International Journal of Architecture and Urbanism Vol. 10, No. 01 (2026) 107 – 115

International Journal of Architecture and Urbanism

Journal homepage: https://talenta.usu.ac.id/ijau

Base Site Approach on Urban Tourist Movement in Quality and Sustainable Tourism Destinations

Muhamad Muhamad*[1], Endah Nurhawaeny Kardiyati[2], AB Ahmad[3], Nur Imam Khabibi[1]

[1]*Universitas Gadjah Mada Yogyakarta, Yogyakarta, 55281, Indonesia*
[2]*Universitas Muhammadiyah Cirebon, Cirebon, 45153, Indonesia*
[3]*Politeknik Pariwisata Makasar, Makasar, 90224, Indonesia*

*Corresponding Author: drmuhammad@ugm.ac.id

ARTICLE INFO

Article history:
Received 3-6-2025
Revised 24-9-2025
Accepted 6-2-2026
Available online 15-3-2026

E-ISSN: 2622-1640
P-ISSN: 2622-0008

How to cite:
Muhammad M., et.al. Base Site Approach on Urban Tourist Movement in Quality and Sustainable Tourism Destinations. International Journal of Architecture and Urbanism. 2026. 10(1):107-115.

http://doi.org 10.32734/ijau.v10i1.24953

ABSTRACT

This research investigates urban tourist movement patterns in the core area of Yogyakarta by applying the Base Site framework to understand how spatial configuration influences travel behavior. The study aims to identify dominant movement typologies, examine visitor motivations, and evaluate how infrastructure conditions shape route selection within an urban tourism context. A descriptive quantitative approach was employed, supported by spatial interpretation of pedestrian corridors and destination linkages. The findings indicate that tourist circulation in the urban core predominantly follows a single-point pattern, with movement concentrated along the Tugu–Malioboro axis and nearby heritage-commercial nodes. Although variations such as base site and stopover patterns are observed, most visitors limit their itinerary to one or two primary destinations. Travel decisions are strongly influenced by spatial proximity, accessibility conditions, corridor design, transportation availability, and the functional integration of attractions. The study demonstrates that visual linkage, pedestrian continuity, and ergonomic infrastructure significantly affect visitor comfort and movement efficiency. These results highlight the importance of corridor-based planning strategies to support sustainable urban tourism development.

Keywords: base sites, movement patterns, tourism

1. Introduction

Tourism has evolved into a strategic sector that significantly contributes to both national and urban development. Beyond its economic impact through foreign exchange earnings, Gross Domestic Product (GDP), and employment generation, tourism also performs important socio-cultural and environmental functions. In the Indonesian context, Law No. 10 of 2009 emphasizes that tourism development must promote equitable economic distribution while remaining adaptive to local, national, and global transformations. The law further mandates that tourism planning should be systematic, integrated, sustainable, and socially responsible, ensuring the protection of cultural values, environmental quality, and national interests. Therefore, contemporary tourism development is no longer evaluated solely in economic terms but also through its sustainability and spatial integration within urban systems.

A critical component in achieving sustainable tourism is the provision of adequate facilities and infrastructure. In addition to attractions and accessibility, tourism destinations require supporting elements such as transportation networks, accommodation, travel services, public amenities, food and beverage facilities, and

retail services [1]. The Regulation of the Minister of Tourism of the Republic of Indonesia No. 3 of 2018 reinforces the importance of standardized infrastructure to ensure visitor comfort and safety. Infrastructure development is therefore closely linked to the realization of sustainable tourism principles, particularly in urban destinations where spatial density and visitor concentration intensify the demand for well-designed facilities [2].

