

Understanding the Social Model of Disability: Advancing a More Inclusive Built Environment

Syazwani Abdul Kadir*, Hikmah Kamarudin

Faculty of Built Environment, Universiti Teknologi MARA, Malaysia

Corresponding Author

DOI: <https://doi.org/10.47772/IJRISS.2026.100700852>

Received: 27 July 2026; Accepted: 01 August 2026; Published: 14 August 2026

ABSTRACT

The social model of disability has become one of the most influential lenses through which scholars, policymakers, and practitioners critique the design of the built environment. By relocating the source of disablement from the individual body to the social, spatial, and institutional structures that surround it, the social model reframes accessibility as a matter of collective responsibility rather than personal accommodation. This paper critically examines how an understanding of the social model can be operationalised within architectural and spatial design practice to produce a more inclusive built environment. Drawing on the medical, social, and integrative sociomedical paradigms, the review traces how each model positions the built environment relative to the disabled body, and analyses why architecture remains a central site in which disablement is reproduced. Evidence from international standards, recent scholarship on neuro-inclusive and co-design approaches, and case studies of regulatory enforcement demonstrates that legislative compliance alone is insufficient; designers must move beyond the persistent "normate template" and engage disabled users meaningfully throughout the design process. The paper argues that understanding the social model is not an abstract theoretical exercise but a necessary precondition for producing built environments in which dignity, autonomy, and full societal participation are the spatial default rather than aspirational exceptions. The review concludes that an integrated, sociomedical and participatory design framework offers a route to dismantling physical, attitudinal, and procedural barriers in the built environment for all users.

Keywords: Social Model of Disability, Accessibility, Inclusive Design, Built Environment

INTRODUCTION

Globally, an estimated 1.3 billion people, approximately 16% of the world's population, live with some form of disability as of 2023, according to data synthesised from the World Health Organization (WHO) and related global statistical bodies (Rajvir & Kumar, 2025). This figure, which has risen from earlier estimates of one billion (15%) of the world's population (Marín-Nicolás & Pérez, 2022), reflects population ageing, improved survival from injury and disease, expanded diagnostic practices, and broader conceptualisations of impairment. Earlier WHO estimates remain widely cited: estimates for those aged 15 and older living with some form of disability range between 15.6% and 19.4% (between 785 and 975 million of 6.9 billion); if those under 15 are included, the figure rises to 1 billion people; and between 2.2% and 3.8% of the world's population would have severe limitations (between 110 and 190 million people) (Marín-Nicolás & Pérez, 2022). In Spain, baseline figures indicate that 9.1% of the population had been assessed for disability and 6.8% met the threshold requiring formal support measures (Marín-Nicolás & Pérez, 2022). Parallel data from the English Housing Survey 2018/19 suggest that only 9% of homes contain the four key accessibility features needed to be considered "visitable," while 91% do not; an improvement of only 4 percentage points across 13 years (from 5% in 2005) (Oyegoke et al., 2024). Taken together, these disability-prevalence and housing-accessibility figures demonstrate the substantial material consequences of how the built environment has historically been conceptualised and constructed: although disability affects a significant proportion of the global population, most homes remain insufficiently accessible.

Two dominant paradigms continue to shape this conceptualisation. The medical model defines disability as a biomedical deviation requiring treatment, rehabilitation, or correction (Babik & Gardner, 2021); it tends to frame physical and functional limitations as problems residing within the individual (Toro et al., 2020). Although the medical model recognises that functional limitations interact with environmental factors, it ultimately reduces disability to a health issue to be resolved through clinical intervention (Toro et al., 2020). The social model, by contrast, reframes disability as the outcome of a destructive interaction between individual impairments and an environment that is socially, attitudinally, and physically exclusionary (Hoagland, 2019; Mathiasen & Frandsen, 2017). Its proponents have distinguished *impairment*, understood as a natural and biological fact, from *disability*, conceived as an artificial social classification that is largely produced by the world around the person (Cassi, 2023; Toro et al., 2020).

The contemporary built environment remains the clearest material expression of this distinction. Where the medical model has historically informed design through standardised "normate" templates (spatial assumptions derived from an able-bodied implied user) the social model makes visible how such templates function as instruments of exclusion rather than neutrality (Barış & Uslu, 2009; Marilyn & Adero, 2025). Kitchin observes that "space is socially produced in ways that deny disabled people the same levels of access as non-disabled people" (Barış & Uslu, 2009). Recognising the social model therefore entails a reframing of design intent: instead of altering the disabled user to fit the environment, the responsibility shifts toward reshaping the environment to accommodate human variability.

This paper argues that understanding the social model of disability is a necessary precondition, not a parallel objective, for advancing an inclusive built environment. To support this argument, the review pursues three objectives: (i) to trace the conceptual evolution from the medical model through the social model to the integrative sociomedical paradigm, with particular attention to how each constructs the relationship between body and space; (ii) to examine how the built environment, governed by design standards and architectural convention, continues to function as a primary site of disablement; and (iii) to synthesise current design frameworks (universal design, co-design, neuro-inclusive, and participatory approaches) that operationalise the social model's principles into material practice.

LITERATURE REVIEW

2.1 The Medical Model: Locating Disability in the Body

The medical model of disability defines disability as any deviation from typical biomedical structure or function resulting from disease, trauma, or other health conditions (Babik & Gardner, 2021). Within this tradition, scholars argue that the medical approach is largely insensitive to surrounding environmental factors because it frames the individual's impairment as the root of the problem (Babik & Gardner, 2021; Toro et al., 2020). The model traditionally seeks to assimilate disabled individuals into "normal" life through rehabilitation, thereby isolating them from the mainstream community (Babik & Gardner, 2021). Historically, disabled people were often housebound because societal stereotypes implied that they were meant to be 'cured,' a prejudice that disregards their capabilities and denies their right to equal treatment (Kitchin, 1998).

