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Assessing Urban Transportation Challenges and Opportunities for Sustainable Development in Auchi, Nigeria: A Multi-Dimensional Analysis

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Abstract **Original Research Article**

Urban transportation is crucial in ensuring mobility, accessibility, and economic development, yet many emerging urban centres in Nigeria, including Auchi, struggle with inefficient transport systems. This study examines the urban transportation challenges and opportunities for sustainable development in Auchi, using a multi-dimensional analysis identifying key issues such as traffic congestion, poor road infrastructure, inadequate public transport, and inefficient traffic management. Using a cross-sectional survey design, 150 structured questionnaires were administered to a diverse sample representing key stakeholder groups. Data was collected through surveys and interviews with commuters, transport operators, and urban planners. The findings reveal that poor route delineation, inadequate road infrastructure, weak policy enforcement, and a reliance on informal transport solutions contribute to traffic congestion, travel delays, and reduced economic productivity. However, there is significant public support for structured transport planning, route reorganisation, and the integration of modern traffic management systems integration. The study concluded that by prioritising infrastructure development, integrating multi-modal transport options, enforcing transport policies, and promoting environmentally friendly initiatives, Auchi can establish a resilient and efficient transport system. It therefore recommends adopting a comprehensive transport route delineation plan, expansion and maintenance of road infrastructure, integration of multi-modal transport systems, and use of intelligent transport technologies to enhance efficiency. By implementing these strategies, Auchi can establish a sustainable, reliable, and efficient transport network that meets the needs of its growing population and economic activities.

Keywords: Auchi, Infrastructure, Traffic, Transportation, Urban.

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1.1 Introduction

Urban transportation is a fundamental component of socio-economic development, serving as the backbone of urban mobility, economic activities, and spatial organisation (Rodrigue, 2022). Efficient transportation networks facilitate trade, improve accessibility to essential services, and enhance the overall quality of life in cities (Olawole & Aloba, 2021).

However, rapid urbanisation, poor transport planning, and insufficient infrastructure have created significant mobility challenges in many Nigerian cities, including Auchi (Ayo-Odifiri *et al*., 2021). Increasing urban expansion and the demand for improved road networks, efficient public transport systems, and multimodal transport solutions have become more critical.

Auchi, a rapidly growing urban centre in Edo State, faces numerous transportation challenges ranging from traffic congestion to inadequate road infrastructure and the absence of a structured public transportation system (Oluwaseyi et al., 2023). The reliance on informal transport modes, such as motorcycle taxis (popularly known as *okadas*) and minibuses (*kekes*), has resulted in unregulated transport operations, safety concerns, and inefficient mobility (Ajibola & Adegbite, 2021). Furthermore, poor road conditions and the lack of designated transport routes have led to traffic bottlenecks, negatively impacting businesses, daily commutes, and overall urban productivity (Osunmuyiwa & Adebayo, 2022).

One of the major issues contributing to Auchi's transportation problems is the absence of well-planned transport route delineation. A structured transport system should ideally include designated routes for private vehicles, public transport, non-motorised transport, and pedestrian walkways to ensure seamless mobility (Abubakar & Dano, 2020). However, Auchi's road networks remain largely underdeveloped and lack the necessary connectivity to support the increasing urban population. This challenge is further exacerbated by the inefficient traffic management system, which fails to regulate vehicular movement effectively, leading to congestion and longer travel times (Agunbiade et al., 2022).

Another significant aspect of urban transportation in Auchi is travel costs. Due to the absence of an organised mass transit system, commuters often rely on expensive and unreliable informal transport services (Chukwuma & Ugwu, 2023). The high commuting cost places an economic burden on residents, particularly low-income earners who spend a substantial proportion of their earnings on transportation (Eke & Abiodun, 2022). Addressing these cost-related challenges requires a holistic approach that integrates affordability, accessibility, and sustainability into the urban transport framework.

A sustainable solution to Auchi's urban mobility issues lies in the adoption of multimodal transport options and the development of a structured mass transit system. Multimodal transport systems, which incorporate a combination of buses, cycling lanes, pedestrian pathways, and light rail, have been widely recognised as effective strategies for improving urban mobility and reducing reliance on single-mode transport options (Litman, 2021). Cities that have successfully implemented multimodal transport solutions have experienced improved traffic efficiency, reduced environmental pollution, and enhanced economic productivity (Banister, 2021).

