

## Pedestrian Pathways as Catalysts of Place Attachment in Urban Environments

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**Abstract:** Pedestrian pathways are anchors that quietly shapes the rhythm of daily life. Their influence reaches beyond moving bodies, they shape how people feel about their surroundings. These pathways do more than connect places; they connect people to place. When crafted with care, they nurture place attachment, grounding residents both physically and emotionally. Recognising pedestrian pathways as a key ingredient in creating inclusive, meaningful urban experiences rooted in place attachment is therefore indispensable. A qualitative narrative synthesis framed this review. English-language articles, books, and case reports linking pedestrian pathway design to place attachment outcomes were gathered from reputable online databases through keywords such as “pedestrian pathway,” “place attachment,” and “walkability.” Following sequential screening, the eligible works were thematically coded and woven into a single interpretive framework. Spanning 2000 – 2025, the review unites foundational studies with contemporary insights. Seven interlinked design attributes come to the fore: diligent upkeep, purposeful greenery, human-scale proportions, celebration of local character, consistent materials, visible safety and security measures, opportunities for social activation, clear accessibility and legibility, and spatial continuity. Evidence from residential neighborhoods, heritage districts, and commercial corridors shows that pathways displaying these qualities satisfy functional needs while significantly deepening users’ place identity, sense of belonging, and communal pride. Reframing pedestrian pathways as social infrastructure elevates them from utilitarian passages to daily public realms that foster attachment. Embedding the seven attributes in urban policy and design standards extends ground-level activity, reinforces inclusive social networks, and produces climate-responsive streetscapes. In swiftly urbanising settings, such measures provide low-cost, high-impact tools for retrofitting legacy thoroughfares, complementing transit investments, and nurturing long-term civic stewardship. Future research should quantify how these attributes map onto emotional responses across diverse cultural contexts.

**Keywords:** Pedestrian Pathways, Place Attachment, Urban Experience, Walkability

### Introduction

Urbanisation advances in surges of migration and economic promise, expanding city edges and amplifying metropolitan clout. In response, planners weave new housing blocks, retail clusters, and leisure hubs into the urban fabric, enticing arrivals with the

lure of upgraded amenities and lifestyles. Yet, despite growing calls for walkable streets and diversified transit options, increasing visitor volumes remain centred on private car use. The automobile once a servant of short, utilitarian journeys, now propels longer, often leisure-oriented trips, shifting fresh strain onto the pedestrian pathways meant to carry the pulse of city life (Van den Berg et al. 2022). Growing pedestrian volumes steadily redraw the city's accessibility map. As walkways serve larger and more varied crowds, the call for deliberate management becomes sharper. Attention must reach beyond traffic efficiency to the emotional bonds users form with these routes, what Zahnow (2023) terms "place function." When a pathway is seen as a venue for socialising or community life, its perceived worth rises, and civic engagement follows suit.

As cityscapes swell and diversify, once-ordinary spaces become multifunctional stages, and the strength of the bonds forged there—place attachment—hinges on how well these settings invite meaningful encounters and tailored uses. Place attachment, in this sense, is the layered relationship people build with locales through lived moments, memories, and social ties. This review follows pedestrian pathways to see how they protect that bond, upholding identity, authenticity, and belonging amid urban change.

### **Background of study**

Pedestrian pathways have advanced far beyond their former status as simple conduits of movement. Once imagined as straightforward links threading through the urban weave, they now function as animated public realms that leave a lasting imprint on city life (Albala & Mülfarth 2024). Current waves of urbanisation and the growing habit of using private vehicles for lengthier journeys—are placing additional pressure on these walkways (Van den Berg et al. 2022). This situation magnifies the urgency of designing and managing pedestrian routes that can absorb heavier foot traffic and accommodate increasingly diverse users, all while fostering a richer sense of place attachment.

Scholarship consistently highlights the layered significance of pedestrian pathways, tracing their influence across physical, social, and symbolic planes (Shah Khaidzir & Ahmad Kamal 2023; Zahnow 2023). On the physical front, factors such as meticulous maintenance, thoughtfully positioned greenery, human-scaled proportions, and clear, intuitive access collectively enhance both functionality and visual appeal (Karsono et al. 2021). Socially, these pathways operate as fertile grounds for unplanned encounters and shared routines, strengthening community cohesion (Sun et al. 2022). Symbolically, design gestures rooted in local culture and collective memory intensify emotional resonance, bolstering a shared urban identity (İnal-Çekiç, Kozaman-Aygün & Bilen 2023).

Yet, for all that is known, significant blind spots remain. Most investigations stop short of measuring how particular design features of a walkway translate into specific emotional reactions, especially when those reactions are filtered through differing cultural lenses. Likewise, few studies marry qualitative story-rich accounts with spatial analytics and systematic user-experience assessments, a shortfall that leaves local nuance underexplored and poorly understood.