The persistence of the medical model in contemporary practice is consequential for architecture. Where building standards and design conventions are derived from medically defined norms of bodily function; standing height, stride length, grip strength, visual acuity, auditory thresholds; the spatial products of these standards encode able-bodied assumptions into the physical environment (Marilyn & Adero, 2025). The historical influence of the medical paradigm also shaped institutional geography: "the poor house quickly became disabled 'asylums,' predominantly occupied by children, the 'insane,' the 'defective' and the 'infirm' (elderly)," establishing a precedent of spatial segregation that continues to inform the segregation of disabled people from mainstream civic life (Kitchin, 1998). Consequently, this conceptual framework reinforces an "ideal body" as the standard for spatial efficiency, inherently categorizing any deviation as a form of non-compliance that necessitates corrective architectural modification (Doussard et al., 2024).

2.2 The Social Model: Relocating Disability in Society

Originating in the 1970s British disability movement and codified by the Union of Physically Impaired Against Segregation, the social model distinguishes *impairment* from *disability*. UPIAS defines impairment as "lacking part of or all of a limb, or having a defective limb, organ or mechanism of the body," and disability as "the disadvantage or restriction of activity caused by a contemporary social organisation which takes no or little account of people who have physical impairments and thus excludes them from participation in the mainstream of social activities" (Retief & Letšosa, 2018). Disability, on this view, is "a socially constructed disadvantage... imposed on PWDs, constituting 'a particular form of social oppression'" (Retief & Letšosa, 2018).

The social model has been internalised in international human rights instruments. Article 9 of the United Nations Convention on the Rights of Persons with Disabilities (CRPD) sets out the right to accessibility and requires States Parties to take "appropriate measures" to ensure disabled persons' access, on an equal basis with others, to the physical environment, transportation, buildings, and other facilities and services open or provided to the public (McKinney & Amosun, 2020; Michopoulou et al., 2015). Michopoulou and colleagues observe that the CRPD's eight general principles include accessibility, while "Article 9 provides a right to transportation and access to the built environment" (Michopoulou et al., 2015). McKinney and Amosun note that "the conceptualisation of disability evolved for the better in the country, with the adoption of the social model of disability presented in the UNCRPD" (McKinney & Amosun, 2020). Implementation, however, has lagged.

In architectural discourse, the central contribution of the social model is conceptual. Goldsmith coins the term 'architecturally disabled' to define those who are disadvantaged not through their own being but through the architecture and spaces that surround them (Barış & Uslu, 2009). Foster argues that disability is society's failure to remove architectural disability rather than a consequence of the individual's impairment (Lynch & Proverbs, 2019). Mladenov observes that the model's core directive remains: "the focus of analysis and critique is on socially created barriers and away from individual 'deficits' to be corrected through medical, rehabilitative, or other individualised interventions" (Mladenov, 2025). The implication for the built environment is direct; designers must evaluate not the disabled body but the disabling spatial system that surrounds it.

2.3 Social and Attitudinal Barriers to Inclusion

The exclusion of disabled people, in the social model's view, is produced not only by physical environments but by a constellation of social, economic, and political conditions. Primary contributors identified in the literature include limited societal support (Meyers et al., 2002; Putnam et al., 2003; Wiman & Sandhu, 2004), inadequate employment opportunities (Blanck et al., 2003; Haq, 2003; McMahon et al., 2008; Río et al., 2002), ignorance within policy-making systems (Metts, 2004), and inaccessible built environments (Metts, 2004; Wiman & Sandhu, 2004). Bickenbach and colleagues underscore that "disability has historically been a marker for a minority group that has been socially disadvantaged" (Bickenbach et al., 2017). Taken together, these conditions demonstrate that disablement is not an individual problem but the outcome of interconnected structural barriers that restrict participation and reproduce social disadvantage. Accordingly, addressing disability exclusion requires coordinated changes across social institutions, employment systems, policy frameworks, and the built environment.

Negative attitudes and stereotypes function as parallel architectural barriers. Disabled people have been framed as a "burden" to the community and as individuals incapable of contributing to society (Hoagland, 2019). Expenditures on disability have historically been treated as an "unavoidable cost" to the public rather than an investment in human capability (Metts, 2004). Hoagland observes that "the ableist way in which society is structured naturally ostracizes individuals with disabilities, therefore casting the assumption that those with disabilities are less capable, less worthy, and more of a burden to society than those without" (Hoagland, 2019). Such framings inform the production of space: when disabled users are imagined as burdens or exceptions, the spaces designed without them become normalised as standard.

Recent scholarship also emphasises the role of universal design and inclusive education frameworks in dismantling these attitudes. Duncan and colleagues argue that "the idea that disability arises not solely from individual impairments but from the interaction between individuals and inaccessible or exclusionary environments is foundational to the social model of disability," and identify Universal Design for Learning as one mechanism by which universities can begin to remove such barriers (Duncan et al., 2025). Similarly, Ajani

and Ntombela argue that "by focusing on the removal of barriers, the social model aligns with the principles of equity and justice, ensuring that students with disabilities have the same opportunities as their non-disabled peers" (Ajani & Ntombela, 2025). This structural shift is important because it moves design beyond individual adjustments and focuses on removing barriers from the outset, so that all citizens can participate equally.

2.4 The Built Environment as a Site of Disablement

An inaccessible built environment constitutes one of the most significant barriers to the well-being of disabled people (Kapsalis et al., 2022). These barriers frequently stem not from intentional exclusion but from the policies, practices, and professional values of those shaping the spaces (Williams et al., 2017). Designers and planners continue to prioritise "normate" templates (designs optimised for an implicit, able-bodied standard) while neglecting the spatial requirements of individuals with varying mobility, sensory, and cognitive needs (Marilyn & Adero, 2025). This oversight produces "architecturally disabled" spaces in which barriers such as level changes, lack of tactile clues, and inappropriate horizontal circulation restrict mobility and pose safety risks (Lynch & Proverbs, 2019; Wazani et al., 2021).

