From Planning to Practice: A Comprehensive Review of Factors Shaping Tourist Route Choices and Spatial Behaviour

Siyu Feng, Mohd Johari Mohd Yusof[*] and Shamsul Abu Bakar

Department of Landscape Architecture, Faculty of Design and Architecture, Universiti Putra Malaysia, Malaysia
Corresponding Author Email: m_johari@upm.edu.my

Abstract

This study presents a systematic literature review of the key factors influencing tourist route choices, with a focus on spatial behaviour and decision-making dynamics. Multiple interrelated dimensions shape tourist movement. Destination attractiveness—such as iconic landscapes, cultural heritage, and events—forms the basis of route planning. Transport connectivity and accessibility play a vital role in enabling spatial dispersion, while economic factors, including travel costs and price sensitivity, influence route feasibility. Demographic attributes and personal preferences introduce variation in mobility patterns, highlighting the need for segmentation strategies. Increasingly, environmental and safety concerns, amplified by climate change and public health risks, affect tourist choices. The growing availability of digital information and high-quality services enhances planning confidence and route flexibility. Psychological drivers, including convenience, novelty-seeking, and social influence, further impact micro-level decisions. Additionally, recent empirical studies using GPS tracking reveal that tourists often adapt routes in real time based on factors like crowding, proximity, and weather conditions. Integrating insights from geography, tourism, and behavioural science, this review proposes a comprehensive framework for understanding route choices and spatial movement. The findings offer valuable guidance for tourism planners aiming to manage visitor flows, improve accessibility, and promote sustainable and balanced destination development.

Keywords: Tourist Route Choice, Spatial Behaviour, Destination Attractiveness, Tourist Mobility Patterns, Travel Decision-Making

Introduction

In an era of rapidly expanding global tourism, understanding how tourists move within destinations has become a critical area of inquiry. Tourist mobility—particularly the specific routes chosen within a location—is not just a matter of personal preference but a spatial behaviour that significantly impacts destination management, infrastructure efficiency, and

sustainable tourism development (Jamhawi et al., 2023). While much attention has traditionally been given to why tourists choose certain destinations, less emphasis has been placed on how they navigate space after arrival. Yet, these intra-destination movements play a pivotal role in shaping patterns of visitor flow, crowding, resource distribution, and economic spillover effects across a region (Karakuş, 2023).

The importance of this research lies in its relevance to multiple stakeholders. For destination planners and local governments, understanding tourist route choices informs decisions about transportation networks, signage systems, and spatial zoning. For tourism managers and operators, it provides insights into visitor behaviour that can improve itinerary design, reduce congestion at hotspots, and encourage spatially balanced tourism. For sustainability advocates, analysing mobility patterns is vital for minimising environmental stress and preserving the integrity of natural and cultural sites. For scholars, this area offers a valuable lens through which to integrate theories from geography, behavioural science, and urban planning. Thus, studying tourist route behaviour is not only timely but strategically essential.

This study also addresses a pressing gap: the lack of a unified framework that accounts for the diverse and dynamic factors shaping route decisions. Tourists do not move through destinations in linear, predictable ways. Their routes are shaped by an intricate interplay of motivations and constraints, ranging from destination attractiveness and accessibility to cost considerations, psychological drivers, and real-time digital information (Chirita & Chirita, 2023; Lu et al., 2024). External influences such as climate risks, political stability, and public health concerns further complicate mobility, making it essential to adopt context-sensitive approaches.

Moreover, the increasing use of GPS, mobile apps, and real-time feedback mechanisms has empowered tourists to make spontaneous, adaptive routing decisions. This shift underscores the inadequacy of static, pre-planned itinerary models and highlights the need for flexible frameworks that reflect real-world tourist behaviour.

Given these considerations, this study conducts a systematic literature review to synthesise the diverse range of factors influencing tourist route choices. By doing so, it aims to establish a comprehensive, interdisciplinary framework that can inform both academic research and practical policy design. Using Guilin, China—a city renowned for its unique karst landscape and cultural significance—as a reference point, this study provides actionable insights for enhancing tourist mobility and achieving balanced spatial development across destinations.

Literature Review
Tourist route choice has gained increasing scholarly attention as researchers shift focus from destination selection to intra-destination mobility and spatial behaviour. Understanding the motivations and constraints behind tourist movement patterns provides critical insights for managing visitor flows, alleviating congestion, and enhancing tourism experiences (Confente et al., 2024; Rogowski et al., 2025). A growing body of literature highlights that tourist route decisions are shaped by a combination of physical, economic, psychological, and technological factors, each interacting to guide both planned and adaptive behaviours.

