R4TLI
ISSN: 2513-2504

THE UNSUSTAINABLE SPATIAL CHARACTERS OF NEW URBAN AREAS IN HANOI, VIETNAM

Minh Hai Ha Thai
School of Architecture and Urban Design, RMIT University, Australia
ha.thai2@rmit.edu.au

ABSTRACT- This research investigates the spatial characters of New Urban Areas (NUAs) in Hanoi, Vietnam, by employing space syntax and urban morphological approaches. Hanoi grows from a monocentric city to an 'amoeba'-like urban form in its periphery, where modern formally planned neighbourhoods exist next to, or even mix with urbanised villages and agricultural lands. At the city scale, this paper examines the spatial configuration of street networks in Hanoi, and the integration of these NUAs into the system. It compares the configuration of the NUAs with their surrounding neighbourhoods that have been spontaneously developed. At the neighbourhood level, the analysis explains the attractiveness and performance of streets, movements of pedestrians, motorbikes and cars, maps and compares the morphological features of various NUAs in Hanoi. Findings reveal that these NUAs are poorly integrated into the spatial network of the city. They underscore the private vehicular favoured urban environments of these NUAs, uncomfortable pedestrian movements, resulting in less-vibrant street life. This research informs practices, including urban planning, design, development and management, on the significance of top-down and bottom-up forces in shaping urban centres and the importance of street network in promoting healthy and sustainable lifestyles.

Keywords: space syntax; urban morphology; walkability; New Urban Areas; Hanoi.

1. INTRODUCTION

Like many other East Asian cities, Hanoi – the capital of Vietnam – has witnessed an unprecedented growth in its population caused by an influx of immigrants. The inward flows of foreign direct investment to the region, welcomed by the Government's open-door policy, have been a global force leading to the changes in the city's spatial structure and its dwellers' ways of living [1]. The availability of land and the ease of land pooling and compensation have been important factors leading to the emergence of new residential areas and commercial centres on the periphery. Greenfields and under-utilised industrial areas are the most attractive targets for real estate investors' land acquisitors. These areas are transformed into New Urban Areas (NUAs), described as self-contained, compact settlements following imported models of modern Western cities. The NUAs usually contain a mix of (prominently) residential, commercial, leisure land use, and may also have childcare, a primary school, clinics and a hospital. During the 1990s, the NUAs of Hanoi were considered a ground-breaking innovation, introducing modern ways of living that were far different from the over-crowded living environment of residents of the long-established neighbourhoods such as the Old Quarter, the French Quarter, urbanised villages and the Soviet-style collective living quarters [2]. After approx. 30 years of being seeded into the city structure, the NUAs are no longer seen as exotic neighbourhoods but as spatial units constituting the morphological mix of the city's 'desakota' [3], an Asian type urban sprawling area where urban residential and agricultural land uses are intermingled.

This paper employs space syntax and urban morphology to compare the configuration and morphology of these NUAs to their surrounding spontaneously grown neighbourhoods. It reveals how this imported,

exotic urban form has caused significant changes in the dwellers' lifestyle, social cohesion, health, and their impacts on the city's pathway to a more sustainable future.
While cities are building better networks of public transport and promoting local shopping strips to encourage walking and reduce the number of people's everyday trips made by private vehicles, there exists a 'last meters' problem that is connecting people from their homes to local destinations [4]. While the multi-scalar configuration of streets can contribute significantly to the attractiveness of these everyday walking routes to foot traffic, the local morphological characters can shape spatial conditions of these 'last meters' linkage and make them appealing (or not) to pedestrians [5,6].

Through the 'movement economy' theory, Hiller [7] (1996) underlines the importance of street network in shaping city's functions. This is aligned with Alexander's 'City is not a tree' argument [8] where he underlines the capacity of city's structure in organising functions, which is a key factor that makes a city safe and economically lively.

In Hanoi, the movement economy is demonstrated. The spontaneity and informality of Hanoian's everyday livelihood are justified by people's long tradition of self-help practices to sustain their family financially, while formal jobs are scarce and out of reach. Locations of movement-benefiting activities, such as retails and services, are strongly influenced by pedestrians and motorbike movements, rather than cars and the service catchments around car park as observed in developed world contexts. The introduction of NUAs and car-dominated lifestyles are novel to most Hanoian and also to the city's existing structure, where the growing process is spontaneous.