Against that backdrop, this study sets out with a dual ambition. First, it aims to weave the scattered scholarship into a coherent, comprehensive picture of how pedestrian path design shapes place attachment outcomes. Second, it seeks to isolate the design attributes that most powerfully cultivate those emotional and experiential bonds across a range of urban contexts. From these aims flow three guiding questions:

- What specific design attributes of pedestrian pathways most effectively foster place attachment in urban environments?
- How do the physical, social, and symbolic dimensions of pedestrian pathways individually and collectively influence emotional and cognitive perceptions of urban space?

By systematically examining these questions, the study aims to inform towards creating pedestrian environments that balance functional efficiency with deep, lasting community attachment.

## Method

This qualitative narrative synthesis weaves together the literature examining how pedestrian pathways help sustain place attachment within urban environments. The approach suits the study's aims because it permits rich, context-sensitive analysis of the links between pathway design and emotional bonds to city spaces. A comprehensive search across online reputable databases retrieved pertinent journal articles, books, and case studies. By incorporating both seminal texts and recent investigations, the review captures earlier contexts alongside emerging trends, identifying key findings, patterns, and innovations related to pedestrian pathways and place attachment. Tracing the evolution of ideas and methods over time, it acknowledges established theories while illuminating fresh perspectives on nurturing lasting connections to place.

Priority fell on studies that unpack the many dimensions of place attachment and its sway over how pedestrian paths are felt and understood. A well-balanced palette of search terms "pedestrian paths," "place attachment," "urban experience," "walkability," and "emotional geography" kept the sweep broad yet purposeful. Selection criteria singled out research on the design, function, and cultural resonance of urban pathways. Only works that addressed both place attachment and pedestrian

pathways earned a place in the corpus, creating a panoramic view of the field. The search was confined to English-language publications but left open-ended in time, allowing foundational texts and recent contributions to stand side by side.

Findings settled into clear thematic categories through a structured analysis. Each source was weighed for relevance and value to the review's aims, and only those offering the sharpest insights remained. The distilled knowledge emerged in tables, infographics, and a flowing narrative, delivering a concise yet vivid overview. By weaving together varied perspectives and situating pedestrian pathways in today's urban settings, the discussion remains both rigorous and rounded.

## **Results and discussion**

### **Affective, Cognitive and Symbolic Layers of Place Attachment**

Place attachment describes the “specialness” a person feels toward a location, an intense emotional bond that folds the place into one's self-concept, laden with personal symbols, values, and stories (Shah Khaidzir & Ahmad Kamal 2023). Whether that locale is a public square, a footpath, a bustling marketplace, or a casual social nook, its capacity to spark social connection and personal meaning ultimately dictates the depth of attachment (Zahnow 2023). Against this backdrop, the present study resists treating the pedestrian pathway as merely a corridor, instead probing its physical, social, and symbolic dimensions to grasp how it functions as place attachment.

A pedestrian pathway's physical dimension of place attachment rests on an environment that is clear, safe, and visually appealing. Legibility—vital for effortless wayfinding—also underpins users' long-term comfort and the route's sustainability (Motalebi, Khajuei, & Sheykholsami 2023). Readable settings let walkers build accurate mental maps of their surroundings (Anas Al-Mendilawi & Essa Al-Saaidy 2024). Proximity to amenities and a firm separation of foot traffic from vehicles further deepen attachment by keeping movement convenient and secure.

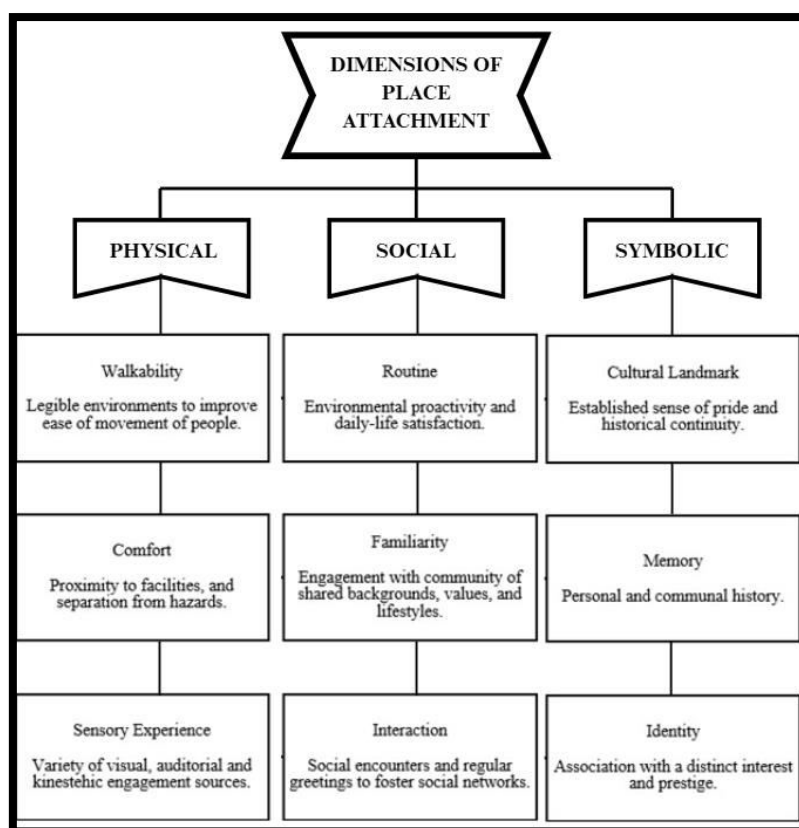
Moreover, reliable maintenance matters. Pathways boasting low crime, ample lighting, and visible security features give users confidence (Han, Isa, & Marzbali 2023). Spaces that accommodate music, performances, or interactive art add multisensory layers, strengthening the bond still more (Brokalaki & Comunian 2019). When those bonds take hold, people push for upkeep, join community initiatives, and resist changes that might threaten the pathways they depend on.

