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Implementation of Universal Design in Inclusive Architectural Planning to Improve Accessibility of Urban Public Spaces: Systematic Literature Review

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ABSTRACT

Urban public space planning plays a strategic role in ensuring the fulfillment of access rights for diverse communities in physical, social, and cognitive terms. Universal design emerges as a design approach aimed at creating built environments that can be used equitably by all users without the need for special adaptation. Although this principle has been normatively recognized in various international and national legal instruments, its implementation in the practice of urban public space architectural planning still shows significant gaps. This study aims to analyze the application of universal design principles in inclusive urban public space architectural planning and to identify the level of their integration within spatial layout, circulation, facilities, and user experience elements. The study employs a systematic literature review (slr) approach following prisma guidelines, examining peer-reviewed journal articles published between 2021 and 2025 and retrieved from four major databases. Out of a total of 750 identified articles, 30 met the inclusion criteria and were analyzed thematically. The findings indicate that research on universal design has increased significantly over the past five years, with a predominance of qualitative approaches and a focus on public open spaces. The integration of universal design in planning practice remains partial, tends to be oriented toward compliance with technical standards, and has not yet fully centered on user experience and independence.

Key Words: universal design; inclusive architecture; accessibility; urban public spaces

INTRODUCTION

The development of modern urban areas has direct consequences for the increasing intensity of use of public spaces by people with diverse physical and social characteristics. Vukovic & Salama (2021) emphasizing that the city's public space is not just a physical element, but a forum for social interaction that determines the quality of urban life. In the framework of human rights, public spaces have a strategic function as a means of equal social participation. However, in architectural planning practice, public spaces often do not fully provide easy access for people with disabilities, the elderly, children, and groups with mobility limitations. Imrie (1996) It shows that urban architectural design still departs from the assumption of uniform physical abilities of users, thus giving rise to a systemic form of spatial exclusion. Juridically, the principle of equal access to the built environment has been affirmed in the Convention on the Rights of Persons with Disabilities United Nations (2006), which obliges States Parties to ensure the accessibility of persons with disabilities to buildings, roads, transportation, and other public facilities. Indonesia ratified the convention through Law No. 19 of 2011, which strengthens the state's obligation to provide an equally accessible physical environment (Pemerintah Pusat, 2011). However, Mattila & Heinilä (2022) notes that the ratification of international legal instruments does not necessarily guarantee a change in architectural design practices if it is not internalized in the public space planning process.

The concept of Universal Design was introduced by Mace (1997) in the Olodeoku & Alokun (2024) as a design approach that seeks to make buildings and the environment can be used by all

humans without the need for special adaptation. The seven principles of Universal Design emphasize equal use, flexibility, ease of perception, and safety for all users Khairunnisak et al. (2021). Wahyuni & Eliasa (2025) demonstrate that the application of Universal Design contributes directly to improving the quality of the space experience for general users, not limited to groups with disabilities. However, the integration of these principles in public space planning still shows a gap between concept and implementation. In national regulations, Law Number 8 of 2016 concerning Persons with Disabilities emphasizes that accessibility is a basic right that must be fulfilled in the provision of public facilities and buildings (Peraturan Pemerintah, 2016). This provision is strengthened by the Regulation of the Minister of PUPR Number 14/PRT/M/2017 concerning Building Ease of Building Requirements, which regulates the technical aspects of accessibility in architectural design (PUPR, 2017). However, Gupta et al. (2025) shows that the application of technical regulations often stops at the fulfillment of minimum requirements, without making Universal Design a conceptual framework for planning from the early stages of design.

Research Kapsalis et al. (2024) reveals that the separation between the main design concept and accessibility issues causes the resulting public space to be unable to accommodate the diversity of users as a whole. Similar things are shown by Wijaksono (2025) in the study of urban architecture in Indonesia, which confirms that many public spaces have met regulatory standards, but have not created an inclusive spatial experience for all levels of society. This condition indicates that the existence of regulations has not been followed by the internalization of Universal Design in architectural planning practices. The ethical and social dimensions of Universal Design are affirmed by Mohapatra et al. (2024), which states that the accessibility of public space is directly related to human dignity and social justice. This perspective is in line with the mandate of Article 28H paragraph (2) of the 1945 Constitution of the Republic of Indonesia, which guarantees convenience and special treatment to obtain equal opportunities. However, Fatmawati (2025) It focuses more on normative arguments, without elaborating operationally on how the principles of Universal Design are translated in the architectural planning of urban public spaces.

Thus, there is a research gap in the limited studies that directly relate the legal framework, the principles of Universal Design, and the architectural planning practice of urban public spaces as an analytical unit. Previous research tends to separate the discussion of regulations, design concepts, and technical evaluations, so that it does not provide a comprehensive picture of the implementation of Universal Design as an inclusive architectural planning paradigm oriented towards the fulfillment of public space access rights. Therefore, the objectives of this study are: (1) to analyze the application of the principle of Universal Design in the architectural planning of urban public spaces in the perspective of design regulations and practices; (2) identify the level of integration of Universal Design in spatial planning, circulation, and public facilities elements. This research is expected to strengthen the understanding of inclusive architecture as part of fulfilling legal and ethical obligations in urban public space planning.

