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## Disclosing Transatlantic Influences On The Congestion Paradigm in Hong Kong and Shenzhen

*Divulgando as influências transatlânticas no paradigma do congestionamento em Hong Kong e Shenzhen*

*Revelando las influencias transatlánticas en el paradigma de la congestión en Hong Kong y Shenzhen*

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### Resumo

Este artigo examina como os intercâmbios intelectuais e profissionais transatlânticos moldaram fundamentalmente a adoção estratégica da congestão como paradigma de desenvolvimento urbano em Hong Kong e Shenzhen. Através da análise detalhada da Base Super Headquarters da Baía de Shenzhen e do distrito Sai Ying Pun de Hong Kong, a pesquisa traça a evolução da teoria da congestão desde suas origens críticas europeias, passando pela reinterpretação americana, até sua implementação asiática contemporânea. O estudo emprega uma metodologia multiescalar para analisar como a congestão se manifesta nas escalas regional, distrital e arquitetônica. Os resultados revelam que os conceitos teóricos de intensidade urbana estão sendo reimaginados através de estratégias inovadoras de arquitetura e desenho urbano, criando novas possibilidades para o urbanismo vertical que transcendem as métricas convencionais de densidade. Ao documentar a transformação da congestão de condição problemática a estratégia de desenvolvimento, esta pesquisa ilumina padrões mais amplos de transferência e adaptação teórica no urbanismo global contemporâneo, enquanto examina criticamente as desigualdades sociais e os desafios ambientais que emergem desses padrões de desenvolvimento.

**Palavras-chave:** Paradigma da congestão. Urbanismo vertical. Transferência teórica. Urbanismo asiático. Densidade estratégica.

### Abstract

*This paper explores the transatlantic intellectual and professional exchanges that have significantly influenced the strategic embrace of congestion as an urban development paradigm in the Asian global cities of Hong Kong and Shenzhen. Through detailed analysis of the Shenzhen Bay Super Headquarters Base and Hong Kong's Sai Ying Pun district, this study examines how congestion theory transformed from its European critical origins through American reinterpretation to its contemporary Asian implementation. The research employs a multi-scalar methodological framework analyzing the manifestation of congestion theory at regional, district, and architectural scales. The study reveals how theoretical concepts of urban intensity are reimagined through contemporary architectural and urban design strategies, creating new possibilities for vertical urbanism that extend beyond simple density metrics. By documenting the evolution of congestion from problematic condition to development strategy, this research illuminates broader patterns of theoretical transfer and adaptation that characterize contemporary global urbanism.*

**Keywords:** Congestion paradigm. Vertical urbanism. Theoretical transfer. Asian urbanism. Strategic density.

### Resumen

Este artículo examina como los intercambios intelectuales y profesionales transatlánticos han moldeado fundamentalmente la adopción estratégica de la congestión como paradigma de desarrollo urbano en Hong Kong y Shenzhen. A través del análisis detallado de la Base Super Headquarters de la Bahía de Shenzhen y el distrito Sai Ying Pun de Hong Kong, la investigación traza la evolución de la teoría de la congestión desde sus orígenes críticos europeos, pasando por la reinterpretación americana, hasta su implementación asiática contemporánea. El estudio emplea una metodología multiescalar para analizar cómo la congestión se manifiesta en las escalas regional, distrital y arquitectónica. Los resultados revelan que los conceptos teóricos de intensidad urbana están siendo reimaginados a través de estrategias innovadoras de arquitectura y diseño urbano, creando nuevas posibilidades para el urbanismo vertical que trascienden las métricas convencionales de densidad. Al documentar la transformación de la congestión de condición problemática a estrategia de desarrollo, esta investigación ilumina patrones más amplios de transferencia y adaptación teórica en el urbanismo global contemporáneo, mientras examina críticamente las desigualdades sociales y los desafíos ambientales que emergen de estos patrones de desarrollo.

**Palabras clave:** Paradigma de la congestión. Urbanismo vertical. Transferencia teórica. Urbanismo asiático. Densidad estratégica.