The social side of place attachment grows out of the mutual support network that develops among those who share a pedestrian route. Daily routines, familiarity, and repeated interactions weave this network, shaping each user's bond with the path. In cities, people depend on the built environment for shops, offices, parks, and open

spaces that offer recreation and respite; the more a space draws regular foot traffic, the tighter the bond it fosters (Han, Isa, & Marzbali 2023). When surroundings feel safe, convenient, and reliable, users navigate with confidence and are likelier to return (Sun et al. 2022). That habitual reliance encourages continuity: those who count on distinctive urban amenities rarely abandon the pathways they know (Shah Khaidzir & Ahmad Kamal 2023). Trust in fellow users further strengthens the connection, easing isolation and anchoring emotional investment (Razem 2020). Over time, repeated street greetings, chats with shopkeepers, and community gatherings erode initial wariness among strangers, knitting robust social networks that deepen place attachment (Sun et al. 2022).

The symbolic layer of place attachment draws on culture, memory, and identity which is the intangible forces that shape how people and communities connect with a location. As cities evolve, this layer surfaces in residents who carry a lived pride in cultural or communal landmarks woven into the modern urban fabric (Zahnow 2023). Such landmarks feed a shared memory that binds communities together and spurs long-time residents, particularly older adults, to shield these features during periods of change (Razem 2020). Picture an elderly resident choosing the familiar lanes of his childhood district over newer, traffic-laden roads. Years of strolling the same streets, passing the same façades, and using the same local facilities create a functional bond that gradually absorbs personal history. When redevelopment disrupts these physical cues, it can feel like erasing both individual and collective stories (İnal-Çekiç, Kozaman-Aygün & Bilen 2023).

A city's identity is pivotal to symbolic place attachment. When that identity centres on recreation, residents show a stronger inclination toward place-specific stewardship. Cannes illustrates the point: the annual Film Festival wraps the city in cinematic prestige, and that narrative deepens locals' communal bond. Additionally, the symbolic layer of attachment blends everyday familiarity and practical reliance with the cultural and emotional meanings ascribed to place. Together, these forces forge a durable connection that fuels community stewardship and bolsters resilience amid urban change.



**Figure 1:** Dimensions of place attachment

### Socio-Spatial Functions of Pedestrian Networks

Urban centres interlace through networks once outlined as modest footpaths, gradually enlarged to meet the surging currents of city life while upholding sustainable-design ideals. Since the automobile's ascendancy in the mid-twentieth century, planners have turned renewed attention to crafting pedestrian-friendly streets, sharpening design, access, and walkability to render them more habitable. This emphasis on the pedestrian's distinctive role in urban vitality now underpins ongoing discourse on walkability (Albala & Mülfarth 2024).

Most major cities now regard pedestrian pathways as versatile urban infrastructure. Beyond carrying foot traffic, these routes shape local identity and character, acting as catalysts for social interaction and community development (Patria et al. 2024). By encouraging walking, offering settings for active encounters, and enhancing user comfort and environmental quality, they become the connective tissue that keeps the city's social circulation alive. Table 1 covered studies from Van den Berg et al. (2022) through Daghistani & Abduljabbar (2024) providing a consistent overview of the varied definitions and multifaceted roles attributed to pedestrian walkways.

