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EVALUATION OF ACCESSIBILITY AND INCLUSIVE ARCHITECTURE COMPLIANCE AT TAMAN ISMAIL MARZUKI LIBRARY (TIM), JAKARTA

Muhammad Akbar Habibi, Rizka Tiara Maharani *

**) Corresponding author email : rizka.tiara.ar@upnjatim.ac.id*

Department of Architecture, Universitas Pembangunan Nasional VETERAN Jawa Timur, Surabaya, Indonesia

Abstract

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Architectural design plays a crucial role in developing public spaces that are inviting and accessible to everyone. The Taman Ismail Marzuki (TIM) Library in Jakarta serves as a major public literacy hub; however, several accessibility challenges remain for users with diverse physical abilities, particularly for individuals with disabilities, the elderly, and children.

This study evaluates the accessibility performance of the library facilities in supporting comfort, independence, and equitable access based on inclusive architecture and accessibility standards. This research employs a descriptive qualitative evaluative method, integrating direct observation, field measurement using iPad LiDAR technology, and visual documentation.

The evaluation framework is based on the Provus Discrepancy Model, which refers to PUPR regulations and IFLA guidelines. The assessment revealed that many facilities at the TIM Library are already accommodating, including spacious hallways and corridors, accessible entrance doors, clear directional signage, and non-slip flooring with contrasting colors. Nevertheless, there are still some shortcomings, such as bookshelves that are higher than the recommended reach, the lack of tactile paving for users with visual impairments, and a height difference at the entrance machine that hinders smooth access.

The study concludes that improvements in tactile navigation systems, vertical accessibility, and inclusive facility design are required to further enhance accessibility and user experience for all visitors.

***Keywords**: Inclusive architecture; accessibility; library; users; Provus Discrepancy Model*

INTRODUCTION

Inclusive architectural design is essential for creating public spaces that can be accessed and used by people with diverse needs and physical abilities. By implementing inclusive architecture principles in public facilities such as libraries and training centers for people with disabilities, a higher level of safety, comfort, and accessibility can be achieved for all users. Accessibility in public facilities is not only influenced by internal building design but also by the quality of external pedestrian infrastructure that supports access to the facility. Previous research by Muhammad Mulyadi et al., (2022) demonstrated that improvements to pedestrian facilities in Jakarta's central business district increased walkability by approximately 38.98% and public transportation use by 15.41%.

According to UU Nomor 43 Tahun 2007 (2007) concerning Libraries, library management should be based on the principles of equity and democracy. Article 5 guarantees equal access to library services for all members of society, while Article 4 states that libraries aim to provide services, promote reading habits, expand knowledge, and educate the nation.

LITERATURE STUDY

IFLA Standards for Library Accessibility and Inclusive Facilities

The International Federation of Library Associations and Institutions (IFLA) has published international guidelines designed to enhance inclusive education and accessibility, ensuring accessibility for all users regardless of physical, sensory, cognitive, or age-related limitations and promoting comfortable and inclusive library environments (IFLA Equitable and Accessible Library Services Section, 2024).

These guidelines elaborate on the use of ergonomic and adjustable furniture, such as wheelchair-accessible bookcases with high-contrast labels, reading and computer desks at different heights, and chairs with sturdy armrests (IFLA Equitable and Accessible Library Services Section, 2024).

For those with physical access needs, IFLA recommends wide entrances without height restrictions,

automatic doors, elevators with Braille letters and voice buttons, and corridors spacious enough to accommodate two wheelchairs simultaneously .(IFLA Equitable and Accessible Library Services Section, 2024). Directional and service information should use uppercase, high-contrast, and clear symbols, complemented by Braille signage, audio guides, and websites compatible with screen readers (IFLA Equitable and Accessible Library Services Section, 2024).

Meanwhile, the media formats required for people with disabilities in libraries are summarized in *Table 1*, adapted from *IFLA Guidelines for Libraries Serving Persons with Dyslexia and Other Reading Disabilities* (Birgitta Irvall & Skat Nielsen, 2005).

