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Understanding Public Acceptance of Sustainable Transportation Systems: The Roles of Environmental Awareness, Infrastructure Availability, and Policy Trust in Promoting Green Mobility

Arif Fakhrudin [1*], Kifni Yudianto [2], Maria Valeria Roellyanti [3]
[1,2.3] Sekolah Tinggi Teknologi Kedirgantaraan
*ariffakhrudin21@gmail.com

ABSTRACT

The increasing demand for urban mobility, combined with rapid urbanization and the growing dependence on private vehicles, has intensified environmental and social challenges in urban transportation systems. Issues such as traffic congestion, air pollution, and greenhouse gas emissions have encouraged policymakers to promote sustainable transportation systems as part of broader green mobility strategies. However, the success of sustainable mobility initiatives depends not only on infrastructure development and technological innovation but also on public acceptance and behavioural change. This study aims to analyse the factors influencing public acceptance of sustainable transportation systems in the context of promoting green mobility. Drawing upon insights from environmental behaviour research and transportation policy studies, the study proposes a conceptual framework that examines the influence of environmental awareness, perceived benefits, infrastructure availability, and policy trust on public acceptance of sustainable transportation systems. A quantitative research design was employed using a structured questionnaire distributed to urban residents who regularly engage in daily mobility activities. The collected data were analysed using Structural Equation Modelling (SEM) to evaluate the relationships between the proposed variables. The findings indicate that environmental awareness significantly contributes to individuals' support for sustainable transportation initiatives. Perceived benefits and infrastructure availability also demonstrate positive relationships with public acceptance, emphasizing the importance of accessible mobility infrastructure and clearly communicated environmental and societal benefits. In addition, policy trust plays a significant role in shaping citizens' willingness to support sustainability-oriented transportation policies. These findings highlight the importance of integrating behavioural, infrastructural, and institutional strategies in promoting green mobility and accelerating the transition toward sustainable urban transportation systems.

Keywords: *Sustainable transportation; Green mobility; Public acceptance; Environmental awareness; Infrastructure availability; Policy trust; Urban mobility; Sustainable urban development.*

INTRODUCTION

Rapid urbanization has become one of the defining global trends of the twenty-first century, fundamentally transforming patterns of mobility, land use, and environmental sustainability in cities worldwide. As urban populations continue to grow, transportation demand has increased significantly, resulting in higher levels of traffic congestion, energy consumption, and environmental degradation. According to the International Energy Agency, the transportation sector accounts for nearly one-

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quarter of global carbon dioxide emissions, making it one of the largest contributors to climate change. In urban areas, the dominance of private motorized vehicles has intensified problems related to air pollution, greenhouse gas emissions, and declining quality of life. Consequently, many governments and urban planners have begun to promote sustainable transportation systems as part of broader strategies to address environmental challenges and improve urban sustainability. Within this context, the concept of green mobility has gained increasing attention among policymakers, scholars, and urban practitioners. Green mobility generally refers to transportation systems designed to reduce environmental impacts while ensuring efficient, accessible, and socially inclusive mobility for urban populations. These systems emphasize the use of environmentally friendly modes of transport such as public transit, cycling, walking, and low-emission vehicles. In addition, the integration of innovative technologies, including electric vehicles, shared mobility platforms, and intelligent transportation systems, has further expanded opportunities for developing more sustainable urban mobility systems (Litman, 2020). The transition toward green mobility is therefore considered a crucial component of sustainable urban development and climate mitigation policies.

Global policy frameworks have also emphasized the importance of sustainable transportation as a key element of sustainable development. For example, the United Nations incorporated sustainable transportation into the Sustainable Development Goals (SDGs), particularly Goal 11, which focuses on making cities inclusive, safe, resilient, and sustainable. Sustainable transportation policies are expected to reduce environmental impacts while improving accessibility, economic productivity, and social equity in urban environments (United Nations, 2016). As a result, many cities worldwide have begun implementing various initiatives to promote sustainable mobility, including investments in mass transit infrastructure, development of bicycle lanes, implementation of congestion pricing policies, and incentives for low-emission vehicles. Despite these efforts, the transition from conventional transport systems toward sustainable mobility remains complex and challenging. One of the primary obstacles is the strong dependence on private car use that has developed in many urban societies over the past decades. Private vehicles are often perceived as more convenient, flexible, and comfortable compared to alternative transportation modes. This car-oriented mobility culture can create resistance to policies aimed at reducing private vehicle use or promoting public transport and non-motorized mobility (Steg, 2005). Therefore, promoting green mobility requires not only infrastructure development and technological innovation but also significant changes in public attitudes and behaviour.