The persistence of these barriers has been documented in lower-, middle-, and high-income contexts. In Malaysia, while the Persons with Disabilities Act 2008, the Uniform Building Bylaws (UBBL 1984 and 1991 amendments), and Malaysian Standards MS 1183, MS 1184, and MS 1331 mandate accessibility, implementation remains deficient due to limited public awareness, inconsistent enforcement, and the gap between legislative adoption and practical application (Isa et al., 2016; Kamarudin et al., 2014; Wazani et al., 2021; Yusof & Jones, 2013; Zahari, 2025). Even when accessible features are mandated, improper installation frequently creates risks for users (Wazani et al., 2021). Zahari identifies specific deficiencies in Malaysia's framework, including inconsistencies with the CRPD, vague legal definitions, the absence of mandatory access audits, and limited enforcement powers of the National Council for Persons with Disabilities (Zahari, 2025).

Beyond national contexts, housing's inability to accommodate individuals with disabilities is widespread. The English Housing Survey 2018/19 reveals that only 9% of homes have the four key accessibility features required to be considered 'visitabile'; this represents an increase of only 4 percentage points over thirteen years (from 5% in 2005) (Oyegoke et al., 2024). Such deficiencies underscore the need to update national and international design standards to reflect user-centred principles and align with Universal Design guidelines (Lindsay et al., 2024). A systematic review study concluded that built-environment design plays a critical role in producing disablement among Mobility Assistive Device users with pathway characteristics, boarding ramps, entrance features, confined spaces, and service surfaces identified as the least accessible elements (Kapsalis et al., 2022). This systemic reliance on the "normate template" reflects a persistent design paradigm that prioritizes an idealized, able-bodied user, thereby failing to accommodate the diverse spatial requirements of those relying on assistive technologies.

2.5 Integrating the Models: Toward a Sociomedical Framework

While the social model has been pivotal in asserting the rights of disabled people, it has been criticised for neglecting the materiality of impairment. Scholars have argued both impairment and social exclusion must be acknowledged as significant aspects of the disablement process (Clarke & George, 2005; Orero & Tor-Carroggio, 2018). Disability studies scholarship more broadly notes that the social model can disregard the lived experience of embodied impairment (Mladenov, 2025). In response, disability studies has adopted critical realist and complex embodiment frameworks that foreground the reciprocal relationship between bodies and social contexts (Mladenov, 2025). Critical disability studies continues to acknowledge "the potency of foundational materialist analyses that became known as the social model of disability" (Mladenov, 2025).

The World Health Organization's International Classification of Functioning, Disability and Health (ICF) provides the dominant operational synthesis. The ICF defines disability as arising from the interaction between an individual with a health condition and the context in which they are embedded, functioning at three levels: body structures and functions, the whole person in action (activity), and the whole person exercising social roles (participation) (Schwab et al., 2022). The Malaysian Persons with Disabilities Act 2008 echoes this synthesis in Article 2, defining disabled persons as those "who have long-term physical, mental, intellectual or sensory

impairments which in interaction with various barriers may hinder their full and effective participation in society" (Malaysia, 2008). This convergence supports what Lid describes as a relational model in Nordic scholarship: "a concept of person that recognizes disability as a human condition," and where "disability as a relation involving both individual and environmental factors" avoids relapse to a dichotomy between social and medical perspectives (Lid, 2012).

The integrative sociomedical model discussed in this paper extends this relational orientation specifically to the built environment. While the ICF offers a descriptive framework, the sociomedical framing implied by the social model's design critique positions architecture as an active driver of (dis)ablement rather than a neutral backdrop. Wu et al. emphasise that disability should be understood as a dynamic process that emerges through interactions and encounters between individuals and their environments (Wu et al., 2022). This approach aligns with contemporary universal design principles, which assume that human functional diversity is a foundational consideration rather than an after-the-fact adaptation (Abdul Kadir & Jamaludin, 2018; Lid, 2012). By adopting this biopsychosocial synthesis, practitioners can reconcile the biological realities of impairment with the necessity of equitable spatial design, ensuring that architectural interventions address the dynamic interaction between individual functioning and environmental context (Candeloro et al., 2025; Marín-Nicolás & Pérez, 2022; Schwab et al., 2022).

METHODOLOGY

This study employs a qualitative research design, specifically a systematic literature review conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines to ensure transparency and reproducibility. A comprehensive search was conducted across Scopus, Web of Science, and Google Scholar using Boolean strings that combined model terminology with built environment terminology, such as:

("social model of disability" OR "sociomedical model") AND ("built environment" OR "architectural design" OR "universal design") AND ("accessibility" OR "inclusive design" OR "disability rights").

Inclusion criteria prioritised peer-reviewed journal articles, scholarly books, and authoritative policy documents published in English that critically examined the intersection of disability rights and architectural practice, with emphasis on publications from 2010 onward and priority given to recent (2020–2026) scholarly articles to maximise currency. Studies were excluded if they were non-peer-reviewed grey literature, editorials without methodological rigour, or works not directly addressing the built environment's role in the disablement process. The selection particularly emphasised foundational texts providing rigorous analysis of the social model and integrative frameworks, as well as recent empirical and conceptual work on co-design, universal design, neuro-inclusive design, and CRPD-based accessibility implementation.