Table 1. Media formats required for people with disabilities in libraries (Birgitta Irvall & Skat Nielsen, 2005)

Disability groups	Large print	Tape/DAISY CD/DVD	Braille	Website	Videos with subtitles and/or sign lang.	Text telephone	Easy-to-read
Visually impaired	X	X	X	X			
Deaf and hearing impaired				X	X	X	X
Reading difficulties	X	X		X			X
Physical disabilities		X		X			
Cognitively disabled		X		X			x

Accessibility standards in Indonesia

In Indonesia, the accessibility provisions are governed by the Minister of Public Works and Public Housing Regulation Permen PUPR 14-2017 (2017) which outlines the requirements for ease of access in buildings. This regulation mandates that public buildings must include accessibility features such as ramps, elevators, restrooms designed for individuals with disabilities, and walkways, all aimed at ensuring the comfort and safety of people with disabilities.

RESEARCH METHOD

The study was conducted at Jakarta Library, located on the 3rd to 5th floors of the Ali Sadikin TIM Building in Central Jakarta, an area that has undergone revitalization since 2019 (Figure 1). This library was selected due to its role as a public literacy center catering to diverse user groups, making it pertinent to examine aspects of accessibility and the principles of inclusive architecture.

Data collection occurred from May to June 2025, utilizing direct observation, visual documentation, field measurements, and secondary data. The facilities are designed not just for reading but also for fostering social interactions, highlighting the need to assess the implementation of inclusiveness principles, particularly for individuals with disabilities, the elderly, and children

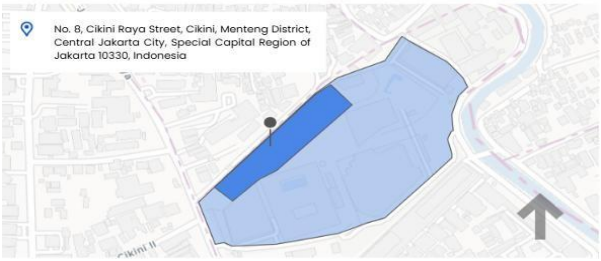


Figure 1. Location Map of Taman Ismail Marzuki area from Aino Maps (accessed May 2025)

The research employed evaluative descriptive qualitative methods, focusing on systematic observations across floors 3-5 to assess the state of physical accessibility, circulation, support facilities, and navigation for users of varying ages and physical abilities. Accessibility-related facilities were documented and measured using iPad LiDAR technology to obtain accurate dimensional data. This technology demonstrates significant potential for conducting detailed surveys with high precision (Teo & Yang, 2023).

Field evaluations were carried out using the Provus Discrepancy model (Mccormick, n.d.) to compare the ideal standards with the actual conditions. This model has been widely applied in the evaluation of programs and policies (Mustafa, 2021). The reference standards include PUPR regulations Permen PUPR 14-2017 (2017), Permen PU 30-2006 (2006),and IFLA Guidelines for Making Libraries Accessible for People with Disabilities (2024),which provide standards for library accessibility and inclusive facilities. The evaluation process consists of standard analysis, implementation assessment, and gap analysis using the following formula:

$$Difference = Current\ State - Standard$$

A positive value indicates that the existing condition exceeds the minimum standard, a negative value indicates that the standard has not been met, and a value of zero indicates full compliance with the standard.

RESULT AND DISCUSSION

1. Circulation towards the library

As shown in Figure 2, pedestrian access to the TIM from Cikini Raya Street begins with an 8 meter sidewalk and a 15.5-meter front plaza, featuring a yellow guiding block for individuals with visual impairments (C).



Figure 2. Tactile guiding block at the front plaza of TIM (Author 2025)

The surface is flat and non-slip, running parallel to the plaza without any steps (B). Bollards (A) in a block shape are placed around the sidewalks and plazas to create a physical barrier against vehicles, enhancing circulation and security (Nakamura & Yoshioka, 2021) The front plaza of the TIM, measuring 23.5 meters from the curb to the building's front door, is also free of physical barriers and includes a wheelchair-accessible entrance without physical barriers.