Infrastructure quality directly influences tourists' perceptions of safety, comfort, and overall experience, which in turn affects destination competitiveness [3]. Destinations that provide well-planned infrastructure are often perceived as more reputable and visitor-friendly. One approach to enhancing destination quality is through the application of ergonomic principles in urban tourism spaces. Ergonomics, as defined by the International Ergonomics Association (IEA), examines the interaction between humans and system elements, applying theoretical and practical knowledge to optimize well-being and performance. In tourism environments, ergonomic design contributes to reducing physical strain, minimizing risk of injury, and enhancing psychological comfort during travel activities. Consequently, the integration of ergonomic principles into tourism infrastructure supports both visitor satisfaction and long-term sustainability. Despite its importance, the implementation of ergonomic standards in many urban tourism destinations remains limited. Inadequate pedestrian facilities, poorly organized circulation systems, and insufficient supporting amenities often lead to discomfort, congestion, and safety risks. Pedestrian areas—whether in the form of pedestrian streets, pedestrian malls, or shared spaces—play a central role in shaping urban tourist experiences. These spaces function not only as circulation routes but also as experiential corridors that structure tourist movement from origin points to destination nodes. The spatial configuration of pedestrian systems therefore influences how tourists navigate, interact with attractions, and allocate time within urban environments.

Tourist movement patterns have been categorized based on origin-destination relationships, intermediate stops, and travel routes. Gigi and McKercher [4] classify tourist movements into three primary models: single patterns, multiple patterns, and complex patterns. The single pattern involves a focused visit to one primary attraction. Multiple patterns include base site, stopover, and chaining loop configurations, while complex patterns encompass destination-region loops and complex neighborhood movements. Understanding these spatial patterns is essential for effective tourism management and infrastructure planning. As noted by Krier [5], spatial organization within urban environments significantly affects how users experience and move through space. Therefore, analyzing tourist movement patterns provides valuable insights for local governments and destination managers in designing facilities, arranging circulation systems, and optimizing attraction distribution [2]. In the context of Yogyakarta's urban core, where cultural heritage corridors and pedestrian routes converge, examining tourist movement through a Base Site approach becomes particularly relevant. By integrating movement pattern theory with ergonomic infrastructure principles, this study seeks to contribute to the understanding of how spatial configuration and facility provision influence sustainable urban tourism development.

2. Method

This research adopts a descriptive analytical approach aimed at systematically examining tourist movement patterns within the urban core of Yogyakarta. Descriptive research is appropriate for identifying and interpreting observable phenomena without manipulating variables, allowing the study to explain spatial and behavioral characteristics based on available evidence. The analytical process involves organizing data, synthesizing theoretical perspectives, and interpreting relationships between tourist movement, infrastructure provision, and ergonomic principles in urban tourism environments.

The study primarily utilizes secondary data collected through comprehensive desk research. Academic journal articles, conference proceedings, policy documents, urban planning literature, and previous empirical studies on tourism movement and spatial structure were reviewed to construct the analytical framework. Government regulations related to tourism infrastructure standards, particularly those outlined in the Regulation of the Minister of Tourism of the Republic of Indonesia No. 3 of 2018 [1], were examined to understand normative requirements concerning safety, comfort, and facility provision in tourism destinations. In addition, conceptual

models of spatial tourism structure in Yogyakarta were reviewed to contextualize movement patterns within cultural corridors and urban public spaces [2].

The analytical framework integrates three key components: (1) tourist movement pattern theory, (2) spatial linkage concepts in urban design, and (3) ergonomic principles in tourism infrastructure. Tourist movement classifications, such as single-point, base site, stopover, and chaining loop patterns, provide the basis for identifying how visitors navigate urban destinations. These movement typologies are interpreted in relation to pedestrian networks, accessibility systems, and spatial proximity between attractions. By linking theoretical models with documented spatial characteristics of Yogyakarta's urban center, the study evaluates how infrastructure configuration influences tourist circulation.

Furthermore, the ergonomic perspective is employed to assess how pedestrian facilities, street furniture, and circulation systems contribute to comfort, safety, and overall travel quality. Rather than conducting experimental measurement, the research analyzes the alignment between existing infrastructure conditions and established ergonomic and planning standards derived from scholarly and regulatory sources. This integrative method allows for a multidimensional interpretation of tourist movement within the framework of sustainable urban tourism development. Through this qualitative-descriptive synthesis, the study aims to clarify how the Base Site approach can explain spatial movement behavior and support the formulation of infrastructure strategies that enhance both visitor experience and sustainability performance in urban tourism destinations.