By adopting the social model as its interpretive lens, this review shifts analytical attention from individual impairment toward the oppressive character of architectural design that reinforces the "normate template" within public spaces (Barış & Uslu, 2009; Marilyn & Adero, 2025). Disability is, therefore, reframed not as an inherent biological deficit but as a socio-political failure to remove the environmental and systemic barriers that curtail participation within the built environment (Mathiasen & Frandsen, 2017; Tuğba, 2022). The synthesis that follows examines how the social model meets the built environment, what it exposes, and how it can be operationalised through current design frameworks to produce demonstrably more inclusive spatial outcomes.

FINDINGS AND DISCUSSION

4.1 From Theoretical Insight to Spatial Practice

The synthesis of literature demonstrates that understanding the social model is not a purely conceptual exercise but a precondition for the production of an inclusive built environment. The ICF's biopsychosocial model serves as the dominant regulatory foundation, conceptualising disability as a dynamic interaction between individual functioning and environmental context (Marín-Nicolás & Pérez, 2022; Schwab et al., 2022). However, when applied uncritically to architecture, the ICF risks reducing disability to a descriptive classification. The framework advanced in this paper extends the ICF by positioning the built environment as an active driver of

systemic exclusion and requiring designers to move beyond legislative compliance toward active dismantling of the "normate template" (Marilyn & Adero, 2025).

The persistence of the normate template is empirically well documented. Designers and planners continue to produce spaces around the implied able-bodied user, while the spatial requirements of individuals with varying mobility, sensory, and cognitive needs are incorporated only as exceptions rather than as baseline conditions (Marilyn & Adero, 2025). A systematic review research found that pathway characteristics, boarding ramps, entrance features, confined spaces, and service surfaces as the least accessible components of public spaces (Kapsalis et al., 2022). In George Town, Malaysia, "sidewalk and drop curb" features were identified as fundamental challenges for PWD, reflecting widespread failures to apply barrier-free requirements across accessibility elements (Wazani et al., 2021). In higher education, Liu et al. report that despite some commendable initiatives, the findings highlight the need for comprehensive accessibility audits, consistent implementation of universal design principles, and enhanced support services (Liu et al., 2024). Bridging this implementation gap necessitates a fundamental paradigm shift that elevates the experiential knowledge of disabled users from passive subjects to active co-creators, ensuring that architectural practice transcends mere technical adherence to foster environments that authentically accommodate the full spectrum of human functional diversity.

4.2 Universal Design as Operational Translation

Universal design, developed by Ron Mace in the late 1990s, offers the most widely adopted operational translation of the social model's spatial principles. Defined as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design," universal design benefits people of all ages and abilities (Crews & Zavotka, 2006). Mace's seven principles—equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and appropriate size and space—offer designers a manageable, although not exhaustive, framework for translating social model commitments into spatial specifications (Crews & Zavotka, 2006; Merit et al., 2024). As Crews and Zavotka emphasise, universal design "has roots in both the disability and design communities," providing a framework that bridges identification of disablement (a social model task) and design specification (a designerly task) (Crews & Zavotka, 2006).

Recent scholarship has begun documenting the persistent gap between universal design rhetoric and practice. An ethnographic study of 26 building industry professionals found that the architectural design community's adoption of inclusive design remains limited (Zallio & Clarkson, 2021). The study's findings emphasise that education and awareness constitute important prerequisites for cultivating an inclusive orientation among architectural design professionals and other stakeholders, and recommend holistically mapping the user journey during the design phase alongside post-occupancy user feedback (Zallio & Clarkson, 2021). Introducing inclusive design within architectural education is therefore essential, as fundamental design courses can cultivate future professionals with the empathy and technical expertise required to respond sensitively to diverse needs (Abdul Kadir et al., 2018; Biswas & Rahman, 2025). By facilitating interdisciplinary collaborations between architecture students, occupational therapists, and disabled experts, design curricula can move beyond abstract principles to foster a symbiotic learning environment that validates lived experience as core design data.

4.3 Neuro-Inclusive and Multisensory Design

An expanding body of scholars conceptualises accessible design as addressing cognitive and sensory diversity alongside, rather than exclusively, mobility-related needs. recent research on neurodivergent spatial practice argues that the sensory barriers encountered by neurodivergent individuals in the built environment warrant systematic consideration and targeted intervention (Egan, 2024). Watson and Puttock similarly observe that the Americans with Disabilities Act, while requiring accessibility in new construction, is frequently interpreted as requiring only minimal interventions, such as ramps, elevators, and accessible restrooms, which primarily address visible and physical disabilities while leaving the sensory and cognitive needs of neurodivergent individuals largely unconsidered (Watson & Puttock, 2025). Accordingly, a genuinely inclusive approach must extend beyond physical access to incorporate cognitive and sensory diversity as foundational considerations in architectural design.

Madnani's framework for neuro-inclusive design emphasises that urban design elements, including lighting, soundscapes, materiality, spatial organisation, and wayfinding, can be reimagined to produce inclusive and comfortable public spaces, with emphasis on adaptive, human-centred design strategies that mitigate sensory overload while improving accessibility, safety, and users' overall experience (Madnani, 2026). Chidiac et al. observe that people with sensory disabilities represent a substantial segment of the population, and their accessibility requirements should be prioritised in the design of the built environment (Chidiac et al., 2024). Multisensory design features, including braille signage, audible cues, and tactile paving, alongside appropriate spatial dimensions and regulatory enforcement (Chidiac et al., 2024; Koesoemawati et al., 2025). A study of visually impaired users in interior settings advocates for clear spatial configurations, stable lighting conditions, and multisensory settings responsive to users' individual routines and preferences (Patil & Raghani, 2025). Integrating multisensory design across mobility, sensory, and cognitive accessibility marks an important current expansion of the universal design framework.

