. The details are reported in Table 3 and 4, interpretation thereafter:

Table 3: Ownership of Means of Transport and Living House

Question	Category	Frequency	Percent (%)
Ownership of a car or other vehicle	Yes	87	17.40
	No	414	82.60
	Total	**501**	**100**
Type of housing the family lives in	Owned house	272	55.30
	Rented house	128	26.00
	Shared accommodation	92	18.70
	Total	**492**	**100**

Source: *Field data (2026)*

The data in Table 3 show that, only 17% reported to be owning a car or some form of motorized vehicle. Majority (83%) do not own a private form of transport, suggesting a dependency on walking, public transport, informal transport arrangements, which could influence students' mobility, school accessibility and quality of commuting experience.

Additionally, out of 492 respondents, more than a half (55%) live in owned houses, while 26% and 19% live in rented houses and shared accommodation respectively. The data indicates a common trend that majority of students come from households which owned houses. However, a significant number of students have insecure housing background, indicating a diverse socio-economic status.

Safety Concern of Transport among Students

The study entailed a total of 10 questions which determine mobility justice and safety of transport for students in the study area. Students were asked to agree or disagree (by indication Yes or No) to question items that gauge safety of the transport experiences as presented in Table 4:

Table 4: Safety Concern of Transport among Students

S/N	Question	Responses		Total
		Yes	**No**	
		Freq (%)	Freq (%)	(Freq %)
1	Have you ever encountered or witnessed safety risks (e.g., accidents, harassment, threats) during your journey to or from school?	252 (49.50)	255 (50.10)	509 (100.0)
2	Are there specific point of your school route where you feel unsafe or vulnerable (e.g., isolated paths, busy roads, bushy, robbers)?	296 (59.00)	206 (41.00)	502 (100.0)
3	Are the vehicles (eg. bus, bodaboda, lorries) used for transporting students in your area generally safe and in good condition?	138 (37.80)	226 (61.90)	365 (100.0)
4	Do you receive assistance (from adults, peers, or community members) when crossing dangerous points of your way/roads to school?	145 (30.00)	338 (70.00)	483 (100.0)

5	Have you been taught about road safety and how to protect yourself while travelling/walking to school?	425 (85.30)	72 (14.50)	498 (100.0)
6	Does weather (e.g., heavy rain, flooding, heat, or dust) negatively affect your ability to reach school safely?	341 (67.00)	168 (33.00)	509 (100.0)
7	Has your school provided clear safety measures or programs to protect you on your way to and from school?	163 (32.60)	336 (67.20)	500 (100.0)
8	Are the roads leading to your school (e.g., condition, flooding, potholes) suitable for safe and fair mobility?	138 (37.80)	226 (61.90)	365 (100.0)
9	Do you or your drivers regularly use safety gear (helmets, seatbelts) when traveling to school by motorcycle or car?	81 (16.10)	419 (83.90)	500 (100.0)
10	Have you observed traffic police or community safety interventions that protect students during their school commute?	163 (32.60)	336 (67.20)	499 (100.0)

Source: *Field data (2026)*

Students were asked to confirm if they had ever encountered or witnessed safety risks during their journey to school. The responses show that, up to 49.50% of respondents agreed and 50.50% others had not. This means that, safety risks are common and have affected a significant number of students in rural areas. Majority (59%) against 41%, confirmed about specific point of school route where they felt unsafe or vulnerable (e.g., isolated paths, busy roads, bushes, robbers), indicating the presence of some hotspots of insecurity and barriers to mobility justice that call for dedicated interventions.

Only 38% of respondent students indicated that the transport vehicles (e.g. buses, motorcycles, lorries) they used to be safe, contrary to 62% of student respondents who disagreed. The responses imply that, the transport vehicles students use is perceived unsafe, presenting concerns about the available traffic regulations on various means of transport for students in particular.

Majority (70%) of respondents had not received any help when passing through risky areas, compared to those who had received some form of help. This implies that, majority of students in rural settings commute through dangerous points in their routes to and from school without security support, making them prone to risks.