3. Result and Discussion

The findings reveal that one of the primary challenges in enhancing sustainable urban tourism lies in the limited integration between pedestrian infrastructure and ergonomic planning principles. Infrastructure standards in Indonesian tourism policy emphasize safety, accessibility, and service quality as fundamental components of destination competitiveness [1]. However, in practice, pedestrian corridors in dense urban tourism areas often face spatial congestion and inconsistent facility provision. The spatial structure of Yogyakarta's cultural corridors has previously demonstrated that circulation hierarchy and corridor continuity significantly influence tourism performance [2][3]. Therefore, pedestrian systems in urban tourism areas must be understood not merely as mobility channels but as structured spatial frameworks that organize experience and interaction.

The empirical data indicate that the dominant movement pattern within the study area is a single-point configuration. As shown in Table 1, 43% of tourists originating from within the Special Region of Yogyakarta concentrate their visits in the main urban core, particularly along the Tugu–Malioboro axis. Visitors from Central Java (21%) and West Java (17%) similarly prioritize the urban center as their primary destination, while tourists from East Java (19%) are more likely to combine the urban core with additional regional attractions. This distribution suggests that spatial proximity and ease of access significantly influence travel decisions. The concentration of visitors within a limited geographic area reflects a movement typology consistent with the single-pattern model described by Gigi and McKercher [4], where tourist activity is centered around a dominant attraction cluster. Urban form and spatial enclosure further influence such concentration, as emphasized in Krier's discussion of structured urban space [5].

Table 1. Table of Percentage of tourist movements in the Special Region of Yogyakarta

Origin of Tourists	Percentage	Description
Around West Java	17 %	Urban Center of Main Destination
Around Central Java	21%.	Urban Center of Main Destination and oher destinations
Around Special Region of Yogyakarta	43 %.	Urban Center of Main Destination
Around East Java	19 %	Some other destinations

Source: Researcher's Analysis, 2022

Motivational aspects further explain this concentration pattern. The urban core attracts visitors primarily for shopping activities, heritage exploration, and urban landscape appreciation. When attractions, amenities, and

supporting facilities are perceived as complete within a single corridor, tourists demonstrate limited incentive to extend their travel to more distant destinations. Trip duration, origin distance, and transportation constraints reinforce this behavior. Previous research on the spatial structure of cultural corridors in Yogyakarta [2][3] indicates that peripheral destinations require longer travel times and are often constrained by congestion and limited public transportation connectivity, thereby encouraging tourists to remain within the central corridor. From a broader tourism development perspective, clustering attractions within a compact urban core also supports small enterprise ecosystems and localized economic integration [6].

The spatial configuration of the "welcoming corridor" illustrates the operationalization of the Base Site concept in organizing urban tourist flow. As presented in Figure 1, tourist movement converges along the Malioboro axis before dispersing toward adjacent attractions such as Bringharjo Market and the Keraton area. This spatial pattern reflects the principles of linkage theory articulated by Trancik [7], which emphasize the functional and visual relationships between urban nodes. The corridor operates as an axis that visually and physically connects major landmarks, reinforcing continuity through linear spatial elements. Danisworo's urban design interpretation [8] and Zahnd's integrated city planning concept [9] similarly highlight the importance of coordinated spatial hierarchy in strengthening movement efficiency and environmental coherence.