Despite the various initiatives and policies aimed at improving urban mobility in Nigeria, the gap between policy formulation and implementation remains a major barrier to achieving sustainable transport solutions (Udeh & Eze, 2023). Many transport policies fail due to inadequate funding, poor stakeholder engagement, and weak enforcement mechanisms (Nwokoro et al., 2022). Bridging this gap requires a comprehensive approach that integrates stakeholder participation, data-driven decision-making, and innovative transport solutions tailored to the unique needs of Auchi. Hence, this study aims to critically assess the urban transportation challenges in Auchi while identifying opportunities for sustainable development.

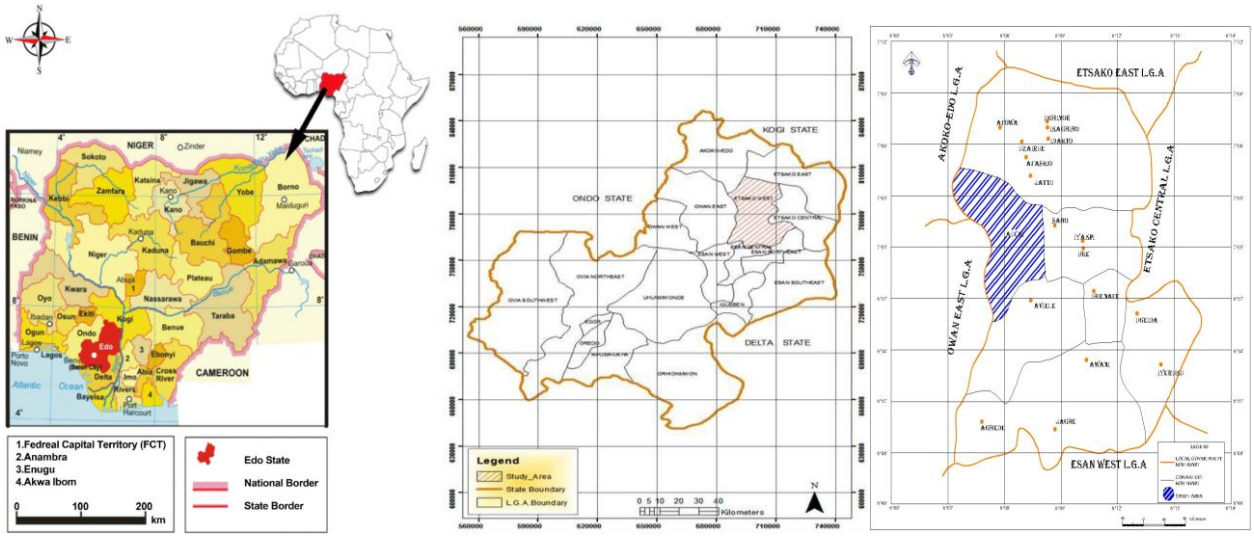
1.2 Study Area

Auchi is a prominent urban centre located in Edo State, Nigeria. It is situated in Etsako West Local Government Area and serves as one of the most significant commercial and educational hubs in the state. Geographically, Auchi lies between latitudes 7°04′N and 7°07′N and longitudes 6°15′E and 6°20′E, placing it within Nigeria's rainforest-savanna transition zone (see Figure 1) (Onokerhoraye & Omuta,

2021).

Its strategic location along the Benin-Abuja expressway makes it an important transit point for commuters and goods between the southern and northern parts of Nigeria. According to the National Population Commission's 1999 data, Auchi had an estimated population of 42,610 in 1991. Using a constant growth rate of 2.8% and the geometric projection method for 31 years, the projected population of Auchi in 2025 will be 109,234. The town is a melting pot of ethnic groups, predominantly the Afemai people, along with settlers from various parts of Nigeria. The population's growth rate has been spurred by its reputation as an educational centre, hosting the Federal Polytechnic Auchi, which attracts students and staff from across the country. This growth has also contributed to increasing urbanisation and the expansion of the town's boundaries.