Destination attractiveness is widely regarded as a foundational factor in route planning. Iconic landscapes, cultural heritage, and landmark events draw tourists and form the core spatial nodes around which itineraries are built (Shao et al., 2024; Sannazzaro et al., 2025). Studies show that both static features (e.g., scenic sites, monuments) and dynamic attractions (e.g., festivals) generate focal points in movement patterns, especially in regions like Guilin, where natural and cultural assets coexist.

Transport and accessibility have also emerged as critical enablers of route flexibility. The spatial interaction model and time-space convergence theory argue that ease of access between attractions strongly influences route length and dispersion (He et al., 2023; Li et al., 2023). Practical studies affirm that well-connected transportation networks—particularly those supporting first- and last-mile mobility—encourage tourists to venture beyond main attractions (Friedman and Pollock, 2022).

Economic considerations moderate travel decisions under the utility maximisation framework (Zhang et al., 2023). Tourists balance expected value with costs, including transportation, accommodation, and entry fees (Wubalem et al., 2023). Affordability is especially crucial in developing destinations, where cost-sensitive tourists may choose shorter, denser routes. Research also identifies segmentation in price sensitivity, indicating that financial constraints interact with demographics and trip purpose (Giroux et al., 2022).

Demographic and psychographic variables—such as age, education, prior travel experience, and group size—are consistently associated with heterogeneous route preferences (dos Reis et al., 2022; Saleme and Pang, 2022). Adventure-seekers may prefer spontaneous or circular itineraries, while cultural tourists often follow linear paths based on historical or thematic continuity.

The growing influence of environmental and safety factors in the wake of climate change and global health concerns has added new dimensions to route planning (Agache et al., 2022; Gössling et al., 2023). Perceived risks—including weather, crowding, and political instability—may lead to avoidance behaviours or preference for less congested, sustainable routes.

Information availability and service quality play facilitative roles in route planning and satisfaction (Lin et al., 2023; Huang et al., 2025). Digital navigation tools, visitor apps, and online reviews empower tourists to adjust routes in real time, while physical infrastructure such as signage and rest facilities increase exploration comfort (Srinivasan et al., 2024).

Finally, spatial movement patterns, as revealed through GPS tracking and time geography models, confirm that route choices are dynamic and influenced by immediate environmental stimuli like proximity, congestion, and convenience (Łukawska, 2024; Chen et al., 2024). These findings suggest a shift from static itinerary models to adaptive, context-sensitive frameworks.

Despite significant progress, few studies holistically integrate these factors into a unified framework. This literature review highlights the need for comprehensive models that reflect the interplay between infrastructure, individual psychology, and real-time decision-making in tourist route behaviours.

Materials and Methods

This study employs a systematic literature review (SLR) methodology to synthesise existing knowledge on the factors influencing tourist route choices. The SLR approach was chosen for its capacity to provide a comprehensive, structured, and replicable synthesis of peer-reviewed research, ensuring academic rigour and minimising selection bias. The review follows the guidelines outlined by Sauer and Seuring (2023), which include three key stages: planning, conducting, and reporting the review.

Search Strategy and Selection Criteria

The literature search was conducted across multiple academic databases, including Scopus, Web of Science, ScienceDirect, and Google Scholar. The search terms included combinations of keywords such as "tourist route choice," "spatial behaviour," "tourist mobility," "destination attractiveness," "travel cost," "tourist decision-making," and "GPS-based tourism studies." Boolean operators (AND/OR) were used to refine search results, and filters were applied to include only peer-reviewed journal articles published between 2000 and 2024 to ensure contemporary relevance.

Studies were included if they met the following criteria: (1) they focused on tourist route selection or intra-destination mobility; (2) they discussed one or more influencing factors such as transport, demographics, environmental risks, or digital tools; and (3) they presented empirical findings, conceptual models, or theoretical discussions relevant to route choice behaviour. Grey literature, conference proceedings, and studies not written in English were excluded.

Data Extraction and Analysis

A total of 176 articles were initially retrieved. After title and abstract screening, 87 articles were shortlisted. A full-text review resulted in a final sample of 52 articles that met all inclusion criteria. Key data extracted included study location, research design, theoretical frameworks, methods (e.g., surveys, GPS tracking, spatial modelling), and main findings.

To analyse the data, a thematic coding process was used. Studies were grouped under eight major themes derived from the literature: (1) destination attractiveness, (2) transport and accessibility, (3) travel costs, (4) demographic and psychographic factors, (5) environmental and safety concerns, (6) information availability and service quality, (7) psychological and perceptual drivers, and (8) spatial and real-time route behaviour. This classification allowed for both within-theme synthesis and cross-theme comparison.