## Introduction

The transformation of congestion from a problematic condition of industrial capitalism into a celebrated paradigm of urban development reveals the profound and paradoxical influence of transatlantic intellectual exchanges on contemporary Asian urbanism. This conceptual evolution, shaped initially by European critical theory and later reinterpreted through American architectural discourse, has fundamentally altered the trajectory of urban development in Hong Kong and Shenzhen, two cities that now epitomize the intentional deployment of congestion as a strategy for economic growth and global competitiveness. The valorization of congestion in these Asian contexts emerged through a complex process of theoretical translation and adaptation that merits careful analysis, as it demonstrates how critical perspectives on capitalism's spatial effects were paradoxically repurposed to justify intensified capital accumulation through strategic congestion. What begins to emerge from this analysis is a sophisticated understanding of how theoretical frameworks traverse geographical and cultural boundaries, undergoing substantial transformation in the process while retaining vestigial elements of their original critical thrust.

The phenomenon of urban congestion in contemporary Asian metropolises represents a complex intersection of historical influences, theoretical frameworks, and practical urban development strategies that demands critical examination. This complexity is particularly evident in the development of the Shenzhen Bay Super Headquarters Base and Hong Kong's Sai Ying Pun district, where imported theoretical concepts have been transformed through local interpretation and implementation. These sites [1] demonstrate how Western theories of congestion, initially formulated as critiques of industrial capitalism's spatial effects, have been reinterpreted and deployed as tools for intensive capital accumulation in the Asian context. This transformation reveals not only the adaptability of theoretical frameworks but also their potential to generate unexpected outcomes when transferred across cultural and geographical boundaries. The resulting urban environments in Hong Kong and Shenzhen simultaneously exemplify both the economic potential and social costs of intentional congestion, creating what might be termed "strategic density" – the careful orchestration of spatial relationships and programmatic elements to maximize both economic and social value.

This research addresses a significant gap in urban studies literature by examining how theoretical concepts traverse geographical and cultural boundaries, undergoing substantial transformation in the process while generating new spatial and social configurations. While previous scholarship has documented the influence of Western urban theory on Asian development, less attention has been paid to how these theoretical frameworks are strategically reinterpreted and deployed to justify specific development patterns. The study's focus on congestion as both a theoretical concept and a development strategy illuminates broader patterns of theoretical transfer and adaptation that characterize contemporary global urbanism. Through careful analysis of specific architectural and urban projects, this research reveals how imported theoretical frameworks interact with local conditions, generating hybrid forms of urbanism that challenge conventional understanding of both Western theory and Asian urban development.

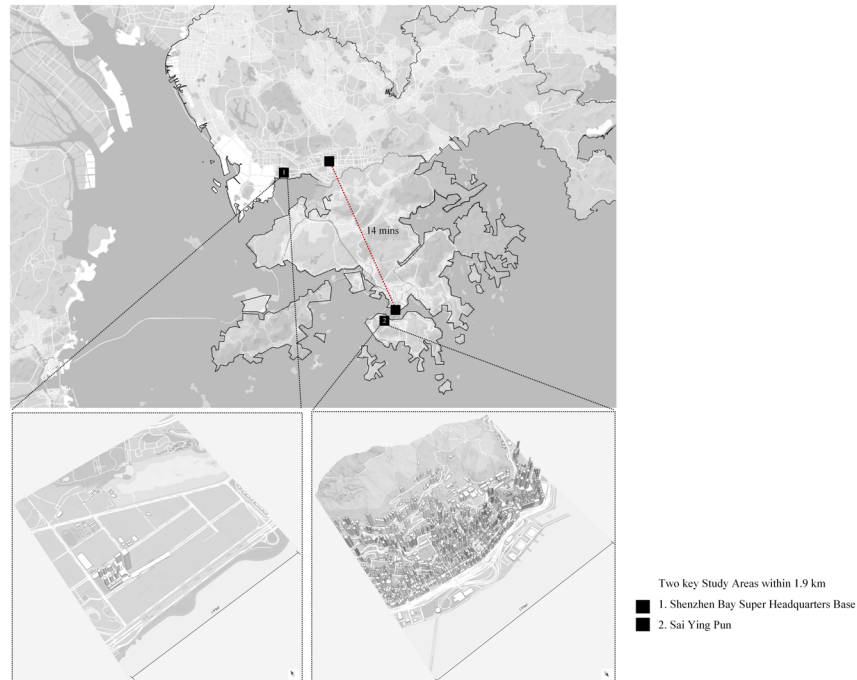


FIGURE 1 – Two Key Study Areas within 1.9 km.

