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IDENTIFICATION OF ACCESSIBILITY ASPECTS IN HISTORIC TOURISM AREAS

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Abstract

This research gathers methods to identify accessibility variables that can be used to assess accessibility in historic areas. To fulfill visitor satisfaction and comfort, accessibility is a crucial factor. Accessibility in historic tourism areas is often overlooked by developers. Based on this, this literature review aims to identify accessibility variables that require further study to develop solutions for increasing tourist visits through accessibility improvements. The method employed is a literature review based on existing studies on accessibility, which are then combined to compare accessibility variables. This research approach uses a systematic review to obtain information about accessibility in historical tourism areas. All published articles were collected, and approximately 25 articles were analyzed for comparison and tabulated under several aspects. Through literature analysis, the variables used to identify accessibility were divided into four aspects. The aspects of accessibility analyzed in the literature include physical, informational, and management aspects. Physical and information aspects can be observed or measured directly in the implementation of the assessment, while management aspects can be observed qualitatively. It is hoped that, with the variable aspects of accessibility in the historic tourism area, developers can improve the quality of accessibility within this area.

Keywords: accessibility, historic area, historic tourism

1. Introduction

Today's tourist destinations are very diverse, including historical tourism. Historical tourism is a tourist destination that showcases the atmosphere or relics that reflect the history of a particular place. Tourist destinations with a historical concept should be able to provide visitors with educational information about the history they encounter. To make it easier for visitors to enjoy the available tourist destinations, good accessibility is needed. Thorough consideration so that historical sites can be accessed is still a big challenge (Samia Omi et al., 2024).

Culture reflects the expression of society as it adapts to its environment and the needs of life. The physical quality provided by an area can create an image that is strong enough for an observer. Based on this theory, the support or facilities provided in the historic site area should be in harmony with the site's culture. Historic areas have their character and uniqueness within a city, and old buildings are significant to preserve because they have a positive impact on the city and serve as evidence of events that strengthen its identity.

The presence of cultural content on the object will create its own meaning for the community. Historical value is not universal; its potential varies depending on who accesses and values the site. (Samia Omi et al., 2024). Combining accessibility with conservation processes has always been under-researched and overlooked (Samia Omi et al., 2024).



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Therefore, as a tourist destination, visitors' ease of movement must also be considered in addition to its visual aesthetics.

Accessibility is an important aspect that tourists can feel. Accessibility, which is the key between land use and transportation, has played a decisive role in the scale, intensity, and spatial distribution of urban land use (Li & Dang, n.d.). Tourism managers must choose and implement the right solutions and think about efforts to pay attention to the interests of visitors to increase visitation so that, in turn, it will provide good income to tourist attractions (Kabu, 2019). Based on this, the relationship in managing historical tourism needs to be considered thoroughly in various aspects to increase the area's value and potential.

One indicator that a facility is comfortable for activities is the presence of people occupying the space. The development carried out must consider the comfort of tourists for their satisfaction. Good accessibility must enable people to travel easily from their area of origin to the destination, allowing an access point to facilitate reaching a specific location. Based on this background, articles are reviewed to find an index of accessibility research in historic areas.

2. Method

The method used in this research is a systematic review of articles. This literature review research aims to discuss accessibility analysis based on the variables and aspects discussed in research on accessibility. To get relevant research using journals that discuss accessibility in various aspects, especially those related to historical places and tourist attractions. Then, the literature selection is based on titles and abstracts focusing on accessibility research. Furthermore, it is necessary to extract by collecting variables or aspects of accessibility discussed in each literature to group them based on the scope of the discussion. After grouping the variables, it is concluded which variables related to accessibility can be used to assess accessibility in the area.

3. Result and Discussion

Accessibility refers to the ease of movement within a space, considering factors such as circulation/road and visual elements. The accessibility aspect of historic districts is a framework designed to evaluate and improve accessibility in historic urban environments. Integrating universal design principles into the preservation and management of cultural heritage sites is essential, ensuring they are accessible to all individuals.