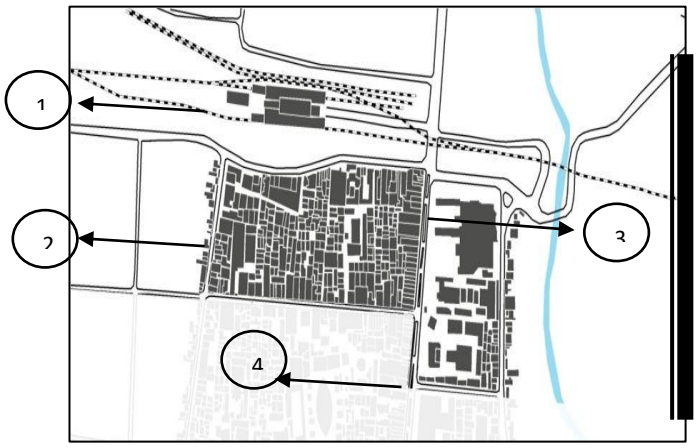

Figure 1. The pattern of tourist movement in the "welcoming corridor" area in the urban center.

Table 2 further demonstrates how the welcoming corridor functions as a gateway and identity-forming space. The arrangement of building façades, thematic zoning of blocks, and coordinated street furniture contribute to a strong sense of place. Such environmental structuring aligns with Lynch's concept of imageability, where clarity of urban form enhances orientation and psychological comfort [10]. The designation of pedestrian-priority areas and clearly defined vehicular lanes enhances circulation clarity and safety, supporting both functional efficiency and environmental identity.

Table 2. Table of tourist movement patterns in the "welcoming corridor" area in the urban center.

Welcome corridor 1, 3, and 4	Description of Welcome corridor 1
	The welcome corridor serves as the main entrance and has main functions 1. The layout of the building and its quality form a sense of place and the identity of the corridor in the area. 2. Each block / section of the corridor is arranged with a certain theme to create a distinctive spatial image through the arrangement of facades and street furniture to strengthen the pathway system.

Welcome corridor 1, 3, and 4	Description of Welcome corridor 1
	The welcome corridor functions as the main entrance and has the following main functions: 1. Ease of access and movement of tourists 2. Determination of the function of the road as a full pedestrian path (full pedestrian) and vehicle lane.

Source: Researcher's Analysis, 2022

The quality of infrastructure plays a decisive role in shaping tourist perception and comfort. As detailed in Table 3, coordinated street furniture design—including benches, lighting, vegetation, and organized parking-contributes to the ergonomic performance of the corridor. Continuous pedestrian pathways and separation from motorized lanes reduce physical strain and safety risks. Ergonomic tourism principles emphasize that infrastructure must ensure physical safety, psychological comfort, and environmental harmony simultaneously [11][12]. Manuaba's macro-ergonomic approach [13] further stresses systemic integration between infrastructure, management, and human interaction to achieve sustainable performance. The International Ergonomics Association (IEA) framework [14] reinforces that human-centered system design enhances usability and overall system efficiency. The integrated utility arrangements presented in Table 4 demonstrate how environmental elements, such as waste management facilities and support for informal sector actors, can be incorporated into the spatial system without disrupting circulation. Proper placement of such utilities enhances both environmental performance and visitor comfort, aligning with sustainable tourism strategies that integrate spatial design and infrastructure regulation [1].

Table 3. Table of tourist movement patterns in the "welcoming corridor" area in the urban center

Welcome corridor 1, 3, and 4	Description of Welcome corridor 1
	Street furniture is coordinated in design, color, and scale that supports the character of the corridor and the theme of the building layout. The area is supported by supporting elements such as: park benches as one of the street furnitures that has been spread in many areas in Indonesia
	Continuity of pedestrian paths and non-motorized vehicle lanes to support the safety and comfort of tourist movement and arrangement of vehicle parking points, especially two-wheeled vehicles

Source: Researcher's Analysis, 2022

Table 4. The form of utility facilities in the Spot area and the welcome corridor point