METHODS

This study uses the Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize scientific articles that discuss the implementation of Universal Design in inclusive architectural planning and its contribution to improving the accessibility of urban public spaces. The SLR approach was chosen because it is able to provide a structured mapping of the development of Universal Design studies, various architectural planning approaches, and conceptual and operational gaps in the implementation of public space accessibility. The SLR procedure is prepared according to the principle of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) so that the review process is transparent, systematic, and replicable (Petticrew & Roberts, 2006).

To maintain the focus and depth of the analysis, this study formulates three main research questions that guide the literature selection and synthesis process, as presented in Table 1.

Table 1. Research Questions

Code	Research Questions	Explanation
RQ1	How is the development of the study of the implementation of Universal Design in urban public space architectural planning in the 2021–2025 period?	Identify topic trends, design focus, and direction of research development
RQ2	How are the principles of Universal Design integrated in the inclusive architectural planning of urban public spaces?	Examine the form of application in spatial planning, circulation, facilities, and experience Users

(Source: Researcher, 2026)

Literature searches are carried out systematically through four main scientific databases, namely Google Scholar, Scopus, Web of Science, and Wiley Online Library. The selection of this database is based on its broad scope of publications in the fields of architecture, urban planning, inclusive design, and accessibility of the built environment. The included articles are peer-reviewed journal articles published in the 2021–2025 range. Keyword development is carried out through stages:

(1) identify the core terms of the title and the purpose of the research,

(2) exploration of terms that often appear in the title and abstract of relevant articles, and

(3) Keyword combination arrangement using Boolean **AND** and **Or** operators.

Table 2. Boolean Keywords and Strategies per Database

Basis Data	Boolean Search Strategy	Number of Articles
Google Scholar	(“universal design” OR “desain universal”) AND (“arsitektur inklusif” OR “perencanaan arsitektur”) AND (“aksesibilitas”) AND (“ruang publik” OR “ruang publik perkotaan”)	412
Scopus	TITLE-ABS-KEY (“universal design” AND “inclusive architecture” AND “public space accessibility”)	168
Web of Science	(“universal design”) AND (“public space”) AND (“accessibility”)	94
Wiley Online Library	(“inclusive architecture” OR “universal design”) AND (“urban public space”)	76
Total		**750**

(Source: Data processed, 2026)

Inclusion and exclusion criteria are established to ensure that the articles analyzed are relevant to the research objectives, as presented in Table 3.

Table 3. Inclusion and Exclusion Criteria

Criteria	Inclusions	Exclusion
Publication Type	Peer-reviewed journal article	Buku, thesis, editorial
Year Range	2021–2025	Outside of the period
Topics	Universal Design, inclusive architecture, accessibility of public spaces	Private interior design, Residential buildings
Context	Urban public spaces	Non-urban environment
Method	Empirical or conceptual studies	Opinion article

(Source : Author, 2026)

The article selection process is carried out through four main stages, namely identification, screening, feasibility, and final inclusion, following the PRISMA flow.