The most decisive factor in terms of accessibility is the possibility of being able to walk and find your way on the streets around the area (Jiménez Martín et al., 2022). The European Union Access City Awards criteria focus on accessibility, disability-friendly design of public areas and neighborhoods, public transportation arrangements, accessibility to knowledge and communication, social facilities and services, and innovative projects (Diken & Onur, 2022). Specific characteristics of different urban elements are considered: sidewalks, street furniture, signs, curbs, rest areas, and resource identification (Jiménez Martín et al., 2022). Based on this, the accessibility aspect can be assessed physically by referring to existing standards or assessment criteria.

Adaptive designs, such as ramps, roads, parking lots, lighting, and urban furniture, can be used as solutions to be implemented for people with disabilities (Diken & Onur, 2022). Adopting universal design principles enhances accessibility in historic cities, and they serve a special purpose in protecting cultural heritage and promoting urban sustainability (Diken &



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Onur, 2022). Globally, urban accessibility in historic districts has been a pressing need for decades (Jiménez Martín et al., 2022). Therefore, special consideration is needed in the historic area regarding accessibility, compared to general urban accessibility elsewhere.

The distance method is the most straightforward and visual approach, calculating and describing the level of accessibility between origin and destination points using distance markers (such as space, time, or cost); the smaller the distance, the higher the level of accessibility (Li & Dang, n.d.). The importance of transportation systems in rural areas makes accessibility one of the determinants of rural development. Assessing convenient routes for physically challenged people also needs to be considered (Strug & Ślusarczyk, 2017). From the statement above, it can be concluded that to meet good accessibility, supporting factors such as transportation and infrastructure are needed so that visitors can still access the area despite accessibility barriers.

According to (Samia Omi et al., 2024) his research critically analyzed the outdoor accessibility of Lalbagh Fort for people with physical disabilities, focusing on identifying physical barriers that impact the visitor experience. In (Kabu, 2019) stated the effect of accessibility on the level of tourist visits to Boti village, namely the influence of transportation, with a percentage of 90% thinking it was terrible, and for accommodation, it could be said to be good. In contrast, 80% of respondents thought it was good. Meanwhile, according to (Rangkuty et al., 2023) the impact of various aspects, especially road accessibility, inefficient and uneven road circulation, land use that does not pay attention to the surrounding area, and the reach to one place or a poor network, can affect residents and visitors. Based on this statement, the physical aspect becomes the primary focus in assessing whether accessibility in a particular area is suitable based on the criteria and needs of its residents.

Parameters affecting tourist accessibility to tourist attractions also highlight unique urban structures and their impact on tourist mobility (Israeli & Mansfeld, 2003). According to (Yudhanta, 2018) Mobility or movement in seeing accessibility become the main principle that makes it easy for everyone to reach a space or area on both a meso and macro scale. Based on this theory, it is necessary to adjust or develop accessibility-supporting aspects to the needs of the city or region. Urban structures that are unique and vary from one city to another can be attributed to universal design principles that adapt to the specific needs of the city or area being studied.

According to (Li & Dang, n.d.) his research explores the relationship between traffic accessibility and the conservation of historic and cultural cities, using Zhouzhuang as a case study. Changes in traffic accessibility can significantly affect the preservation and sustainability of historic cities such as Zhouzhuang. Understanding the historical changes in traffic accessibility is crucial to the conservation process of such cities (Li & Dang, n.d.). The conclusion of the theory reveals a link between changes in traffic accessibility to the historical value of the area, this can also change visitors' perceptions of the historical value.

