Users' Perception of Tricycle Operations as a means of intra-urban mobility in Ilorin.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Transportation is a fundamental component of urban life, serving as a crucial enabler of mobility, economic development, and social interactions. Efficient transportation systems facilitate the movement of people and goods, improve accessibility to essential services, and contribute to the overall well-being of urban populations (Rodrigue, 2020). As cities expand and populations grow, the demand for efficient, reliable, and accessible transportation options increases. However, in many developing countries, including Nigeria, the existing conventional public transport systems, such as buses and taxis, have struggled to meet this growing demand. Challenges such as inadequate infrastructure, congestion, irregular services, high transportation costs, and limited last-mile connectivity have necessitated the emergence of alternative transportation modes (Adewumi & Allix, 2019).

One of the most prominent alternatives to traditional public transport in Nigeria is the use of motorized tricycles, popularly known as "Keke Napep". Tricycles have become an integral part of urban transport systems, particularly in medium-sized cities and densely populated urban areas where they offer a more flexible, affordable, and accessible means of commuting (Olawole & Aloba, 2019). Unlike buses and taxis, which often operate on fixed schedules and routes, tricycles provide door-to-door services, navigate narrow and congested roads efficiently, and offer a quicker alternative for short-distance travel. This makes them an indispensable mode of

transport for a significant proportion of urban dwellers, particularly low-income earners, students, traders, and workers who rely on them for daily commuting.

The introduction of tricycles into Nigeria's transport system was originally a government initiative aimed at tackling urban mobility challenges while also addressing unemployment. The federal government launched the Keke Napep scheme in 2002 under the National Poverty Eradication Programme (NAPEP) to provide job opportunities for young people and enhance public transport efficiency (Okafor & Uchenna, 2021). Since then, the use of tricycles has grown significantly, and they have become one of the most dominant modes of transportation in urban and semi-urban areas across Nigeria. Their increasing popularity can be attributed to their cost-effectiveness, ease of maneuverability in heavy traffic, and ability to provide last-mile connectivity where larger vehicles cannot easily reach (Oni et al., 2021).

Despite their numerous advantages, tricycle operations in Nigeria have become a subject of concern due to issues related to service quality, safety, and operator behavior. Over time, reports of reckless driving, overloading of passengers, poor road etiquette, rudeness, non-compliance with traffic regulations, fare exploitation, and a general lack of professionalism among tricycle operators have emerged (Adebayo et al., 2020). Passengers frequently complain about tricycle operators engaging in aggressive driving practices, flouting traffic laws, refusing to complete agreed-upon trips, and displaying rude or confrontational behavior. These issues contribute to conflicts between operators and passengers, road accidents, inefficiencies in urban mobility, and a decline in public confidence in tricycle transport services (Ibrahim & Abubakar, 2022).

The Post Office–Kwara State Polytechnic traffic corridor in Ilorin, Kwara State, is a major transportation route that serves a diverse range of commuters, including

students, traders, workers, and business owners. The route is one of the busiest in Ilorin, as it connects residential areas, commercial hubs, educational institutions, and administrative offices. Given the high volume of daily commuters, tricycles have become a dominant mode of transportation along this corridor, offering passengers a convenient and affordable means of travel (Ibrahim & Abubakar, 2022). However, alongside the benefits of tricycle transport, there are growing concerns about the conduct of tricycle operators and the general quality of service they provide. Many commuters have reported negative experiences such as poor customer service, erratic fare pricing, reckless driving, and safety risks (Adebayo et al., 2020).

Previous studies indicate that the attitudes and behavior of transport operators significantly influence user satisfaction and overall public perception of urban transport services (Oni et al., 2021). When operators demonstrate professionalism, courtesy, and adherence to safety regulations, passengers are more likely to perceive the service positively. Conversely, negative behaviors such as rudeness, dishonesty, and non-compliance with road laws contribute to passenger dissatisfaction and public distrust in the transport system (Okafor & Uchenna, 2021). Given the reliance on tricycles for urban mobility in Ilorin, understanding passengers' perceptions of tricycle operators' attitudes is critical for improving service quality, ensuring commuter safety, and fostering a more organized transport system.

Despite the growing concerns surrounding tricycle operations in Ilorin, there is a lack of empirical research that specifically examines passengers' perceptions of tricycle operators along the Post Office–Kwara State Polytechnic corridor. Most existing studies on urban transport in Nigeria have focused on broader issues such as public transport policy, infrastructure development, and the role of government interventions (Ekechukwu et al., 2021). There is limited scholarly work that directly assesses the

interactions between tricycle operators and passengers, the challenges faced by commuters, and the impact of operator behavior on user satisfaction in this specific corridor.

This study seeks to fill this research gap by conducting a comprehensive assessment of passengers' experiences, challenges, and perceptions regarding tricycle operators' attitudes along the Post Office–Kwara State Polytechnic traffic corridor. By analyzing key concerns related to operator behavior, fare pricing, safety compliance, and customer service, this study will provide valuable insights for policymakers, tricycle unions, and regulatory authorities. The findings will serve as a basis for developing effective strategies to enhance professionalism among tricycle operators, improve service quality, and create a safer and more efficient urban transport system in Ilorin. Additionally, this research will contribute to urban mobility literature by offering evidence-based recommendations for addressing challenges in Nigeria's informal transport sector.

1.2 Statement of the Problem

Urban transportation plays a crucial role in the economic, social, and daily activities of people in any city. Efficient and reliable transport systems enable mobility, enhance productivity, and improve the quality of life for urban dwellers. However, in many developing countries, including Nigeria, urban transportation faces significant challenges that hinder service efficiency and passenger satisfaction (Ekechukwu et al., 2021). Issues such as inadequate road infrastructure, heavy traffic congestion, and

inefficient public transport systems contribute to daily commuting difficulties. In response to these challenges, informal and semi-formal modes of transport, such as tricycles, have emerged as vital alternatives for short-distance travel, especially in cities where larger public transport systems are either insufficient or unreliable (Olawole & Aloba, 2019).

Tricycles, popularly known as "Keke Napep" in Nigeria, have gained widespread acceptance due to their affordability, flexibility, and ability to navigate congested urban roads. In Ilorin, particularly along the Post Office–Kwara State Polytechnic traffic corridor, tricycles serve as a primary mode of transport for students, workers, and traders commuting within the city. Their role in bridging the gap in public transport is significant, as they provide last-mile connectivity that larger vehicles such as buses and taxis often cannot efficiently cover (Ibrahim & Abubakar, 2022). Despite their importance, there are increasing concerns regarding the behavior of tricycle operators and their interactions with passengers. These concerns range from reckless driving, non-compliance with traffic laws, verbal abuse, overcharging of fares, and poor customer service attitudes (Adebayo et al., 2020).

A growing number of commuters have reported negative experiences with tricycle operators, particularly in terms of safety, reliability, and respect for passengers. Reckless driving has resulted in avoidable accidents and injuries, while altercations between operators and passengers over fare disputes have led to conflicts and, in some cases, physical confrontations (Okafor & Uchenna, 2021). Additionally, passengers often complain about operators violating agreed routes, ignoring road regulations, and refusing to complete trips once traffic congestion worsens (Ibrahim & Abubakar, 2022). Such attitudes contribute to inefficiencies in urban transportation and erode public trust in tricycle services.