With regards to road safety education, majority (over 85%) of student respondents reported being trained on road safety and rules, leaving only 15% untrained. This suggests a significantly wide coverage of safety campaigns among students in rural settings, which is, of course not necessarily a translation to safety practices. Up to 67% of respondents indicated to have had their school commute experienced affected negatively by weather related risks, such as rain, floods, dusts and heat and mobility disruptions caused by collapse of bridges, roads damage, flooded pathways. This indicates a pertinent need for climate/weather resilient infrastructure.

A relatively small percentage (33%) of respondents indicated that their school provided safety measures/programs, against 67%, whose schools do not. The responses show that, despite high exposure to transport risks, there is still limited institutional support from schools, leaving majority of students vulnerable.

Based on their daily experiences, 62% of respondents indicated that roads are unsuitable for safe mobility, especially due to poor conditions such as flooding, potholes and bushes), therefore making such infrastructure a barrier for safe commute. Additionally, only 16% used helmets or seatbelts during their travel, while the majority (84%) do not, indicating limited compliance with safety rules and gears, which culminates to higher risk for accidents.

Lastly, only 33% had observed safety interventions from traffic police or community patrols, on reckless driving (cars or boda boda), overcrowded vehicles, high pricing of fare, and improper means of transport (such as lorries). This shows that, students' protection is weak or non-existent in many rural areas.

The general impression based on the responses is that, students in rural setting are prone to multiple forms of risk, including unreliable infrastructure, unsafe routes, unsafe vehicles and weak institutional protection. While the study noted a significantly high level of awareness on road safety, the safety practices, such as the use of helmet (for both, the riders and passengers) school-based safety campaigns and safe infrastructure, are lacking. Additionally, the weather and associated terrain factors pose typically negative influence on mobility justice for students.

Students' Call to Action

Students were asked to provide recommendations of ways to improve school travel experiences. The percentages presented in Table 4 reflect the proportion of student respondents who mentioned each aspect as a recommendation to improve mobility justice in access to schools (Please note, respondents had a room to provide more than one recommendation):

Table 5: Students' Recommendations to Ensuring Safety School Journeys

Recommendation	Frequency	Percent (%)
Improving road conditions to allow commercial vehicles to schools	149	35.00
Support to ensure safe road crossing	71	14.50
Enforce better condition of vehicles	109	22.20
Create safe pedestrian pathways	260	53.10
Enforce improved and regulated school transport	200	41.00
Enforce placement in nearby or boarding schools	150	35.00

Source: *Field data (2026)*

Regarding improving road conditions to allow commercial vehicles to access schools, findings from the questionnaire show that up to 35% of student respondents indicated improved road conditions as a requisite for enhancing mobility experiences to schools, as current infrastructure constrains safe and reliable access to many schools. Findings from the interview portray similar situation as interviewees R1 and R2 opined as follows:

> During the rainy season, buses and lorries cannot reach our school because the road is muddy, maybe tractors. Therefore, majority of us walk through bush paths or use motorcycles, which are expensive and sometimes driven recklessly (R1, 10/08/2025).
>
> The road to our school is very rough. We sometimes get rides on tractors or private cars, but these are not reliable, so we often arrive late (R2, 10/08/2025)

Furthermore, observation data support these findings, as several students were observed arriving late at the school campus and showing observable signs of tiredness, such as sleeping during the lesson sessions and being delayed to attend the first period. These patterns were highly noted during the heavy rainfall, indicating the impact of environmental and infrastructure challenges on students' mobility.

Concerning support to ensure safe road crossing, findings from the questionnaire data reveal that approximately 14.5% of student respondents highlighted safe road crossing as a mobility justice concern, indicating the need for basic crossing infrastructure near schools. Insights from the interview data reinforce these findings, as interviewees R1 and R2 opined as follows:

> Motorcycles, lorries, and tractors are not safe, and drivers sometimes demand more money. If school transport were regulated, it would certainly be better for us (R1, 10/08,2025)
>
> School transport is not well controlled. Motorcycles, lorries, and private cars are unreliable, expensive, and learners face harassment and unsafe rides (R2, 10/08,2025)

Moreover, observation data found that most of the students in a number of the selected schools crossed busy roads in the absence of pedestrian crossings and guidance from a mature person. Furthermore, numerous students waited for gaps to cross in a busy road with fast-moving cars. This exposed many students to risk, particularly in the morning when they are going to school and in the evening when they are returning.