Motorized vehicle access to the parking lot is marked by clear and uniform signage along the 11.1 m wide path (Figure 3). Upon arrival, drivers can take a ticket from an automatic machine equipped with buttons and an information screen; the barrier opens automatically, guiding the vehicle according to the system's instructions.



Figure 3. Visual directions and vehicle entry circulation width TIM, Jakarta (Author 2025)

The pedestrian path leading to the parking lot is distinctly separated from the vehicle path. This finding is consistent with Muhammad Mulyadi et al. (2022), who identified physical separation from traffic, pavement facilities, pavement width, and pavement continuity as key factors influencing pedestrian accessibility. Furthermore, The integration of sidewalks, crossings, and public transport facilities contributes to better pedestrian accessibility and connectivity (Herawati & Putri, 2025).

This design showcases a dedication to universal accessibility and public safety. The TIM is also conveniently reachable via public transportation, with the TransJakarta bus stop and KRL Cikini Station located nearby. GIS studies indicate that the integration of sidewalks, stops, and mass transit stations greatly enhances pedestrian accessibility (Herawati & Putri, 2025)

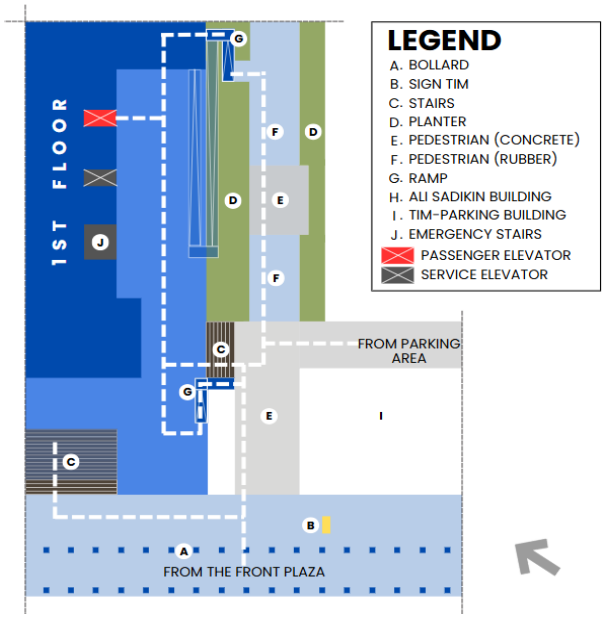


Figure 4. Schematic plan of the 1st floor circulation (Author 2025)

The primary entry point to the library is situated on the third floor, designated for registration and lockers, whereas the main reading areas are found on the fourth and fifth floors. These can be accessed via an elevator or ramp, with the circulation route from the first floor illustrated in (Figure 4). These amenities are crucial in enhancing accessibility and independence for individuals with disabilities. The main pathway leading to the side stairs and entrance measures 5.5 meters in width (Figure 5), which greatly exceeds the SNI 8151:2019 standard, enabling two wheelchair users to pass simultaneously.



Figure 5. Main entrance access to ramp and elevator of TIM building (Authors 2025)

However, there is no guiding block leading to the Ali Sadikin building, which is only available in the front

plaza, resulting in suboptimal navigation for the visually impaired (Fadhlillah, 2023).



Figure 6. Paths with 2 different layers (Author 2025)

The side entry track (E) utilizes grid-patterned concrete for drainage purposes, but the narrow drainage gaps may cause wheelchair wheels to become trapped. The main ramp track, measuring 4 meters in width, is covered with hollow rubber. However, it becomes slippery (F) and unstable during rain. The transition to the 5.8-meter wide smooth concrete surface is also slippery when wet (E). This observation aligns with findings indicating that cement concrete surfaces exhibit increased slipperiness when wet (Sjahdanulirwan & Tatang Dachlan, 2018).



Figure 7. Transition surface rubber and paving blocks on the path to the ramp Ali Sadikin building. (Author, 2025)

The subsequent area consists of paving blocks with uneven elevation, which heigh tens the risk of wheels becoming stuck and slipping in wet conditions (Figure 7), (Ningrum & Wahyuhana, 2023).