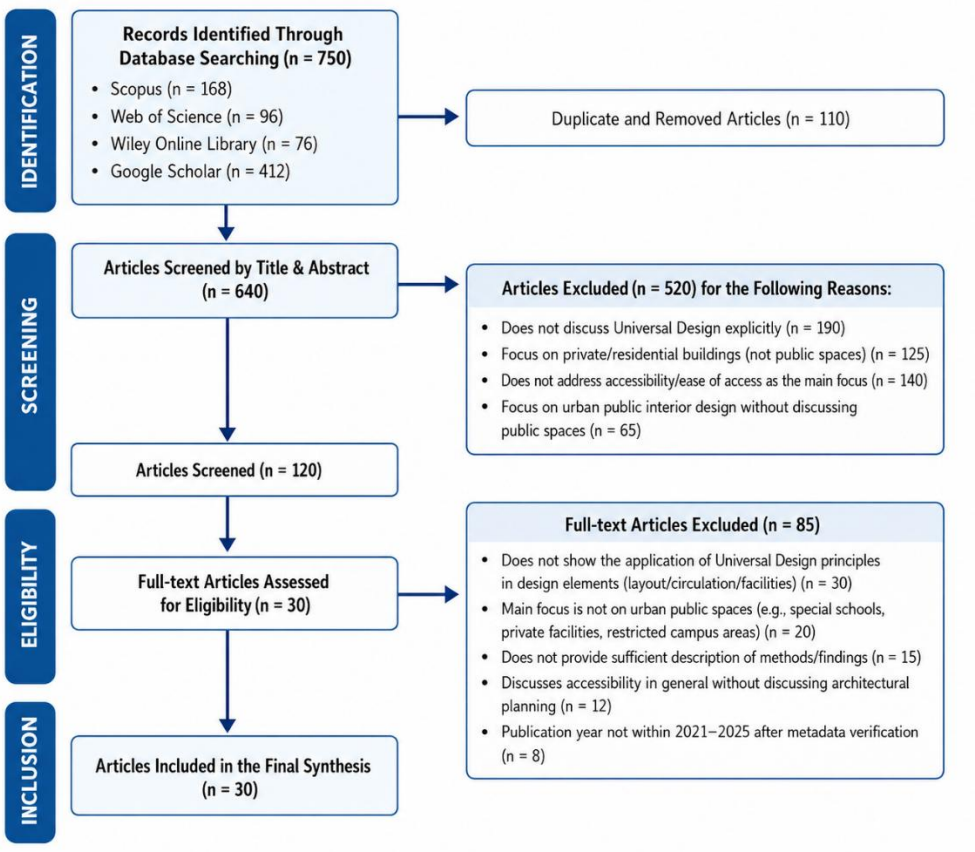

Figure 1. Research PRISM Diagram (Source : Author, 2026)

At the identification stage, all articles obtained from the database are compiled and managed using Mendeley's software to detect and remove duplicates. The screening stage is carried out by

examining the title and abstract to ensure the appropriateness of the topic. Passing articles are then thoroughly examined at the eligibility stage based on inclusion and exclusion criteria. From the entire process, 30 inclusion articles were obtained which were analyzed in depth in this study.

RESULTS AND DISCUSSION

The results of the synthesis of empirical and conceptual findings related to the implementation of Universal Design and inclusive architecture in the planning of public spaces and buildings. The distribution of research characteristics needs to be understood to see the direction of development of the study of Universal Design and inclusive architecture, both in terms of temporal, methodological, and object of study. The distribution of research characteristics of the implementation of Universal Design and inclusive architecture is presented in table 4 below.

Table 4. Descriptive Distribution of Universal Design and Inclusive Architecture Implementation Research (n =30).

Features	Category	f	%	Source
Year of Publication	2021	2	6,7	Duman (2021) ; Vavilova (2021)
	2022	1	3,3	Yi et al. (2022)
	2023	7	20,0	Wibowo & Aji (2023); Rivaldy et al. (2023); Belia & Setyowati (2023); Lugasbaskoro et al. (2023); Singh & Saxena (2023); Das Mahapatra et al. (2023); Farahat & Alaeddine (2023)
	2024	6	23,3	Asmuliany & Amalia (2024); Pratama et al. (2024); Chairina (2024); Putra (2024); Maimunah et al. (2024); Temeeyakul & Sirisali (2024)
	2025	14	46,7	Permatasari & Nurjayanti (2025); Santoso et al. (2025); Acmi & Taufiq (2025); Zulkarnaen et al. (2025); Rochmanu & Safeyah (2025); Ocean & Buyang (2025); Avenzoar (2025); Ramadhan & Elviana (2025); Selanon et al. (2025); Stauskis (2025); Friedlaender et al. (2025); Akhmanova (2025); Tiwo et al. (2025); Utami & Nugraheni (2025)
Research Design	Descriptive qualitative / Case Study	18	60,0	Permatasari & Nurjayanti (2025); Santoso et al. (2025); Asmuliany & Amalia (2024); Rochmanu & Safeyah (2025); Wibowo & Aji (2023); Rivaldy et al. (2023); Belia & Setyowati (2023); Avenzoar (2025); Ramadhan & Elviana (2025); Putra (2024); Pratama et al. (2024); Utami & Nugraheni (2025); Ocean & Buyang (2025); Akhmanova (2025); Stauskis (2025); Friedlaender et al. (2025); Temeeyakul & Sirisali (2024); Duman (2021)