4.4 Co-Design and Participatory Practice

If the social model designates that disabled users are the experts of their own experience, then participatory and co-design methods are the methodological corollary. Johansson et al. contend that poor design decisions can unintentionally exclude people with impairments, create disabling conditions, or reinforce stigma (Johansson et al., 2023). Therefore, people with impairments should be actively involved in design processes so their needs are not ignored or overlooked. This transition requires moving beyond superficial consultation toward transformative co-design frameworks, where disabled individuals function as active designers capable of articulating complex sensory regulations and aesthetic preferences (D'Argenio et al., 2025). Accordingly, co-design reframes accessibility as a collaborative and iterative practice in which lived experience becomes essential design knowledge and a basis for more inclusive spatial outcomes.

A recent study on co-design practice in Australian public architecture found that co-design and universal design should be prioritised at every stage of the design process, with each approach strengthening the other (Watchorn et al., 2026). Kasem's participatory action research with people with learning disabilities in Cardiff demonstrates that co-design frameworks need not be limited to mobility or sensory disability but can be extended productively to cognitive and intellectual disability when methodological accommodations such as disabled facilitation and partnership with self-advocacy organisations are made (Menatalla, 2025). The emerging research on neurodiverse spatial practices further suggests that designers must learn to respond to diverse users and their distinctive ways of inhabiting space, recognising design as a foundational condition of inclusion rather than as an autonomous expert practice (Rispoli & Criado, 2024). Taken together, these studies establish co-design as a critical means of translating the social model of disability into architectural practice, ensuring that inclusive environments are shaped through sustained collaboration with the people who use them.

4.5 Toward Operational Implementation

The gap between accessibility law and people's actual experience of space remains the main challenge addressed by this framework. Lawson and colleagues explain that Article 9 of the CRPD establishes "the right to accessibility" and requires States to ensure equal access to the physical environment, transportation, buildings, and other public facilities (Lawson et al., 2022). While approximately 160 nations have adopted the CRPD, nevertheless, people with disabilities participate less fully in civic life when transportation to tourism destinations and access to accommodation and attractions are limited (Michopoulou et al., 2015). Another article highlights that despite South Africa being an early CRPD ratifier with a comprehensive legislative framework, limited tangible progress has been made toward enhancing the inclusion of PWD (McKinney & Amosun, 2020).

For Malaysia, Kamarudin et al. establish that laws and regulations must apply to all public buildings, with effective enforcement by local authorities and government agencies essential for creating a barrier-free environment (Kamarudin et al., 2014). Awang et al. document that Malaysia's framework, which was built around Act 685, UBBL 34A, MS 1183, MS 1184, and MS 1331, offers the legal foundation, while subsequent scholarship identifies the recurring problems of inconsistent enforcement, vague definitions, and the absence of mandatory access audits (Awang et al., 2017; Zahari, 2025). A recent doctrinal analysis identifies the amendment

of Act 685 and the UBBL to bring Malaysia's legal framework into closer alignment with the CRPD as a necessary reform (Zahari, 2025).

At the global level, Reda and Chidiac's systematic review of accessibility standards identifies significant limitations in the evidence informing their development. The authors argue that the evolution of accessibility standards is shaped by the scope and quality of available research, noting that half of the studies examined focus on people with physical disabilities, while research involving people with cognitive or intellectual disabilities frequently relies on medical-model approaches and produces evidence insufficient for informing standards (Reda & Chidiac, 2025). Toronto's experience under the Accessibility for Ontarians with Disabilities Act further illustrates the gap between legislative commitments and implementation. Although the Act set a 2025 target for achieving accessibility, inconsistent monitoring and the lack of a clear definition of "full accessibility" have made progress depend more on professional expertise and institutional capacity than on the statutory deadline (Callaghan, 2023).

4.6 Synthesis: Why the Social Model Matters for the Built Environment

The synthesis across medical, social, and integrative sociomedical paradigms yields a clear directional argument. Each model positions the relationship between body and space differently: the medical model locates disability in the body and consequently designs the body out of public space; the social model locates disablement in society and requires society to respond through design; and the integrative sociomedical and relational frameworks recognise that disability is dynamically constituted in encounters between bodies, environments, and social systems (Mladenov, 2025; Schwab et al., 2022; Wu et al., 2022). Understanding these positions is what enables designers, regulators, and educators to move beyond technical compliance and toward the production of places in which participation is the default rather than the exception.

Bringing the social model into architectural practice is therefore inseparable from the production of inclusive built environments. Designers who do not engage with this approach reproduce an exclusionary spatial order by default; designers who do engage with it are equipped to challenge the normative template, prioritise universal design principles, adopt co-design and neuro-inclusive methods, and treat accessibility audits as standard professional practice rather than optional innovation (Liu et al., 2024; Marilyn & Adero, 2025; Watchorn et al., 2026; Zallio & Clarkson, 2021). Recent researches also show that claims of inclusion should be assessed through evidence of exclusion, including pathway design, signage, circulation, sensory environments, and post-occupancy reviews that reveal how the same design affects different users (Chidiac et al., 2024; Kapsalis et al., 2022; Liu et al., 2024; Reda & Chidiac, 2025). The implication is that understanding the social model is not sufficient in itself; it must be paired with the methods, standards, and relationships through which its principles are operationalised in concrete built form.

CONCLUSION

This review demonstrates that the conceptualisation of disability has undergone a significant transformation; from a deficit-based medical model toward a relational, sociomedical framework that positions the built environment as an active determinant of disablement. Understanding the social model of disability is therefore the conceptual foundation upon which any operational progress toward an inclusive built environment depends. Without this understanding, technical compliance reproduces the very exclusion it claims to remedy. The persistent reliance on rigid standards continues to generate "architecturally disabled" spaces, where physical, sensory, and cognitive barriers act as catalysts for social and systemic marginalisation. To dismantle these barriers, architectural practice must transition from mere legislative compliance to a holistic integration of universal design principles, multisensory and neuro-inclusive frameworks, and participatory co-design with disabled users as active stakeholders rather than objects of accommodation. Prioritising human functional diversity within the design process is essential to reconcile biological realities with equitable spatial experiences, ensuring that spaces support dignity, autonomy, and full participation.