Sources: (Guo Yi, 2024, 1)

## Theoretical Framework

### Historical Evolution of Congestion Theory

The theoretical foundation of urban congestion emerges from a complex intellectual lineage in European modernist thought, where Walter Benjamin's analysis of Parisian arcades first established a sophisticated framework for understanding density as both spatial condition and social catalyst. In his unfinished masterwork, *The Arcades Project*, Benjamin observes that these spaces created "a world in miniature" where "the crowd moves as if by clockwork through shopping galleries" (BENJAMIN, 1999, p.31). This initial theorization positioned congestion not merely as a physical phenomenon but as a manifestation of capitalism's spatial logic, revealing how architectural form could intensify both commodity circulation and social interaction. Benjamin's particular attention to the spatial manifestations of capitalism – the arcades, department stores, and crowded boulevards – established a critical framework for understanding congestion's dual nature: simultaneously a product of capitalist urbanization and a potential site of its transformation.

The transformation of these theoretical perspectives through mid-century European discourse reveals a growing appreciation for congestion's generative potential. Henri Lefebvre's theoretical framework proved particularly influential in understanding how density could be deliberately deployed as a strategy for economic development. His assertion that "space is not a scientific object removed from ideology or politics; it has always been political and strategic" (LEFEBVRE, 1976, p.31) provides crucial insight into how congestion operates as both spatial condition and social process. Lefebvre's concept of "abstract space" helped explain how standardized approaches to urban density could be replicated across different contexts, while his analysis of spatial practice illuminated how users adapt to and transform congested environments. This theoretical evolution marked a crucial shift from viewing congestion primarily as a problem to be solved toward understanding it as a potential tool for urban development.

The American transformation of congestion theory, particularly through architectural discourse in the latter half of the twentieth century, marked a decisive turn toward celebrating density as an urban virtue. Jane Jacobs' influential critique of modernist planning in "The Death and Life of Great American Cities" (1961) began to reframe density as essential for urban vitality. As she argues, "The more successfully a city mingles everyday diversity of uses and users in its everyday streets, the more successfully its people thereby enliven and support well-located parks that can thus give back grace and delight to their neighborhoods" (JACOBS, 1961, p.111). This perspective gained further theoretical sophistication through Rem Koolhaas's analysis of Manhattan, where he explicitly celebrates what he terms the "culture of congestion." Koolhaas's assertion that "If Manhattan had been a laboratory for the experimental collective lifestyle of the twentieth century, its architecture had originated a specific form of metropolitan culture – the culture of congestion." (KOOLHAAS, 1978, p.293). represents a complete inversion of earlier European critiques. His later reflection that "Bigness is no longer part of any urban tissue. It exists; at most, it coexists. Its subtext is fuck context" (KOOLHAAS, 1995, p.502) reveals how congestion theory evolved to embrace autonomous architectural expression.

The translation of these theoretical frameworks into contemporary Asian contexts reveals both their adaptability and their transformative potential. As Manuel Castells argues in his analysis of the network society, dense urban nodes serve as crucial points of articulation in global economic networks. His concept of the "space of flows" provides essential theoretical tools for understanding how congestion operates in contemporary global capitalism: "Our society is constructed around flows: flows of capital, flows of information, flows of technology, flows of organizational interaction, flows of images, sounds and symbols" (CASTELLS, 1996, p.412). This theoretical perspective helps explain the strategic deployment of congestion in Asian urban development, where density serves not merely as a spatial condition but as a crucial mechanism for participating in global economic networks.

The contemporary manifestation of congestion theory in Asian urbanism represents what David Harvey terms "entrepreneurial urbanism" at its most intense. Harvey's observation that "The right to the city is far more than a right of individual access to resources: it is a right to change ourselves by changing the city" (HARVEY, 2012, p.23) takes on new significance in the context of Asian urban development, where congestion is deliberately deployed as a strategy for economic growth and global competitiveness. This theoretical evolution reveals how imported concepts can be transformed through local interpretation and implementation, generating new spatial and social configurations that extend beyond their original conceptual boundaries.