Features	Category	f	%	Source
	Standard-based evaluative (Ministerial Regulation / SNI / UD)	7	23,3	Ocean & Buyang (2025); Belia & Setyowati (2023); Avenzoar (2025); Yi et al. (2022); Das Mahapatra et al. (2023); Utami & Nugraheni (2025); Smoke (2021)
	Literature review/conceptual	5	16,7	Maimunah et al. (2024); Chairina (2024); Farahat & Alaeddine (2023); Selanon et al. (2025); Singh & Saxena (2023)
	Public open spaces (parks, squares, RTH)	14	46,7	Permatasari & Nurjayanti (2025); Santoso and al. (2025); Ramadhan & Elviana (2025)
	Inclusive architecture / design	13	43,3	Wibowo & Aji (2023); Rivaldy et al. (2023); Putra (2024); Pratama et al. (2024); Chairina (2024); Maimunah et al. (2024); Acmi & Taufiq (2025); Zulkarnaen et al. (2025); Lugasbaskoro et al. (2023); Ocean & Buyang (2025); Utami & Nugraheni (2025); Tiwo and al. (2025); Asmuliany & Amalia (2024)
Study Object/Population	Public open spaces (parks, squares, RTH)	14	46,7	Permatasari & Nurjayanti (2025); Santoso et al. (2025); Asmuliany & Amalia (2024); Rochmanu & Safeyah (2025); Wibowo & Aji (2023); Rivaldy et al. (2023); Belia & Setyowati (2023); Avenzoar (2025); Son (2024); Akhmanova (2025); Stauskis (2025); Selanon et al. (2025); Das Mahapatra et al. (2023); Vavilova (2021)
	Public buildings (courts, campuses, creative centers, Stadium)	10	33,3	Ocean & Buyang (2025); Pratama et al. (2024); Ramadhan & Elviana (2025); Yi et al. (2022); Friedlaender et al. (2025) Temeeyakul & Sirisali (2024); ; Singh & Saxena (2023); Tiwo et al. (2025); Akhmanova (2025) Duman (2021)
	Residences / special facilities	6	20,0	Acmi & Taufiq (2025); Zulkarnaen et al. (2025); Lugasbaskoro et al. (2023); Tiwo et al. (2025); Maimunah et al. (2024); Farahat & Alaeddine (2023)
				Rochmanu & Safeyah (2025); Belia & Setyowati (2023); Avenzoar (2025); Yi et al. (2022); ; Farahat & Alaeddine (2023); Selanon et al. (2025); Singh & Saxena (2023); Das

Features	Category	f	%	Source
Design Approach	Universal Design	17	56,7	Mahapatra et al. (2023); ; Akhmanova (2025); Temeeyakul & Sirisali (2024); Stauskis Duman (2021) Vavilova (2021) (2025); ; Friedlaender et al. (2025)

(Source : Author, 2026)

Based on the distribution of the publication year, it can be seen that research increased significantly in the 2023–2025 period with the highest proportion in 2025 at 46.7%, indicating increasing academic attention to the issue of spatial inclusivity in line with the strengthening of the global and national inclusive city agenda. In terms of research design, descriptive qualitative approaches and case studies dominate at 60%, indicating that studies are more oriented towards exploring existing conditions than model testing or measurable performance-based evaluation. The object of the study most focused on public open spaces such as parks and squares (46.7%), which reflected public spaces as the main arena for the implementation of inclusivity tests, while housing and special facilities were still relatively limited. In terms of design approaches, Universal Design is slightly more dominant than inclusive architecture, indicating an academic preference for normative frameworks and universal principles over a more contextual social-participatory approach.

Understanding the development of Universal Design implementation studies requires a chronological search to see shifts in focus, methods, and key findings over time. This synthesis aims to assess how the concepts of Universal Design and inclusive design evolve from normative studies to contextual implementation, while identifying the constraints that consistently arise in practice. With this approach, a summary of the development of the Universal Design implementation study in public space architectural planning is presented in table 5 below.

Table 5. Development of the Study of the Implementation of Universal Design in Public Space Architectural Planning.

No.	Author (Year)	Purpose	Method	Location Study	Results	Conclusion
1.	Duman (2021)	Examining the application of universal design in public buildings	Qualitative case studies, evaluation criteria	Northern Cyprus	The criteria for circulation, service access, and building approach have not been met optimally	Universal design needs to be used as a standard for public building evaluation
2.	Vavilova (2021)	Identifying barrier-free environments as indicators of urban sustainability	Field surveys, policy analysis	Samara, Russia	Universal design implementation is slow	Local regulations need to be strengthened to support sustainable cities

No.	Author (Year)	Purpose	Method	Location Study	Results	Conclusion
3.	Yi (2022)	Developing indicators for the evaluation of sports facilities for people with disabilities	Delphi, validity & reliability	South Korea	49 universally validated design sub-factors	Indicators can be used as national standards for facilities Sports
4.	Das Mahapatra et al. (2023)	Assessing the accessibility of the old town	Quantitative analysis, SPSS	Kolkata, India	Correlation of sidewalk width – infrastructure r = 0.535	Sidewalk improvements are crucial for universal mobility
5.	Farahat & Alaeddine (2023)	Develop fair universal design evaluation criteria	International comparative case studies	International	Universal design is often dismissed as simply Accessibility	Universal design is a spatial justice approach
6.	Lugasbaskoro et al. (2023)	Formulating traditional market inclusive design criteria	Kualitatif, bottom-up programming	Solo, Indonesia	Social interaction is the main indicator of inclusivity	Market design must support social equality
7.	Singh & Saxena (2023)	Review accessibility design in konteks india	Literature studies & case studies	India	The UD principle is effective when supported by regulations	Inclusive design is a moral and legal obligation
8.	Youth & Setyowati (2023)	Review of universal design City Park	Observations, interviews	Taman Flamboyan, Jakarta	The majority of UD principles have not been fulfilled	Parks cannot be called inclusive yet
9.	Rivaldy & Gunawan (2023)	Developing an inclusive design concept for urban parks	Survey & qualitative	Bungkul Park, Surabaya	Facilities for the disabled are not optimal	The need for an inclusive infrastructure
10.	Wibowo & Aji (2023)	Addressing square accessibility issues	Qualitative case studies	Wanareja Square	Ramp and guiding block become Main solutions	Inclusive architecture effectively improves access
11.	Asmuliany & Amalia (2024)	Evaluating the accessibility of urban parks as a space Social	Evaluasi & behavioral mapping	São Paulo	Accessibility of the "sufficient" category	Parks have the potential to be a prototype of inclusive space