**Table 1:** Definitions of pedestrian pathways

| Authors                                    | Definition   | Strength  | Implication  |
|--|--|---|--|
| Van den Berg et al. (2022)                 | The essential infrastructure—the combination of physical features and subjective experiences—that enables safe, accessible, and enjoyable walking.   | Integrates walkability with environmental comfort by developing three partial indices (thermal, acoustic, and ergonomic).   | Allows for measuring and comparing pedestrian pathways on both micro and meso scales. This provides clear guidance for urban planners seeking to evaluate and improve pedestrian infrastructure. |
| Ciuculescu and Luca (2022)                 | Integral part of a city's physical and symbolic infrastructure contributes significantly to building the city's image and fostering emotional bonds among its inhabitants and visitors.  | Underscores the potential of well-designed, walkable public spaces to enhance city identity and community loyalty.  | Supports the idea of pedestrian pathways as city branding method through enhanced social interaction and cultural expression.  |
| Mun'im. et al. (2023)                      | A continuous network—comprising sidewalks, dedicated walkways, and interconnected routes—designed to link various parts of the city.   | Recognizes that pedestrian pathways serve as crucial connectors and venues for social interaction.  | Underlies pedestrian pathways are conduits for movement and interaction efficiently moving the pedestrians through designated or preexisting spaces.   |
| Nahdatunnisa, Wahyudi, Adi, & Tahir (2023) | A deliberately designed circulation route that serves as an integral part of a city's open space infrastructure that supports not only the movement of people, but also social interactions, recreational activities, and the overall quality of urban life. | Grounds the concept of pedestrian pathways in how they are experienced by users. By evaluating aspects such as intelligibility (clear signage and landmarks), spatial organization (smooth continuity and maintenance). | Highlights the practical functions of pedestrian pathways as essential parts of the urban fabric which affect accessibility and usability.   |



|                                 |  |  |  |
|---------------------------------|--|--|--|
| Daghistani & Abduljabbar (2024) | A dedicated passage designed specifically for activities oriented towards walking. | Includes all the complexity of urban pedestrian environments. spaces where pedestrian movement—sidewalks, streets, plazas, walkways, and viaducts. | Embeds solutions to reduce pedestrians' exposure to pollution in a decision-support framework. |
|---------------------------------|--|--|--|

Pedestrian pathways anchor urban mobility, forming the spine of walkability. Threading through the city, they link diverse destinations and let people move safely and comfortably on foot, easing reliance on vehicles. This connectivity sits at the core of spatial accessibility and underpins a sustainable mobility system (Albala & Mülfarth 2024). When routes are well integrated and uninterrupted, they cut both travel time and energy expenditure (Zhang, Zhang & Liang 2024). By weaving together urban attractions, heritage precincts, commercial hubs, and recreational areas, they extend a continuous network that dovetails with transit stops and other transport nodes, easing congestion through a walkable catchment for public transport (Mun'im et al. 2023).

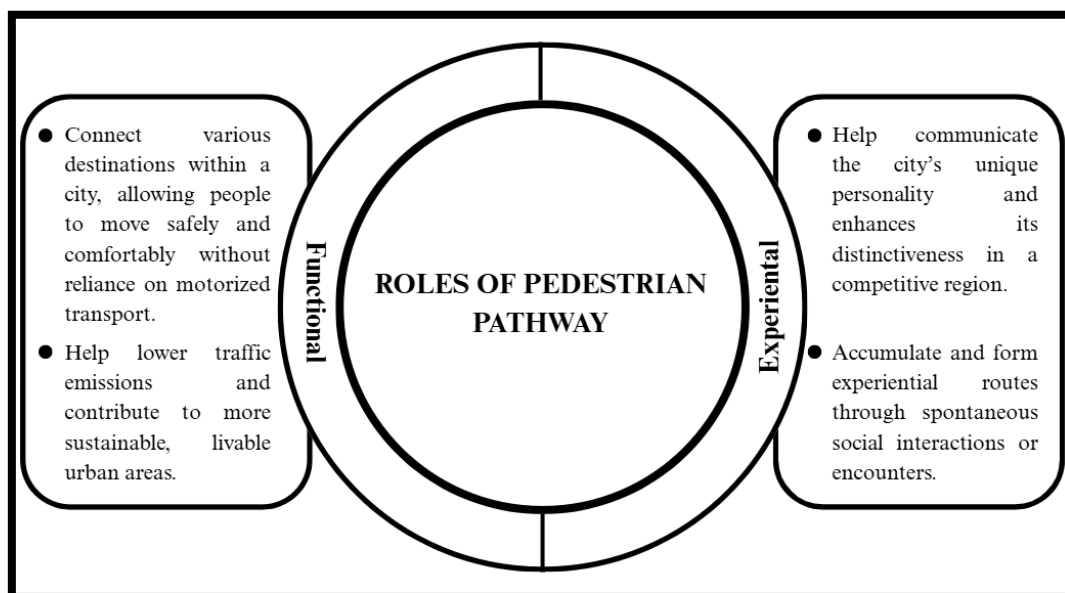
Beyond carrying foot traffic, pedestrian pathways shoulder climatic and environmental duties. Tree canopies, shade structures, textured surfaces, and sheltered niches temper extreme weather, lifting thermal comfort and enriching the walking experience. As vehicular volumes climb, these routes coax more people onto their feet, cutting emissions and fostering a liveable, sustainable city. Because pedestrians spend extended time along these paths, design choices also dictate their exposure to pollutants and other hazards. Strategic upgrades can therefore deliver healthier journeys and more resilient public spaces (Daghistani& Abduljabbar 2024).