This theoretical transformation across geographical contexts demonstrates what Ananya Roy describes as the emergence of new forms of "worlding" in contemporary urbanism. As she argues, "The Asian city is not simply a site where Western theory is applied but rather a site of theoretical production in its own right" (ROY, 2011, p.308). This perspective helps explain how imported theoretical frameworks interact with local conditions to generate new hybrid forms of urbanism, particularly evident in projects like the Shenzhen Bay Super Headquarters Base, where congestion theory has evolved to encompass not just questions of density and economic efficiency but also issues of social interaction, cultural production, and environmental sustainability.

### **Theoretical Transitions: From Critique to Strategy**

The transformation of congestion theory from European critique to Asian development strategy represents one of the most significant theoretical inversions in urban thinking. Critical theory, particularly through the Frankfurt School's analysis

of modern urbanism, initially positioned congestion as symptomatic of capitalism's contradictions. Theodor Adorno's observation that "the culture industry perpetually cheats its consumers of what it perpetually promises" (ADORNO, 1991, p.139) resonates with early critiques of urban congestion as a form of spatial alienation. This theoretical foundation, emphasizing congestion's role in social control and commodity circulation, established a critical framework that would later be paradoxically repurposed to justify intensive urban development.

Henri Lefebvre's theoretical contributions marked a crucial turning point in understanding congestion's potential as a strategic tool. His concept of the production of space provides essential insights into how spatial arrangements both reflect and reinforce social relations. As Lefebvre argues, "Space is not a scientific object removed from ideology or politics; it has always been political and strategic. If space has an air of neutrality and indifference with regard to its contents and thus seems to be 'purely' formal, the epitome of rational abstraction, it is precisely because it has been occupied and used, and has already been the focus of past processes whose traces are not always evident on the landscape" (LEFEBVRE, 1976, p.31). This understanding of space as both product and producer of social relations helps explain how congestion could be later redeployed as a deliberate strategy for urban development.

The American transformation of congestion theory, particularly through architectural discourse in the 1970s and 1980s, marked a decisive shift toward celebrating density as an urban virtue. Rem Koolhaas's influential analysis of Manhattan established what he termed "Manhattanism" as a new paradigm for understanding urban intensity. His assertion that "the culture of congestion is the culture of the 20th century" (KOOLHAAS, 1978, p.125) represents not merely an observation but a theoretical framework for justifying intensive urban development. This perspective gained further sophistication through what Kenneth Frampton terms "critical regionalism," which sought to reconcile universal modernization with local cultural practices. As Frampton argues, "Critical Regionalism must take the form of a double mediation. In the first place, it has to 'deconstruct' the overall spectrum of world culture which it inevitably inherits; in the second place, it has to achieve, through synthetic contradiction, a manifest critique of universal civilization" (FRAMPTON, 1983, p.20).

The translation of these theoretical frameworks into Asian contexts has generated new hybrid forms of understanding that extend beyond simple adaptation. As Anthony King observes in his analysis of global urbanism, "The production of urban space in Asia represents not merely the application of Western models but the emergence of new spatial paradigms that reflect both global forces and local conditions" (KING, 2004, p.72). This theoretical hybridity is particularly evident in what Peter G. Rowe terms the "East Asian modern," where traditional concepts of space and social organization interact with imported theories of urban development. Rowe's assertion that "the contemporary Asian metropolis represents a new urban paradigm that combines elements of both Western and Eastern spatial thinking" (ROWE, 2005, p.45) helps explain the distinctive character of Asian urban development.

The contemporary deployment of congestion theory in projects like the Shenzhen Bay Super Headquarters Base represents what might be termed "strategic congestion" – the deliberate creation of high-density environments that maximize both economic value and social interaction. This approach reflects what Aihwa Ong describes as "worlding practices" in contemporary Asian urbanism. As Ong argues, "The art of being global involves the production of urban spaces that can both connect to transnational flows and anchor global ambitions in distinctive local elements" (ONG, 2011, p.23). This theoretical perspective helps explain how imported concepts of congestion are transformed through local interpretation and implementation, generating new spatial and social configurations that extend beyond their original conceptual boundaries.