2. MATERIALS AND METHODS

This paper examines the configuration of 6 completed NUAs in Hanoi established more than five years: *Trung Hoa Nhan Chinh*, *Linh Dam*, The Manor, Royal City, Times City and Green Bay. Due to the dominance of motorbikes as a popular type of private vehicle in Hanoi, as well as the advantages that they offer to Hanoian's everyday activities, such as their small profile, ease of parking, high mobility, this paper uses combined space syntax integration and choice analyses [9]. It reveals the attractiveness of streets in Hanoi to both pedestrians within their 800-metre-walking radius and motorbikes in the entire city. It allows the comparison of the configurations of chosen NUAs with each other and to their surrounding neighbourhoods.

Morphological mappings of these samples demonstrate the similarities and differences between the built forms of the selected NUAs and their neighbouring spontaneously urbanised areas. The analysis focuses on major morphological variables, including street widths, street block sizes, building density and building heights.

3. RESULTS AND DISCUSSION

Global choice analysis shows that all identified NUAs are located near major roads highly attractive to through-movement, which are city's ring roads and major radial roads (Figure 1a). Under such conditions, NUA residents can easily reach other areas using their private vehicles, predominantly motorbikes, and increasingly cars. Within the NUAs, the integration of streets is much lower compared to long-established urban centres, which are the Old Quarter and French Quarter (Figure 1b). Compared with their surrounding neighbourhoods, which are mostly spontaneously urbanised villages, street networks of NUAs are less attractive to movements due to the lower street density (Figure 1c). The NUAs have clear and hierarchical structures, characterised by long and straight street segments forming a grid and plugging into the broader system via the ring and radial roads. The urbanised villages, in contrast, have a grass-roots-like network involving a few long and straight segments branching out to a larger number of short segments. Thus, the streets of NUAs appear in space syntax maps to be less attractive to both to- and through- movements.