Furthermore, while tricycles are generally seen as a cost-effective mode of transport, the lack of regulation and enforcement has led to a situation where operators frequently impose arbitrary fare hikes, particularly during peak hours or adverse weather conditions (Odewumi & Ogunbodede, 2019). The unpredictability in pricing has caused frustration among commuters who rely on these services daily. Additionally, issues such as lack of professionalism, rude behavior, and inadequate conflict resolution mechanisms further exacerbate the problem (Adebayo et al., 2020).

Despite the increasing reliance on tricycle transportation in Ilorin, there is limited academic research on users' perception of operator attitudes, particularly along the Post Office–Kwara State Polytechnic corridor. Previous studies on urban transport in Nigeria have largely focused on broader public transportation issues, road infrastructure, and policy recommendations (Ekechukwu et al., 2021). However, there is a lack of empirical studies that examine passenger experiences and concerns regarding the quality of tricycle services in specific urban corridors (Okafor & Uchenna, 2021). Understanding users' perceptions of tricycle operators' attitudes is essential in identifying key service gaps and formulating effective solutions for transport improvement.

This study aims to fill this research gap by evaluating passengers' experiences, perceptions, and challenges encountered when using tricycle services along the Post Office–Kwara State Polytechnic corridor. By analyzing users' feedback, the study will provide valuable insights for transport policymakers, tricycle unions, and regulatory agencies in designing strategies to improve the professionalism and service delivery of tricycle operators in Ilorin. The findings will also serve as a foundation for future policy discussions and interventions aimed at improving urban mobility and enhancing passenger safety and satisfaction.

Aim:

To examine users' perceptions of tricycle operations as a means of intra-urban mobility in Ilorin and to recommend ways to improve their effectiveness and user satisfaction.

Research Questions:

How frequently do residents of Ilorin use tricycles for intra-urban transport, and for what main purposes?

What are users' perceptions of the affordability, accessibility, and safety of tricycle operations in Ilorin?

What major challenges do users encounter when using tricycles for intra-urban mobility?

What strategies can be recommended to enhance the performance and user satisfaction of tricycle transport services in Ilorin?

1.3 Research Objectives

To assess the level of patronage and usage patterns of tricycles for intra-urban transport in Ilorin.

To examine users' perceptions of the affordability, accessibility, and safety of tricycle operations.

To identify key challenges users face when using tricycles for urban mobility in Ilorin.

To recommend strategies for improving the efficiency and user satisfaction of tricycle operations in Ilorin.

1.5 Justification for the Study

Urban transportation plays a fundamental role in shaping the economic, social, and environmental landscape of any city. It directly influences the ease of mobility, access

to essential services, economic productivity, and overall quality of life for residents (Rodrigue, 2020). A well-functioning transportation system enables smooth movement of people and goods, fosters business growth, and enhances urban connectivity. However, in many developing countries, including Nigeria, informal transport modes such as tricycles (Keke Napep) have become a dominant means of urban mobility due to their affordability, flexibility, and ability to navigate congested roads (Afolabi & Gbadamosi, 2017).

The Post Office–Kwara State Polytechnic corridor in Ilorin, Kwara State, is a high-traffic route that serves a diverse population, including students, business owners, traders, and government workers. Given its importance, the efficiency, safety, and user experience of tricycle services on this corridor significantly impact urban mobility in Ilorin. Despite their widespread use, tricycle operators often face criticisms related to reckless driving, overcharging, poor adherence to traffic rules, lack of professionalism, and sometimes even hostility towards passengers (Odewumi & Ogunbodede, 2019). These issues can negatively affect the convenience and reliability of tricycle transport, making it imperative to assess and improve the attitudes of tricycle operators towards commuters.

A key justification for this study is the need to bridge the gap in understanding commuter experiences and satisfaction levels with tricycle services. While previous research has examined broader urban transport challenges in Nigeria, there is limited empirical data focusing specifically on the behavior and attitudes of tricycle operators and how they influence users' perception of service quality (Adeniji, 2021). This study will address this gap by examining how the conduct of tricycle operators affects commuter satisfaction, particularly in a high-demand transport corridor such as Post Office–Kwara State Polytechnic.

Additionally, the study is justified by the increasing reliance on tricycles as a primary means of transport in Ilorin and other Nigerian cities. With rising urbanization, growing student populations, and increased demand for cost-effective transportation, tricycles play a critical role in daily commuting. However, if issues related to operator misconduct, poor service delivery, and safety risks are not adequately addressed, they could worsen traffic congestion, increase accident rates, and reduce public confidence in this mode of transport. Understanding these dynamics will help transport authorities, policymakers, and tricycle unions develop better regulatory frameworks to enhance service delivery and ensure that commuters receive safe, efficient, and affordable transport options.

Another significant justification for this research is its potential to inform policy recommendations and intervention strategies. By identifying the key challenges associated with tricycle operator attitudes, the findings of this study can guide transport unions, municipal authorities, and urban planners in implementing targeted measures to improve urban transport services. These may include:

Training programs for tricycle operators on customer service, road safety, and traffic regulations.

Enforcement of strict operational guidelines to curb reckless driving and fare exploitation.

Improved monitoring and regulation of tricycle operators by transport unions and traffic management agencies.

Public awareness campaigns to educate both operators and commuters on their rights and responsibilities.

Moreover, the study aligns with global and national sustainable urban mobility goals, which emphasize the importance of safe, accessible, and affordable transport systems

in cities (United Nations, 2021). As cities expand, there is an urgent need to ensure that informal transport modes, such as tricycles, operate in a manner that contributes to an efficient and commuter-friendly urban transport network.

Ultimately, this study is justified by its potential to improve the overall urban transport experience, promote safer and more professional tricycle operations, and enhance public satisfaction with transportation services in Ilorin. The findings will not only benefit policymakers but also provide valuable insights for transport unions, researchers, and urban mobility planners seeking to optimize informal transport systems in Nigeria.

1.6 Scope of the Study

Scope of the Study

This study focuses on the Post Office–Kwara State Polytechnic traffic corridor in Ilorin, Kwara State, Nigeria, a crucial urban transportation route that connects one of the busiest commercial hubs in the city (Post Office) with one of its leading educational institutions (Kwara State Polytechnic). The corridor serves a diverse group of commuters, including students, lecturers, business owners, traders, government workers, and other daily road users. The study will analyze the perceptions of commuters regarding the behavior and attitude of tricycle operators along this route, aiming to understand the quality of service, operational challenges, and user satisfaction levels.

The study will assess the attitudes of tricycle operators, including their customer service approach, compliance with traffic regulations, safety practices, fare pricing, and overall professionalism. Tricycles (popularly known as *Keke Napep*) are one of the most utilized means of transport in Ilorin due to their affordability, accessibility,

and ability to navigate congested roads. However, issues such as reckless driving, fare exploitation, poor adherence to road rules, and passenger safety concerns have been frequently reported in various Nigerian cities. This research will seek to determine how these factors influence commuters' satisfaction and confidence in tricycle services within the study area.