Figure 1: Locational Map of Auchi



Source: Osayande, et al (2019)

Auchi experiences a tropical climate marked by two distinct seasons: the rainy season, which typically spans April to October, and the dry season, lasting from November to March. Average annual rainfall ranges between 1,500 mm and 2,000 mm, with peak rainfall occurring in July and September. The average temperature is relatively consistent throughout the year, ranging from 24°C to 31°C. Humidity levels are generally high, especially during the rainy season, while the Harmattan wind, a dry and dusty north-easterly trade wind, influences the climate during the dry season (Nigerian Meteorological Agency [NiMet], 2022).

Auchi boasts a vibrant socio-economic landscape. The town is a significant commercial hub, with markets like the Auchi Main Market playing a pivotal role in trade and commerce. The economy is driven by small- and medium-scale enterprises, retail trading, and agricultural activities. The presence of the Federal Polytechnic Auchi also contributes to the local economy by generating employment and fostering entrepreneurial ventures. Key agricultural products include cassava, yams, maize, and oil palm. However, the town faces challenges related to urban planning, including inadequate infrastructure, traffic congestion, and environmental degradation, which have

implications for its socio-economic development (Eke & Alufohai, 2023).

2.1 Conceptual Framework

2.1.1 Systems Thinking Approach in Urban Transportation

The systems thinking approach offers a holistic framework for analysing urban transportation networks as complex, interrelated systems rather than isolated components (Asunogie and Ikhanoba, 2026). This perspective emphasises the interplay between infrastructure, policy, user behaviour, and environmental factors, recognising that changes in one component can have cascading effects throughout the entire system (Harrison & Miller, 2023). Systems thinking can identify critical leverage points that yield systemic improvements, such as optimising traffic flows or integrating land-use planning with transport infrastructure, essential for fostering resilience and adaptability in rapidly urbanising contexts. In the case of Auchi, this approach supports the study by enabling an integrated analysis of the myriad factors contributing to transportation challenges. It provides a basis for developing comprehensive, adaptive solutions that address immediate issues like congestion, inadequate road networks, and long-term urban dynamics influenced by socio-economic growth and environmental sustainability (Jones & Taylor, 2022).

2.1.2 Sustainable Urban Transport Planning (SUTP) Framework

The Sustainable Urban Transport Planning (SUTP) framework is a multi-dimensional strategy that integrates economic, environmental, and social objectives into the planning and development of urban transportation systems (Moscoso, van Lake, & Quiñones, 2019). This framework emphasises the necessity of forward-looking, adaptable planning processes that address current mobility challenges and anticipate future urban growth and environmental constraints (Kumar & Singh, 2023). Central to SUTP is the promotion of multi-modal transport systems, which aim to reduce dependency on private vehicles, lower greenhouse gas emissions, and enhance accessibility for all urban residents. For Auchi, adopting a SUTP framework can facilitate the alignment of transport infrastructure investments with sustainable development goals – ensuring that improvements in road networks and public transport services contribute to broader socio-economic and environmental benefits. This integrated approach is critical for designing resilient transport systems that support equitable urban development while mitigating adverse impacts such as congestion and high travel costs (Mohamed & Rahman, 2022).

2.2 Literature Review

2.2.1 Travel Cost

Travel cost is a pivotal concept in urban transportation planning, encompassing not only the explicit monetary expenses incurred during travel (e.g., fares, fuel costs, tolls) but also the implicit costs such as time lost, inconvenience, and opportunity costs associated with commuting (Litman, 2021). These costs directly influence commuter behaviour, mode choice, and overall accessibility to urban services. In rapidly urbanising centres like Auchi, high travel costs can have profound socio-economic implications. Elevated travel costs tend to disproportionately affect lower-income households, reducing access to employment, education, and healthcare, and ultimately exacerbating socio-economic disparities (Button, 2021). Moreover, when the travel cost of using formal transport systems is perceived as high, commuters may opt for informal or less efficient alternatives, thereby further burdening the transport network and intensifying congestion (Ceder, 2020).