Thoughtfully crafted pedestrian pathways do more than move people; they deepen emotional bonds with the city. Animated facades, varied street furniture, and other lively elements turn these routes into public stages that spark social exchange and cultivate a distinct sense of place and community identity (Albala & Mülfarth 2024). As channels of city branding, they also carry cultural narratives: when architecture, landscaping, and public art are integrated with care, the pathways project the city's character, amplify its uniqueness, and strengthen its profile amid global competition (Ciuculescu& Luca 2022).

Woven into cultural amenities and community hubs, pedestrian pathways evolve into experiential arteries wherespontaneous encounters and local creative expressions craft lasting memories. Culture supplies the city's soul while the physical



setting forms its body, together projecting a vivid civic identity (Patria et al. 2024). Over time, these layered experiences enrich the narratives residents and visitors carry away, burnishing the city's image as dynamic and culturally alive. Designing highly walkable environments with quality pathways intensifies place attachment, both directly by encouraging deeper exploration, and indirectly, through the surge in social interaction that walkability fosters (Van den Berg et al. 2022).



**Figure 2:** Roles of pedestrian pathways in the urban environment

When pedestrian pathways are conceived around functional performance and user experience—and then linked to broader themes of walkability and urban life—their value to city liveability becomes clear (Mun'im et al. 2023). Prioritising safety, thermal comfort, and overall ambience ensures high everyday usability before aesthetic and cultural enhancements are layered on (Ciuculescu & Luca 2022). Such sequencing fosters dense patterns of pedestrian encounters and consistent route use. Accordingly, Figure 1 maps the pathway's tangible and intangible attributes distilled from multiple studies, offering a scaffold for place-attachment interventions.

### Attachment-Oriented Design for Walkable Pathways

Place attachment strengthens when pedestrian routes absorb thoughtful design cues. This review traces how diligent maintenance, purposeful greenery, human-scaled proportions, celebration of local identity, consistent materials, visible safety and security, opportunities for social activation, clear accessibility and legibility, and seamless continuity together fortify the bond between people and place.

Diligent upkeep starts with routine inspections and visible care, keeping pedestrian pathways in peak condition and assuring a stable, comfortable setting for walkers (Karsono et al. 2021). Maintenance plans must flex with both busy and quiet

periods so resources match demand (Tunçer et al. 2024). Clear edge lines, crisp pavement markings, and well-kept signage preserve legibility, reinforcing users' spatial familiarity through repeated use (Purwanto & Harani 2020). Sustainability-minded measures such as permeable surfaces, planter boxes, and other green inserts further bolster performance, while durable, climate-appropriate materials curb repair costs and prolong structural integrity (Nazaruddin, Setijanti & Hayati 2024).

Greenery along pedestrian routes supplies essential sensory stimulation, grounding walkers in nature and enriching the journey. Yet vegetation's benefits depend as much on upkeep as on installation. Poor maintenance often turns planted strips into neglected eyesores (İnal-Çekiç, Kozaman-Aygün & Bilen 2023). A proactive, adaptive regimen such as regular pruning, swift replacement of failing planters, and seasonal refreshes keeps foliage fresh. Comfort and visual appeal improve, but only when clear sight lines and strong lighting accompany the planting (Karsono et al. 2021). Low hedges, trimmed trees, and strategically placed larger specimens strike the balance between lushness and visibility, boosting perceived safety. A varied palette of trees, shrubs, and flowers delivers year-round interest and elevates the pathway's aesthetic (Motalebi, Khajuei & Sheykholeslami 2023).

Human scale tethers pathway design to proportions that feel instinctively comfortable, creating space that welcomes rather than overwhelms. Gradual shifts in width, subtle pavement changes, and recurring cues through sculptures, and signage, guide pedestrians intuitively along the route (Karsono et al. 2021). Familiarity deepens this effect: locally inflected architecture and plantings that echo neighbourhood history and culture such as brick courses, timber accents, regionally inspired motifs, turn the walkway into a daily touchstone (Yang & Li 2023). Beyond visual comfort, human-scale gestures invite lingering. Pocket plazas, benches, and informal gathering nooks punctuate the pathway, carving intimate "rooms" where spontaneous encounters unfold, recasting the path from a mere conduit into shared civic living-room (Purwanto & Harani 2020).