Furthermore, the study will explore the challenges encountered by commuters while using tricycles along this corridor. These challenges may include poor road conditions, traffic congestion, inconsistent fare charges, security risks, and driver misconduct. Understanding these issues will provide insight into areas that need urgent intervention for improving the efficiency of tricycle transport services.

To achieve a comprehensive assessment, the study will collect data from a wide range of respondents, including students, lecturers, traders, transport officials, and tricycle operators themselves. By incorporating multiple perspectives, the research aims to highlight both the strengths and weaknesses of the current transportation system along the Post Office–Kwara State Polytechnic route.

Additionally, the study will provide practical recommendations for improving tricycle transport operations. Possible areas of improvement include better regulation and monitoring of operators, improved driver training programs, standardized fare systems, and enhanced safety measures. These recommendations will be directed towards government agencies, transport unions, policymakers, and tricycle operators to ensure a more efficient and commuter-friendly transport system in Ilorin.

Ultimately, this research will contribute to the broader discourse on urban transportation management in Nigeria, offering insights into how informal transport services like tricycles can be better regulated and improved to meet the mobility needs of urban dwellers.

The study will involve:

Surveying tricycle passengers who frequently use the corridor.

Gathering opinions from transport regulatory bodies and tricycle unions to understand the broader transport environment.

Analyzing service quality and passenger satisfaction trends to provide policy recommendations.

1.7 Significance of the Study

The study has practical implications for transport management, urban mobility planning, and public policy development. Its significance includes:

Providing data-driven insights into the attitudes of tricycle operators.

Enhancing policy recommendations for transport regulation and safety improvement.

Contributing to future studies on urban mobility, passenger satisfaction, and transport service quality.

Encouraging tricycle operators to adopt better service delivery models that prioritize customer satisfaction.

1.8 Limitations of the Study

This study acknowledges certain limitations:

Limited Geographic Scope: The findings may not be generalizable to other cities or transport corridors in Nigeria.

Response Bias: Some passengers may exaggerate or underreport their experiences, affecting data accuracy.

Availability of Respondents: Some tricycle operators and passengers may be unwilling to participate in the survey, potentially limiting data collection.

Efforts will be made to minimize these limitations by:

Using a structured questionnaire to ensure balanced responses.

Maintaining respondent anonymity to encourage honest feedback.

Employing diverse data collection methods to enhance result validity.

Literature Review

The literature review provides a comprehensive analysis of existing studies on tricycle transportation, operator behavior, and user perceptions within urban transport systems. This section explores key themes, including the role of tricycles in urban mobility, operator attitudes and passenger experiences, regulatory frameworks, safety concerns, and the impact of service quality on commuter satisfaction. By examining past research, this review identifies gaps in the literature and establishes the foundation for the present study.

2.1 The Role of Tricycles in Urban Mobility

Tricycles have become a crucial component of urban transportation systems, particularly in developing countries where conventional public transport modes have failed to meet the increasing demand for mobility. In many African and Asian cities, motorized three-wheelers provide an affordable and flexible alternative for short-distance travel, bridging gaps in existing transportation networks (Adewumi & Allix, 2019). In Nigeria, the introduction of tricycles, commonly referred to as "Keke Napep," was part of a government initiative to tackle urban mobility challenges while creating employment opportunities (Okafor & Uchenna, 2021). Over time, these vehicles have become indispensable for low-income earners, students, traders, and professionals who rely on them for daily commuting.

Studies have highlighted the unique benefits that tricycles offer to urban mobility. According to Olawole and Aloba (2019), tricycles play a vital role in last-mile connectivity, ensuring that commuters can easily travel from major transport hubs to their final destinations. Their ability to navigate through narrow streets and congested areas makes them highly effective in urban settings where buses and taxis often face delays due to traffic congestion. Additionally, tricycles operate on a flexible schedule, allowing passengers to access transportation services throughout the day without being restricted to fixed departure times, as is common with larger public transport vehicles (Ibrahim & Abubakar, 2022).

Despite these advantages, concerns have emerged regarding the growing dependence on tricycles for urban transportation. Oni et al. (2021) argue that while tricycles enhance mobility, they also contribute to urban transport inefficiencies, particularly in cities where inadequate regulation has led to uncontrolled growth in tricycle operations. Unstructured routes, irregular fares, and a lack of standardized operational guidelines have resulted in inconsistent service delivery, affecting commuter satisfaction (Adebayo et al., 2020). Furthermore, excessive reliance on tricycles has raised safety concerns, as many operators lack formal training on road safety and traffic management (Ekechukwu et al., 2021).

Given the prominence of tricycles in urban transport, it is essential to examine how operator behavior and attitudes affect user perceptions and overall commuting experiences. Understanding these dynamics can inform policy decisions aimed at improving service quality and ensuring the sustainable integration of tricycles into urban transport systems.

2.2 Operator Attitudes and Passenger Experiences

The attitudes and behavior of public transport operators significantly shape passengers' commuting experiences and their overall satisfaction with the transport system. Studies consistently show that passengers place high value on professionalism, courtesy, and adherence to safety standards when using public transport services. The conduct of operators—particularly their communication, behavior, and respect for traffic laws—directly impacts passengers' trust in the service, their likelihood of repeated use, and the general perception of the transport system (Adebayo et al., 2020). In the context of tricycles, which serve as a prominent mode of transport in Nigeria's urban areas, passengers have frequently reported negative experiences, ranging from rude interactions to unsafe driving practices. These issues have contributed to declining satisfaction among users and, in some cases, have led to reluctance or avoidance of tricycles as a transport option (Olawole & Aloba, 2019).

One of the major concerns in the tricycle transport sector in Nigeria is the recurring complaints about the attitudes of the operators. Several studies have identified behaviors such as fare exploitation, reckless driving, non-compliance with traffic regulations, and rudeness towards passengers as prevalent issues. These behaviors not only compromise the safety of commuters but also degrade the quality of service offered by tricycle operators. According to Oni et al. (2021), passengers frequently face challenges such as refusal to complete agreed trips, arbitrary fare setting, and instances of verbal altercations with drivers, which lead to strained relationships between commuters and tricycle operators. This can deter people from relying on tricycles for their daily commute, especially when alternative transportation options are available.

A 2021 study by Okafor and Uchenna examined commuter experiences in multiple Nigerian cities and found that the behavior of tricycle operators was one of the most significant determinants of passenger satisfaction. The study revealed that many tricycle operators engaged in aggressive driving, ignored traffic signals and road safety rules, and were often unprofessional in their interactions with passengers. Such behaviors were reported to contribute to an increased sense of insecurity among passengers, leading to a diminished overall experience of the service. Additionally, the study noted that many commuters felt that their complaints were often ignored by transport authorities or operators themselves, further exacerbating the problem (Okafor & Uchenna, 2021).

Ekechukwu et al. (2021) conducted a similar study in major Nigerian cities such as Lagos and Abuja, where tricycles have become integral to urban transportation. They found that complaints regarding operator misconduct were widespread, with many passengers highlighting issues such as refusal to complete trips, fare manipulation, and a lack of respect for passenger safety. These negative interactions often resulted in escalating disputes between tricycle operators and their passengers, contributing to a culture of distrust and dissatisfaction in the public transport sector. The study also pointed out that passengers' general perceptions of service quality were heavily influenced by the operator's attitudes, which affected their decision to use the service again.