According to Fajar & Purwantiasning (2020), imageability refers to the physical qualities of an area that make it recognizable and memorable, while permeability relates to how accessible and navigable the area is for human movement. Improving urban accessibility in world heritage cities by identifying key indicators, applying universal design principles, and comprehensively analyzing local and international practices (Jiménez Martín et al., 2022). High and low accessibility can be measured by distance, if the relationship between a place and another place is close, it can be called high accessibility between the two places. If the relationship of a place to another place is far apart, it can be called low accessibility between these places (Fajar & Purwantiasning, 2020). Based on this theory, to create a historic area with



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a good image and impression for visitors, it is necessary to pay attention to the ease of navigation for visitors and the proximity of places. To overcome this, we can apply universal design principles in the design or development of the area.

Many cities lack adequate infrastructure and institutional support for disabled access, which is critical to improving the overall accessibility of urban environments (Diken & Onur, 2022). Criteria that consider sustainable historic cities and universal design are explained through seven main criteria: area management, accessible travel routes, accessible transportation, low physical effort (both vertical and horizontal), accessibility for people with disabilities, perception (auditory, visual, and tactile), and smart applications. Therefore, in developing historic areas, the accessibility aspects that must be considered are quite complex, both physically and in terms of perception, as well as in modernization. Visitors' needs related to historic tourism must be taken into account in the area's development.

Sáez-Pérez & Marín-Nicolás (2023) states that potential barriers in publicly accessible heritage buildings affect different groups of individuals with disabilities, including those with limited mobility, visual impairment, hearing impairment, and cognitive impairment. Lack of accessibility can positively affect the spiritual sustainability of sites, and this suggests that sometimes, challenges in accessing these sacred places can enhance the spiritual experience for visitors (Aulet & Duda, 2020). Evaluation based on its physical, geographical, religious, and historical significance is critical to understanding how easily tourists can reach the site (Dumitraşcu et al., 2023).

According to (Strug & Ślusarczyk, 2017) improving accessibility for people with disabilities, especially those who use wheelchairs, in public buildings needs to be considered. Development of a method to measure pedestrian accessibility in urban areas, especially for individuals with disabilities and those with limited mobility, using the Accessibility of Walkable Spaces (AWS) index, which is designed to measure the accessibility conditions of pedestrian environments (da Silva et al., 2020). Tourism policy in Surakarta has made some progress in meeting the accessibility parameters, but the actual provision of facilities and infrastructure has not been optimal. This highlights the need for further improvement (Gumelar, 2021). Based on this, historical tourism areas or places must minimize barriers to all visitors, even visitors with disabilities, so they can easily access the area. Policies need to be established to enable development to be carried out more efficiently.



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Table 1. Indicators and accessibility conditions identified in the technical standardization.

Indicator	Standard	Condition (score)
Path construction	Surface without trepidation, firm, stable, slip-resistant	A (1.0)
	Inadequate surface (with trepidation, slippage etc.), difficulty in using	AR (0.5)
Longitudinal slope	Inexistent or unusable surface due to precarious path	I (0)
	Maximum longitudinal slope of 8,33% (1:12), or up to 12,5% (1:8) for exceptional reform cases	A (1.0)
	Longitudinal slope exceeding 8.33% (1:12), or 12.5% (1:8) for exceptional reform cases	AR (0.5)
Cross slope	Maximum cross slope of 3%	A (1.0)
	Cross slope exceeding 3%	AR (0.5)
Unlevel	Maximum unlevel of 5 mm, or up to 20 mm with a maximum slope of 1:2 (50%)	A (1.0)
	Unlevel exceeding 20 mm	AR (0.5)
Unobstructed width	Unobstructed path with 1.20 m wide or higher	A (1.0)
	Unobstructed path with 0.60 m wide or higher	AR (0.5)
	Inexistent or obstructed path, or with less than 0.60 m wide	I (0)
Road crossing facility	Urban intersection with raised pedestrian crosswalk or ramp with a maximum slope of 8.33% (1:12) and a minimum width of 1.50 m	A (1.0)
	Urban intersection without raised pedestrian crosswalk or adequate ramp	AR (0.5)
Landscape ornamentation	Absence of plant species with sharp structures, roots that damage the pavement and toxic principles	A (1.0)
	Presence of plant species with sharp structures, roots that damage the pavement and toxic principles	AR (0.5)

Where: A = Accessibility, AR = Accessibility Restriction, I = Inaccessibility. Adapted of ABNT (2015).