Local identity embodies the cultural, historical, and social essence of an urban setting and can be woven directly into the design vocabulary of pedestrian pathways. When these routes display concrete, visible markers of identity, place attachment flourishes, because walkers sense that their everyday environment mirrors the stories and traits they value personally. Preserving distinctive historical features that residents associate with their self-image is therefore critical (Karsono et al. 2021). Through painstaking restoration and ongoing conservation, designers uphold cultural continuity, safeguarding a stable and cherished streetscape even as external development pressures mount. Where a pathway lacks clear expressive identity, character can be amplified by integrating regionally resonant materials, colour palettes, and contextual signage that reference local heritage. Complementary small-

scale interventions such as low masonry arches, artist-designed benches, or eye-level street markers operate simultaneously as navigational aids and symbolic touchstones. Collectively, such elements help pedestrians construct a personal mental map of the space, nurture a vivid sense of belonging, and reinforce a durable emotional bond with the pathway and the wider city around it.

Safeguarding pedestrian pathways demands more than functional upkeep; it calls for design moves that quell crime-related apprehension and nurture a sense of ease. Retrofitting with this aim starts at the edges: open, transparent boundaries—whether curtain walls, broad windows, or skylights in enclosed segments—sustain unobstructed sightlines to the surrounding cityscape, allowing walkers to remain visually connected, alert, and confident (İnal-Çekiç, Kozaman-Aygün & Bilen 2023). Lighting then completes the visual field. Energy-efficient fixtures that distribute illumination evenly erase dark recesses and glare, while clearly marked emergency call boxes and security portals broadcast that help is always within reach. Layered atop these fundamentals, advanced safeguards such as CCTV coverage, strategically placed emergency stations, and automated or retractable bollards, reinforce pedestrian-only zones yet preserve controlled access for first responders or delivery vehicles. The result is a carefully calibrated environment that balances protective oversight with everyday usability, ensuring that safety becomes an integral, reassuring feature of the walking experience (Motalebi, Khajuei & Sheykholeslami 2023).

Social activation captures the collective experiences and interactions that deepen place attachment. Such connections flourish when pedestrian pathways host engaging pursuits—especially recreational or commercial ones—supported by design that invites participation (Nahdatunnisa, Wahyudi, Adi & Tahir 2023). Purpose-built spaces coupled with curated programming such as seasonal craft fairs, neighbourhood festivals, pop-up food stalls can animate the route, provided each event is calibrated so foot traffic remains fluid. These initiatives affirm the pathway's role as a communal stage while amplifying local identity through hands-on involvement. Small-scale social pockets such as mini plazas or “pocket parks” fitted with seating, greenery, and community notice boards will punctuate the pathway, encourage spontaneous encounters and nurture a more liveable, accessible, and socially vibrant streetscape.

Accessibility and legibility capture how effortlessly pedestrians can move through and make sense of open spaces. When pathways read as clear and intuitive, they invite fluid movement and deeper engagement. Visual cues and landmarks become essential aids (Yang & Li 2023). Contrasting paving patterns, varied surface textures, and distinct markers such as art installations, pocket gardens, small water features serve as reference points that sharpen spatial legibility and steer walkers with ease. True inclusivity, however, demands attention to disability access. Universal design principles call for gently graded ramps, pathways wide enough for wheelchairs

and strollers, and tactile surfaces or audible signals at crossings to assist users with visual or auditory impairments. Natural elements can pull double duty: tree-lined sidewalks and planted verge strips reinforce continuity while lending a cohesive, green character to the pathway (İnal-Çekiç, Kozaman-Aygün & Bilen 2023). Taken together, these considered design choices weave an environment that is intuitive to navigate, welcoming to all, and visually engaging, turning the pedestrian journey into a seamless urban experience.

Continuity in pathway design seeks to lighten the load literally and figuratively by laying out direct routes, legible signs, and supportive details that trim both travel distance and perceived effort. When pedestrian infrastructure is embedded in a project's earliest plans, it weathers subsequent growth with fewer disruptions, knitting new blocks seamlessly into the existing weave (Nazaruddin, Setijanti & Hayati 2024). The result is more than smooth mobility; it is a coherent urban fabric that preserves familiar rhythms even as skylines shift, giving users the confidence to roam freely and deepening their attachment to place. Continuity therefore asks designers to pare away abrupt breaks, physical hurdles, and jarring inconsistencies (Tayo, Rashidi & Said 2020), while acknowledging that preferences shift across crowded and uncrowded contexts, age groups, and levels of ability (Tunçer et al. 2024). Each segment must be tuned—clear edge conditions, gentle ramps, tactile paving, steady lighting—yet remain visually and functionally in sync with its neighbours. Consistent colour palettes and surface textures on pavers, benches, planters, and edging deliver subtle cues of sameness, and the uniform use of local materials in adjoining public spaces becomes a medium for storytelling, binding the pathway into a recognisable civic identity.

Table 2 shows review ranges from Razem (2020) to Anas Al-Mendilawi & Essa Al-Saaidy (2024), guaranteeing contextual accuracy and consistency to emphasize the attributes of pedestrian pathways and design implications for improving place attachment.