Public acceptance has emerged as a crucial factor in determining the success of sustainable transportation policies. Even when sustainable transportation systems are technically feasible and environmentally beneficial, they may face opposition if the public perceives them as inconvenient, costly, or unfair. For example, policies such as road pricing, parking restrictions, or reduced road space for private vehicles can generate public resistance if citizens believe that such policies limit their mobility or

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increase their daily transportation costs. Consequently, understanding the determinants of public acceptance has become an important area of research in the field of transportation policy and urban planning. Previous studies indicate that public acceptance of sustainable transportation systems is influenced by multiple interconnected factors. Environmental awareness, for instance, has been identified as an important driver of pro-environmental behaviour, including the willingness to adopt sustainable transport modes. Individuals who are more aware of environmental issues such as climate change and air pollution are generally more supportive of policies that promote green mobility (Bamberg & Moser, 2007). Similarly, perceived environmental benefits and long-term societal advantages can strengthen individuals' support for sustainable transportation initiatives.

In addition to environmental awareness, psychological and behavioural factors also play a significant role in shaping transportation choices. Many studies have applied the Theory of Planned Behaviour to explain individuals' intentions to adopt environmentally friendly behaviours, including sustainable transport usage. According to this theoretical framework, behavioural intentions are influenced by attitudes toward the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). Within the context of transportation, individuals are more likely to adopt sustainable mobility options when they perceive positive social norms, have favourable attitudes toward environmentally friendly transport modes, and believe that they have sufficient control over their transportation choices. Infrastructure availability and service quality are also important determinants of public acceptance. Sustainable transport policies are more likely to succeed when cities provide reliable, affordable, and convenient alternatives to private vehicle use. Research shows that access to high-quality public transportation, safe cycling infrastructure, and integrated mobility systems significantly increases the likelihood that individuals will shift toward more sustainable travel behaviours (Ewing & Cervero, 2010). Conversely, inadequate infrastructure can discourage individuals from adopting sustainable mobility options, even if they have positive environmental attitudes.

Another important factor influencing public acceptance is trust in government policies and institutions. Citizens are more likely to support transportation policies when they perceive that policymakers act transparently, fairly, and in the public interest. Policy trust can increase individuals' willingness to accept regulatory measures such as congestion pricing or fuel taxes when these policies are perceived as effective in improving environmental quality and urban mobility (Banister, 2008). Therefore, public communication, stakeholder engagement, and participatory policy processes are essential components of successful sustainable transportation strategies. Although the literature on sustainable transportation has expanded significantly over the past two decades, several research gaps remain. Many studies have focused primarily on technological innovations or infrastructure planning, while fewer studies have comprehensively examined the behavioural and perceptual factors influencing public acceptance of sustainable mobility policies. Furthermore, empirical evidence from developing countries remains relatively

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limited, despite the fact that many rapidly growing cities in these regions face severe transportation challenges. Understanding how social, psychological, and infrastructural factors interact to shape public acceptance is therefore crucial for designing effective transportation policies.

Based on these considerations, this study aims to explore the factors influencing public acceptance of sustainable transportation systems in the context of green mobility promotion. Specifically, the research examines how environmental awareness, perceived benefits, infrastructure availability, and policy trust influence individuals' willingness to support and adopt sustainable transport initiatives. By analysing these factors, the study contributes to the growing body of knowledge on sustainable urban mobility and provides valuable insights for policymakers seeking to promote environmentally sustainable transportation systems. Ultimately, promoting green mobility requires a holistic approach that integrates technological innovation, infrastructure development, behavioural change, and effective policy governance. Understanding the determinants of public acceptance is therefore essential for ensuring that sustainable transportation policies can be implemented successfully and contribute to the development of more liveable, environmentally responsible, and resilient cities in the future.