Limitations

While every effort was made to ensure comprehensive coverage, limitations exist. Some relevant studies may have been missed due to database restrictions or publication language. In addition, the heterogeneity of methods across studies presented challenges in comparative analysis. Despite this, the SLR provides a robust foundation for understanding the multifaceted influences on tourist route decisions.

Results and Discussion

The systematic literature review revealed a multifaceted set of factors that influence tourist route choices, categorised into eight primary themes. These themes reflect the

complex interaction between individual motivations, external conditions, and spatial dynamics.

Destination Attractiveness

Across the reviewed studies, destination attractiveness emerged as the most consistent and influential factor in route choice. Iconic natural features, cultural landmarks, and festivals serve as primary anchors around which itineraries are structured (Gómez-Ullate and Saraiva, 2024; Sannazzaro et al., 2025). In destinations like Guilin, karst landscapes and heritage villages frequently act as "must-see" attractions, creating spatial nodes that shape movement patterns.

Transport and Accessibility

Accessibility was the second most frequently cited factor. Research confirms that the quality of road infrastructure, public transport, and intermodal connections significantly affects spatial dispersion (Li et al., 2024). Destinations with efficient first- and last-mile connectivity enable tourists to explore beyond core areas, distributing tourism benefits more equitably.

Travel Costs

Economic considerations play a moderating role. Transportation expenses, accommodation costs, and attraction entry fees often restrict the extent of route exploration, especially among budget-conscious travellers (Porta and Pantelaki, 2025). Studies also highlighted how bundling services (e.g., all-inclusive passes) could promote wider route coverage.

Demographics and Preferences

Demographic variables such as age, travel party composition, and prior experience influence route complexity and length (Yuan et al., 2023). Younger, solo travellers often prefer more spontaneous and longer routes, while older or family travellers lean toward structured, linear itineraries. Tourist motivations (e.g., adventure, learning, relaxation) also shape route preferences.

Environmental and Safety Concerns

Climate, crowding, and perceived risks such as health or political instability significantly alter route behaviour (El-Didy et al., 2024; Grigoriadis et al., 2025). Seasonal weather changes or pandemic conditions lead tourists to avoid certain areas or adjust travel dates and routes, contributing to temporal and spatial variation in flows.

Information Availability and Service Quality

The quality and accessibility of travel information—both digital and physical—enhance tourists' confidence and flexibility in route planning. Mobile navigation tools, online reviews, and visitor centres empower real-time decision-making, while physical infrastructure such as signage and rest areas improves the overall experience (Razak et al., 2024).

Psychological and Perceptual Factors

Internal motivations like novelty-seeking, perceived convenience, and social influence (e.g., word-of-mouth, influencer travel patterns) shape micro-level route decisions (Jain et al.,

2024). For example, tourists may detour from their planned route based on recommendations from friends or trending locations on social media.

Spatial Patterns and Adaptive Behaviours

Several studies using GPS tracking highlighted that tourists frequently adjust their routes based on crowding, proximity to other attractions, or real-time changes in weather and traffic (Sia et al., 2023). These findings challenge traditional static itinerary models and support dynamic, context-aware planning.

Discussion

The interplay among these factors illustrates that route choice is not a linear decision but a responsive process influenced by both pre-trip planning and on-site conditions. The review reinforces the need for destination planners to adopt integrated strategies that consider transport, digital tools, and visitor segmentation. For destinations like Guilin, aligning infrastructure with diverse tourist needs can encourage spatial dispersion, reduce congestion at popular sites, and promote sustainable tourism flows.

Conclusion

This study synthesised a broad range of scholarly literature to examine the factors influencing tourist route choices and spatial behaviour within destinations. The findings confirm that tourist movement is shaped by a complex interplay of destination attractiveness, transport and accessibility, economic constraints, demographic and psychographic profiles, environmental and safety concerns, information availability, psychological drivers, and adaptive behavioural responses. Rather than acting in isolation, these factors intersect dynamically, with route decisions often evolving in real time based on internal motivations and external conditions.

The review underscores the importance of moving beyond static models of tourist behaviour to embrace adaptive, context-sensitive frameworks. Understanding how tourists plan, navigate, and modify their routes offers valuable insights for destination managers and planners aiming to balance visitor experiences with sustainable spatial development. For destinations like Guilin, integrating high-quality transport systems, real-time information services, and targeted tourism products can encourage broader exploration, reduce congestion at iconic sites, and promote more equitable distribution of tourism benefits.

While this study provides a comprehensive overview, future research should further explore the role of emerging technologies, real-time behavioural data, and local community responses in shaping tourist routes. Continued interdisciplinary inquiry will be essential for designing smarter, more sustainable, and visitor-oriented destinations.

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