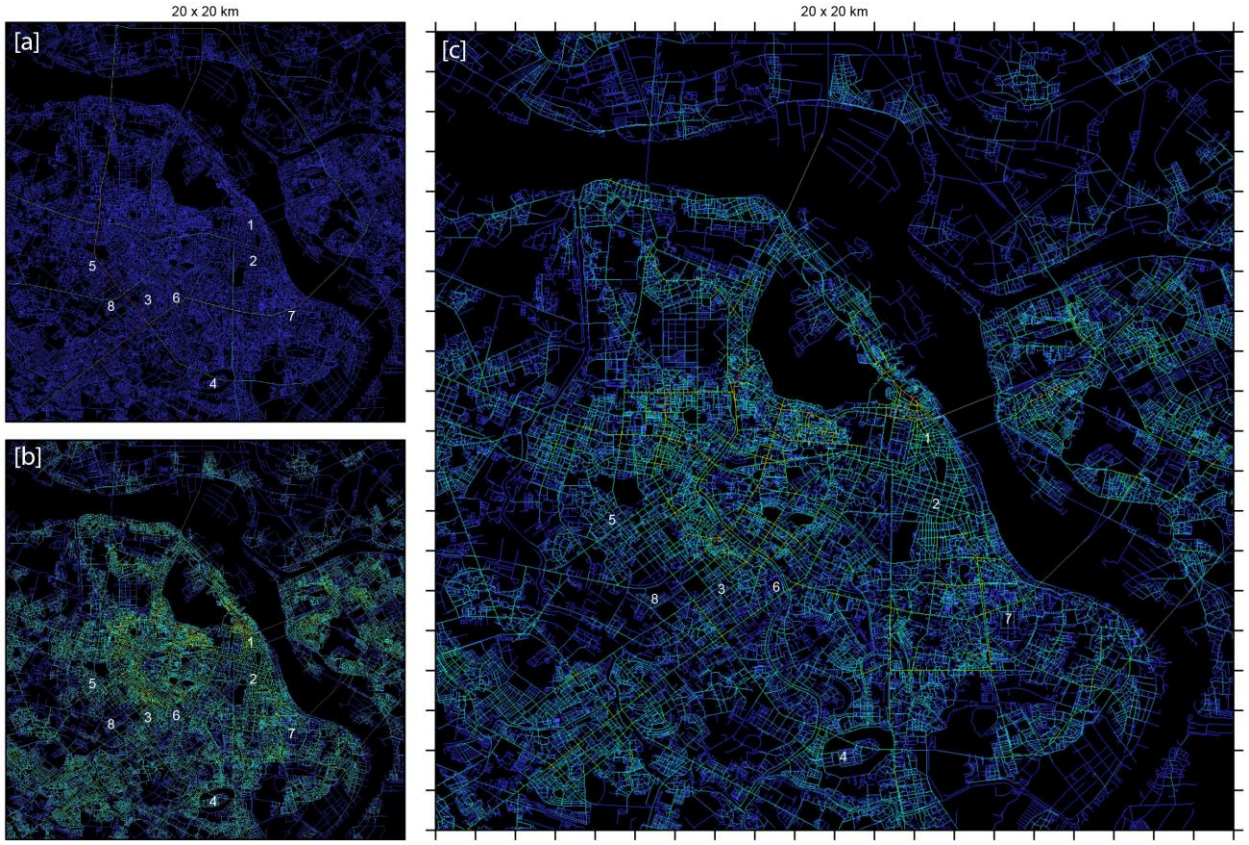

Figure 1: Configuration of street network in Hanoi. [a] Choice Rn; [b] Integration R800m; [c] Combined integration R800 and choice Rn. Annotations: 1 = Old Quarter; 2 = French Quarter; 3 = *Trung Hoa Nhan Chinh*; 4 = *Linh Dam*; 5 = The Manor; 6 = Royal City; 7 = Times City; 8 = Green Bay

Figure 2 shows the coarse grains in most chosen NUAs, except for *Linh Dam* and Green Bay, where a handful arrays of luxurious detached villas add fine grain buildings to the landscape. The wide streets and varying, spacious setbacks in front of each building are not ideal for forming shopping strips. Although the ground floor spaces of most high-rise buildings (between 10 and 40 storeys) are designated for commercial activities, they are more suitable for formal, high-yield businesses requiring large premises, such as supermarkets and offices, rather than small-scale businesses. Only a few business proprietors can afford and compete for a limited number of kiosks, where they can operate their family-owned stores, selling breakfast or drinks, or providing services such as hairdressing or photocopying. Many residents of NUAs find providers of their needs in surrounding neighbourhoods and are loyal customers of small-scale street-front shops, informal marketplaces, affordable restaurants and cafés. In these neighbourhoods, urban management is less strict, allowing the formation of outdoor trading venues, and there are abundant small street-front kiosks suitable for low-yield businesses offering a wide range of affordable goods and services.