Tourist Movement Utility Facility	Description Tourist Movement Utility Facility
Open Space	Arrangement of an integrated infrastructure system and utility network. Arrangement of infrastructure systems and utility networks that considers their potential as environmental elements, such as the placement of trash bins/bins designed as elements of street furniture.
District	Arrangement of an integrated infrastructure system and utility network. Arrangement of infrastructure and utility network systems that considers their potential as environmental elements, such as placing trash bins/bins designed as elements of street furniture.
Street Corridor	Arrangement of an integrated infrastructure system and utility network. Arrangement of infrastructure systems and utility networks that consider their potential as environmental elements, such as the placement of trash cans/bins designed as elements of street furniture. Arrangement of infrastructure systems and utility networks for informal sector actors.
Junction	Arrangement of an integrated infrastructure system and utility network. Arrangement of infrastructure systems and utility networks that consider their potential as environmental elements, such as the placement of trash cans/bins designed as elements of street furniture.

Source: Researcher's Analysis, 2022

Beyond physical infrastructure, the results highlight the potential of thematic route development within the urban core. Thematic tourism transforms isolated attractions into interconnected experiential sequences. Instead of treating destinations independently, thematic routes organize cultural, commercial, historical, and culinary elements into a coherent narrative system. Research on interactive and personalized tourism routes demonstrates how structured pathways influence visitor decision-making processes and optimize route efficiency [15]. Similarly, thematic tourism models such as rail-trail development frameworks emphasize route continuity as a determinant of tourism attractiveness [16][17]. In Indonesia, sustainable route-based tourism initiatives-including spice-route preservation programs-illustrate how thematic connectivity strengthens cultural identity and destination branding [18]. In Yogyakarta, the corridor extending from the Tugu Monument through Malioboro to the Keraton complex represents a coherent thematic axis supported by visual linkage mechanisms [7] and corridor-based tourism planning [3]. This thematic alignment enhances experiential depth while maintaining spatial efficiency. However, the dominance of the single-point movement pattern suggests that multi-destination thematic travel remains constrained by accessibility limitations and transportation integration. Without improved intermodal connectivity and mobility planning, tourists are less likely to extend their movement beyond the primary base site.

Building upon the thematic corridor framework, the spatial effectiveness of the Malioboro axis cannot be understood solely through its linear connectivity. Equally important is the micro-scale spatial configuration that structures pedestrian experience along the corridor. While thematic alignment provides narrative coherence, the physical arrangement of street sections determines how movement is accommodated, negotiated, and experienced on a daily basis. Therefore, an examination of the corridor's cross-sectional composition becomes essential to understand how spatial hierarchy supports the dominant movement pattern identified in this study.

The field analysis indicates that Malioboro Street operates through a clearly articulated spatial stratification consisting of shop-front interfaces, pedestrian pathways, shared transitional zones, and controlled vehicular lanes. This layered configuration regulates interaction intensity between commercial activities and circulation flows, reducing friction between stationary and moving users. The dominance of pedestrian activity along the corridor is reinforced by the proportional allocation of space to walking areas compared

to vehicular access. Such spatial prioritization reflects the ergonomic tourism principles discussed earlier, particularly regarding safety, comfort, and continuity of movement [11][14].

From an urban design perspective, the cross-sectional structure functions as a mediating device between built form and mobility systems. The alignment of shop fronts along a continuous façade establishes a strong edge condition, enhancing visual enclosure and spatial legibility in accordance with Lynch's imageability theory [10]. Simultaneously, the designated pedestrian lanes ensure uninterrupted linear progression, enabling tourists to navigate the corridor efficiently without excessive conflict with motorized traffic. This structural clarity supports the persistence of the single-point movement pattern, as visitors perceive the corridor itself as both a destination and a route. Moreover, the integration of shared pedestrian zones facilitates adaptive use of space during peak tourism periods. The flexibility of these transitional areas accommodates informal economic activities, temporary gatherings, and resting behaviour without disrupting the primary flow of movement. Such adaptability strengthens the function of the corridor as a base site anchor, where mobility and place-making operate simultaneously.