Figure 1: Indikator Aksesibilitas
Source: (da Silva et al., 2020)

Facilities included in the accessibility standard, especially for people with physical disabilities, include parks that can function as inclusive public spaces for all citizens, especially those with disabilities (Khairunnisak et al., 2021). The majority of people choose the sky bridge as the primary means of connecting to the area, because if users cross directly without passing through the sky bridge, it is very dangerous because of the heavy traffic flow (Widianingrum et al., 2022). Accessibility can be considered as an indicator of the built environment's potential for sustainability, as well as a dimension of people's quality of life, and is therefore important (Makrí, 2002). From this theory, it can be concluded that the accessibility aspect not only supports mobility and community activities but also plays a role in the safety of area users.

According to (Aljaafreh et al., 2023) When it comes to facilitating accessibility projects, architects must always find creative and sensitive architectural solutions and textures to integrate them seamlessly without detracting from the historical value of the site, pre-existing structures, and layout. (Riasasi & Nurhadi, 2022) The study recommends evaluating the type of roads leading to evacuation points, including their material and width, which is crucial for ensuring safe and efficient evacuation routes. As in any evacuation, accessibility is crucial, as it involves massive infrastructure to move and rescue the affected people. Participants in the architecture field faced different physical limitations in each location, such as narrow doorways, uneven terrain, or fragile materials (Aljaafreh et al., 2023). From this statement, it can be concluded that the role of architects is crucial in finding practical solutions to existing accessibility problems, particularly physical ones.

(Çelimli & Oral, 2022) in his research, he states the need for architectural modifications that meet diverse needs without compromising the historical integrity of sites. He aims to identify practical architectural alternatives that can be applied to improve accessibility in historic buildings. While Marconcini & Pracchi (2019) emphasize the importance of ensuring that cultural heritage sites are accessible to all, especially individuals with special needs, including the elderly and disabled, creating an inclusive environment goes beyond physical



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accessibility. It emphasizes the importance of addressing informational and managerial dimensions to foster a sense of belonging and participation among all users. Hence, preserving original values while making necessary adjustments to facilitate user access is important. A well-designed urban environment is perceived as livable and accessible to all.

According to (Wicaksono & Chandra, 2023) how easily residents can access public transportation and local services is crucial for a successful Transit Oriented Development (TOD) as a comprehensive evaluation for future development and improvement. Revitalization efforts have made the old town more identifiable and accessible, especially for pedestrians. This aspect is crucial for improving the overall tourist experience in the area (Hantono et al., 2024). Analyzing the accessibility challenges faced by residents due to existing infrastructure and traffic conditions can be done by evaluating the relationship between infrastructure, human activities, and accessibility (Zuraida et al., 2018). It can be concluded that good accessibility can be influenced by various aspects of human mobility when carrying out activities.

Facilitating accessibility by providing transportation transit that is easily accessible on foot and improving or completing the infrastructure needed by pedestrians must be considered. Assessing the accessibility of historic areas using perceptions involves a qualitative approach that focuses on the direct experiences and views of visitors and communities. However, to assess qualitatively, it is difficult to refer to the level of failure or success. This can be overcome by scoring the perceptions of visitors or the community with specific indicators to see mathematically the value required.

From the literature reviewed on accessibility, it can be concluded that several aspects can be universal accessibility variables. Accessibility can consist of physical, information, and management aspects. Research tools that can be used for accessibility assessment can be quantitative values from measurements or qualitative values from user or visitor perceptions. Comparison of the two can result in the complexity of the assessment so that it is more inclusive.