No.	Author (Year)	Purpose	Method	Location Study	Results	Conclusion
12.	Chairina (2024)	Explaining the urgency of inclusive design Buildings	Conceptua l studies	Genera l	Inclusive design reduces barriers Social	Community involvement is essential
13.	Pratama & Suryana (2024)	Designing a friendly campus Disability	Participato ry surveys, observatio ns	Campu s enviro nment	Recommend the ramp, toilet, door Automatic	Inclusive campus enhances Equality
14.	Sons (2024)	Review the implementation of inclusive cities	Descriptiv e qualitative	Yogya karta	4 inclusion indicators yet fulfilled	Policies have not been effective on the ground
15.	Maimunah et al. (2024)	Review friendly public infrastructure Disability	Literature review	Indone sia	Public infrastructur e has not yet been Accessibility	Inclusion improves quality of life
16.	Temeeyak ul & Sirisali (2024)	Assessing the feasibility of the location of public spaces Health	Site & literature analysis	Pathu m Thani, Thaila nd	The best location meets access & Connectivity	UD-based design makes it easy to access
17.	Permatasar i & Nurjayanti (2025)	Identify the need for inclusive architecture deployments Garden	Qualitativ e observatio n	Taman Dengg ung, Sleman	Facilities for people with disabilities are not available adequately	Need for inclusive design improvements
18.	Santoso & June (2025)	Evaluating the accessibility of public RTH	Physical observation & assessment	Malang	Some parks have not met the requirement s Standards	Inclusive landscapes need to be applied equally
19.	Acmi & Taufiq (2025)	Designing inclusive residential areas	Literature & Planning Studies	Kendari	Inclusive design enhances quality live	Inclusive housing supports just policies
20.	Zulkarnae n (2025)	Implementing inclusive design Flats	Regulatory & design analysis	Bandung	Ramps, elevators, navigation fulfilled	Inclusive flats enhance comfort
21.	Rochmanu & Safeyah (2025)	Studying universal architecture City Park	Descriptive qualitative	Jombang	The UD principle is applied quite well	Inclusive gardens
	Ocean & Buyang (2025)	Assessing the accessibility of the	Observasi &	Hunipopu	Horizontal 61%, vertical	Accessibility is not yet up to standards

No.	Author (Year)	Purpose	Method	Location Study	Results	Conclusion
22.		courthouse	checklist		24%, Evacuation 47%	
23.	Utami & Nugraheni (2025)	Analyzing guiding block conflicts	Qualitative case studies	Jakarta	Guiding block is not SNI compliant	The Need for a Participatory Audit
24.	Avenzoar (2025)	Assess the application of universal design Monuments	Observations & interviews	Monument of Heroes, Surabaya	5 of the 7 principles of UD are fulfilled	Still in need of refinement
25.	Ramadhan & Elviana (2025)	Studying creative inclusive architecture center	Observation & literature	Malang	4 components partial, 4 inappropriat e	Facilities are not yet fully inclusive
26.	Selanon & Dejnirattis ai (2025)	Integrating social & therapeutic models	Narrative review	Internation al	Model integration improves well-being	Public spaces must be holistic
27.	Stauskis (2025)	Analyze experience-based inclusion Users	User-centric analysis	Urban areas of Europe	75% different user experience	Design must be adaptive
28.	Friedlaend er et al. (2025)	Expanding the dis/ability architecture	Collaborative project studies	Internation al	User participation increases An Inclusion	Inclusion should be experience-based Real
29.	Akhmanov a (2025)	Examining the stadium as an inclusive public space	Comparative case studies	Asia	Stadium transforms into a social hub	Universal design supports durability city
30.	Tiwo & Ibitoye (2025)	Assessing inclusive design for ASD	Quantitative-qualitative survey	Abuja, Nigeria	40–45% Respondents prioritize features Sensors	Neuro-inclusive standards are urgently needed

(Source : Author, 2025)

The initial review in 2021–2022 emphasized the evaluation of compliance with the Universal Design principles and the development of technical indicators, especially in public buildings and sports facilities.

(Duman, 2021; Yi et al., 2022). Entering the 2023 period, the research focus shifted to urban public spaces such as parks, squares, and traditional markets, with the dominant finding that the implementation of inclusive design is still partial and has not been systemically integrated (Belia & Setyowati, 2023; Rivaldy et al., 2023). In 2024–2025, studies will increasingly diversify both in terms of objects and approaches, including housing, creative centers, stadiums, and neuro-inclusive design, with consistent findings that the provision of physical facilities does not

automatically guarantee user independence (Ocean & Buyang, 2025; Tiwo et al., 2025).