Furthermore, gender and socioeconomic factors also play a pivotal role in shaping passengers' experiences with tricycle operators. A study by Ibrahim and Abubakar (2022) explored how different demographic groups experience tricycle services and highlighted that female passengers were more likely to encounter harassment, overcharging, and unsafe driving practices compared to their male counterparts.

Female passengers, especially those traveling alone, often reported feeling unsafe due to the unprofessional behavior of some tricycle operators. This perception of insecurity not only discouraged female passengers from using tricycles but also raised concerns about the gender-specific challenges faced within the public transport system.

Socioeconomic factors also influence the quality of service received by passengers. Lower-income commuters, who may be more reliant on affordable transportation options, often face fare discrimination from tricycle operators. As Olawole and Aloba (2019) explain, operators sometimes charge passengers higher fares based on their perceived ability to pay. This practice, commonly referred to as "fare exploitation," can be particularly harmful to low-income individuals, as they are forced to pay inflated prices that are not commensurate with the distance or services provided. In some cases, passengers may even be overcharged based on their clothing, appearance, or social status, further compounding the inequality in service delivery.

The negative impacts of operator behavior are not only limited to user dissatisfaction but can also lead to broader systemic issues. For instance, when passengers experience rude behavior or unsafe driving, they may feel less inclined to report these incidents due to a lack of confidence in the ability of regulatory authorities to take corrective action. As a result, operators who engage in such misconduct may continue to behave irresponsibly without facing any repercussions, further exacerbating the issues in the public transport sector. This lack of accountability and transparency contributes to an ongoing cycle of low-quality service and dissatisfaction among commuters (Ibrahim & Abubakar, 2022).

To mitigate these challenges, experts have recommended various interventions aimed at improving the quality of service in the tricycle transport sector. One such

recommendation is the implementation of strict regulatory measures to ensure that operators adhere to safety standards, provide fair and consistent pricing, and engage in professional conduct when interacting with passengers (Oni et al., 2021). Policymakers have also advocated for the establishment of complaint channels where passengers can report incidents of misconduct, ensuring that operators who engage in unprofessional behavior are held accountable.

Ultimately, understanding the experiences and perceptions of passengers is crucial for identifying service gaps and developing strategies to address the issues that hinder the growth of the tricycle transport sector. By addressing operator attitudes, ensuring that drivers adhere to safety regulations, and promoting fairness and transparency in fare pricing, policymakers can improve public confidence in tricycle transport services. This, in turn, would lead to better quality of service and more efficient urban mobility, benefitting both operators and passengers.

2.3 Regulatory Frameworks and Governance in Tricycle Operations

The regulation of tricycle transportation is a critical element in ensuring not only service quality and safety but also the operational efficiency of the sector. Tricycles, commonly used for short-distance commuting in urban centers across Nigeria, are subject to varying levels of regulation depending on the state or local government. In some regions, robust regulatory frameworks exist, providing guidelines for licensing, operations, and traffic compliance. However, other areas lack structured policies, which leads to the emergence of informal, unregulated operations. This inconsistency across states has resulted in significant challenges in terms of safety, quality control, and fair pricing practices within the tricycle transport sector (Adebayo et al., 2020).

One of the central issues in tricycle regulation is the weak enforcement of policies, which often undermines the efficacy of existing frameworks. Studies have pointed out that weak or inconsistent enforcement has contributed to numerous problems, including reckless driving, fare manipulation, and general disregard for safety regulations. For instance, Okafor and Uchenna (2021) observed that many tricycle operators often flout traffic laws, resulting in unsafe driving conditions that jeopardize the safety of both passengers and pedestrians. Furthermore, in the absence of consistent regulatory enforcement, operators are more likely to engage in exploitative practices, such as arbitrary fare setting, which exacerbates commuter dissatisfaction. This situation is particularly evident in large cities, where tricycles play a vital role in filling transportation gaps left by other public transport options.

In addition to weak enforcement, the governance of tricycle operations is hindered by the lack of coordination between regulatory authorities and the informal nature of the sector. According to Ibrahim and Abubakar (2022), tricycle operators frequently function outside the bounds of established transport planning structures, which results in fragmented services that lack consistency in terms of fare structures, schedules, and routes. The uncoordinated nature of tricycle services is particularly evident in busy urban areas like Lagos and Abuja, where competing services often lead to traffic congestion, increased travel times, and inefficient use of infrastructure. This fragmentation prevents the development of a streamlined, user-friendly transport system that could benefit both operators and commuters.

One area that exacerbates the lack of regulation is the absence of standardized fare structures. Studies have highlighted how tricycle operators frequently charge different fares based on the demand at the time, the bargaining power of passengers, and even the socio-economic status of the commuter (Olawole & Aloba, 2019). The lack of a

clear, regulated fare system creates significant confusion for passengers, who may find themselves paying vastly different prices for the same route depending on their negotiation skills or the operator's mood. This issue not only frustrates passengers but also perpetuates inequality in the pricing system, with vulnerable passengers often being exploited by unscrupulous operators. The absence of regulated fare structures also allows for fare inflation during peak demand periods, further contributing to the negative perception of the tricycle service.

In an attempt to self-regulate, tricycle unions and associations have become pivotal actors in governing operator conduct and fare setting. These organizations, which represent groups of tricycle drivers, play a central role in ensuring that operators comply with local transportation rules and maintain a level of professionalism. However, as noted by Ekechukwu et al. (2021), the power and influence of these unions vary significantly across different cities. In some cases, these organizations successfully enforce disciplinary measures on operators who violate safety protocols or engage in unethical behavior, such as overcharging or harassment. However, in other cities, these unions fail to address key issues like fare regulation or complaints about poor customer service. This inconsistency further highlights the lack of a unified regulatory approach to tricycle transport operations and the need for stronger governance frameworks.

Researchers have emphasized the importance of strengthening regulatory frameworks to improve the quality and efficiency of tricycle operations. Adebayo et al. (2020) proposed that effective governance measures should include mandatory driver training programs, which would ensure that operators are well-versed in safety standards, customer service, and ethical fare practices. Such training programs could reduce incidents of reckless driving and ensure that operators maintain a professional

attitude toward passengers. Furthermore, implementing digital fare payment systems could help streamline fare collection and prevent overcharging. Digital systems would also improve transparency, enabling passengers to track their fares and reducing the opportunity for exploitation. Establishing designated tricycle routes and stops would also reduce congestion, minimize conflict with other vehicles, and improve the overall flow of traffic in busy urban areas.

Moreover, increased government oversight is essential to creating an environment where both operators and commuters can have greater confidence in the system. Enhanced collaboration between local governments and tricycle associations could help ensure that operators adhere to ethical service standards and that passengers' complaints are addressed more effectively. Such collaboration would also promote better enforcement of regulations, as local authorities would have greater support from the transport sector in implementing and upholding rules.

The literature underscores that the success of any regulatory framework will depend on consistent and transparent enforcement. Without clear, enforceable rules, the tricycle transport sector will continue to suffer from inefficiencies, safety concerns, and unequal service delivery. By focusing on improved regulation, government oversight, and collaboration between stakeholders, there is significant potential to create a more organized, equitable, and efficient urban transport system that benefits all users.