**Table 2:** Attributes of pedestrian pathways and its implications for place attachment

| Authors     | Definition  | Strength                             | Weakness  |
|-------------|-------------|--------------------------------------|---|
| Razem(2020) | Maintenance | Regular inspection and visible care. | Long-term investment in physical and social qualities should always be up to date over time without significant disruption. |

|  |                              |  |  |
|--|------------------------------|--|--|
| Tayo, Rashidi & Said(2020)               | Greenery                     | Natural elements provide sensory stimulation that supports physical and cognitive development.                                       | Plant shade trees, add planters, and feature water installations where possible. Such natural touches not only make the space more pleasant but also encourage physical activity and restorative breaks along the route. |
| Zahid & Misirlisoy (2021)                | Human Scale                  | Familiarity of architectural dimension that is suitable for average people.  | The physical layout should be designed for pedestrian use; they tend to be wide enough for several people, winding, and built at a human scale.  |
| Ciuculescu & Luca (2022)                 | Local Identity               | Express the cultural, historic, and social fabric of the area.   | Features such as murals, historic markers, or decorative elements that echo the local culture or institutional history.  |
| Han, Isa & Marzbali (2023)               | Safety and Security          | A sense of safety enhances attachment and reduces fear of crime.   | Fenced, well-lit and unobstructed pathways increase users' willingness to engage with their surroundings.  |
| Anas Al-Mendilawi & Essa Al-Saaidy(2024) | Accessibility and legibility | The ease of reaching open spaces from pedestrian walkways that enhances interaction and movement.                                    | Thoughtfully designed pedestrian routes encourage movement and exploration throughout the urban spaces.  |
| Zhang, Zhang & Liang(2024)               | Continuity                   | Designed to minimize travel distance and reduce perceived travel cost through direct routes, clear signage, and supportive features. | Clear signage, pedestrian-friendly crossing signals, and an intuitive route design can all help users better assess the ease of movement within the urban area.  |

## Discussion

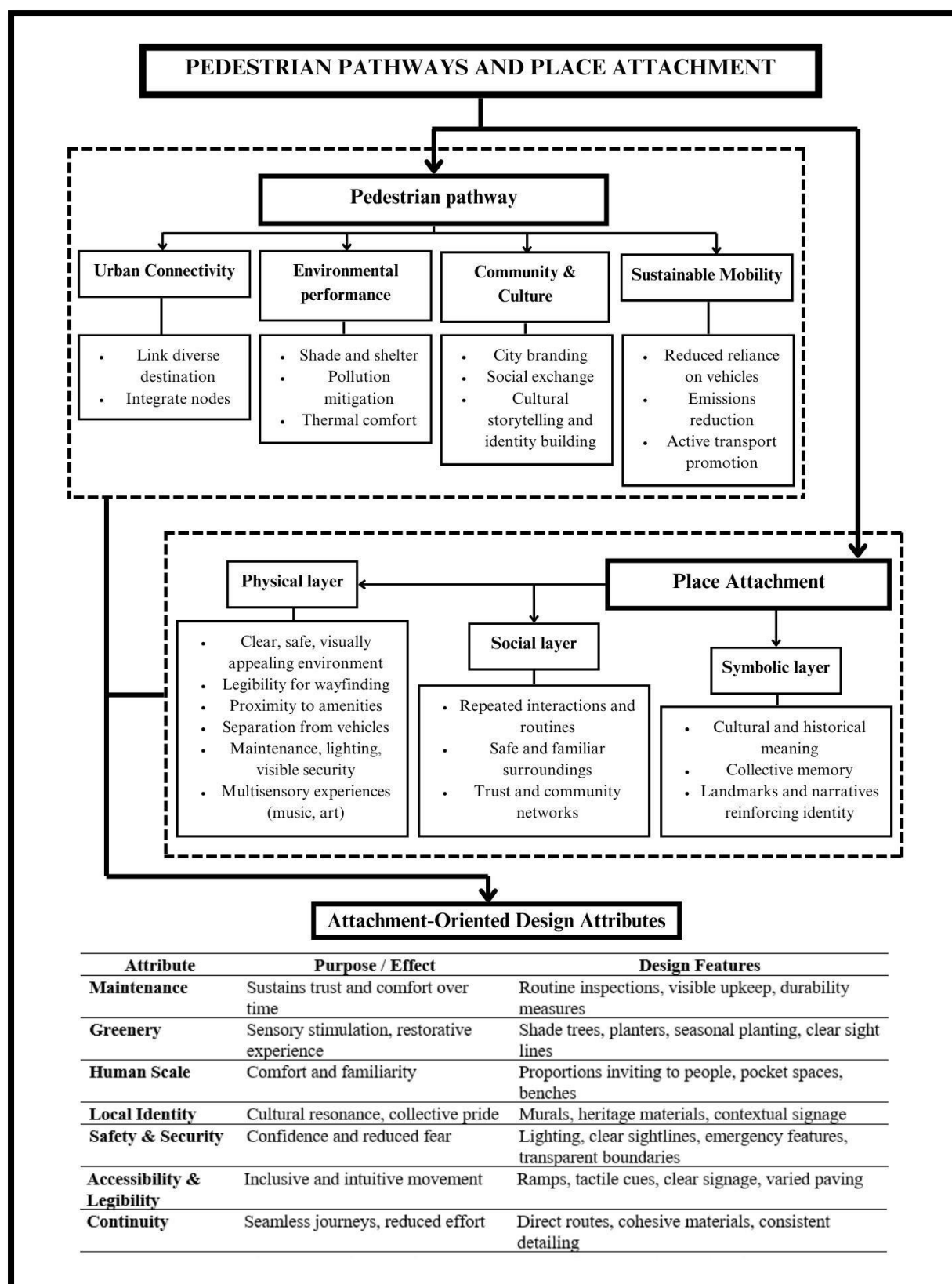
Pedestrian pathways, once regarded merely as connective tissue in the urban fabric, now stand out as dynamic public realms that shape both mobility and the emotional life of cities. This review shows that their design and stewardship can sustain place attachment by weaving together functional, experiential, and symbolic strands.