Figure 2 illustrates the cross-sectional configuration of Malioboro Street as the principal movement system within the urban core. The diagram demonstrates the spatial allocation between shop-front interfaces, pedestrian lanes, shared pedestrian areas, and vehicular corridors. This configuration reveals how spatial hierarchy is intentionally structured to prioritise non- motorised movement while maintaining limited vehicular accessibility. The section further clarifies how physical design reinforces thematic continuity, ergonomic performance, and circulation efficiency within the Base Site framework.

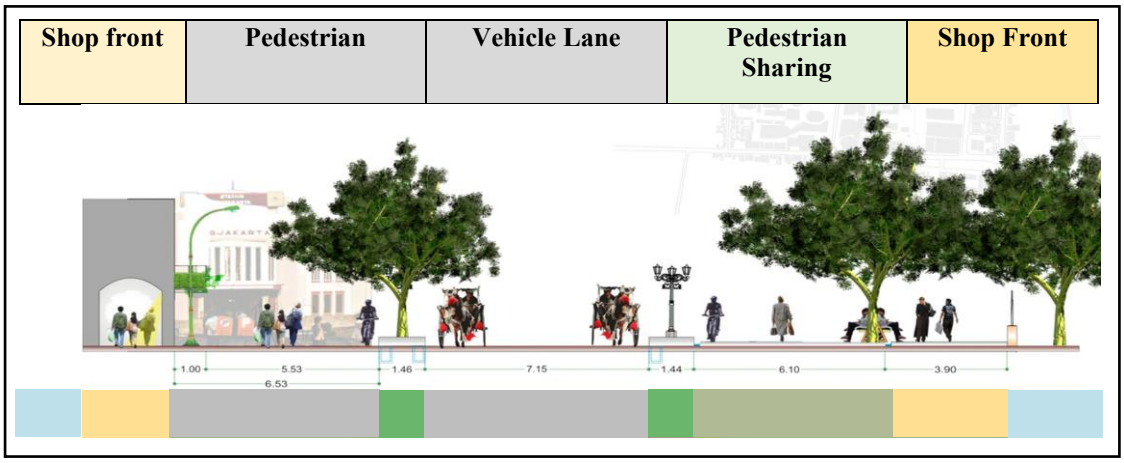

Figure 2. The section of Malioboro street as well as the main route of the movement system. (Source: Researcher's Analysis, 2022)

4. Conclusion

The analysis confirms that tourist movement within Yogyakarta's urban center is largely structured around a dominant single-point pattern concentrated along the main corridor. The Tugu–Malioboro axis functions as the primary base site, serving as a spatial anchor that connects key destinations such as traditional markets, shopping areas, and the Palace complex. While base site and stopover configurations are present, the majority of visitors tend to visit no more than two major attractions during a single trip, reflecting the influence of proximity, travel time, and accessibility constraints. The pedestrian corridor plays a crucial role in organizing movement and shaping visitor experience. The welcoming corridor along Malioboro Street emerges as the most intensively used route, supported by integrated infrastructure systems and coordinated utility networks. The strategic placement of street furniture, waste facilities, vegetation, and resting areas enhances ergonomic performance and strengthens spatial identity. These elements contribute not only to safety and comfort but also to the overall imageability of the urban tourism environment. Furthermore, the integration of thematic route concepts within the corridor demonstrates potential for enriching tourist experiences beyond isolated destination visits. By reinforcing visual linkage and spatial continuity, themed routes can transform linear movement into cohesive experiential journeys. Overall, the Base Site approach provides a valuable analytical

framework for understanding urban tourist mobility and for guiding infrastructure planning toward quality and sustainable tourism development.

5. Acknowledgements

The authors express their sincere appreciation to Universitas Gadjah Mada and collaborating institutions for their academic support and constructive feedback throughout the development of this study. Gratitude is also extended to colleagues and research assistants who contributed to data compilation, spatial analysis, and manuscript preparation. Their contributions were instrumental in refining the analytical framework and improving the clarity of this research.