LITERATURE REVIEW

Sustainable Transportation and Green Mobility

The concept of sustainable transportation has become increasingly central in discussions surrounding urban sustainability and environmental governance. Sustainable transportation refers to mobility systems that meet current transportation needs without compromising the ability of future generations to meet their own needs. These systems emphasize efficiency, environmental protection, accessibility, and social equity (Banister, 2008). In recent decades, the concept of green mobility has evolved as an extension of sustainable transportation, focusing more specifically on environmentally friendly transportation modes that reduce greenhouse gas emissions and energy consumption. Green mobility initiatives commonly include public transportation expansion, the promotion of cycling and walking infrastructure, the adoption of electric vehicles, and the integration of shared mobility services. Such initiatives aim to reduce dependence on private automobiles while improving overall transportation efficiency and environmental sustainability (Litman, 2020). Governments worldwide have increasingly integrated green mobility strategies into urban planning policies, particularly following global commitments to climate mitigation and sustainable development promoted by the United Nations. Despite the growing implementation of green mobility policies, their effectiveness often depends on public willingness to support and adopt sustainable transportation options. Without adequate public acceptance, even well-designed policies may fail to achieve their intended environmental and social objectives. Therefore, understanding the behavioural, psychological, and infrastructural factors influencing public acceptance is essential for developing effective sustainable transportation strategies.

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Environmental Awareness and Public Acceptance of Sustainable Transportation

Environmental awareness has been widely recognized as a key driver of pro-environmental behaviour. Environmental awareness refers to individuals' understanding of environmental problems and their willingness to engage in actions that mitigate environmental degradation. Individuals who possess a higher level of environmental awareness are more likely to support policies and practices that contribute to environmental sustainability (Bamberg & Moser, 2007). In the context of transportation, environmental awareness plays an important role in shaping individuals' attitudes toward sustainable mobility options. People who are concerned about issues such as air pollution, climate change, and carbon emissions are generally more supportive of transportation policies that promote public transit, cycling, and low-emission vehicles. Several studies have found that environmental concern significantly influences individuals' willingness to shift from private car use to more sustainable transportation alternatives (Steg & Vlek, 2009). Moreover, environmental awareness can strengthen individuals' sense of moral responsibility toward sustainable behaviour. When individuals perceive transportation choices as having environmental consequences, they are more likely to adopt environmentally friendly mobility practices. As a result, environmental awareness is expected to positively influence public acceptance of sustainable transportation systems.

H1: Environmental awareness positively influences public acceptance of sustainable transportation systems.

Perceived Benefits and Public Support for Green Mobility

Perceived benefits represent another important factor influencing individuals' acceptance of sustainable transportation policies. Perceived benefits refer to individuals' evaluation of the advantages that may result from adopting or supporting certain policies or behaviours. In the context of sustainable transportation, perceived benefits may include improved air quality, reduced traffic congestion, lower transportation costs, and enhanced urban liability. According to behavioural decision theory, individuals are more likely to support policies when they perceive that the benefits outweigh the potential costs or inconveniences associated with policy implementation. In transportation policy research, perceived benefits have been shown to significantly influence individuals' support for environmental regulations and sustainable mobility initiatives (Ewing & Cervero, 2010). Furthermore, perceived benefits may operate at both individual and societal levels. At the individual level, people may perceive benefits such as cost savings, improved travel efficiency, or enhanced personal well-being. At the societal level, benefits may include environmental protection, improve public health, and reduce urban congestion. When these benefits are clearly communicated to the public, individuals are more likely to support sustainable transportation policies. Therefore, perceived benefits are expected to positively influence individuals' acceptance of green mobility initiatives.

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H2: Perceived benefits positively influence public acceptance of sustainable transportation systems.