2.4 Safety Concerns and Risk Factors in Tricycle Transport

Safety in tricycle transport is one of the most pressing issues within the urban transport sector, particularly in Nigerian cities, where tricycles serve as a primary mode of transport for millions of commuters. While tricycles offer a flexible and

affordable means of transport, the risks associated with their operation are considerable. Research has repeatedly highlighted the safety challenges in the sector, with studies showing that tricycles are involved in a significant number of accidents, many of which result in severe injuries or fatalities. These risks stem from a variety of factors, including operator behavior, vehicle conditions, poor infrastructure, and the lack of formal driver training (Adebayo et al., 2020; Oni et al., 2021).

Operator Behavior and Reckless Driving

One of the most prominent safety concerns is the behavior of tricycle operators, who often engage in reckless driving practices. Studies have documented frequent violations of traffic rules, such as over-speeding, ignoring traffic signals, and weaving through traffic in densely packed urban areas (Adebayo et al., 2020). The nature of tricycle transport, which typically operates in a highly competitive and unregulated environment, encourages operators to engage in risky behaviors to increase their earnings, such as picking up passengers in unsafe locations or attempting to carry more passengers than the vehicle can safely accommodate. These actions significantly heighten the risk of accidents.

The aggressive driving style of many tricycle operators has been linked to the informal nature of the sector, where there are limited regulatory frameworks and insufficient oversight to enforce safe driving practices. Research by Ekechukwu et al. (2021) revealed that tricycle operators in major Nigerian cities often disregard road safety measures and fail to adhere to speed limits, which increases the likelihood of collisions. Furthermore, the high demand for tricycle services during peak hours compels operators to drive in ways that prioritize speed over safety, endangering both themselves and their passengers.

Vehicle Condition and Maintenance

In addition to the behavior of operators, the condition of the tricycles themselves is another critical factor influencing safety. Many tricycles used for public transportation in Nigeria are poorly maintained, with inadequate checks for mechanical faults and safety features. Studies have found that a significant portion of the tricycles in operation is prone to mechanical failure due to the lack of regular maintenance, which increases the risk of accidents caused by brake failure, tire bursts, and other technical malfunctions (Oni et al., 2021). The absence of safety mechanisms such as seat belts, helmets for passengers, or reflective materials on the vehicles further compromises safety.

Tricycles are typically subjected to harsh road conditions, which, combined with their poor maintenance, can lead to frequent breakdowns or accidents. The lack of standardized safety features on tricycles, such as the absence of roll bars or other protective structures, also makes them more vulnerable in the event of a crash. According to Oni et al. (2021), many tricycle operators use outdated or substandard vehicles, which lack the necessary safety standards required for passenger transport. The poor state of the vehicles increases the likelihood of mechanical failures during trips, contributing to the risk of accidents.

Infrastructure Limitations and Environmental Factors

The safety risks associated with tricycle transport are further exacerbated by the inadequate infrastructure found in many Nigerian cities. Tricycles often navigate through narrow streets, congested traffic, and poorly maintained roads, which increases the likelihood of collisions. Many urban roads lack clear demarcations for tricycles, leaving operators to maneuver through traffic without dedicated lanes, leading to frequent accidents with other vehicles, including motorcycles, cars, and buses (Ekechukwu et al., 2021).

In addition, the road networks in many cities are often poorly lit, further contributing to the risks faced by tricycle operators and passengers, especially during night-time travel. Inadequate road signage and the absence of designated stops for tricycles also create confusion, making it difficult for passengers to board or disembark safely. This lack of infrastructure planning leaves tricycles to operate in environments that are not conducive to safe travel.

Weather conditions also play a significant role in tricycle safety. During the rainy season, poor drainage systems often cause flooding on roads, which can be hazardous for tricycle operators who may not be familiar with the routes or lack the proper training to navigate through such conditions safely. Additionally, slippery roads and limited visibility in rainy weather further increase the risk of accidents, as tricycles lack the necessary safety features to cope with these environmental challenges (Olawole & Aloba, 2019).

Lack of Formal Training and Licensing for Operators

One of the most significant contributors to safety concerns in the tricycle transport sector is the lack of formal training for operators. While some tricycle drivers may possess informal, hands-on knowledge of operating a tricycle, many lack a formal education in road safety, traffic rules, and first aid procedures. This absence of training is a critical risk factor, as it leaves operators ill-prepared to handle emergency situations, follow safety protocols, or respond appropriately to accidents (Okafor & Uchenna, 2021).

Without standardized driver education programs, operators often rely on their intuition or unregulated experience to navigate traffic, which can lead to unsafe driving practices. According to Adebayo et al. (2020), formal training programs could significantly reduce the incidence of traffic violations and improve the safety

standards of tricycle operators. Training could include lessons on defensive driving, safe passenger handling, and basic vehicle maintenance to ensure that operators are well-equipped to manage the challenges of urban transport.

Public Health Implications and the Need for Policy Reform

The safety concerns in the tricycle sector have broader public health implications, as many of the accidents result in injuries that place a significant burden on health care systems. The severity of injuries from tricycle accidents, including head trauma, fractures, and spinal cord injuries, underscores the need for immediate reforms. According to Oni et al. (2021), increasing the safety of tricycles could not only reduce the number of accidents but also lessen the public health burden associated with transportation-related injuries.

The literature suggests that the implementation of stronger regulatory frameworks, alongside better enforcement of road safety laws, is crucial to improving the safety of tricycle transport. Policymakers must prioritize establishing comprehensive safety standards, such as mandating the use of helmets, implementing regular vehicle inspections, and improving road infrastructure. In addition, providing formal driver training programs and promoting awareness campaigns on safe driving could help reduce the risks associated with tricycle transport.

2.4.1 Operator Behavior and Risky Driving Practices

Research has established that tricycle operators frequently engage in unsafe driving behaviors, such as speeding, dangerous overtaking, and disregard for traffic signals (Okafor & Uchenna, 2021). Adebayo et al. (2020) found that many operators lack formal driver education, relying instead on informal training from peers. This results in poor road discipline and limited knowledge of safety protocols, increasing the

likelihood of accidents. Additionally, tricycle drivers often violate lane discipline, drive against traffic (one-way violations), and fail to yield to pedestrians, further exacerbating safety risks (Oni et al., 2021).

Another major concern is fatigue and overworking among tricycle operators. Since most tricycle drivers work long hours to maximize earnings, exhaustion contributes to reduced concentration, slow reaction times, and increased accident risk (Ibrahim & Abubakar, 2022). Moreover, studies indicate that alcohol and substance use among tricycle operators is an emerging issue, with some drivers reportedly consuming stimulants to sustain long working hours (Ekechukwu et al., 2021).

2.4.2 Vehicle Condition and Maintenance Issues

The condition of tricycle vehicles plays a crucial role in transport safety. Poor vehicle maintenance, mechanical faults, and worn-out tires contribute to frequent breakdowns and accidents (Adebayo et al., 2020). Many operators lack the financial resources to conduct regular servicing and repairs, leading to the use of faulty brakes, malfunctioning headlights, and unstable suspensions (Oni et al., 2021). In Nigeria, it has been observed that many tricycles in operation exceed their expected lifespan, making them more prone to mechanical failure (Ibrahim & Abubakar, 2022).

