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ENHANCING URBAN WALKABILITY: STRATEGIES FOR CONNECTION AND COMMUNICATION

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This paper examines the design of walkable streets in Shanghai, focusing on strategies for enhancing connectivity and interaction between pedestrian pathways and the adjacent built environment, including architectural, commercial, and residential spaces. It explores how the treatment of spatial boundaries influences walking comfort and contributes to street vitality. Through case analysis, the study demonstrates that reducing spatial fragmentation and fostering organic integration between sidewalks and their surroundings are essential for creating dynamic, inclusive, and human-centered urban environments.

Key words: *pedestrian-oriented street design, environmental design, spatial boundaries integration, walkability, urban public space, Shanghai.*

INTRODUCTION

Streets are a vital component of urban space, linking functional zones and facilitating everyday urban life. Their design reflects broader urban development strategies, resident needs, and socio-economic dynamics. Shanghai, one of China's most established and well-organized cities, serves as the focus of this study, which explores spatial connections and interactions within pedestrian-oriented street design, and outlines strategies for improving walkability.

Creating a walkable street environment involves enhancing walking comfort and accessibility. Guided by Shanghai's "Walkable and Livable" street design policy, this includes integrating mixed functions, optimizing spatial interfaces, and rebuilding networks for slow traffic movement [1]. In dense and diverse cities like Shanghai, connecting functional spaces is critical, sidewalks should serve not only as passageways but also as active, vibrant social spaces.

PURPOSE

As Shanghai has undergone rapid urbanization, its street spaces have evolved from traditional layouts into modern, multifunctional environments that reflect the complexity of contemporary urban life. This transformation highlights a shift in focus from vehicle-dominated planning to pedestrian-oriented design, which prioritizes safety, comfort, accessibility, and spatial vitality for users. Pedestrian-focused street design aims not only to enhance walkability but also to strengthen social interaction, environmental quality, and mixed-use integration along urban corridors. This paper explores how this design philosophy is being implemented in Shanghai, analyzing its role as both a product and a driver of sustainable urban

spatial development. Through this lens, the study provides insights into strategies for creating more inclusive, human-centered cities.

RESULTS AND DISCUSSION

Street facades often differ on each side, exhibiting both contrast and connection [2]. Where adjacent spaces lack internal cohesion, clear physical boundaries emerge. Conversely, where spatial tension fosters unity, those boundaries soften, enabling connection. Spatial boundaries that encourage integration tend to improve street vitality, while those that impose separation can stifle it. Reducing the isolating effect of boundaries helps activate the sidewalk as a multifunctional space. This research explores how architectural, commercial, and residential spaces in Shanghai connect with adjacent pedestrian areas, thereby enhancing walking comfort.

Connection between Architectural and Pedestrian Spaces

In central Shanghai, where high-rises dominate, green transitional zones are crucial. At sites such as Wanke Center (Xuhui District) and Sinan Villa Street (Jing'an District), base-level landscaping acts as a soft interface between buildings and sidewalks. These green buffers break down the visual and physical barriers between public and private space, improving scale perception and inviting pedestrian engagement.

For instance, "The Roof" (table 1-a) commercial and office complex in Xintiandi (Huangpu District) employs a permeable base design that creates free-flowing pedestrian routes with areas for rest. This integration blurs the lines between built structures and pedestrian zones, enhancing street activity and commercial attraction.

Connection between Commercial and Pedestrian Spaces

The connection between commercial space and pedestrian walkways relies on aligning business functions with the behavioral needs of pedestrians. In the Xintiandi North area of Huangpu District (table 1-b), temporary vendor stalls extend into the sidewalk area, attracting a high volume of foot traffic. These spontaneous extensions reflect the integration of commercial activity with street space and increase the area's vitality.

Similarly, outdoor seating areas such as café chairs, bar stools, and temporary stands expand commercial zones into pedestrian areas through signage, seating, and display arrangements. These extensions not only meet the operational needs of businesses but also offer places for pedestrians to rest, relax, or socialize, creating dynamic interaction points along the sidewalk.