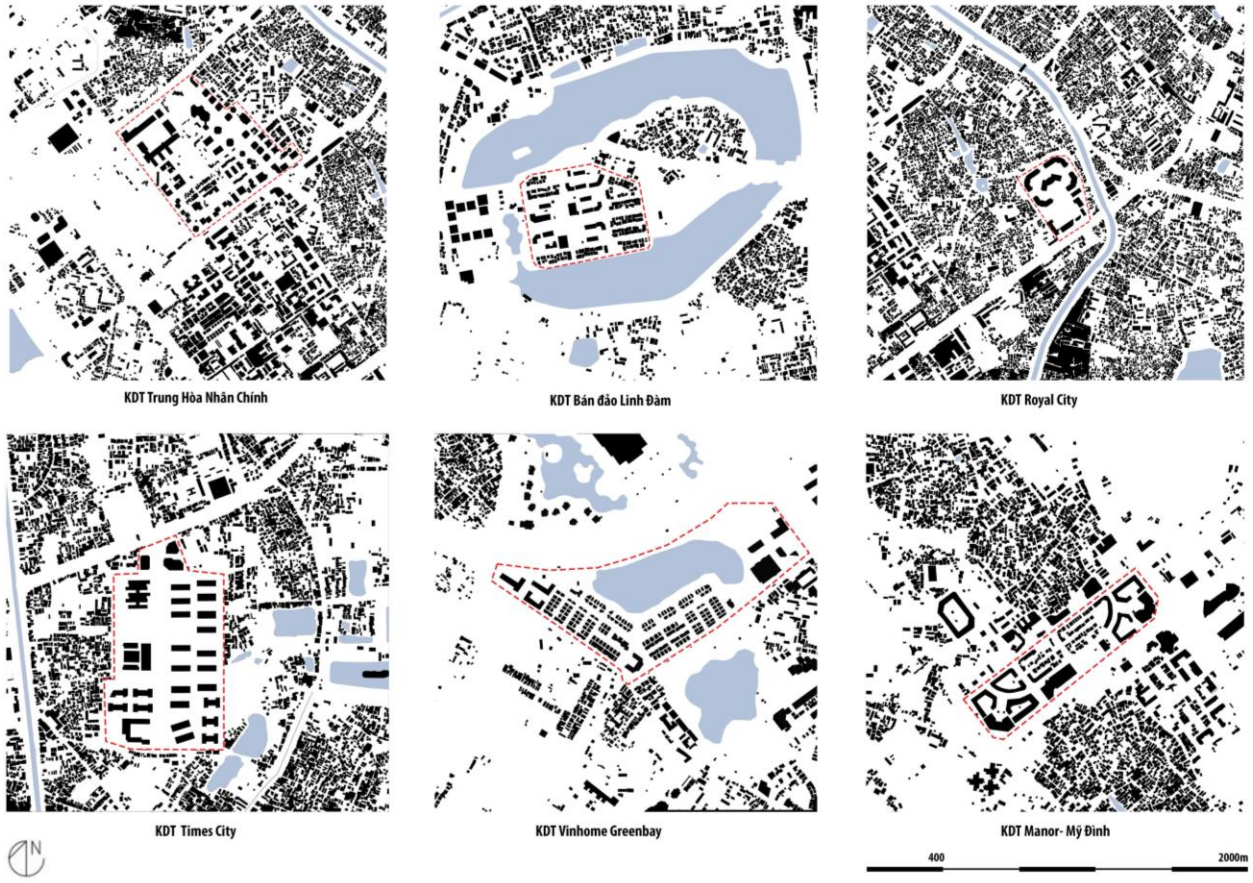

Figure 2: Urban morphology of sampled NUAs

While the networks of public space in all these sampled NUAs are not very walkable, they offer economic opportunities: high density of inhabitants generating high consumer demands, and spacious communal open spaces that are (informally) borrowable by businesses. In *Trung Hoa Nhan Chinh* and *Linh Dam* NUAs, it is not uncommon to find business activities spill over onto sidewalks and occupy open spaces. The wide sidewalks and large playgrounds are borrowed by street front cafés and sometimes street vendors. Locations of these pop-up, informal activities are not always aligned with the high connectivity of streets, but they are often found in more quiet, segregated locations, where these activities don't interrupt movement flows and targeted customers are usually local residents and workers. In the other NUAs, such informality hardly exists due to strict public space management policies and enforcement made by the developers, who define these NUAs as high standards.

Over time, the spatial boundaries between NUAs and their surrounding neighbourhoods, which are recognisable through the distinctive patterns of their building footprints, become blurred. This results from the 'penetration' of NUA-type high-rise buildings into urbanised villages through infilled developments on vacated factories and left-over greenfields. The interfaces between NUAs and their surroundings are the most vibrant areas where small-scale, affordable shops and services are flourished. Small street-front houses offer affordable premises for many family-owned or home-based businesses, serving the overflowing customers from the NUAs, who seek more affordable goods and services provided in independent stores.

4. CONCLUSION

Most focuses given to sustainable cities, especially on their built environment, are on building materials and energy consumed by building functions. Inadequate attentions are given to the way in which urban voids, that are streets, squares, and all other types of public open spaces, should be arranged to make them naturally attractive to pedestrians, spontaneously supportive to small-scale local businesses, and

friendly to non-car-dependent lifestyles. Cities in the East are becoming more ubiquitous, catching up with modern world, but at the same time they generate outdated problems which many other Western cities are attempting to solve, e.g., car dependency and pedestrian unfriendly.

This paper highlights the morphological characters of an emerging typology of urban form in Hanoi, underlines the shortcomings of this NUA model against the criteria of sustainable development goals. It calls for better ideas to develop more suitable forms of settlement for residents in the East, who have long traditions of fine-tuning and self-organising their city, living small and healthily.

REFERENCES

1. Thai, H. M. H., Stevens, Q. & Rogers, J. 2020. The evolution of pathways linking main streets and marketplaces to home-based business locations in Hanoi, Vietnam. Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 1-27.
2. Luan, T. D. 2014. Living in “New Urban Areas”: towards sustainable urban communities in Hanoi, Vietnam. Environmental Impact II.
3. Mcgee, T. G. 2002. Reconstructing "The Southeast Asian City" in an Era of Volatile Globalisation. Asian Journal of Social Science, 30, 8-27.
4. van Nes, A. 2021. Spatial Configurations and Walkability Potentials. Measuring Urban Compactness with Space Syntax. Sustainability, 13
5. Hillier, B. & Vaughan, L. 2007. The city as one thing. Progress in Planning, 67, 205-230.
6. Sevtsuk, A., Kalvo, R. & Ekmekci, O. 2016. Pedestrian accessibility in grid layouts: the role of block, plot and street dimensions. Urban Morphology, 20, 89-106.
7. Hillier, B. 1996. Cities as movement economies. Urban Design International, 1, 41-60.
8. Alexander, C. 1965. City is not a tree. Architectural Forum, 122, 58-62.
9. Thai, H. M. H., Stevens, Q. & Rogers, J. 2021. Mapping and measuring spatial connectivity of the pathways to home-based businesses within informal urban contexts. Archnet-IJAR: International Journal of Architectural Research.
.