Government regulations on roadworthiness certification for tricycles remain weak, with many vehicles operating without proper inspections (Okafor & Uchenna, 2021). This lack of oversight exacerbates safety concerns, particularly in high-traffic areas where vehicle reliability is essential for commuter protection.

2.4.3 Infrastructure Limitations and Accident Hotspots

Urban infrastructure also influences tricycle safety. Poorly maintained roads, potholes, lack of designated tricycle lanes, and inadequate road signage contribute to frequent accidents and road congestion (Adebayo et al., 2020). In cities like Lagos and Kano,

studies have identified accident hotspots where tricycles are particularly vulnerable due to high pedestrian traffic, poor road conditions, and inadequate traffic management systems (Ekechukwu et al., 2021).

Despite these challenges, some cities have introduced dedicated tricycle lanes and safety awareness campaigns to reduce accident rates (Oni et al., 2021). However, the effectiveness of such initiatives is often hindered by poor enforcement and resistance from operators who prefer unrestricted movement across urban areas.

Improving tricycle safety requires a combination of regulatory reforms, operator education, strict enforcement of roadworthiness standards, and infrastructure upgrades. Without these measures, tricycle transport will continue to pose significant risks to both commuters and drivers.

2.5 The Impact of Service Quality on Commuter Satisfaction

Service quality plays a pivotal role in determining commuter satisfaction in tricycle transport. Research has identified five key dimensions that influence how passengers perceive service quality: reliability, safety, affordability, operator behavior, and comfort (Olawole & Aloba, 2019).

2.5.1 Reliability and Availability

Passengers value tricycle transport for its availability and flexibility, particularly in areas with limited public transport options (Ibrahim & Abubakar, 2022). Unlike buses, which operate on fixed routes and schedules, tricycles provide on-demand services that allow commuters to reach destinations quickly. However, studies have noted inconsistencies in service availability, particularly during peak hours and in certain locations where operators avoid routes with high traffic congestion (Adebayo et al., 2020).

Furthermore, service reliability is often affected by unexpected fare hikes, trip cancellations, and disputes over destinations, leading to commuter frustration (Oni et al., 2021). Addressing these issues requires standardized fare structures and improved route planning to enhance predictability in service delivery.

2.5.2 Safety and Commuter Trust

Safety concerns significantly impact commuter satisfaction. Adebayo et al. (2020) found that many passengers experience anxiety when using tricycles, particularly at night, due to crime risks and reckless driving. Incidents of robberies, driver misconduct, and passenger harassment have been reported in various studies, leading to declining commuter confidence in tricycle transport (Oni et al., 2021).

To improve commuter trust, researchers suggest enhancing security measures, such as driver identification systems, CCTV installations at major tricycle hubs, and partnerships with law enforcement agencies (Okafor & Uchenna, 2021). Additionally, implementing digital ride-hailing platforms for tricycles could introduce tracking features and accountability mechanisms, enhancing passenger safety (Ekechukwu et al., 2021).

2.5.3 Affordability and Perceived Value

Affordability remains one of the main reasons commuters choose tricycles over other transport modes. Studies indicate that low-income earners and students prefer tricycles due to their relatively low fares and accessibility (Ibrahim & Abubakar, 2022). However, fare fluctuations, lack of transparent pricing, and price hikes during peak hours negatively affect commuter satisfaction (Olawole & Aloba, 2019).

Introducing regulated pricing mechanisms, prepaid fare cards, and mobile payment options could help create a more transparent and fair pricing system for commuters (Adebayo et al., 2020).

2.5.4 Comfort and Passenger Experience

Comfort is another determinant of service quality. Many commuters report dissatisfaction with overloading, poor ventilation, uncomfortable seating arrangements, and exposure to extreme weather conditions while using tricycles (Ekechukwu et al., 2021). Additionally, noise pollution from tricycle engines and excessive honking contribute to an unpleasant commuting experience (Oni et al., 2021).

Enhancing passenger comfort requires better vehicle designs, reduced passenger overloading, and regulations enforcing noise control in urban transport systems (Okafor & Uchenna, 2021).

2.6 Identified Research Gaps

Despite the growing body of research on tricycle transportation, several gaps remain:

Limited empirical studies on commuter perceptions of service quality: While existing research highlights tricycle transport challenges, there is limited quantitative analysis of passenger satisfaction and expectations (Ibrahim & Abubakar, 2022).

Inadequate focus on gender-specific commuter experiences: Studies indicate that female passengers face unique safety and service quality challenges, yet few studies have explored gender-based disparities in tricycle transport (Oni et al., 2021).

Lack of policy-driven studies on tricycle regulation: Most research focuses on operator behavior and commuter satisfaction, with insufficient examination of policy effectiveness and regulatory enforcement (Ekechukwu et al., 2021).

Absence of digital innovation studies in tricycle transport: There is minimal research on how technology (e.g., ride-hailing apps, GPS tracking, and digital payments) can enhance tricycle transport services (Okafor & Uchenna, 2021).

By addressing these gaps, future studies can contribute to improving tricycle transportation and formulating policies that enhance urban mobility.

3.0 CHAPTER THREE: METHODOLOGY

3.1 Research Design

This study adopts a descriptive survey research design, which is appropriate for gathering detailed information from a population to understand their opinions, attitudes, and behaviors regarding a particular subject. Given the aim of the study—to explore users' perceptions of tricycle operations in Ilorin—this design enables the collection of primary data directly from tricycle users through structured questionnaires. The descriptive design is also suitable for identifying common trends, challenges, and service gaps based on actual user experiences along the Post Office–Kwara State Polytechnic corridor.

3.2 Study Area

The study is focused on the Post Office–Kwara State Polytechnic corridor in Ilorin, Kwara State. This corridor is one of the most active intra-urban transportation routes in the city, serving a wide range of commuters such as students, traders, civil servants, and business owners. The high volume of tricycle operations along this route makes it an ideal case study for assessing user experiences and operator behavior within a real-world urban setting.

3.3 Population of the Study

The target population includes residents and regular commuters who use tricycles for daily transport along the selected corridor. This population comprises diverse groups: students from Kwara State Polytechnic, traders at Post Office Market, civil servants, and private individuals commuting within Ilorin.

3.4 Sampling Frame

The sampling frame for this study includes tricycle users found at key locations along the corridor—namely, Post Office Junction, Challenge Junction, Maraba Roundabout, Oja Oba, and Kwara Polytechnic Main Gate. These locations were selected based on observed high commuter activity and tricycle traffic, making them strategic points for data collection.

3.5 3.5 Sample Size Determination

To determine an appropriate sample size, Taro Yamane's formula was used:

n=N1+N(e)2n = \frac{N}{1 + N(e)^2}n=1+N(e)2N

Where:

n = sample size

N = estimated population of tricycle users on the corridor per day (assumed to be approximately 1,000 based on observational data and local estimates)

e = margin of error (0.05 for 95% confidence level)

n=10001+1000(0.05)2=10001+2.5=10003.5≈286n = \frac{1000}{1 + 1000(0.05)^2} = \frac{1000}{1 + 2.5} = \frac{1000}{3.5} ≈ 286n=1+1000(0.05)21000=1+2.51000 =3.51000≈286

Thus, a sample size of 286 respondents was selected for the study.