Even when the building façades closely border the walkway, vibrant commercial activity can naturally blur the boundary between the private and public realm. In such cases, street commerce actively activates the pedestrian edge, transforming it from a mere circulation route into a multifunctional space for consumption, pause, and interaction. This dynamic boundary becomes a shared zone that serves both pedestrian comfort and commercial appeal.

Connection between Residential and Pedestrian Spaces

In older neighborhoods, limited private space leads residents to extend their belongings, such as flowerpots, benches, or storage, into public walkways, creating a distinctive lived-in aesthetic. These everyday items animate the street edge,

reducing monotony and offering unique visual interest. In some areas, thresholds between private homes and sidewalks serve as informal extensions of domestic life, encouraging passive interaction (table 1-c).

Entrance designs that facilitate visual openness and semi-private usage can also extend household activities into the street. Compared to larger parks, these small in-between zones, courtyards, porches, or balconies, can be more flexible and socially engaging. Architect Jan Gehl refers to these as "soft edges," which help animate walking environments by promoting interaction and increasing the time people spend in public spaces.

Table 1.

Case study of Shanghai street spatial connection and communication

	Architectural and Pedestrian Spaces (a)	**Commercial and Pedestrian Spaces** (b)	**Residential and Pedestrian Spaces** (c)
Case picture	 	 	 
Case information	**Name:** “The Roof” Streetscape and ecological facade design **Design:** ASPECT Studios **Measure:**143 m	**Name:** Xintiandi North walking street **Design:** Nikken Sekkei **Measure:** 263 m	**Name:** Changwu community Wall Street **Design:** TM Studio **Measure:** 350 m
Design elements	Trees, shrubs, red metal, tree pools, vertical green walls	Trees, shrubs, tree pools, tables and chairs, awnings, advertising boards	Trees, shrubs, concrete corridors, seating

CONCLUSIONS

Shanghai's pedestrian-focused street design fosters organic integration across urban functions by softening the rigid divisions between buildings, public walkways, and surrounding spaces. Strategies such as transitional landscaping, transparent facades, and commercial spillover have enhanced street vitality and improved user experience. These practices affirm Jan Gehl's theory of "flexible boundaries," which suggests that micro-scale interventions (e.g., outdoor seating, potted greenery) can increase dwell time and social interaction [3].

Policy-wise, coordination between the "Shanghai Street Design Guidelines" and grassroots spatial adaptation supports functional diversity and revitalizes slow-movement networks. This model offers valuable lessons for high-density cities striving to balance urban efficiency with livability. Looking ahead, innovations such as three-dimensional greening and intelligent street infrastructure will further transform streets from transit corridors into multifunctional, inclusive social spaces, advancing the sustainable development of urban environments.

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ВАН Кань, ШМЕЛЬОВА-НЕСТЕРЕНКО О.

ПОКРАЩЕННЯ ПІШОХІДНОЇ ДОСТУПНОСТІ МІСТА: СТРАТЕГІЇ ЗВ'ЯЗКУ ТА ВЗАЄМОДІЇ

У статті розглядається дизайн пішохідно-орієнтованих вулиць у Шанхаї з акцентом на стратегії підвищення зв'язку та взаємодії між пішохідними маршрутами та прилеглим забудованим середовищем, включаючи архітектурні, комерційні й житлові простори. Проаналізовано вплив просторових меж на комфорт пересування та життєздатність вулиць. На прикладі кейсів дослідження демонструє, що зменшення фрагментованості середовища й органічна інтеграція тротуарів із сусідніми просторами є ключовими умовами формування динамічного, інклюзивного та орієнтованого на людину міського простору.

Ключові слова: *пішохідно-орієнтований дизайн вулиць, дизайн середовища, інтеграція просторових меж, пішохідна доступність, міський громадський простір, Шанхай.*