Routine, visible upkeep signals care and responsibility, fostering residents' long-term commitment to the space. Purposeful greenery and other natural elements temper micro-climates, supply multisensory stimulation, and anchor positive emotions. Human-scaled proportions, clear edges, and legible paving create an environment that is at once inviting and resilient, providing a durable platform for attachment even as urban conditions evolve.

When pathways are animated with seating, pocket parks, and small public-art gestures, they transform into stages for everyday encounters. Repeated informal exchanges such as greetings, impromptu chats, shared observations accumulate over time, knitting social networks and fortifying a shared sense of identity and belonging. In this way, carefully programmed pedestrian infrastructure bridges the gap between physical improvement and communal vitality, a core ingredient of enduring urban livability.

Design cues that echo local heritage such as murals, regionally sourced materials, historically resonant motifs have the power to invite users to weave personal stories into the streetscape. These symbolic touches reinforce collective memory and intensify the district's unique character, acting as a powerful spur to place attachment. Figure 3 illustrate the framework based on the findings.





**Figure 3:** Pedestrian pathways as catalysts of place attachment in urban environments



### **Limitation of study**

This review is constrained by its reliance on English-language sources drawn primarily from online database, a scope that may exclude pertinent regional research and grey literature published in other languages or non-indexed outlets. The narrative-synthesis method, while well-suited to integrating diverse qualitative insights, precluded statistical meta-analysis; consequently, the relationships identified here remain indicative rather than causally verified. Finally, thematic coding was conducted by the authors alone, so interpretive bias—however carefully mitigated—cannot be fully ruled out.

### **Conclusion and recommendation**

In essence, the review demonstrates that pedestrian pathways transcend their conventional role as conduits of movement; they function as vital civic arenas that mould everyday urban life and anchor emotional bonds to place. When pathway design combines legible spatial structure, opportunities for vibrant social exchange, and design cues that echo local culture, the result is a public realm that safeguards safety and mobility while cultivating a deep-seated sense of identity, pride, and belonging among users. Such an integrated strategy not only elevates walkability but also reinforces mental well-being, bolsters neighbourhood cohesion, and supports climate-resilient, resource-efficient streetscapes. In a period of rapid urban expansion, investing in pedestrian infrastructure that fuses physical clarity, social vitality, and cultural resonance emerges as a high-impact, low-carbon lever for enhancing urban livability, sustaining community engagement, and future-proofing public space. Rigorous empirical work—especially mixed-method studies that combine qualitative insight with spatial analysis and post-occupancy evaluation is needed to quantify how specific design attributes translate into emotional outcomes across diverse cultural and urban contexts. Such evidence will equip planners with context-sensitive guidelines, enabling pedestrian pathways to serve not only as arteries of movement but also as enduring vessels of urban identity.

### **Implication of study**

The integrative framework distilled here equips urban planners, landscape architects and municipal decision-makers with a concise blueprint for embedding place-attachment objectives into everyday street-design standards. By operationalising the seven design attributes, cities can translate abstract notions of belonging into clear performance criteria, budget lines and maintenance schedules. At policy level, the findings argue for treating pedestrian infrastructure as social capital: allocating funding for pathway upgrades should be viewed not merely as a mobility expense but as an investment in mental well-being, neighbourhood cohesion and climate resilience. For researchers, the framework establishes a common vocabulary that can underpin longitudinal post-occupancy studies, facilitate cross-cultural comparison

and support the development of quantitative indicators linking specific design cues to emotional and behavioural outcomes.

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### **Conflict of interest statement**

The authors declare no conflict of interest.

### **Declaration statement**

The authors affirm that this manuscript is an original work that has not been published previously and is not under consideration for publication elsewhere. All sources of information have been appropriately acknowledged, and all data presented are accurate to the best of the authors' knowledge.

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