3.6 Sampling Technique

The study employed a multi-stage sampling technique to ensure a fair and representative selection of respondents:

Purposive sampling was used to select the Post Office–Kwara State Polytechnic corridor due to its high commuter and tricycle activity.

Stratified random sampling was then applied to categorize the sampling points (e.g., bus stops and junctions) along the corridor.

Systematic random sampling was used at each sampling point, where every 3rd tricycle user alighting or boarding was approached to participate in the survey until the desired number of responses was achieved per location.

This combination of sampling techniques ensured diverse representation across age groups, gender, occupation, and trip purpose.

3.7 Research Instrument

The main research instrument was a structured questionnaire, developed to capture both quantitative and qualitative data. The questionnaire was divided into five sections:

Section A: Demographic Information

Section B: Frequency and Purpose of Tricycle Usage

Section C: Perception of Affordability, Accessibility, and Safety

Section D: Challenges Faced While Using Tricycles

Section E: Suggestions for Service Improvement

All items were designed using a 5-point Likert scale ranging from *Strongly Agree (5)* to *Strongly Disagree (1),* alongside multiple-choice and open-ended questions for richer feedback.

3.8 Validity and Reliability of the Instrument

To ensure content validity, the questionnaire was reviewed by two experts in urban transportation studies and one lecturer in research methodology. Their feedback helped refine the questions for clarity, relevance, and neutrality.

A pilot study was conducted with 20 respondents from a nearby corridor (Tanke–Unilorin route) to assess the clarity and reliability of the instrument. The Cronbach's

alpha for internal consistency of the Likert-scale items was 0.83, indicating a high level of reliability.

3.9 Method of Data Collection

Data were collected over a two-week period using trained field assistants who administered the questionnaires at the selected locations. Respondents were approached in a respectful and non-intrusive manner, and verbal consent was obtained before participation. Assistance was provided to illiterate respondents through oral translation of questions in Yoruba or Pidgin English.

3.10 Method of Data Analysis

The collected data were coded and entered into Statistical Package for Social Sciences (SPSS) Version 26 for analysis. The following methods were used:

Descriptive statistics (frequencies, percentages, mean scores) to summarize demographic data and usage patterns.

Inferential statistics, particularly Chi-square tests, were used to examine relationships between demographic characteristics and perception variables.

Responses to open-ended questions were analyzed using thematic content analysis to identify recurring themes and suggestions.

3.11 Ethical Considerations

Participation in the study was voluntary, and respondents were assured of anonymity and confidentiality.

The purpose of the study was clearly explained, and respondents were given the option to opt out at any point.

No personal or sensitive data were collected.

Ethical approval was obtained from the Department of Urban and Regional Planning at the host institution.

4.0 CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

4.1 Introduction

This chapter presents and analyzes the data collected from 286 respondents regarding their perception of tricycle operations as a means of intra-urban mobility along the Post Office–Kwara Polytechnic corridor in Ilorin. The analysis is structured to reflect the study's objectives, using descriptive statistics (frequencies, percentages, mean scores), and Chi-square tests to determine significant relationships between demographic variables and user perceptions. The chapter also includes thematic insights from open-ended responses.

4.2 Demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	164	57.3
	Female	122	42.7
Age Group	18–25	108	37.8
	26–35	92	32.2
	36–45	54	18.9
	46+	32	11.2
Occupation	Student	116	40.6
	Trader	48	16.8
	Civil Servant	52	18.2
	Artisan/Other	70	24.4

Variable	Category	Frequency (n)	Percentage (%)
Trip Frequency	Daily	196	68.5
	Weekly	64	22.4
	Occasionally	26	9.1

Interpretation:

Majority of respondents are students and young adults aged 18–35, which aligns with the user profile expected along a school-market corridor. The data suggests that tricycles are a critical daily transport mode, especially for students and low to mid-income earners.

4.3 Purpose and Frequency of Tricycle Use

Purpose of Use	Frequency	Percentage (%)
School/Work Commute	154	53.8
Market/Shopping	82	28.7
Social/Religious Activities	30	10.5
Health/Other	20	7.0

Interpretation:

Over 80% of users rely on tricycles for essential daily tasks, reinforcing their importance in Ilorin’s intra-urban mobility structure.

4.4 Users’ Perception of Tricycle Operations

4.4.1 Affordability

Response	Frequency	Percentage (%)
Strongly Agree	94	32.9
Agree	120	42.0
Neutral	34	11.9
Disagree	26	9.1
Strongly Disagree	12	4.1

Mean Score: 3.91/5

Interpretation:

Most users find tricycles affordable, though inflation and occasional price hikes were noted in open-ended comments as a source of concern.

4.4.2 Accessibility

Response	Frequency	Percentage (%)
Strongly Agree	106	37.1
Agree	132	46.2
Neutral	20	7.0
Disagree	18	6.3
Strongly Disagree	10	3.5

Mean Score: 4.08/5

Interpretation:

Respondents generally perceive tricycles as highly accessible, with easy availability at major junctions and during peak hours.

4.4.3 Safety

Response	Frequency	Percentage (%)
Strongly Agree	48	16.8
Agree	96	33.6
Neutral	48	16.8
Disagree	64	22.4
Strongly Disagree	30	10.5

Mean Score: 3.23/5

Interpretation:

Opinions on safety are mixed. Respondents cited reckless driving, overspeeding, and lack of seat belts as safety concerns. Some also mentioned driver behavior and lack of enforcement of traffic rules.

4.5 Challenges Reported by Users

Challenge	Frequency (n)	Percentage (%)
Reckless driving	122	42.7
Overpricing/fare hike	94	32.9
Noise and air pollution	28	9.8
Poor vehicle maintenance	42	14.7

Interpretation:

Driver behavior and fare inconsistencies are the most frequently mentioned challenges. These influence users' comfort and perception of the mode.

4.6 Suggestions for Service Improvement (Thematic Analysis)

Open-ended responses were grouped into themes. Top suggestions include:

Driver training and licensing enforcement

Fare standardization and digital payment options

Better vehicle maintenance and safety features (e.g., seatbelts)

Increased government regulation or association-level supervision

4.8 Summary of Key Findings

Tricycles are widely used and accessible, especially by students and low-income groups.

Users generally perceive them as affordable, but there are concerns about fare fluctuation and safety.

Major challenges include reckless driving and poor regulation.

Respondents call for better training, standardization, and safety improvements.

Age significantly influences how safety is perceived among users.

This chapter interprets and discusses the major findings of the study, drawing connections between the results and relevant literature. The discussion is guided by the research objectives and provides insight into how tricycle operations shape intra-urban mobility along the Post Office–Kwara Polytechnic corridor in Ilorin. The chapter also reflects on the implications of the findings for urban transport planning and policy in developing cities like Ilorin.

5.2 Socio-Demographic Context of Tricycle Users

The data show that tricycle users are predominantly young adults aged 18–35, with students forming the largest occupational group. This is not surprising, as the corridor connects major educational institutions, marketplaces, and residential areas. These results align with the findings of Akinpelu et al. (2021), who observed that students and low-income earners constitute the bulk of paratransit users in Nigerian cities.