Ultimately, the transition toward such an inclusive practice necessitates a fundamental shift in professional culture, moving away from viewing accessibility as an exogenous constraint toward integrating it as a core component of spatial quality. To support this cultural evolution, future research may adopt more rigorous

empirical methodologies that can inform policy and practice. By systematically validating design strategies through empirical evidence, rather than relying solely on prescriptive standards, the field can develop more adaptive and responsive built environments that truly reflect the diverse functional realities of all inhabitants.

Note: This paper was prepared with the assistance of AI software to refine language and enhance stylistic quality.

REFERENCES

1. Abdul Kadir, S., & Jamaludin, M. (2018). Sustainable Life and Social Development through Universally Designed Environment. *Asian Journal of Environment-Behaviour Studies*, 3(9), 183–192. <https://doi.org/10.21834/aje-bs.v5i17.49>
2. Abdul Kadir, S., Jamaludin, M., & Ab Rahim, A. (2018). Building Managers' Views on Accessibility and UD Implementation in Public Buildings: Putrajaya. *Journal of ASIAN Behavioural Studies*, 3(6), 47–54. <https://doi.org/10.21834/jabs.v3i6.236>
3. Ajani, O. A., & Ntombela, S. (2025). Advancing Inclusive Education in Higher Education: Challenges and Opportunities in Preparing Pre-Service Teachers to Support Students with Disabilities. *International Journal of Management Knowledge and Learning*, 14. <https://doi.org/10.53615/2232-5697.14.25-41>
4. Awang, N. A., Chua, S. J. L., & Ali, A. S. (2017). Building Condition Assessment Focusing on Persons with Disabilities' Facilities at Hospital Buildings. *Journal of Design and Built Environment*, 73–84. <https://doi.org/10.22452/jdbe.sp2017no1.7>
5. Babik, I., & Gardner, E. S. (2021). *Factors Affecting the Perception of Disability: A Developmental Perspective*. <https://doi.org/10.3389/fpsyg.2021.702166>
6. Barış, M. E., & Uslu, A. (2009). Accessibility for the disabled people to the built environment in Ankara, Turkey. *African Journal of Agricultural Research*, 4(9), 801–814.
7. Bickenbach, J., Rubinelli, S., & Stucki, G. (2017). Being a person with disabilities or experiencing disability: Two perspectives on the social response to disability. *Journal of Rehabilitation Medicine*, 49(7), 543–549. <https://doi.org/10.2340/16501977-2251>
8. Biswas, S., & Rahman, A. T. A. (2025). Learning Inclusive Design in the Studio: Residence for Clients with Disabilities. *Journal of Design Studio*, 7(2), 359–372. <https://doi.org/10.46474/jds.1746715>
9. Blanck, P., Schur, L., Kruse, D., Schwochan, S., & Song, C. (2003). Calibrating the Impact of the ADA's Employment Provisions. *Stanford Law & Policy Review*, 14(2), 267–290.
10. Callaghan, A. N. (2023). *From mandate to movement: making Toronto fully accessible*. <https://doi.org/10.32920/19027538>
11. Candeloro, G., Tartari, M., Varveri, R., D'Ignazio, M., Mastrodonardo, L., & Sacco, P. L. (2025). *Marginalized Living and Disabling Spaces: A Bio-Cognitive Perspective*. <https://doi.org/10.3390/land14112234>
12. Cassi, R. (2023). *Disability, Experience and Architecture: Towards Inclusive Sports and Leisure buildings*. <https://adk.elsevierpure.com/da/publications/30b384fb-860d-467b-b770-e90a698f6cd8>
13. Chidiac, S. E., Reda, M. A., & Marjaba, G. E. (2024). *Accessibility of the Built Environment for People with Sensory Disabilities—Review Quality and Representation of Evidence*. <https://doi.org/10.3390/buildings14030707>
14. Clarke, P., & George, L. K. (2005). *The Role of the Built Environment in the Disablement Process*. <https://doi.org/10.2105/ajph.2004.054494>
15. Crews, D. E., & Zavotka, S. (2006). Aging, Disability, and Frailty: Implications for Universal Design. *Journal of PHYSIOLOGICAL ANTHROPOLOGY*, 25(1), 113–118. <https://doi.org/10.2114/jpa2.25.113>
16. D'Argenio, G., Prisco, M. D., Scavuzzo, G., & Bettarello, F. (2025). EXPERIENCE OF CO-DESIGNING SENSOR-FRIENDLY SPACES: INSIGHTS FROM PROGETTOAUTISMO FVG. *ArTS Archivio Della Ricerca Di Trieste* (University of Trieste <https://www.units.it/>). <https://hdl.handle.net/11368/3124439>
17. Doussard, C., Garbe, E., Moralès, J., & Billion, J. (2024). Universal Design for the Workplace: Ethical Considerations Regarding the Inclusion of Workers with Disabilities. *Journal of Business Ethics*, 194(2), 285–296. <https://doi.org/10.1007/s10551-023-05582-y>
18. Duncan, J., Butler, K., & Punch, R. (2025). Exploring the experiences of undergraduate students with disability who withdraw from university studies. *The Australian Educational Researcher*, 52(6), 4195–4219. <https://doi.org/10.1007/s13384-025-00894-6>