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No	Research Title	Accessibility Aspect		
		Physical	Information	Management
1	Beyond Barriers: an Exploration of Accessibility Challenges and Emotional Experiences in Inclusive Heritage Visitation at Labagh Fort, Dhaka	√	√	
2	Pengaruh Daya Tarik Wisata Dan Aksesibilitas Terhadap Tingkat Kunjungan Wisata Ke Desa Boti Kabupaten Timor Tengah Selatan	√	√	√
3	Pengaruh Setting Skybridge Pandanaran Terhadap Atribut Kenyamanan Dan Aksesibilitas Pengguna	√		
4	Dampak Pola Permukiman Leapfrog Masyarakat Terhadap Aksesibilitas Jalan Kampung Tua Nongsa	√		
5	Accès par les transports aux attractions touristiques de la Vieille Ville de Jérusalem	√		√
6	Pengaruh Konfigurasi Dan Visibilitas Ruang Pada Aksesibilitas Studi Kasus Pada Kawasan XT Square Yogyakarta	√		
7	Conservation Oriented Accessibility Assessment for Historical and Cultural Towns	√		√
8	Urban Accessibility in World Heritage Cities. Accessibility Considerations in Pedestrian Routes in Historic City Centres	√		
9	Evaluating Sustainable Universal Design Accessibility Criteria at Historical Urban Sites	√	√	√
10	Accessibility Indices and Planning Theory	√		√
11	Reasoning About Accessibility For Disabled Using Building Graph Models Based on BIM/IFC	√		
12	Accessibility Index For Urban Walkable Spaces	√		
13	Kebijakan Pariwisata Yang Responsif Dalam Wujud Penyediaan Sarana Aksesibilitas Bagi Wisatawan Penyandang Disabilitas Di Kota Surakarta	√		
14	Kajian Prinsip Transit Oriented Development Pada Kawasan Intermoda C'isauk	√		
15	Kajian Permeabilitas Pada Kawasan Wisata Kota Tua Jakarta	√		
16	Keberadaan Activity Support Yang Mempengaruhi Aksesibilitas Pada Permukiman Di Sekitarnya	√		√
17	Kajian Konsep Imageability Dan Permeability Dalam Pengembangan Kawasan Pusat Kota Baru Parahyangan	√		
18	Kajian Aksesibilitas bagi Difabel pada Taman Bustanussalatin sebagai Ruang Publik Kota di Banda Aceh	√	√	
19	Aksesibilitas Wisata Kabupaten Sleman Dalam Kajian Wilayah Potensi Multi Bahaya Bencana	√		
20	Using a Digital Participatory Approach to Facilitate Inclusivity in Jordanian Heritage Sites: Stakeholder's Requirements and a Proposed System	√		
21	Completely Accessibility Solutions for Historical Building and Areas in the Multi-Layered City Center of Sivas	√	√	
22	Design of a Support Tool to Improve Accessibility in Heritage Buildings—Application in Case Study for Public Use	√		
23	Inclusive Cultural Heritage Sites: ICT as a Tool to Support the Design Process and Knowledge Sharing		√	
24	Tourism Accessibility and Its Impact on the Spiritual Sustainability of Sacred Sites	√	√	√
25	Accessibility and Tourist Satisfaction—Influencing Factors for Tourism in Dobrogea, Romania	√	√	

Figure 2: Klasifikasi aspek aksesibilitas berdasarkan studi literatur

From the table above, the percentage of journals discussing physical aspects is more dominant, with a value of 96%, information aspects at 32%, and management aspects at 28%. From this value, it can be seen that the physical aspect is the most influential in assessing or evaluating the accessibility of an area. The information aspect must still be considered, especially when assessing the accessibility of historical tourist attractions, because visitors must easily convey and access all information related to visitor activities. In the development of

historical tourist attractions, the management aspect is also important, because the sustainability of accessibility in that place depends on management in its development. Based on this, the three aspects become interrelated and complementary to create optimal accessibility.