The resulting theoretical framework demonstrates what Jennifer Robinson terms "ordinary cities" in global urban theory. Her argument that "urban theory needs to be more cosmopolitan, to be resourced by a greater diversity of urban experiences" (ROBINSON, 2006, p.65) takes on particular significance in understanding how congestion theory has evolved through its implementation in Asian contexts. This evolution reveals not merely the adaptation of Western theoretical frameworks but the emergence of new theoretical paradigms that reflect the distinctive conditions and aspirations of contemporary Asian urbanism.

TABLE 1 – Theoretical Evolution of Congestion Theory Across Geographical Contexts

Aspect	European Origins	American Transformation	Asian Effects
Primary Theorists	Benjamin, Lefebvre	Jacobs, Koolhaas	Castells, Roy
Key Concepts	Phantasmagoria, Production of Space	Culture of Congestion, Vitality	Strategic Density, Hybrid Urbanism
View of Congestion	Critical Problem	Generative Force	Development Strategy
Spatial Expression	Arcade, Boulevard	Skyscraper, Grid	Vertical City, Super Block
Social Implications	Alienation, Collectivity	Vitality, Diversity	Efficiency, Hierarchy
Economic Role	Byproduct of Capitalism	Generator of Value	Strategic Asset
Planning Approach	Reform, Regulation	Strategic Intensification	Deliberate Maximization

## Methodology

This research employs a multi-scalar methodological framework that examines the manifestation of congestion theory at three distinct but interrelated levels: the regional scale of Shenzhen-Hong Kong integration, the district scale of specific urban developments (Shenzhen Bay Super Headquarters Base, Hetao Shenzhen-Hong Kong Science and Technology Innovation Cooperation Zone and Sai Ying Pun), and the architectural scale of individual projects within these areas. This nested analytical approach allows for a comprehensive understanding of how theoretical concepts translate across different scales of urban development. The methodology combines quantitative spatial analysis, qualitative assessment of spatial first-hand experience and social impacts. This mixed-method approach enables a nuanced understanding of how theoretical frameworks materialize in built form and influence daily urban life.

Primary research involved extensive field observation in both study areas, documenting spatial patterns, user behaviors, and architectural characteristics. This was supplemented by analysis of planning documents, including the Greater Bay Area development framework, Shenzhen's Super Headquarters Base masterplan, and Hong Kong's Urban Renewal Authority guidelines for Sai Ying Pun. Secondary sources included historical maps, architectural drawings, policy documents, and theoretical texts that influenced development patterns. The research particularly focused on identifying moments of theoretical transfer and transformation, examining how Western concepts of congestion were adapted to serve local development objectives. This methodological framework allows for critical examination of how theoretical ideas traverse geographical and cultural boundaries while maintaining attention to specific local conditions and outcomes.

TABLE 2. Framework

Density Mode	Interpreting Factor	Study - Areas Analysis Method			Analysis Results
		First Phase [Mapping]	Second Phase [Reading]	Third Phase [Representing]	
Congestion Paradigm	Spatial, Vertical, Intensity, Circulation, Architectural Expression, Public Space, Infrastructure, Integration, 3D Relationship, Environmental, Economic Value,	Figure-ground plans Cross-sections Axonometric projections Typological studies	First-hand experiences, First-hand observations, Critical view	Policy Report	Effects

## The Transatlantic Transfer of Urban Theory in Regional Context

### Regional Integration and Strategic Nodes

The theoretical transfer of congestion paradigms manifests most dramatically in the emerging Shenzhen-Hong Kong metropolitan region, where Western concepts of strategic density are being deployed to shape a new form of transboundary urbanism. As illustrated in Figure 2, the regional structure is organized around two primary nodes of concentrated development: the Futian CBD in Shenzhen and the traditional TST CBD in Hong Kong. This dual-core configuration represents a sophisticated adaptation of Western agglomeration theory, where congestion is strategically deployed to create complementary centers of economic activity across political boundaries.