The integration of Universal Design principles in planning practice needs to be analyzed thematically to understand how the concept is embodied in various dimensions of space and policy. The integration of Universal Design principles in the planning of inclusive architecture of urban public spaces is presented in table 6 below.

Table 6. Integration of Universal Design Principles in Inclusive Architectural Planning of Urban Public Spaces.

No.	Integration Dimensions	Location Study Implementation	Form of Implementation Results	Source
1	Inclusive spatial planning and zoning	City parks, public RTH, squares, recreation areas, stadiums, creative centers	- The implementation of inclusive spatial planning is generally demonstrated through the division of open and flexible activity zones, as well as spatial arrangements that allow interaction across age groups and abilities. - However, most studies show that zoning is still oriented towards dominant users (non-disabled adults), so disabled and elderly groups have not been fully accommodated. - Universal Design integration is often partial and inconsistent across zones, leading to fragmentation of the space experience.	Permatasari & Nurjayanti (2025); Asmuliany & Amalia (2024); Rivaldy et al. (2023); Belia & Setyowati (2023); Akhmanova (2025); Selanon et al. (2025); Stauskis (2025)
2	Horizontal circulation (pedestrian path)	City parks, squares, historic areas, old town center, traditional markets	- Pedestrian paths have been provided physically through flat pavements and pedestrian paths, but there are many standard discrepancies such as lane width, slope, slippery materials, and disruption to city utilities. - The implementation of guiding blocks is often inconsistent and loses its primary function, even turning into a defensive design element. - This suggests that horizontal circulation is still understood as a visual fulfillment, rather than a real accessibility experience.	Santoso et al. (2025); Wibowo & Aji (2023); Utami & Nugraheni (2025); Das Mahapatra et al. (2023); Lugasbaskor o et al. (2023); Singh & Saxena (2023)
3	Vertical circulation (access between levels)	Public buildings, flats, campuses, creative centers,	- The application of vertical circulation generally includes ramps and elevators, but the level of compliance with Universal Design standards is still low. Some buildings provide elevators	Zulkarnaen et al. (2025); Ocean & Buyang (2025); Pratama et al. (2024); Ramadhan & Elviana

No.	Integration Dimensions	Location Study Implementation	Form of Implementation Results	Source
		stadiums	and ramps symbolically without regard to ease of operation, ergonomic dimensions, and continuity of paths. - As a result, users with disabilities remain dependent on the help of others, which is contrary to the principle of independence in Universal Design.	(2025); Duman (2021)
4	Accessibility facilities l (toilet, signage, furnitur)	City parks, buildings Public, Campus, Legal Services Center, Sports Facilities	- Accessible facilities have begun to be presented such as disabled toilets, braille signage, and handrails, but many are unmaintained, difficult to access, or not connected to the main line. Implementation is still normative and administrative, not based on user needs. In many cases, facilities only partially meet the principles of Universal Design without thorough integration in the spatial system.	Avenzoar (2025); Santoso et al. (2025); Ramadhan & Elviana (2025); Yi and al. (2022); Maimunah et al. (2024)
5	User experience and independence	Urban public spaces, parks, campuses, leisure and health spaces	- The results of the study show that the experience of users with disabilities and the elderly has not yet become the center of design. Design still rarely involves users in a participatory manner, so sensory, cognitive, and emotional needs have not been optimally accommodated. - Several international studies have emphasized the importance of post-residential evaluation and user-centric design to ensure meaningful inclusion, not just barrier-free.	Friedlaender et al. (2025) ; ; Stauskis (2025) Selanon & Dejnirattisai (2025) ; Tiwo & Ibitoye (2025) ; Singh & Saxena (2023)
6	Policy and regulatory integration	Inclusive cities, government buildings, strategic public facilities	- Many studies show that there is a gap between inclusion policies and implementation on the ground. - Regulations such as the Ministerial Regulation on PUPR No.14/2017 have become the main reference, but their implementation is often a compliance checklist. Lack of oversight, education, and cross-sectoral commitment has led to the principle of Universal Design not being internalized in urban	Ocean & Buyang (2025) ; ; Youth & Setyowati (2023) Maimunah et al. (2024) ; ; Vavilova (2021) Sons (2024)

No.	Integration Dimensions	Location Study Implementation	Form of Implementation Results	Source
			planning practices.	
7	Holistic and social design tan approach	Stadiums, community centers, traditional markets, multifunctional public spaces	- Several recent studies show a shift towards holistic inclusive design that integrates social, therapeutic, and health aspects. - Universal Design is no longer positioned as just physical access, but as a strategy to build social cohesion, mental well-being, and community resilience. - However, this approach is still limited to conceptual studies and pilot projects.	Akhmanova (2025) ; Farahat & Alaeddine (2023) ; Lugasbaskoro et al. (2023) ; (Temeeyakul & Sirisali, 2024) ;; Selanon & Dejnirattisai (2025)

(Source : Author, 2026)