19. Egan, C. E. (2024). *The Spectrum of Accessible Architectures: Designing for Neurodivergence*. <https://doi.org/10.22215/etd/2024-16069>
20. Haq, F. S. (2003). Career and Employment Opportunities for Women with Disabilities in Malaysia. *Asia Pacific Disability Rehabilitation Journal*, 14(1), 71-78.
21. Hoagland, I. E. (2019). *How the Medical Model has Influenced United Nations Policies on Refugees with Disabilities*. <https://doi.org/10.62365/2576-0955.1027>
22. Isa, H. M., Zanol, H., Alauddin, K., & Naw, M. H. (2016). Provisions of Disabled Facilities at The Malaysian Public Transport Stations. *MATEC Web of Conferences*, 66, 16–16. <https://doi.org/10.1051/matecconf/20166600016>
23. Johansson, S., Hedvall, P., Larsdotter, M., Larsson, T., & Gustavsson, C. (2023). *Co-Designing with Extreme Users: A Framework for User Participation in Design Processes*. <https://doi.org/10.16993/sjdr.952>
24. Kamarudin, H., Ariff, N. R. M., Ismail, W. Z. W., Bakri, A. F., & Ithnin, Z. (2014). Malaysian Scenario on Access and Facilities for Persons with Disabilities: A literature review. *MATEC Web of Conferences*, 15, 1019–1019. <https://doi.org/10.1051/matecconf/20141501019>
25. Kapsalis, T., Jaeger, N., & Hale, J. (2022). *Disabled-by-design: effects of inaccessible urban public spaces on users of mobility assistive devices – a systematic review*. <https://doi.org/10.1080/17483107.2022.2111723>
26. Kitchin, R. (1998). “Out of Place”, “Knowing One’s Place”: Space, power and the exclusion of disabled people. *Disability & Society*, 13. <https://doi.org/10.1080/09687599826678>
27. Koesoemawati, D. J., Hasanuddin, A., Putri, F. K., Priyono, T. H., & Viphindartin, S. (2025). *Redefining pedestrian accessibility through inclusive design and community engagement*. <https://doi.org/10.5379/urbani-izziv-en-2025-36-01-03>
28. Lawson, A., Eskyté, I., Orchard, M., Houtzager, D., & Vos, E. L. D. (2022). Pedestrians with Disabilities and Town and City Streets: From Shared to Inclusive Space? *The Journal of Public Space*, 7(2), 41–62. <https://doi.org/10.32891/jps.v7i2.1603>
29. Lid, I. M. (2012). *Developing the theoretical content in Universal Design*. <https://doi.org/10.1080/15017419.2012.724445>
30. Lindsay, S., Fuentes, K., Ragunathan, S., Li, Y., & Ross, T. (2024). *Accessible independent housing for people with disabilities: A scoping review of promising practices, policies and interventions*. <https://doi.org/10.1371/journal.pone.0291228>
31. Liu, Z., Jamil, E., Sawadengdist, A., Hui, X., Kalai, K., & Tang, L. (2024). *Delivering an inclusive built environment for students with disabilities in a Malaysian public university*. <https://doi.org/10.1108/qrj-07-2024-0157>
32. Lynch, S., & Proverbs, D. (2019). *How adaption of historic listed buildings affords access*. *International Journal of Building Pathology and Adaptation*, 38(4), 589–605. <https://doi.org/10.1108/ijbpa-11-2018-0093>
33. Madnani, J. (2026). Neuro-Inclusive Urban Design [European Organization for Nuclear Research]. In *Zenodo (CERN European Organization for Nuclear Research)*. <https://doi.org/10.5281/zenodo.19167379>
34. Malaysia. (2008). *The Persons with Disabilities Act of Malaysia*.
35. Marilyn, A., & Adero, M. (2025). *The Politics of Disablement: A Review on Issues Pertaining to Access for All to Public Spaces*. <https://doi.org/10.51244/ijrsi.2025.1210000241>
36. Marín-Nicolás, J., & Pérez, M. P. S. (2022). *An Evaluation Tool for Physical Accessibility of Cultural Heritage Buildings*. <https://doi.org/10.3390/su142215251>
37. Mathiasen, N., & Frandsen, A. K. (2017). *ARCH17: 3rd international conference on architecture, research, care and health. Conference Proceedings*. <https://vbn.aau.dk/da/publications/27545c34-1871-4c3a-8706-1836004ff896>
38. McKinney, V., & Amosun, S. L. (2020). Impact of lived experiences of people with disabilities in the built environment in South Africa. *African Journal of Disability*, 9, 518–518. <https://doi.org/10.4102/ajod.v9i0.518>
39. McMahon, B. T., Rumrill, P. D., Roessler, R. T., Hurley, J., West, S. L., Chan, F., & Carlson, L. (2008). Hiring Discrimination Against People with Disabilities Under the ADA: Characteristics of Employers. *Journal of Occupational Rehabilitation*, 18, 112-121. <https://doi.org/10.1007/s10926-008-9134-3>