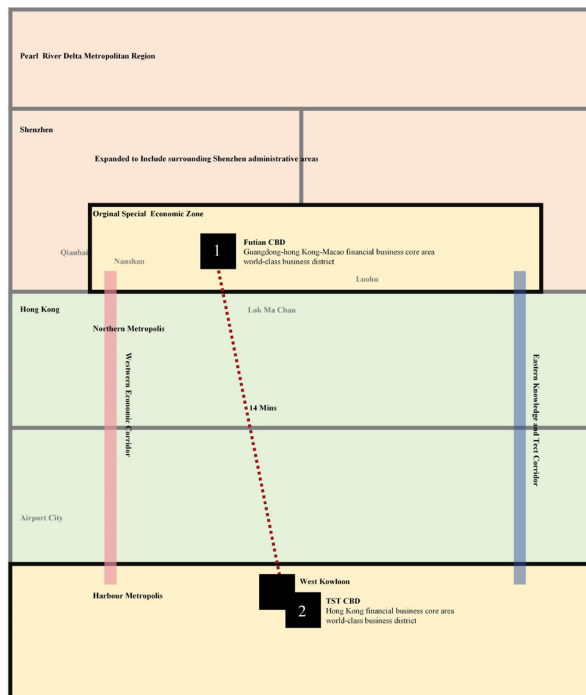


FIGURE 2 –Integrated planning model for Transit - Oriented Development by Guo Yi, 2024.

Sources: (Guo Yi, 2024).

"As Wu argues, 'The Chinese model of urban planning combines strong state intervention with market mechanisms, creating a unique framework for managing urban expansion and intensification' (WU, 2015, p.127)."The connecting infrastructure corridors – both the Western Express corridor and the Eastern boundary corridor – demonstrate how theoretical concepts of flow and connectivity are materialized in regional space.

The transformation of congestion theory at the regional scale is particularly evident in the strategic positioning of what the planning documents identify as "Rail Transit Hub areas." As shown in Figure 3, these hubs represent a crucial mediating element between the abstract congestion paradigm and its material manifestation in urban form. The diagram reveals how Transit-Oriented Development (TOD) principles, themselves a Western theoretical import, are being reinterpreted through a three-dimensional framework that encompasses overground, ground-level, and underground development. This multi-layered approach to urban density represents a significant evolution of Western congestion theory, adapting it to the specific constraints and opportunities of the Pearl River Delta context.

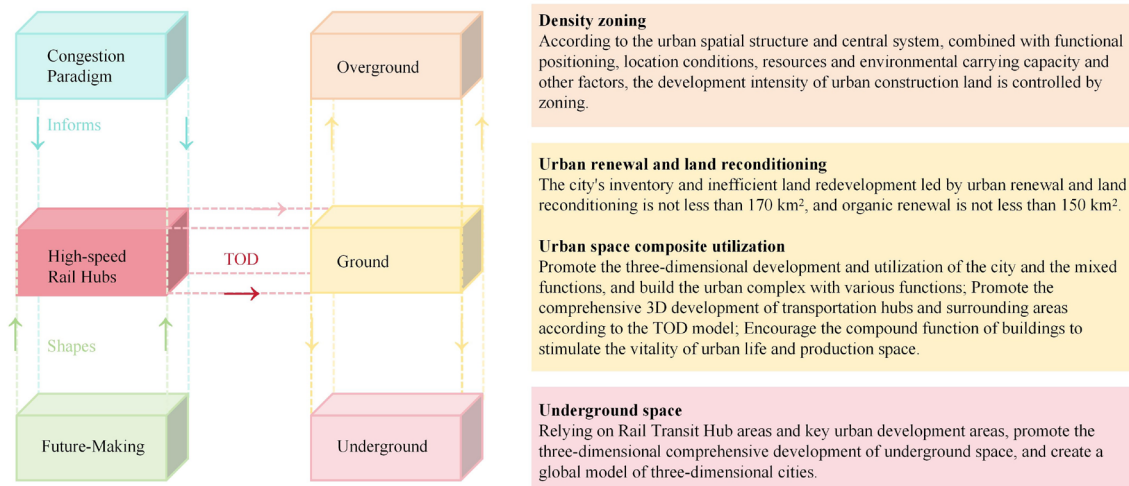


FIGURE 3 – Three-Dimensional Analysis of Transit-Oriented Development Hubs in Shenzhen-Hong Kong Corridor by Guo Yi, 2024.