Research indicates that reducing travel costs through infrastructure improvements, more efficient service delivery, and strategic policy interventions – such as subsidised public transport and congestion pricing – can enhance overall urban mobility and economic productivity (Vuchic, 2020). For instance, improvements in road network design and the

integration of multi-modal transport options can significantly reduce both direct and indirect travel costs, thereby encouraging greater use of formal transportation services. In the context of Auchi, addressing high travel costs is essential not only for improving commuter experiences but also for fostering equitable access to urban opportunities and supporting sustainable economic development.

2.2.2 The Need for Multi-modal Transport Options

The need for multi-modal transport options has become increasingly critical as urban centres strive to address congestion, environmental sustainability, and social equity in the face of rapid urbanisation. Multi-modal transport systems enable seamless integration between various transport modes—such as buses, trains, cycling, and walking—thereby optimising mobility and offering users flexible travel choices tailored to their specific needs (Litman, 2021). By diversifying travel modes, cities can reduce the reliance on private vehicles, subsequently lowering greenhouse gas emissions and mitigating urban air pollution (Banister, 2021). This integrated approach not only improves travel efficiency but also distributes the transport load across different systems, making the overall network more resilient to disruptions (Pojani & Stead, 2022).

Moreover, advances in digital technologies—such as real-time data analytics and mobile-based travel platforms—have further enhanced the potential of multi-modal integration by providing timely information on schedules, transfers, and service reliability (Zhang, Li, & Wang, 2022). In practice, cities that have embraced multi-modal transport options, such as Amsterdam and Copenhagen, report significant improvements in commuter satisfaction and reductions in traffic congestion (Pojani & Stead, 2022). For a rapidly expanding urban centre like Auchi, the adoption of a multi-modal transport system is particularly pertinent. With its burgeoning population and existing infrastructural challenges, Auchi stands to benefit from a transport network that not only alleviates traffic bottlenecks but also promotes environmental sustainability and improves accessibility for all socioeconomic groups.

2.2.3 The Need for Mass Transit in Urban Areas

Mass transit is increasingly recognised as an essential pillar for sustainable urban mobility, especially as cities grapple with rapid population growth, escalating congestion, and environmental degradation. Urban mass transit systems—such as subways, light rail, and bus rapid transit (BRT)—offer high-capacity, efficient modes of transportation that significantly reduce the dependence on private vehicles, thereby alleviating traffic congestion and lowering greenhouse gas emissions (Cervero, 2021). These systems not only enhance mobility by providing reliable and timely access to employment, education, and healthcare but also stimulate economic activity through urban regeneration and increased land value around transit corridors (Smith & Li, 2022). Moreover, mass transit contributes to social equity by offering affordable travel options to a diverse range of users, thus reducing disparities in access to essential services (Currie & Matthews, 2022). Integration with other transport modes through a multi-modal approach further amplifies the efficiency of the urban transport network, ensuring seamless connectivity across various parts of the city (Litman, 2021). For rapidly expanding urban centres like Auchi, investing in robust mass transit infrastructure is critical—not only to address current mobility challenges but also to future-proof the city against the pressures of continued urbanisation and environmental change (Gakenheimer & Pojani, 2020).

2.2.4 Transport Route Delineation in Urban Transportation

Transport route delineation is a systematic process that involves planning, mapping, and optimising transportation corridors within urban settings to ensure efficient mobility, reduce congestion, and enhance accessibility to

key urban nodes (Wang & Yin, 2020). This process utilises advanced spatial analysis tools – such as Geographic Information Systems (GIS) and multi-criteria decision-making (MCDM) models, to integrate diverse datasets, including land use, population density, and traffic patterns. By evaluating multiple performance indicators like travel time, distance, and environmental impact, planners can identify optimal routes that not only meet current mobility needs but also anticipate future urban growth and shifts in demand (Wang & Yin, 2020).

In addition, integrated approaches to route delineation, which combine traditional planning methods with modern technological innovations, have been shown to yield more resilient and adaptable urban transport networks. For instance, Zhang and Kockelman (2021) demonstrated that such integrated methods facilitate a holistic evaluation of potential routes and improve the overall connectivity of urban transport systems. This is particularly critical in rapidly urbanising cities like Auchi, Nigeria, where infrastructural challenges and dynamic population growth necessitate continuous refinement of transport planning strategies. Effective transport route delineation thus forms the backbone of sustainable urban mobility by reducing traffic bottlenecks, minimising travel costs, and laying a robust foundation for multi-modal integration and advanced traffic management systems.