Regarding enforcing placement in nearby or boarding schools, findings from the questionnaire show that up to 35% of student respondents recommended placement in nearby secondary schools or access to boarding facilities as a strategy to reduce travel-related inequities. Also, the findings from the interview portray similar situation as interviewees R1 and R2 opined as follows:

> My school is very far. I sometimes walk through the bush, use motorcycles, or ask for rides from private cars, which are humiliating and, not always available (R1, 10/08/2025)
>
> Because the school is far, I often walk or pay for motorcycles or lorries. Sometimes we beg private car drivers for a ride, but it is uncertain and risky (R2, 10/08,2025)

Complementing the findings based on questionnaire and FGDs, the data from on-site observation reveal that, students in rural areas face significant challenges in accessing schools, reflecting broader mobility injustices. Many students traverse long walking routes through bushy and difficult terrain, while others experience repeated delays

that result in punitive measures for late arrivals. Access to public transport is constrained, with overcrowded mini-buses often unable to accommodate all passengers, forcing some students to be turned away. In response, some students resort to motorcycle rides, frequently sharing a single vehicle with multiple passengers, which raises safety concerns. These patterns confirm the compounded mobility burdens faced by rural students, illustrating how inadequate transport infrastructure, limited-service availability, and unsafe travel options constrain timely and equitable access to education

DISCUSSION

The study explored students' mobility experiences and safety concerns related to travel to school. Demographic findings indicate that socioeconomic disparities shape mobility inequities in the study area. Only 17% of households own a motorized vehicle, most commonly a motorcycle, while the majority live in rented or shared accommodation, limiting access to private transport. As a result, students' reliance on walking or informal, often unsafe, transport reflects the "*captive walker"* concept, illustrating how class, geography, and social status intersect to shape who can move and how (Mosha et al., 2022). Consistent with the Mobility Justice perspective guiding this study, these inequities translate into unequal educational opportunities and place a disproportionate burden on students from low-income households (Hopson et al., 2024; Yeung & Nguyen-Hoang, 2020).

The findings indicate that the majority of students in the study area are excluded from efficient transport and are therefore subject to mobility injustices. These injustices stem from long distances between home and school, reliance on unsafe modes of transport, poor travel infrastructure, and the absence of dedicated transport services to areas where schools are located. More than 50% of students walk for over 30 minutes to school and are exposed to safety risks, including accidents, harassment, and threats. These findings are consistent with evidence reported by the World Bank (2022) and Human Rights Watch (2017). Prolonged walking reflects broader structural challenges such as school location, poor road quality, and limited transport infrastructure, demonstrating that access to safe, reliable, and efficient mobility is unevenly distributed. In line with Sheller's Mobility Justice framework (Sheller, 2018; Everuss, 2019), the findings highlight how political, social, and infrastructural factors systematically constrain the mobility of disadvantaged students, reducing study time, contributing to fatigue, and negatively affecting learning outcomes (Burzacchi et al., 2024; Kaushik et al., 2024).

The findings highlight significant safety and mobility risks faced by students, with nearly half of the respondents reporting exposure to accidents, harassment, or unsafe crossing points, and 59% identifying vulnerable areas along their travel routes. The results further reveal that vehicles used by students are often poorly maintained, supervision is limited, and transport infrastructure is inadequate, with adverse weather conditions further intensifying these risks. Although students reported relatively high levels of road safety awareness, limited compliance and fragmented enforcement of road safety regulations reduce its effectiveness. Viewed through a Mobility Justice lens, these findings confirm that structural and institutional shortcomings, rather than individual choices, largely determine students' ability to travel safely and access education equitably (Graham et al., 2014; Bierbaum et al., 2021). Consequently, despite students' demonstrated resilience, unsafe and unreliable transport conditions place their academic performance at risk by undermining attendance, classroom readiness, and meaningful engagement with learning activities (Graham et al., 2014; Yeung & Nguyen-Hoang, 2020; Kaushik et al., 2024).