6. Conflict of Interest

The authors declare that there are no financial, professional, or personal relationships that could be construed as influencing the results or interpretation of this study. All research procedures were conducted independently, and the findings presented reflect the authors' academic analysis without external bias.

References

[1] raturan Menteri Pariwisata Republik Indonesia Nomor 3 Tahun 2018 Tentang Petunjuk Operasional Pengelolaan Dana Alokasi Khusus Fisik Bidang Pariwisata. (2018).
[2] Muhamad M. The conceptual model of spatial structure of tourism in cultural corridors in the core of Yogyakarta To cite this article: IOP Conf. Ser.: Earth Environ. Sci. 780 012062. (2021).
[3] Muhamad M. and WS Ira . Design of Tourism Development in Cultural Corridors and Public Spaces in Kraton Yogyakarta Area, IOP Conference Series: Earth and Environmental Science. (2021).
[4] Gigi, Lau. McKercher, Bob. Understanding Tourist Movement Patterns in A Destination: A GIS Approach. Hongkong. (2006).
[5] Rob Krier. Urban Space. RizzolliInt.Pub. New York. (1997).
[6] 6 Hall, C. M. (2004). Small Firms and Wine and Food Tourism in New Zealand: Issues of Collaboration, Clusters and Lifestyles. In Small Firms in Tourism: International Perspectives (First Edit, pp. 167–181). Elsevier Ltd. https://doi.org/10.1016/b978-0-08-044132-0.50014-9.
[7] Roger Trancik .Finding. Lost Space :Theories Of UrbanDesign.Van Nostrand Reinhold Co. New York. (1986).
[8] Danisworo.M. Rangkuman Buku Ajar Teori Perancangan Urban. ITB. Bandung.(1999).
[9] Markus Zahnd. Perancangan Kota Secara Terpadu. Penerbit Kanisius. Yogyakarta. (1999).
[10] Kevin Lynch. Good City Form. MIT Press. Cambridge. (1981).
[11] Adiatmika .Implementasi Ergonomi untuk Wisata dan Wisatawan Berkualitas menuju wisata Berkelanjutan. Seminar Regional "Ergonomics Tourism for Millenial Hospitalitier". Badung, 25 April 2019. (2019).
[12] Irwanti, N.K.D.& Mahadewi N.M. E. Ergonomic Destination, a Quality Tourism Identity. LAP Lambert Academic Publishing. (2019).
[13] Manuaba, A. Macro Ergonomics Approach On Work Organizations With Special Reference To The Utilization Of Total Ergonomic SHIP Approach To Obtain Humane, Competitive And Sustainable Work System And Products. Proceeding Seminar Nasional Ergonomi. Surabaya, 21-22 November 2006. (2006).
[14] International Ergonomics Association (IEA) , IEA: Congress of the International Ergonomics Association Proceedings of the 21st Congress of the International Ergonomics Association (IEA 2021), Volume V: Methods & Approaches. (2021).
[15] Rodríguez, B., Molina, J., Pérez, F., & Caballero, R. (2012). Interactive design of personalised tourism routes. Tourism Management, 33(4), 926–940. https://doi.org/10.1016/j.tourman.2011.09.014.
[16] Taylor, P. (2015). What factors make rail trails successful as tourism attractions? Developing a conceptual framework from relevant literature. Journal of Outdoor Recreation and Tourism, 12, 89–98. https://doi.org/10.1016/j.jort.2015.11.005.

[17] Willard, P., & Beeton, S. (2012). Low Impact Experiences: Developing Successful Rail Trail Tourism. Tourism Planning and Development, 9(1), 5–13. https://doi.org/10.1080/21568316.2012.653476.
[18] Ardiwidjaja, R. (2021). Pariwisata Berkelanjutan: Upaya Pelestarian Jalur Rempah sebagai Daya Tarik Wisata. Retrieved December 20, 2021, from http://jalurrempah.kemdikbud.go.id/publikasi/pariwisata-berkelanjutan-upaya-pelestarian-jalur-rempah-sebagai-daya-tarik-wisata.