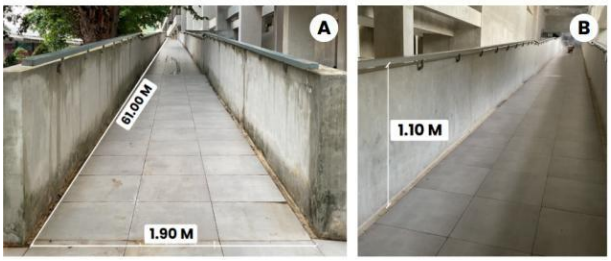


Figure 8. Outdoor Ramp to 2nd floor (Author 2025)

The vertical ramp, measuring 61 m in length and 1.90 m in width .complies with the maximum ramp slope requirement of 1:12 as specified in Permen PUPR No. 14/PRT/M/2017. To enhance user safety and independence, iron handrails standing 1.10 meters tall (B) are installed on both sides of the ramp (Rahardjo et al., 2023). However, the lack of a roof or anti-slip coating results in a slippery surface during rainy conditions. According to Kim et al., (2014) research, the combination of slope and contaminants like water heightens the risk of slipping on ramps.



Figure 9. Left: ramp condition at 17: 20 WIB; Right: ramp condition at 21: 20 WIB (Author, 2025)

The illumination along the ramp leading to the second floor is quite adequate (Figure 9). Users can easily comprehend the signs, identify the circulation path, and spot potential obstacles without experiencing glare, which significantly enhances their sense of safety and visual comfort during nighttime. According to Liu et al., (2022), the perceived quality of street lighting influences pedestrians' perceptions of visual safety and comfort.

The ramp from the second to the third floor measures 1.90 meters in width and 55 meters in length, featuring consistent handrails that ensure comfort and safety for users (Anthony Ikechukwu, 2015). Additionally, there is a cabin lift sized 1.1 × 1.4 meters and a main staircase that is 1.2 meters wide, equipped with handrails on both sides. The internal ramp from the ground to the third floor has a slope of 1:12 and a flat landing, serving as an alternative to the lift.

Overall, the entrance to the TIM Building has adopted universal design principles, allowing visitors, including those with disabilities, to access the library on the third floor safely and comfortably.

2. Circulation within the library

Access to the main library area on the third floor begins through a 1.85 m-wide entrance door, followed by a security gate measuring 88 cm in width and a ramp that is 10 cm high (Figure 10).

While the ramp is technically wheelchair accessible, the short length reduces both comfort and safety for users. Studies indicate that access ramps,

especially those located at security doors or with constrained designs, can pose increased risks for wheelchair users due to the higher likelihood of slipping and difficulty in maintaining balance(Kapsalis et al. 2024).

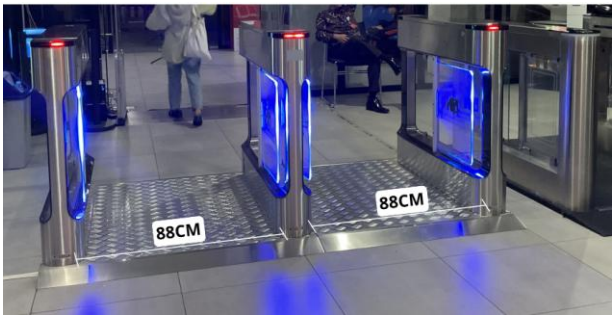


Figure 10. Second door with ramp after main door (Author 2025)

Unfortunately, there is no direct elevator connecting the third floor to the fourth floor. The only route to the next level is via escalators, forcing wheelchair users to return to the lobby to access the public elevator. This type of indirect vertical circulation is found in public buildings in Jakarta, where accessibility for persons with physical disabilities remains incomplete (Erza et al. 2024). A similar problem was reported at Kampung Bandan Station, where tiered platform arrangements and indirect vertical circulation require people with physical disabilities to use external or distant elevator access, increasing travel complexity and time (Saniy & Maharani, 2025).