The fact that over 68% of respondents use tricycles daily highlights the **indispensable role of tricycles in everyday urban commuting**, particularly for those without access to private vehicles or formal public transport.

5.3 Role of Tricycles in Meeting Urban Transport Needs

A major objective of this study was to evaluate the extent to which tricycle operations meet the mobility needs of residents. The results indicate that tricycles are widely perceived as **affordable, accessible, and convenient**—a finding consistent with Chukwu and Onyishi (2019), who noted that paratransit services help fill the gap left by insufficient public transport in medium-sized Nigerian cities.

Affordability ranked high among respondents, with a mean score of 3.91. Similarly, accessibility had a mean score of 4.08, reflecting the ease with which users can hail or

board tricycles at popular nodes. These findings reinforce the argument that tricycles are not just complementary modes of transport but, in many corridors like this one, **the primary form of intra-urban mobility**.

5.4 Challenges and Safety Concerns in Tricycle Operations

Despite their utility, tricycles are not without problems. The study revealed mixed perceptions regarding safety, with only about half of the respondents agreeing that tricycles are safe. Concerns around **reckless driving, over-speeding, lack of safety features, and poor vehicle maintenance** were frequently mentioned.

These findings are consistent with previous studies, such as Oyesiku and Odufuwa (2017), who found that the informal nature of tricycle operations in Nigerian cities often compromises safety and passenger comfort. The **statistically significant relationship between age and safety perception** further emphasizes that older users are more conscious and concerned about safety risks than younger users.

5.5 Regulatory and Operational Issues

The responses also shed light on the operational and regulatory shortcomings affecting tricycle use. Many respondents cited the lack of fare standardization, especially during rush hours or fuel scarcity, as a major issue. This aligns with similar studies in the Global South where informal transport operators exploit pricing loopholes in the absence of fare regulation (Salon & Gulyani, 2019).

Moreover, complaints about untrained drivers and weak enforcement of licensing laws echo the need for **government intervention in driver education and monitoring**, which remains largely absent in Ilorin's transport system.

5.6 Users' Suggestions for Improvement

Respondents provided practical suggestions such as:

- **Driver training and licensing** enforcement
- **Fare regulation** and cashless payment systems
- **Improved vehicle safety standards** (e.g., seatbelts, speed governors)
- **Government oversight and route management**

These suggestions indicate that users are not only aware of the problems but are also invested in improving the system. This supports findings from Adewale (2020), who argued that user-driven reforms are key to improving informal transport operations in urban Nigeria.

5.7 Contribution to Literature and Policy Implications

This study contributes to the growing literature on **paratransit systems** in sub-Saharan Africa by presenting empirical evidence from a mid-sized Nigerian city. The findings underscore the importance of recognizing tricycles as a **central element in urban mobility strategies**, rather than as temporary or informal solutions.

For urban planners and policymakers, the study signals the need for:

- **Integrated urban transport policies** that include paratransit
- **Public-private collaboration** in driver training and vehicle maintenance
- **Digital innovation** in fare collection and service tracking
- **Data-driven regulation** to enhance safety and service quality

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5.8 Summary of Discussion

The findings clearly demonstrate that tricycles are vital to intra-urban transport in Ilorin, providing an affordable and accessible alternative to formal public transport.

However, safety issues, driver behavior, fare inconsistencies, and a lack of regulation continue to undermine their potential. To sustainably integrate tricycles into urban transport planning, the city must address these systemic issues through policy reform, infrastructure improvement, and stronger enforcement mechanisms.

6.1 Summary of the Study

This study critically examined the role of tricycle operations in facilitating intra-urban mobility along the Post Office–Kwara Polytechnic corridor in Ilorin, Kwara State, Nigeria. Using a mixed-method approach that combined quantitative survey data with field observations, the study explored the socio-demographic profile of tricycle users, the operational characteristics of tricycles, users' perceptions of affordability, accessibility, and safety, as well as the challenges confronting this popular mode of transport.

Key findings indicate that tricycles play a **central role in meeting daily mobility needs**, particularly for students, low-income workers, and residents without access to private vehicles. Users generally appreciate the **affordability and convenience** of tricycles, though concerns about **safety, inconsistent fares, and lack of regulation** remain significant.

6.2 Conclusion

The study concludes that **tricycles are indispensable in Ilorin's transport ecosystem**, especially for short- to medium-distance intra-urban trips. Their proliferation along the Post Office–Kwara Polytechnic corridor fills the critical gap left by formal public transport systems, making urban movement faster and more accessible for thousands of commuters daily.

However, the **informal nature of their operations**, characterized by untrained drivers, poorly maintained vehicles, safety issues, and pricing irregularities, reduces their effectiveness and reliability. These operational weaknesses highlight a pressing need for **government intervention**, both in terms of policy and infrastructure, to better integrate tricycle services into Ilorin's broader urban transport strategy.

6.3 Recommendations

1. Strengthen Regulation and Licensing

- Government agencies such as the Kwara State Ministry of Transport should introduce a **mandatory registration and licensing framework** for all tricycle operators.
- Introduce regular **safety audits and inspections** to ensure vehicle roadworthiness.
- Establish **designated pickup and drop-off zones** to reduce congestion and improve service orderliness.

2. Improve Driver Training and Professionalism

- Introduce **compulsory training and certification** programs for tricycle riders.
- Include modules on **road safety, customer service, and basic vehicle maintenance** in training curricula.

3. Standardize Fares and Promote Digital Payments

- Collaborate with transport unions and cooperatives to **standardize fare structures**, especially during rush hours or fuel scarcity.
- Promote **cashless fare payment systems**, such as mobile apps or USSD codes, to improve transparency and reduce passenger-driver conflicts.

4. Establish Tricycle Terminals and Infrastructure

- Invest in purpose-built **tricycle parks or terminals** equipped with signage, waiting areas, and fare charts.
- Integrate these terminals into urban renewal plans, especially in densely populated neighborhoods.

5. Encourage Public–Private Partnerships (PPPs)

- Work with private sector partners to **sponsor and manage tricycle training, maintenance services, and technology integration**.
- Use cooperative models to ensure better coordination and accountability among riders.

6. Leverage Data and Technology for Policy

- Develop a **real-time transport data management system** to monitor tricycle movements, demand patterns, and user complaints.
- Use data analytics to plan for route optimization and predict congestion points for better transport planning.

6.4 Suggestions for Further Research

Future studies could:

- Extend the analysis to other corridors in Ilorin or other Nigerian cities for comparative insights.
- Explore the gender dynamics in tricycle use and operations.
- Evaluate the **environmental implications** of widespread tricycle use.
- Investigate the **potential of electric tricycles (e-trikes)** as a sustainable urban transport solution.

6.5 Final Remark

The future of intra-urban mobility in Nigeria lies not just in large-scale infrastructure but also in **acknowledging and formalizing the role of small-scale, grassroots transport solutions** like tricycles. By addressing their weaknesses and harnessing their strengths, cities like Ilorin can create inclusive, efficient, and sustainable transport systems that work for everyone.

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