The study further elicited students' voices, drawing on their lived experiences, to identify recommendations and practical solutions for addressing structural inequities associated with school travel. The majority of students

emphasized the need for safe pedestrian pathways, improved road conditions, regulated and higher-quality school transport, and placement in nearby or boarding schools. These suggestions reinforce the understanding that mobility is not merely a logistical concern but a structural determinant of educational equity (Bouzarth, 2018; Hopson et al., 2022). Students' perspectives also echo findings from other contexts, such as Yeung and Nguyen-Hoang (2020) in the United States, Burzacchi et al. (2024) in Italy, and Kaushik et al. (2024) in India, indicating that students' mobility challenges are systemic rather than context-specific. Therefore, the implementation of coordinated, institutional, and area-wide interventions is essential to ensure safe, reliable, and accessible transport, reduce systemic disadvantages, and enhance students' attendance, learning, and wellbeing, in line with the tenets of Mobility Justice Perspective.

CONCLUSION AND RECOMMENDATIONS

The study results indicate that students' travel to school in rural and low-income areas of Tanzania is shaped primarily by structural constraints rather than personal choices. Students' perspectives suggest that long walking distances, unsafe transport, poor road conditions, and frequent exposure to accidents and harassment compromise study quality, increase fatigue, and negatively affect attendance and classroom readiness. These conditions reflect clear mobility injustices, characterized by unequal access to safe and reliable transport due to poverty, school location, and inadequate infrastructure. While students demonstrate resilience, unreliable and unsafe mobility remains a major barrier to equitable learning. This underscores that improving school transport is not only a safety concern but also a critical requirement for educational equity and quality learning outcomes. The paper therefore recommends translating policy into practice to ensure fair access to efficient and affordable transport, which necessitates institutionalized, cross-sector policy coordination, dedicated financing, and enforceable standards for school transport provision and safety.

Policy and Practical Implications

The results of this study have direct implications for current policy frameworks in Tanzania. First, the Education and Training Policy (URT, 2023) emphasizes equitable access to education, particularly for rural learners; however, the study's evidence on unsafe travel routes, unreliable transport services, and long walking distances reveals a critical policy–practice gap, indicating that access must include safe school mobility as a prerequisite for effective participation and learning. Second, the National Transport Policy (URT, 2003) and the National Road Safety Policy (URT, 2009) prioritize road safety, protection of vulnerable road users, and reliable transport services. Yet reported instances of unsafe vehicles, weak enforcement of traffic regulations, and limited traffic police presence highlight persistent shortcomings in the implementation of these policies, especially in rural school contexts. Overall, despite the existence of relevant policies, gaps remain in inter-sectoral coordination, enforcement of safety standards, and targeted support for remote learners. Practical measures, such as strengthening sector collaboration, improving rural road safety enforcement, regulating school transport, and expanding school hostels, are imperative to ensure equitable and safe access to education.

The limitations of the study

The study's limitations are primarily methodological, stemming from its reliance on qualitative methods and its focus on three districts within the Morogoro region. Nonetheless, the qualitative approach provided rich, nuanced insights into participants' experiences and perceptions, foregrounding their voices and capturing the complexity of mobility

challenges that quantitative approaches alone might overlook. These considerations highlight the need for future studies employing larger, mixed-methods designs across broader geographical and population contexts to build on and extend the findings of this research.

The contribution of the study

Framed through the Mobility Justice perspective, this study occupies a unique position in the Tanzanian context by highlighting the intersection of school access and the right to education. It contributes to the literature by providing empirical evidence on how transportation and road safety challenges influence students' attendance and learning in rural areas. The findings offer actionable insights for education planners, local authorities, and transport providers, emphasizing the need for safer infrastructure, regulated school transport, and context-responsive mobility solutions to promote equitable access to education.

Authors contribution

Stephano Nalaila: Lead in proposal development, field work management, data analysis, writing the manuscript, and a corresponding author.

Mussa Nhondo: Co-lead in proposal development, field work management, data analysis, and writing the manuscript.

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