2.2.5 Challenges of Transport Route Delineation

Challenges in transport route delineation are multifaceted, encompassing technical, institutional, and contextual constraints that can undermine the effectiveness of urban transportation planning. One primary challenge is the quality and availability of spatial data. In many rapidly urbanising contexts, including cities in Nigeria, planners often grapple with outdated or incomplete datasets, which can lead to inaccuracies in mapping current road networks and forecasting future mobility patterns (Santos & Martins, 2021). Furthermore, integrating diverse datasets—such as land use, demographic information, and traffic volumes—into a coherent analytical framework requires sophisticated multi-criteria decision-making tools, and discrepancies between data sources can hinder the delineation process (Wang & Yin, 2020).

Another significant challenge is the dynamic nature of urban growth. As cities like Auchi experience rapid population increases and evolving land-use patterns, static route delineation models may quickly become obsolete. This issue is compounded by bureaucratic delays and limited financial resources, which restrict the frequency of updates needed to keep transportation plans current (Jones & Wang, 2022). Additionally, planners must balance competing objectives, such as minimising travel time, reducing environmental impacts, and ensuring equitable access to transportation services. This balancing act adds complexity to the delineation process, often requiring compromises that may not fully satisfy all stakeholders (Hernandez et al., 2021).

Institutional challenges further exacerbate these technical difficulties. A lack of coordinated planning among various government agencies, coupled with insufficient stakeholder engagement, can lead to fragmented transport planning efforts. Such institutional barriers not only delay the implementation of comprehensive route delineation plans but also undermine the effectiveness of subsequent policy measures (Nguyen & Chen, 2020). Addressing these challenges requires an integrated, data-driven, and adaptive planning framework that can respond to the evolving urban landscape while reconciling technical, environmental, and institutional demands.

3.0 Methodology

This study employs a cross-sectional survey design to investigate the efficiency and challenges of urban transportation networks in Auchi, with a specific focus on the interplay between infrastructural deficits and socio-economic development. A total of 150 structured questionnaires will be administered to a randomly selected sample of Auchi residents,

daily commuters, and local business owners, ensuring that the sample is representative of the diverse stakeholder groups affected by urban transport issues. The questionnaire is designed to capture detailed information on respondents' perceptions regarding the adequacy of the current road network, the impact of rapid urbanisation on traffic congestion, and the effectiveness of existing transport policies. Data collected were analysed using descriptive and inferential statistical techniques via the SPSS software, thereby enabling the identification of significant trends and correlations between transport inefficiencies and socio-economic indicators. This methodological approach is guided by established survey research practices, ensuring rigour and reliability in the data collection process (Creswell, 2018; Saunders, Lewis, & Thornhill, 2019).

4.0 Findings

Table 1: Demographic Information

Variable	Category	Frequency (N)	Percentage (%)
Age	Under 18	8	5.3
	18–24	36	24.0
	25–34	54	36.0
	35–44	30	20.0
	45–54	15	10.0
	55 and above	7	4.7
Gender	Male	90	60.0
	Female	57	38.0
	Other	3	2.0
Occupation	Student	68	45.3
	Employed (Public Sector)	23	15.3
	Employed (Private Sector)	30	20.0
	Self-employed	15	10.0
	Unemployed	10	6.7
	Other	4	2.7
Length of Residence in Auchi	Less than 1 year	15	10.0
	1–3 years	38	25.3
	4–6 years	45	30.0
	7–10 years	30	20.0
	More than 10 years	22	14.7

Frequency of Using Urban Transportation Services	Daily	60	40.0
	Several times a week	45	30.0
	Weekly	23	15.3
	Occasionally	15	10.0
	Rarely/Never	7	4.7

Source: Field survey, 2025

Table 1 provides an overview of the respondents' demographic characteristics, including age, gender, occupation, length of residence, and frequency of using urban transportation services. The data indicate that the predominant age group is 25–34 years (36%), with a significant portion of the sample comprised of students (45.3%) and young professionals. Additionally, a majority of respondents are regular users of urban transport (40% daily usage), suggesting that the study captures insights from a segment of the population that is highly impacted by transportation challenges. This demographic profile is critical for understanding the varied needs and expectations of the urban populace in Auchi, and it reinforces the importance of developing sustainable transport solutions that cater to both young, mobile users and longer-term residents.