The results of the synthesis show that spatial planning and inclusive zoning have been pursued through flexible division of activity zones, but still tend to be oriented to the majority of users, thus creating a fragmentation of spatial experiences for the disabled and the elderly. In horizontal circulation, pedestrian paths are generally physically available, but often do not meet the standards of width, slope, and continuity, and are subject to distortion of the guiding block function into visual or defensive elements. Vertical circulation shows a low level of compliance with the principles of Universal Design because ramps and elevators are often provided without regard for ease of operation and ergonomics, thus limiting the independence of the user. Accessible facilities such as toilets and signage are available but have not been integrated into a complete spatial system, while user experience and independence are still rarely used as a design hub due to the lack of participatory approaches and post-occupancy evaluation. From a policy perspective, the gap between regulation and implementation remains a major challenge, although some recent studies have begun to encourage a holistic design approach that integrates social, therapeutic, and health aspects as a direction for developing public space inclusivity going forward. (Permatasari & Nurjayanti, 2025; Selanon & Dejnirattisai, 2025) (Das Mahapatra et al., 2023; Utami & Nugraheni, 2025) (Duman, 2021; Ocean & Buyang, 2025) (Friedlaender et al., 2025; Stauskis, 2025) (Akhmanova, 2025; Putra, 2024)

Based on the results of a systematic synthesis of 30 scientific articles examining the implementation *of Universal Design* and inclusive design in urban public spaces for the period 2021–2025, a comprehensive understanding of how the principles of accessibility, user independence, and spatial justice are translated in planning and design practices. The findings of the study show that the implementation of inclusive design does not only depend on the provision of physical elements such as ramps or guiding blocks, but requires comprehensive integration between circulation, facilities, user experience, and policy support. To visualize the thematic synthesis conceptually, a diagram was prepared that represented the relationship between ramp and accessibility, *the principles of Universal Design*, and the inclusive design approach in public space planning.

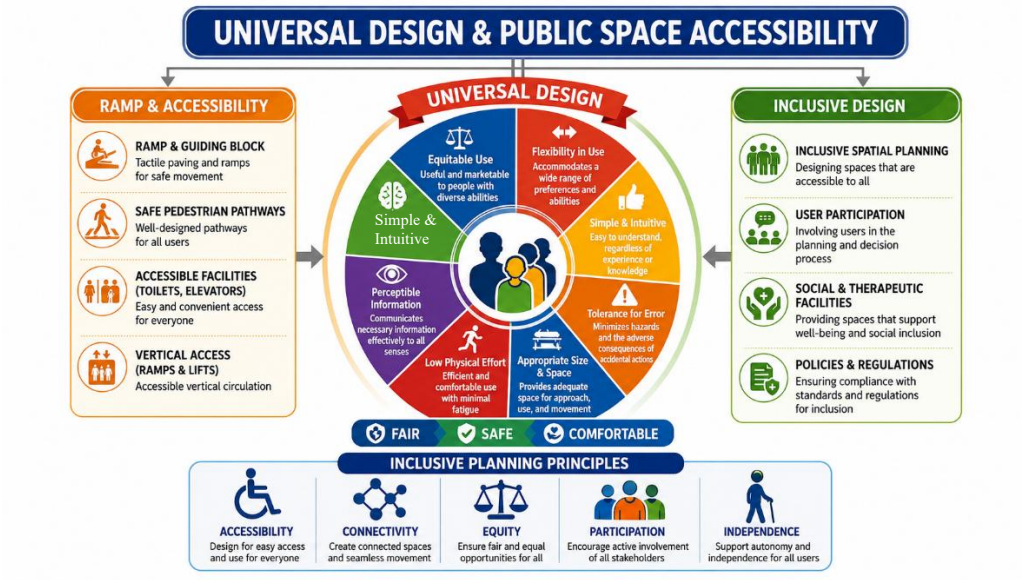

Figure 2. Integration of Ramps, Accessibility, and Universal Design Principles in Inclusive Public Space Planning (Source : Author, 2026)

Figure 2 illustrates that ramps and accessibility are the initial foundations in the application *of Universal Design* in public spaces, which is realized through the provision of safe pedestrian paths, continuous vertical access, and accessible facilities such as toilets and elevators. However, as shown in various empirical studies, the existence of these elements is often still partial and symbolic, not fully meeting the standards of ergonomics, path continuity, and operational convenience that ensure the independence of disabled and elderly users. This emphasizes that physical accessibility cannot be understood solely as a visual or administrative fulfillment, but must be seen as a complete space experience that can be used independently by an entire group of users. (Duman, 2021; Ocean & Ocean, 2025; Utami & Nugraheni, 2025)

In the core part of the diagram, *Universal Design* principles such as equal usability, flexibility of use, simplicity and intuitiveness, easy-to-understand information, fault tolerance, minimal effort, and proper size and space serve as a normative framework that bridges the technical and social aspects of public space design. The integration of these principles is directed to produce a fair, safe, and comfortable space for all users. Furthermore, the application of inclusive design is expanded through inclusive spatial planning, user participation, provision of social and therapeutic facilities, and policy and regulatory support. The findings of the study show that a design approach that engages users in a participatory and real-world experience is more effective in realizing meaningful inclusion than a compliance checklist-based approach alone. (Briantito Adiwena et al., 2025; Kamińska et al., 2023) (Mohamed & Almaz, 2024) (Friedlaender et al., 2025; Selanon & Dejnirattisai, 2025; Stauskis, 2025)

On the other hand, the research concept framework based on the research results that have been described is presented in the figure below.