Sources: Guo Yi.

### Spatial Structure and Development Intensity

The regional planning framework, as evidenced in Figure 4, reveals a sophisticated interpretation of Western congestion theory through its articulation of multiple development zones and connectivity corridors. The Shenzhen Bay CBD area, positioned strategically between Qianhai and Futian, demonstrates how theoretical concepts of agglomeration are being deployed to create new forms of urban intensity. The planning approach shows particular attention to what might be termed "managed congestion" – the deliberate creation of high-density nodes connected by high-capacity infrastructure networks. This strategy represents a significant evolution from Western theoretical models, incorporating both horizontal and vertical dimensions of urban development.

The spatial distribution of development intensity, as illustrated in the figures, reveals how theoretical frameworks are being adapted to local conditions. The planning documents indicate three key strategies that demonstrate this transformation: 1. Density Zoning: The implementation of sophisticated density controls that respond to both functional requirements and environmental capacity represents a significant evolution of Western zoning principles. The approach demonstrates how

theoretical concepts of urban intensity are being modified to incorporate Chinese planning principles and local development imperatives. 2. Urban Space Composite Utilization: The emphasis on three-dimensional development, particularly around transit nodes, reveals how Western TOD concepts are being reinterpreted through a more complex spatial framework. This approach demonstrates the transformation of congestion theory from a primarily two-dimensional consideration to a fully volumetric understanding of urban space. 3. Underground Space Development: The strategic integration of underground development, particularly in high-density nodes, represents a significant evolution of Western congestion theory. This approach demonstrates how theoretical frameworks are being adapted to address the specific challenges of extreme density in Asian urban contexts.

### Infrastructure as Theoretical Mediator

The regional infrastructure network, particularly evident in Figure 3, serves as a crucial mediator between theoretical concepts and urban form. The planned transportation corridors – including both rail and road infrastructure – demonstrate how Western theories of urban connectivity are being reinterpreted through local development imperatives. The resulting network reveals a sophisticated understanding of how infrastructure can be deployed to both enable and manage urban congestion, creating what might be termed "strategic connectivity" between high-density nodes. This infrastructure framework reveals a significant evolution in how congestion theory is being deployed in the Asian context. Rather than viewing congestion as a uniform condition to be either embraced or mitigated, the regional plan demonstrates a more nuanced approach that uses infrastructure to create deliberate patterns of concentration and dispersal. This strategic approach to congestion represents a sophisticated transformation of Western theoretical frameworks, adapting them to serve specific regional development objectives while acknowledging local conditions and constraints.

FIGURE 4 – Regional Development Framework: Shenzhen-Hong Kong Integration Zones by Guo Yi, 2024.

Sources: (Guo Yi, 2024).



## Evidence of Congestion Paradigm in Urban Form

### Morphological Evolution in Sai Ying Pun: Layered Verticality and Strategic Density

Sai Ying Pun presents compelling evidence of how theoretical concepts of congestion materialize in urban form through both planned intervention and organic evolution. As demonstrated in Figure 5, the district exemplifies the dramatic verticalization of Hong Kong's urban fabric, where high-rise developments create a dense architectural canopy against the backdrop of Victoria Peak. This visual evidence reveals how congestion theory has been interpreted not merely as a two-dimensional planning concept but as a fully three-dimensional strategy for urban development. The resulting skyline demonstrates the complex interplay between natural topography, building regulations, and market forces in shaping vertical urban form.



FIGURE 5 – Vertical Evolution of Sai Ying Pun Urban Fabric Against Victoria Peak by Guo Yi, 2024.

Sources: (Guo Yi, 2024).