Table 2: Perceptions of Urban Transportation Networks

Variable	Category	Frequency (N)	Percentage (%)
Overall Efficiency of Auchi's Urban Transportation Network	Very inefficient	15	10.0
	Inefficient	53	35.3
	Neutral	45	30.0
	Efficient	30	20.0
	Very efficient	7	4.7
Adequacy of Current Road Network	Yes	45	30.0
	No	105	70.0
Critical Issues – Urban Transportation System	Traffic congestion	120	80.0
	Poor road conditions	98	65.3
	Inadequate public transport options	113	75.3
	Lack of proper road maintenance	83	55.3
	Inefficient traffic management	105	70.0

	Environmental degradation	70	46.7
Agreement on Integrating Multi-modal Transport Options	Strongly disagree	8	5.3
	Disagree	15	10.0
	Neutral	30	20.0
	Agree	67	44.7
	Strongly agree	30	20.0
Effectiveness of Current Urban Transport Policies in Promoting Sustainable Mobility	Very ineffective	60	40.0
	Ineffective	45	30.0
	Neutral	22	14.7
	Effective	15	10.0
	Very effective	8	5.3

Source: Field survey, 2025

Table 2 reflects respondents' views on the overall efficiency of Auchi's urban transportation network, the adequacy of the existing road infrastructure, and the identification of critical issues such as traffic congestion, inadequate public transport, and environmental degradation. The majority of participants rated the network as "Inefficient" or "Neutral," with 70% expressing that the current road network does not meet the demands of an expanding population. These perceptions underscore the urgent need for interventions that enhance system performance and promote sustainable urban mobility. The data support the study's focus by highlighting the specific areas—such as congestion and policy effectiveness—that require improvement to foster a more resilient transportation framework.

Table 3: Challenges in Road Infrastructure

Variable	**Category**	**Frequency (N)**	**Percentage (%)**
Impact of Non-functional Road Network on Traffic Congestion	Strongly disagree	3	2.0
	Disagree	12	8.0
	Neutral	30	20.0
	Agree	60	40.0
	Strongly agree	45	30.0
Frequency of Delays/Inconveniences Due to Inadequate Road Infrastructure	Very rarely	8	5.3
	Rarely	23	15.3
	Sometimes	51	34.0
	Often	45	30.0
	Very often	23	15.3

Observation of Increased Use of Informal Transport Solutions	Yes	128	85.3
	No	22	14.7
Importance of Upgrading Existing Road Networks	Not important	3	2.0
	Slightly important	12	8.0
	Moderately important	30	20.0
	Very important	60	40.0
	Extremely important	45	30.0
Perception of Policy Implementation Gap in Urban Transport	Yes	121	80.6
	No	29	19.4

Source: Field survey, 2025

Table 3 captures the challenges related to road infrastructure in Auchi, including the impact of non-functional road networks on traffic congestion, the frequency of delays experienced by commuters, and the increased reliance on informal transport solutions. With 70% of respondents indicating that poor infrastructure significantly contributes to traffic delays and 85.3% noting the rise in informal transport usage, the table clearly illustrates systemic deficiencies that compromise urban mobility. These challenges are pivotal to the study, as they directly influence the effectiveness of existing transport services and the potential for implementing sustainable solutions. Addressing these infrastructural challenges is a key prerequisite for the development of a modern, efficient urban transportation network.