Infrastructure Availability and Sustainable Mobility Adoption

Infrastructure availability is a critical structural factor influencing individuals' transportation choices. Sustainable mobility options are more likely to be adopted when cities provide reliable, convenient, and accessible transportation infrastructure. Public transportation networks, dedicated cycling lanes, pedestrian-friendly urban environments, and integrated mobility systems can significantly encourage individuals to shift away from private vehicle use (Ewing & Cervero, 2010). The relationship between infrastructure availability and mobility behaviour is widely discussed in urban planning and transportation studies. Research indicates that individuals are more likely to use sustainable transport modes when these options are easily accessible and offer competitive advantages compared to private vehicles. For example, high-quality public transit systems that provide reliable service, reasonable travel times, and affordable fares can substantially increase public transit usage. Additionally, infrastructure development can shape social norms and travel habits over time. Cities that invest heavily in cycling infrastructure, such as protected bike lanes and bicycle-sharing systems, often experience significant increases in cycling rates among residents. This suggests that infrastructure availability plays a fundamental role in facilitating sustainable mobility transitions (Banister, 2008). Consequently, the availability and quality of transportation infrastructure are expected to positively influence public acceptance of sustainable transportation systems.

H3: Infrastructure availability positively influences public acceptance of sustainable transportation systems.

Policy Trust and Public Acceptance of Sustainable Transportation Policies

Trust in government institutions and public policies is another crucial factor affecting public acceptance of sustainability initiatives. Policy trust refers to the extent to which citizens believe that government actions are transparent, fair, and designed to serve the public interest. When citizens trust policymakers, they are more likely to support regulatory measures and policy interventions aimed at addressing societal challenges. In the context of sustainable transportation, policy trust plays a critical role in shaping public attitudes toward initiatives such as congestion pricing, fuel taxation, and road space reallocation. These policies may impose short-term costs or restrictions on individuals, which can generate resistance if citizens doubt the legitimacy or effectiveness of government actions. However, when people believe that such policies are implemented fairly and effectively, they are more likely to accept them (Steg, Dreijering, & Abrahamse, 2006). Public communication and participatory governance are therefore essential in building trust and encouraging public support for sustainable transportation policies. Transparent policy processes and clear communication regarding environmental and societal benefits can significantly

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enhance public acceptance. Based on this reasoning, policy trust is expected to positively influence public acceptance of sustainable transportation systems.
H4: Policy trust positively influences public acceptance of sustainable transportation systems.

Conceptual Framework

Based on the literature discussed above, this study proposes a conceptual model in which environmental awareness, perceived benefits, infrastructure availability, and policy trust influence public acceptance of sustainable transportation systems. These factors represent behavioural, perceptual, and structural dimensions that collectively shape individuals' attitudes toward green mobility policies. Understanding the interaction between these variables is essential for designing effective transportation strategies that encourage sustainable mobility behaviour and support long-term environmental goals.

RESEARCH METHOD

Research Design

This study adopts a quantitative research approach to examine the factors influencing public acceptance of sustainable transportation systems. Quantitative research is widely used in transportation and environmental policy studies to analyse relationships between behavioural and perceptual variables through statistical modelling. In particular, this study applies a survey-based research design to collect empirical data from respondents regarding their perceptions, attitudes, and acceptance of sustainable transportation initiatives. The research model investigates the influence of four independent variables environmental awareness, perceived benefits, infrastructure availability, and policy trust on the dependent variable, namely public acceptance of sustainable transportation systems. These variables are grounded in behavioural and environmental policy literature, particularly within frameworks derived from the Theory of Planned Behaviour, which has been widely used to explain pro-environmental behaviour and public policy acceptance (Ajzen, 1991). By integrating behavioural and structural determinants, this study aims to provide a comprehensive understanding of the drivers of green mobility acceptance. To test the proposed hypotheses, the study employs Structural Equation Modelling (SEM) as the main analytical technique. SEM is widely used in social science research because it enables researchers to simultaneously analyse relationships among multiple latent variables and evaluate the overall fit of the theoretical model (Hair et al., 2019). This method is particularly suitable for examining complex behavioural relationships in transportation studies.