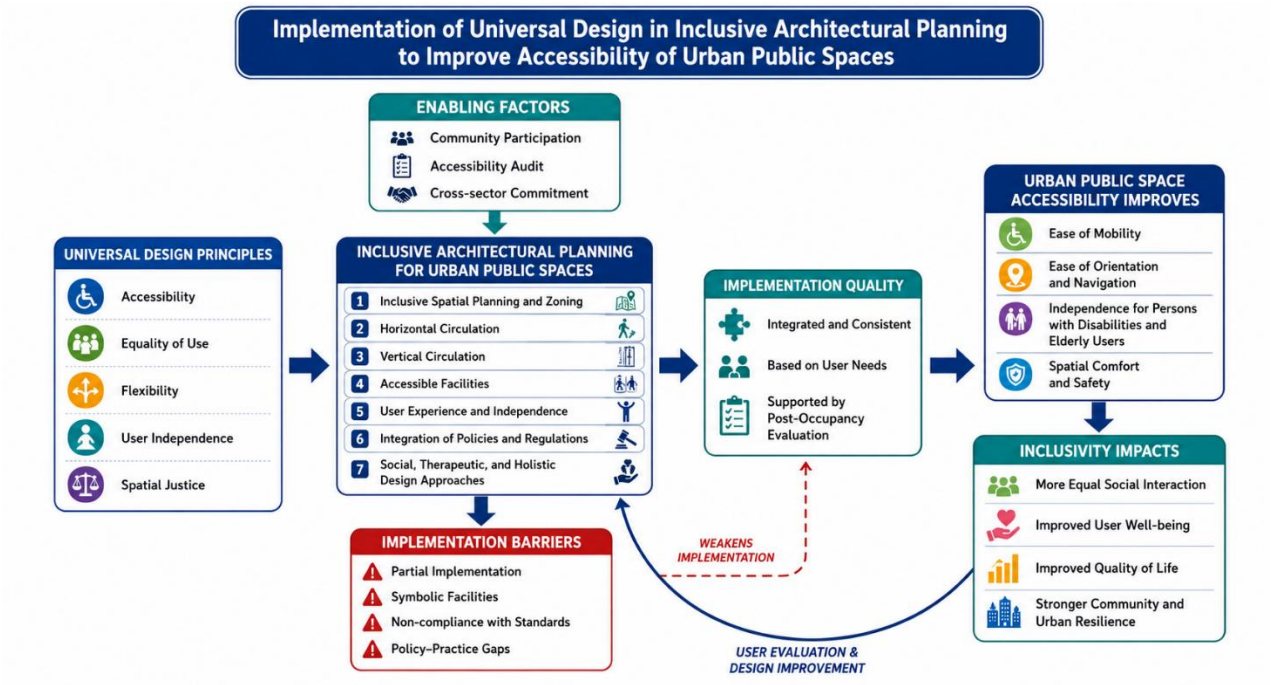

Figure 3. Conceptual Framework Diagram Compiled Based on the Synthesis of 30 Research Articles for the Period 2021-2025

CONCLUSION

The results of the study show that the implementation of Universal Design in urban public space architectural planning is still at a transitional stage. Despite a significant increase in the number and variety of studies in the 2021–2025 period, most studies reveal that the application of Universal Design is still dominated by normative and technical approaches. The integration of Universal Design principles in spatial elements, horizontal and vertical circulation, and accessibility facilities is generally carried out partially and has not yet formed a sustainable spatial system. In addition, the user experience and independence of disabled and elderly groups have not been fully central to the design process, indicating a gap between inclusivity goals and design practices in the field.

Implicitly, these findings confirm that Universal Design needs to be positioned not just as a fulfillment of regulatory requirements, but as an architectural planning paradigm oriented towards spatial justice, human dignity, and diversity of user experiences. Effective Universal Design integration demands a cross-disciplinary approach, participatory user engagement, and post-occupancy evaluation as part of the public space planning cycle. Without such a change in orientation, public spaces risk remaining exclusive even if they are administratively declared to meet accessibility standards. Based on the findings of the research, it is suggested that future public space architecture planning internalizes Universal Design from the conceptual design stage, strengthens supervision of regulatory implementation, and develops evaluation indicators that emphasize the quality of user experience. The next research is expected to examine the application of Universal Design through performance-based empirical studies and user participation to strengthen operational evidence in the urban context of Indonesia.

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