Table 4: Socio-Economic Implications and Suggestions for Improvement

Variable	**Category**	**Frequency (N)**	**Percentage (%)**
Impact of Transportation Challenges on Daily Socio-Economic Activities	Not at all	8	5.3
	Slightly	24	16.0
	Moderately	50	33.3
	Significantly	45	30.0
	Extremely	23	15.3
Perceived Impact of Sustainable Transport Interventions on Daily Commutes	Very negatively	8	5.3
	Negatively	15	10.0
	No impact	22	14.7
	Positively	60	40.0
	Very positively	45	30.0
Support for Developing a Detailed, Sustainable Transportation Network Plan	Yes	135	90.0
	No	15	10.0
	Strongly oppose	3	2.0

Favourability Towards Integrating Sustainable Transport Strategies	Oppose	8	5.3
	Neutral	15	10.0
	Support	75	50.0
	Strongly support	49	32.7

Source: Field survey, 2025

Table 4 focuses on the broader socio-economic impacts of transportation challenges in Auchi and gathers respondents' opinions on sustainable interventions. The data reveal that transportation issues significantly disrupt daily activities—such as work, education, and business—with over 63% reporting moderate to extreme negative impacts. Additionally, there is overwhelming support (90%) for the development of a detailed sustainable transportation network plan, and more than 82% of respondents favour integrating sustainable transport strategies. This table highlights the adverse economic and social consequences of current transportation inefficiencies and points to a strong public demand for innovative, sustainable policy measures. The positive outlook on advanced traffic management and sustainable strategies shows the potential for transformative interventions in Auchi's urban transport system.

5.0 Summary of Findings

The study revealed critical issues affecting the efficiency and sustainability of the transport network in Auchi. Findings indicate that Auchi's urban transport system is inefficient, with poor road infrastructure, inadequate public transport options and weak traffic management. A significant portion of the population relies on informal transport solutions due to the absence of a well-defined transportation route network. The lack of proper route delineation has contributed to frequent congestion, delays, and economic losses. Additionally, respondents highlighted the need for multi-modal transport integration and a structured road network to support the town's growing population. The study also found that while existing urban transport policies exist, their implementation remains weak, further exacerbating mobility issues. However, there is significant public support for restructuring transport routes, improved road infrastructure, and integration of modern traffic management systems to enhance the efficiency of transportation services in Auchi.

5.1 Recommendations

In light of the findings, several recommendations are proposed to address the challenges identified and to create a more efficient and sustainable urban transport system.

i. Improving road infrastructure should be a priority for the Edo State government and urban planning agencies, ensuring that existing roads are rehabilitated and expanded to accommodate population growth. Regular maintenance schedules should be established to prevent further deterioration, reducing the cost of long-term repairs.

ii. Integrating multi-modal transport systems is also necessary to ease the strain on existing networks. The Ministry of Transport should facilitate the introduction of structured and reliable transport options such as Bus Rapid Transit (BRT) systems and light rail services. Additionally, investment in pedestrian-friendly infrastructure, including dedicated walkways and bicycle lanes, would encourage non-motorised forms of transport and reduce congestion.

iii. To address the inefficiencies in traffic management, the introduction of advanced traffic control systems, such as intelligent transport solutions and smart traffic lights, should be explored. The

government must also strengthen the enforcement of existing transport policies to bridge the gap between policy formulation and implementation. Ensuring that regulations are effectively applied will improve transport efficiency and safety across Auchi.

iv. A key recommendation is the adoption of environmentally sustainable transport initiatives. The transport sector should shift towards eco-friendly alternatives, such as electric buses and carpooling systems, which can reduce carbon emissions and support broader climate change mitigation efforts. Incentives for adopting sustainable transport technologies should also be provided to encourage uptake among transport operators and commuters.

v. Public engagement and stakeholder collaboration must be institutionalised to ensure inclusive decision-making. Regular consultations with transport operators, urban planners, and the general public will help in designing solutions that reflect the realities of commuters. Awareness campaigns should also be conducted to educate residents on sustainable mobility practices and the benefits of adopting greener transport solutions.

5.2 Conclusion

The study has highlighted significant challenges in Auchi's urban transportation system, including poor infrastructure, inadequate public transport options, and inefficient traffic management, all of which negatively impact mobility and economic productivity. The increasing reliance on informal transport solutions underscores the urgent need for structured interventions to enhance urban mobility. However, the overwhelming support for sustainable transport reforms presents an opportunity for transformative change. By prioritising infrastructure development, integrating multi-modal transport options, enforcing transport policies, and promoting environmentally friendly initiatives, Auchi can establish a resilient and efficient transport system. These measures will not only improve accessibility and economic opportunities but also contribute to long-term environmental sustainability and a higher quality of life for residents.

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