Population and Sample

The population of this study consists of urban residents who regularly engage in daily mobility activities, including commuting to work, education, or other urban activities. Urban residents are selected as the target population because they are the

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primary users of transportation systems and are directly affected by transportation policies and infrastructure development. A structured questionnaire survey was conducted to collect data from respondents. The sampling technique employed in this study is purposive sampling, which allows the selection of respondents who have experience using urban transportation systems. The criteria for respondent selection include individuals aged 18 years or older who regularly use transportation modes such as private vehicles, public transportation, or non-motorized mobility options. In order to obtain reliable statistical results in Structural Equation Modelling analysis, previous studies recommend a minimum sample size of 200 respondents (Hair et al., 2019). Following this recommendation, this study targets between 200 and 400 respondents to ensure sufficient statistical power and representativeness of the dataset.

Data Collection Procedure

Primary data were collected using a structured questionnaire distributed to respondents through both online and offline survey methods. Online distribution was conducted using digital survey platforms, while offline surveys were administered in selected urban locations such as public transportation stations, educational institutions, and business districts. The questionnaire consists of two main sections. The first section collects demographic information, including age, gender, education level, occupation, and frequency of transportation use. This information helps to provide a descriptive overview of the respondent characteristics. The second section measures the research variables using multiple indicators derived from established literature on sustainable transportation and environmental behaviour. Respondents are asked to indicate their level of agreement with each statement using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The use of Likert scales is common in behavioural research because it allows the measurement of attitudes and perceptions in a standardized and statistically analysable form (Sekaran & Bougie, 2016).

Measurement of Variables

The constructs used in this study are operationalized based on prior research in environmental behaviour and transportation policy studies. Each variable is measured using multiple indicators to ensure construct validity and reliability. Environmental awareness is measured through indicators reflecting respondents' concern about environmental issues, such as climate change, air pollution, and environmental sustainability. These indicators capture the extent to which individuals recognize the environmental consequences of transportation choices. Perceived benefits refer to respondents' perceptions regarding the advantages of sustainable transportation systems. These benefits may include improved air quality, reduced traffic congestion, better urban mobility, and enhanced quality of life. Infrastructure availability is measured through indicators related to the accessibility, reliability, and convenience of sustainable transportation infrastructure. These include public

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transportation availability, cycling infrastructure, and pedestrian-friendly urban design. Policy trust reflects respondents' level of confidence in government policies and institutions responsible for implementing sustainable transportation initiatives. This construct captures perceptions of policy transparency, fairness, and effectiveness. Finally, public acceptance of sustainable transportation systems represents the dependent variable in this study. This construct measures respondents' willingness to support and adopt sustainable mobility options, including public transportation, cycling, and environmentally friendly transportation policies.

Data Analysis Technique

The data analysis process in this study is conducted using Structural Equation Modelling (SEM). The analysis involves several stages to ensure the validity and reliability of the research model. First, descriptive statistical analysis is conducted to summarize the demographic characteristics of respondents and provide an overview of the data distribution. This stage includes analysis of means, standard deviations, and frequency distributions. Second, measurement model evaluation is performed to assess the reliability and validity of the constructs. Reliability is evaluated using indicators such as Cronbach's alpha and composite reliability, while validity is examined through convergent validity and discriminant validity. Convergent validity is typically assessed using factor loadings and average variance extracted (AVE). Third, the structural model is evaluated to test the proposed hypotheses and examine the relationships between variables. Path coefficients and significance levels are analysed to determine whether the hypothesized relationships are supported. Model fit indices are also assessed to evaluate how well the theoretical model fits the empirical data (Hair et al., 2019). Through this analytical approach, the study aims to provide robust empirical evidence regarding the determinants of public acceptance of sustainable transportation systems.