Figure 11. Main circulation width, shelf circulation and shelf height (Author 2025)

On the 4th floor, the main corridor measures 2.60 m in width, and the space between the bookshelves is roughly 1.10 m (see Figure 11). This generally satisfies the minimum space requirements for wheelchair users and other visitors. The bookcase stands at a height of 1.55 m (refer to Figure 11), allowing users to easily view and reach most book collections. However, it lacks guiding blocks or Braille labels as shown in the figure. According to IFLA Equitable and Accessible Library Services Section (2024), tactile pathways should be incorporated into the design of internal public spaces to ensure navigation for visually impaired and elderly users.

This is further supported by Putripratama et al. (2018), who found that the implementation of guiding blocks in Indonesian public facilities remains inconsistent and often fails to provide adequate navigation support for users with visual impairments (Putripratama et al. 2018). Additionally, while the Reading Room is situated on this floor, there is no internal elevator, which obstructs inclusive access between the 3rd and 4th floors, leaving no vertical alternative within the main building.

Access to the fifth floor remains problematic for wheelchair users because it relies solely on escalator circulation. There are no internal elevators connecting the upper library floors. However, the area includes effective informational cues: evacuation route instructions, exit signs, and category labels on bookshelves are clearly displayed and serve their navigational purposes well. Furthermore, the elevator buttons in the lobby are equipped with braille letters, which help visually impaired users navigate independently (see Figure 12). Examples of these features are summarized in Table 2.

These insights align with the research conducted by Putra & Hastorahmanto (2024) who examined wayfinding systems in Surabaya's Softball Stadium. They highlight that "providing clear names and directional instructions through wayfinding signs is essential to improve spatial accessibility and facilitate visitor movement" in complex multi-floor environments.



Figure 12. braille letters on elevator buttons (Author 2025)

Table 2. Accessibility Compliance Evaluation of TIM Library Facilities (Authors 2025)

No	Accessibility elements	Current condition	Ideal Standard (SNI, PUPR, & IFLA)	Standard sources	Discrepancy	Compatibility & supporting information
1.	Accessible Pathway to the Library	-Width: 180cm -Surface: flat, non-slip -Without ladder	-Minimum Width: 150 cm -Surface: flat, non-slip -Without ladder	SNI 03-1735-2004 procedures for accessibility planning in buildings and the environment Permen PUPR No. 14/PRT/M/2017	- Gap = 180-150 = +30 cm → exceeds the minimum standard by 30 cm - Both flat and non-slip → Gap = 0 cm → fit - No stairs required → Gap = 0 (Compliant)	Fit Wide and level access points make it easy for all users, including wheelchairs, to move unhindered.
2.	Circulation path (corridor)	-Two-way width : 260cm -One-way width : 130cm -Surface: flat, non-slip -Head Free height: 265cm	-Minimum Width: 150 cm (two-way) -Minimum width: 120 cm (one way / disability) -Surface: flat, non-slip -Head Free height: min 220cm	SNI 03-1735-2004 Permen PUPR No. 14/PRT/M/2017	- Two-way Width Gap = 260 – 150 = +110 cm → Compliant and exceeds the minimum standard - One-way Width Gap = 130 – 120 = +10 cm → Compliant and exceeds the minimum standard - Both flat and non-slip → Gap = 0 cm → compliant - Gap = 265 – 220 = +45 cm → Compliant and exceeds the minimum standard	Fit Wide corridors Allow two wheelchairs to pass each other and prevent obstacles.
3.	Entrance	-Width : 185cm (2 doors) -No height threshold : Yes, there is no height difference at the entrance, but there is a height level difference at the entrance machine after the main door of 10 cm	-Minimum width of 1 door : 90 cm (wheelchair access) -Minimum width of 2 doors : 150 cm (wheelchair access) -Without high threshold	Permen PUPR No. 14/PRT/M/2017; SNI 03-1735-2004, Standar Universal Design / IFLA	Gap = 185 cm – 150 cm = +35 cm	Partially Fit Double doors with a width 185 cm have and exceeded minimum limit 150 cm, making good enough user access comfort.