The physical aspect of the accessibility of historical tourism areas includes elements related to the physical conditions of the environment and infrastructure that affect visitors' ability to access and enjoy the area. The physical aspect can be seen from several variables: routes, paths, facilities or accommodation, transportation, entrances, and street furniture. Information is important to ensure visitors can easily access and enjoy the place. Meanwhile, the management aspect of the accessibility of historical tourism areas includes various elements that affect the overall management of the area, such as hotel management, public facilities, and transportation management.

3.1 Physical

Suitable accommodation for accessibility of tourism architecture is an important element that ensures all visitors, including those with special needs, can enjoy the experience comfortably. Accommodation needed in historical tourism areas, such as lodging, public toilets, waiting or restrooms, information centers, and parking areas, must be adequate. By paying attention to these elements, accommodation can create a more inclusive and enjoyable experience for all visitors. By making accommodation one of the accessibility variables, it should be able to increase the attractiveness and satisfaction of tourism.

A good route for the accessibility of tourist attractions architecture must meet several important criteria to be easily accessible to all visitors. A good route must consider the path's width and surface of the path and be equipped with clear instructions. The access path must be broad enough to allow comfortable movement for everyone, including wheelchair users or people with mobility aids. The path surface must be smooth and flat, free from obstacles like stones, holes, or slippery materials. If there is an elevation difference, the slope of the ramp or steps must be considered so that road users remain comfortable and safe.

3.2 Information

Visitors who want to enjoy the historical tourist attractions are not a few who come from outside the area. To be able to reach and receive the correct information, visitors certainly need media provided by the tourism manager. The media needed, visual, audio, or digital, should be easily captured by everyone who visits. Visual media can be information boards, road signs, directions, area plans, sculptures, landmarks, etc.

Visual information media also needs to be provided in the area to make it easier for visitors to find out information about the place they are visiting. Visual media can help blind people who are unable to read information boards. Braille maps can also be considered as information media in the form of touch to direct blind visitors. Thus, accessibility in the area can be felt by the community more comprehensively by considering users with physical limitations.

The visual design of the area can also be information or a marker that visitors can see while presenting cultural or historical elements in its design. The combination of imageability and permeability elements will present a legible city area that can be interpreted as easy to understand or recognize and organized into a coherent pattern or has a relationship between one part and another, so that it has a complete unity of meaning. (Fajar & Purwantiasning, 2020). Therefore, the information aspect in accessibility should provide a picture or information about

the area's uniqueness. At this time, all information visitors need should be digitally accessible to facilitate management and service.

3.3 Management

Area management plays an important role in assessing tourist accessibility, with several key aspects such as planning and development of infrastructure, facilities, and information. Design management for visitor accommodations such as restaurants, lodging, public toilets, information centers, and others can be developed by supporting the concept and characteristics of the area. Aligning development with a concept based on the area's image can increase the area's historical value. Management of this area can be good if local communities are involved in the planning and managing of the tourist area, which can ensure that the needs and perspectives of visitors are considered. The management with authority over area management is also responsible for conducting evaluations and monitoring so that the sustainability of good accessibility is maintained or improved.

4. Conclusion

The accessibility aspects that can be classified based on this literature study are described in three aspects: physical, information, and management. The physical aspect has many variables, so it is more dominant in evaluating the accessibility of the area. The information and management aspects must still be considered so that the area's accessibility can be met optimally. First, the physical aspect highlights the need for supporting infrastructure, such as routes, distances, transportation, public facilities, and accessibility for people with disabilities. Second, the information aspect is crucial in facilitating visitors, ensuring they have access to relevant data about the location, facilities, and activities available. Fourth, the area management aspect evaluates the accessibility conditions of the area so that it can be adjusted to the needs of the community and visitors and managed sustainably.

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