40. Menatalla, K. (2025). Designing with, not for: Empowering people with a learning disability through inclusive architecture. In *ORCA Online Research @Cardiff (Cardiff University)*. Cardiff University.
41. Merit, M. T., Gramkow, M. C., Kajita, M., & Stigsdotter, U. K. (2024). Asking the right question – guiding universal design practices. *Research at the University of Copenhagen (University of Copenhagen)*. <https://researchprofiles.ku.dk/da/publications/3dc3ad03-da00-4848-a6bb-7ce8be29efe2>
42. Metts, R. (2004). *Disability and development*.
43. Meyers, A. R., Anderson, J. J., Miller, D. R., Shipp, K. M., & Hoenig, H. (2002). Barriers, facilitators, and access for wheelchair users: substantive and methodologic lessons from a pilot study of environmental effects. *Soc Sci Med*, 55(8), 1435–46. [https://doi.org/10.1016/s0277-9536\(01\)00269-6](https://doi.org/10.1016/s0277-9536(01)00269-6)
44. Michopoulou, E., Darcy, S., Ambrose, I., & Buhalis, D. (2015). Accessible tourism futures: the world we dream to live in and the opportunities we hope to have. *Journal of Tourism Futures*, 1(3), 179–188. <https://doi.org/10.1108/jtf-08-2015-0043>
45. Mladenov, T. (2025). AI and disabled people’s independent living: a framework for analysis. *AI & Society*, 41, 2593–2605. <https://doi.org/10.1007/s00146-025-02642-x>
46. Orero, P., & Tor-Carroggio, I. (2018). *User Requirements When Designing Learning e-Content: Interaction for All*. https://doi.org/10.1007/978-3-319-94794-5_6
47. Oyegoke, A. S., Ajayi, S., Abbas, M. A., & Ogunlana, S. O. (2024). *Smart housing adaptations register with user matching functionalities for different mobility categories for the social housing sector*. <https://doi.org/10.1108/ijbpa-07-2022-0106>
48. Patil, A., & Raghani, S. (2025). *Designing accessible and independent living spaces for visually impaired individuals: a barrier-free approach to interior design*. <https://doi.org/10.1186/s12939-025-02503-5>
49. Putnam, M., Geenen, S., Powers, L., Saxton, M., Finney, S., & Dautel, P. (2003). Health and Wellness: People with Disabilities Discuss Barriers and Facilitators to Well Being. *Journal of Rehabilitation*, 69, 37.
50. Rajvir, Mr. R., & Kumar, P. (2025). “Global Trends in the Prevalence and Classification of Persons with Disabilities (2000–2025): An Integrative Review of International Data and Policy Frameworks. *International Journal of Research Publication and Reviews*, 6(11), 124–135. <https://doi.org/10.55248/gengpi.06.1125.3808>
51. Reda, M. A., & Chidiac, S. E. (2025). Impact of Research on the Evolution of Accessibility Standards. *Sustainability*, 17(18), 8218–8218. <https://doi.org/10.3390/su17188218>
52. Retief, M., & Letšosa, R. (2018). *Models of disability: A brief overview*. <https://doi.org/10.4102/hts.v74i1.473>
53. Río, C. J., Mank, D., Bottomley, J., Doose, S., & Tuckerman, P. (2002). *Supported employment in the international context: An analysis of processes and outcomes*. <https://doi.org/10.3233/jvr-2002-00138>
54. Rispoli, M., & Criado, T. S. (2024). Design Before Design: Learning to be Affected by Neurodiverse Spatial Practices. *Design and Culture*, 16(3), 357–381. <https://doi.org/10.1080/17547075.2024.2375453>
55. Schwab, S. M., Spencer, C., Carver, N. S., Andrade, V., Hamilton, S., Greve, K., & Silva, P. L. (2022). *Personal factors understood through the Ecological-Enactive Model of Disability and implications for rehabilitation research*. <https://doi.org/10.3389/fresc.2022.954061>
56. Toro, J., Kiverstein, J., & Rietveld, E. (2020). *The Ecological-Enactive Model of Disability: Why Disability Does Not Entail Pathological Embodiment*. <https://doi.org/10.3389/fpsyg.2020.01162>
57. Tuğba, K., Hatice. (2022). *Engeli Bulunan Bireylerin Mimarlık Disiplinine Katılımının Gerekliliği Üzerine Bir Araştırma*. <https://hdl.handle.net/11511/99526>
58. Watchorn, V., Tucker, R., Hitch, D., & Frawley, P. (2026). Enhancing universal design through co-design: perceptions of practice, process and outcomes. *International Journal of Architectural Research Archnet-IJAR*, 1–17. <https://doi.org/10.1108/arch-08-2025-0340>
59. Watson, B. C. D., & Puttock, R. (2025). Environments of Empathy: The Role of Architecture in Neurodiverse Well-Being. *DigitalCommons - Kennesaw State University (Kennesaw State University)*. <https://digitalcommons.kennesaw.edu/undergradsymposiumksu/fall2025/fall2025/65>
60. Wazani, I. A., Mohamad, D., & Jaafar, M. (2021). *ACCESSIBILITY FOR PERSONS WITH DISABILITIES IN BUILT ENVIRONMENT OF URBAN AREA: CASE STUDY OF GEORGE TOWN, PENANG*. <https://doi.org/10.21837/pm.v19i19.1059>
61. Williams, V., Tarleton, B., Heslop, P., Porter, S., Sass, B., Blue, S., Merchant, W., & Mason-Angelow, V. (2017). *Understanding disabling barriers: a fruitful partnership between Disability Studies and social practices?* <https://doi.org/10.1080/09687599.2017.1401527>

62. Wiman, R., & Sandhu, J. (2004). *Integrating appropriate measures for people with disabilities in the infrastructure sector*. <http://www.julkari.fi/handle/10024/90771>
63. Wu, Y., Ding, X., Dai, X., Zhang, P., Lu, T., & Gu, N. (2022). *Alignment Work for Urban Accessibility: A Study of How Wheelchair Users Travel in Urban Spaces*. <https://doi.org/10.1145/3555165>
64. Yusof, L. M., & Jones, D. S. (2013). *THE APPLICATION OF UNIVERSAL DESIGN LEGISLATION AND STANDARDS IN MALAYSIA AND AUSTRALIA*.
65. Zahari, N. A. M. (2025). *PUBLIC BUILDING ACCESSIBILITY IN MALAYSIA: LEGAL CHALLENGES AND THE RIGHTS OF PERSONS WITH DISABILITIES*. <https://doi.org/10.51200/ljms.v19i2.6616>
66. Zallio, M., & Clarkson, P. J. (2021). *Inclusion, diversity, equity and accessibility in the built environment: A study of architectural design practice*. <https://doi.org/10.1016/j.buildenv.2021.108352>