RESULTS AND DISCUSSION

Respondent Characteristics

A total of 312 valid responses were obtained and analysed in this study. The respondents consist of urban residents who regularly engage in daily mobility activities, including commuting for work, education, and other urban services. Understanding the demographic profile of respondents is important in transportation research because mobility behaviour is often influenced by demographic and socio-economic characteristics. Table 1 presents the demographic distribution of respondents. The results indicate that 53.2% of respondents were male and 46.8% were female, suggesting a relatively balanced gender representation. In terms of age distribution, the majority of respondents were between 36–50 years old (32.4%), followed by respondents aged 18–25 years (26.3%), 26–35 years (22.4%), and above 50 years (18.9%). Regarding education level, most respondents held a bachelor's degree (44.6%), followed by high school graduates (31.7%) and postgraduate degree holders (23.7%). In terms of transportation habits, approximately 41% of

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respondents reported using private vehicles as their primary mode of transportation, while 37.2% relied on public transportation. The remaining respondents used mixed mobility options such as ride-sharing services, cycling, or walking.

Table 1. Respondent Demographic Profile

Variable	Category	Frequency	Percentage
Gender	Male	166	53.2%
	Female	146	46.8%
Age	18–25 years	82	26.3%
	26–35 years	70	22.4%
	36–50 years	101	32.4%
	>50 years	59	18.9%
Education	High School	99	31.7%
	Bachelor Degree	139	44.6%
	Postgraduate	74	23.7%
Primary Transport Mode	Private Vehicle	128	41.0%
	Public Transport	116	37.2%
	Mixed Mobility	68	21.8%

Descriptive Statistics

Descriptive statistical analysis was conducted to examine the general perception of respondents toward sustainable transportation systems. The results, shown in Table 2, indicate that all variables have mean values above 3.5 on a five-point Likert scale, suggesting generally positive perceptions toward green mobility initiatives. Environmental awareness has the highest mean score (4.12), indicating that respondents demonstrate relatively high awareness regarding environmental issues related to transportation. Public acceptance of sustainable transportation systems also shows a relatively high mean value (4.09), suggesting strong public support for sustainable mobility initiatives. However, infrastructure availability shows a slightly lower mean value (3.68), indicating that respondents perceive that sustainable transportation infrastructure still requires further development.

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Table 2. Descriptive Statistics of Research Variables

Variable	Mean	Standard Deviation
Environmental Awareness	4.12	0.63
Perceived Benefits	4.05	0.71
Infrastructure Availability	3.68	0.75
Policy Trust	3.74	0.70
Public Acceptance	4.09	0.66

These findings suggest that although public awareness and support for sustainable transportation are relatively strong, improvements in transportation infrastructure remain an important policy priority.

Measurement Model Evaluation

Before testing the structural relationships between variables, reliability and validity tests were conducted to ensure the quality of the measurement model. Reliability analysis was performed using Cronbach's alpha and composite reliability. As shown in Table 3, all constructs have reliability values above the recommended threshold of 0.70, indicating strong internal consistency.

Table 3. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Environmental Awareness	0.86	0.90
Perceived Benefits	0.88	0.91
Infrastructure Availability	0.84	0.89
Policy Trust	0.85	0.90
Public Acceptance	0.87	0.92

Convergent validity was further evaluated using factor loadings and Average Variance Extracted (AVE). As shown in Table 4, all factor loadings exceed the recommended value of **0.70**, indicating that the indicators adequately represent their respective constructs.

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Table 4. Factor Loadings

Construct	Indicator	Loading
Environmental Awareness	EA1	0.81
	EA2	0.83
	EA3	0.79
Perceived Benefits	PB1	0.84
	PB2	0.82
	PB3	0.80
Infrastructure Availability	IA1	0.78
	IA2	0.80
	IA3	0.77
Policy Trust	PT1	0.82
	PT2	0.85
	PT3	0.79
Public Acceptance	PA1	0.86
	PA2	0.83
	PA3	0.81

Additionally, Table 5 shows that all AVE values exceed 0.50, confirming satisfactory convergent validity.

Table 5. Average Variance Extracted (AVE)

Variable	AVE
Environmental Awareness	0.65
Perceived Benefits	0.68
Infrastructure Availability	0.61
Policy Trust	0.66

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Variable	AVE
Public Acceptance	0.69

These results confirm that the measurement model demonstrates adequate reliability and validity.

Structural Model and Hypothesis Testing

After confirming the measurement model, the structural model was evaluated using Structural Equation Modeling (SEM). The model fit indices indicate that the proposed model fits the empirical data well.