No	Accessibility elements	Current condition	Ideal Standard (SNI, PUPR, & IFLA)	Standard sources	Discrepancy	Compatibility & supporting information
4.	Bookshelf	-Height: 155 cm -Depth : 30cm	- Recommended maximum reachable height: 140 cm -Maximum depth: 30 cm	IFLA Library Building Guidelines (2007)	- Gap = 155 cm – 140 cm = +15 cm Partially compliant: exceeds the recommended reachable height by 15 cm. - Gap = 30 cm – 30 cm = 0 cm Compliant: meets the standard for maximum depth.	-Depth : Fit -Height : Not fit = partial fit Easy-to-reach shelves prevent injury and support accessibility.
5.	Escalator	Has a width of 100 cm	-Minimum width: 100 cm	Permen PUPR No. 14/PRT/M/2017	- Gap = 100 – 100 = 0 cm	Partially Compliant. Escalator dimensions comply with the minimum accessibility standards. However, the absence of a direct accessible vertical alternative between library floors reduces inclusivity for wheelchair users and visitors with mobility impairments.
6.	Directions	-Height: ±160 cm -Clear text & symbols: Yes -Viewing distance < 5m: Yes	-Height: ±160 cm -Clear text & symbols: Yes -Viewing distance < 5m: Yes	IFLA Library Building Guidelines (2007), Permen PUPR No. 14/PRT/M/2017	Gap = 160cm − 160cm = 0cm	The result of a gap of 0 cm indicates that the height of the directions meets the established standards. The text is clearly visible and the visibility is good. Clear directions make navigation easy and reduce confusion.
7.	Floor surface	-Anti-slip Material: yes	-Material: anti slip -Color contrast	PUPR No. 14/PRT/M/2017	Material = Yes (1) Standard = Yes (1) Gap = 1 − 1 = 0 → as per standard	It is non-slip and available in various colors, but the lack of

		-Color contrast : Yes -Tactile paving in visually impaired areas	-Tactile Paving in visually impaired areas		- Color contrast: Standard = Yes (1), Condition = Yes (1) Gap = 1 − 1 = 0 → as per standard - Standard = Yes (1), Current Condition = No (0) Gap = 0 − 1 = −1 Not compliant	tactile paving shows a need for improvement to meet accessibility standards.

Table 2 shows that most accessibility elements in the library comply with or exceed the standards established by SNI, Permen PUPR, and IFLA. The accessibility hallway, circulation paths, entrance, escalator, directional signage, and floor surfaces generally provide adequate dimensions, safety, and ease of movement for users, including wheelchair users. These findings indicate that the library has implemented accessibility features that support inclusive access and comfortable navigation.

However, several aspects still require improvement to fully meet universal accessibility principles. The bookshelf height exceeds the recommended maximum reach range, which may limit access for wheelchair users, while the absence of tactile paving reduces accessibility for visually impaired users.

The findings indicate that the TIM Library has largely fulfilled the principles of inclusive architecture by providing equitable access, safe circulation, and accessible wayfinding systems. Nevertheless, the absence of tactile guidance systems, excessive shelf heights, and indirect vertical circulation demonstrate that certain user groups, particularly visually impaired visitors and wheelchair users, still encounter barriers. Therefore, the library demonstrates a high level of accessibility compliance; however, it has not yet achieved full inclusiveness as defined by universal design principles. Based on the discrepancy analysis, the most significant accessibility gaps are related to tactile navigation systems and vertical circulation, as these directly affect the independence of visually impaired users and wheelchair users.

CONCLUSION

The evaluation shows that the Taman Ismail Marzuki (TIM) Library generally complies with accessibility and inclusive architecture standards established by SNI, Permen PUPR, and IFLA. Most facilities, including circulation paths, ramps, entrances, signage, and floor surfaces, support safe and comfortable use for diverse user groups. However, several barriers remain, particularly the excessive height of bookshelves, the absence of tactile paving and tactile wayfinding systems, and the lack of direct accessible vertical circulation between floors. Overall, the library demonstrates substantial compliance with accessibility standards but has not yet achieved full inclusiveness according to universal design principles. Improvements to tactile navigation systems, shelf accessibility, and vertical circulation are recommended to achieve a more universally accessible library environment.

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