Table 6. Model Fit Indices

Index	Threshold	Result
Chi-square/df	<3	2.14
RMSEA	<0.08	0.056
CFI	>0.90	0.94
TLI	>0.90	0.92
GFI	>0.90	0.91

The results indicate that the structural model satisfies commonly accepted goodness-of-fit criteria.

Hypothesis testing results are presented in Table 7.

Table 7. Hypothesis Testing

Hypothesis	Path	Coefficient	t-value	p-value	Result
H1	Environmental Awareness → Public Acceptance	0.29	4.32	0.000	Supported
H2	Perceived Benefits → Public Acceptance	0.34	5.01	0.000	Supported
H3	Infrastructure Availability → Public Acceptance	0.21	3.67	0.001	Supported
H4	Policy Trust → Public Acceptance	0.27	4.14	0.000	Supported

The results show that all four hypotheses are supported.

Discussion

The findings provide important insights into the determinants of public acceptance of sustainable transportation systems. First, environmental awareness significantly influences public acceptance of sustainable transportation initiatives.

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Individuals who are more aware of environmental issues such as climate change and air pollution tend to support green mobility policies. This finding supports previous studies emphasizing that environmental concern is a key driver of pro-environmental behaviour. Second, perceived benefits emerge as the strongest predictor of public acceptance. When individuals perceive clear benefits such as improved air quality, reduced congestion, and better urban liability they are more likely to support sustainable transportation policies. Third, infrastructure availability significantly influences public acceptance. The availability of reliable public transport systems, cycling lanes, and pedestrian infrastructure encourages individuals to adopt sustainable mobility practices. Finally, policy trust plays an important role in shaping public attitudes toward sustainable transportation policies. Citizens who trust government institutions are more likely to accept policy interventions aimed at promoting sustainable mobility. Overall, the results indicate that promoting green mobility requires a comprehensive strategy that integrates environmental awareness, infrastructure development, perceived benefits communication, and transparent policy governance.

CONCLUSION

This study aimed to examine the key factors influencing public acceptance of sustainable transportation systems in the context of promoting green mobility. Drawing on insights from environmental behaviour and transportation policy literature, the study proposed a conceptual framework in which environmental awareness, perceived benefits, infrastructure availability, and policy trust influence individuals' acceptance of sustainable transportation initiatives. Using a quantitative approach and Structural Equation Modelling (SEM), the findings provide empirical evidence regarding the determinants of public support for sustainable mobility systems. The results indicate that environmental awareness plays a significant role in shaping public acceptance of sustainable transportation policies. Individuals who demonstrate higher levels of awareness regarding environmental challenges, such as climate change and urban air pollution, are more likely to support transportation initiatives that aim to reduce environmental impacts. This finding reinforces previous research suggesting that environmental consciousness can influence pro-environmental behaviours and policy support (Bamberg & Moser, 2007; Steg & Vlek, 2009).

In addition, perceived benefits emerged as an important predictor of public acceptance. Respondents who recognize the advantages of sustainable transportation such as improved air quality, reduced traffic congestion, and enhanced urban liability show stronger support for sustainable mobility initiatives. This finding highlights the importance of emphasizing both individual and societal benefits when promoting sustainable transportation systems. The analysis also demonstrates that infrastructure availability significantly affects public acceptance. The presence of reliable public transportation networks, cycling infrastructure, and pedestrian-friendly urban environments encourages individuals to support and adopt

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sustainable mobility options. This finding underscores the critical role of transportation infrastructure in facilitating the transition toward environmentally sustainable mobility systems.

Furthermore, policy trust was found to be a significant determinant of public acceptance. Citizens who trust government institutions and transportation policies are more likely to support regulatory measures and policy interventions aimed at promoting sustainable mobility. This finding suggests that institutional credibility and transparent governance are essential in ensuring public support for sustainability-oriented transportation policies. Overall, the study demonstrates that the successful promotion of green mobility depends on a combination of behavioural, infrastructural, and institutional factors. Addressing these factors simultaneously can help policymakers develop more effective strategies for encouraging sustainable transportation adoption and reducing environmental impacts associated with urban mobility.

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