The district's spatial organization, as mapped in Figure 6, reveals a sophisticated layering of urban systems that extends beyond simple density metrics. This layering exemplifies what Chow terms 'field urbanism,' where 'multiple systems of order coexist and interact, creating urban environments that resist simple categorization or theoretical reduction' (CHOW, 2015, p.127). Such complexity reflects broader patterns in Asian urbanism where, as Cho et al. note, 'the formal and informal, the planned and unplanned, coexist in productive tension, generating new forms of urban space and social interaction' (CHO apud DOUGLASS apud HO, 2016, p.45). Within its compact 1.9 km<sup>2</sup> area, Sai Ying Pun exhibits distinct morphological zones: high-rise towers (10 floors and above), traditional tong lau buildings, and carefully preserved pocket parks. This spatial distribution demonstrates how congestion theory has been adapted to accommodate both heritage preservation and intensive development within the same urban fabric. The strategic placement of Metro stations, marked in red on the map, reveals how transportation infrastructure serves as a crucial organizing element in this complex urban system.

The three-dimensional complexity of Sai Ying Pun's urban form is particularly evident in Figure 7's axonometric representation. This drawing reveals how the district's steep topography has been leveraged to create multiple ground planes and complex circulation networks. The highlighted connection routes - to Central, West Kowloon, High West, and Cyberport - demonstrate how the district functions as a crucial node within Hong Kong's larger urban network. This multi-scalar connectivity exemplifies how congestion theory has evolved from simple density considerations to encompass sophisticated networks of urban flow and exchange.

FIGURE 6 – Morphological Analysis of Sai Ying Pun: Building Typologies and Public Space Network by Guo Yi, 2024.

Sources: (Guo Yi, 2024).

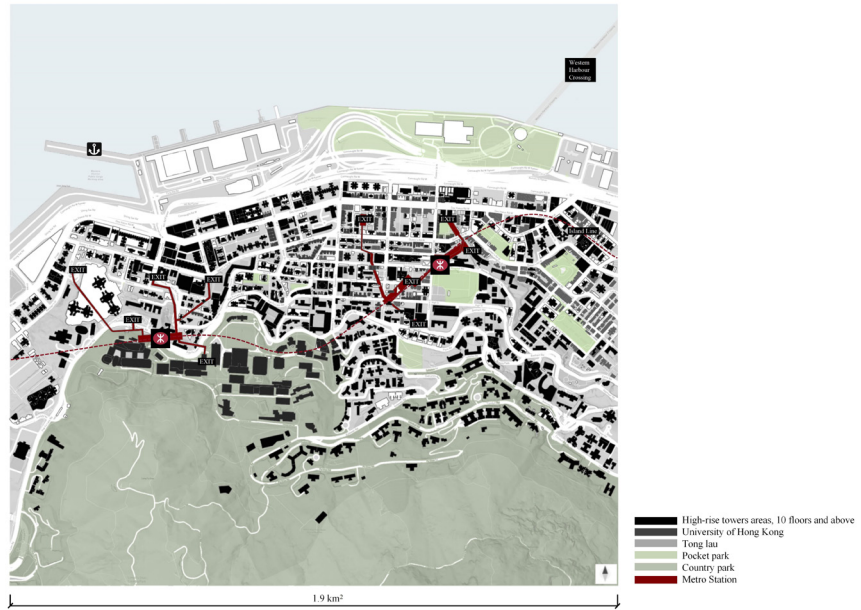


FIGURE 7 – Axonometric Study of Multi-level Circulation Systems in Sai Ying Pun by Guo Yi, 2024.

Sources: (Guo Yi, 2024).



Figure 8's sectional analysis provides crucial evidence of how congestion theory manifests in vertical stratification. The diagram reveals three distinct but interconnected layers of urban activity:

1. *The underground infrastructure system (B2) and subway transfer level (B1), creating a subterranean network of movement and commerce*
2. *The ground-level retail zone (F1) and traditional tong lau fabric, maintaining street-level vitality*
3. *The high-rise stratum, culminating in features like the Ramada Hotel's sky pool, which introduces leisure programs into the vertical city*

This stratification represents a sophisticated evolution of congestion theory, where density is not merely about building height but about the strategic layering of programs and circulation systems. The section reveals how contemporary developments in Sai Ying Pun create what might be termed "volumetric congestion" - a three-dimensional intensity that maximizes the utility of urban space while maintaining distinct functional zones.

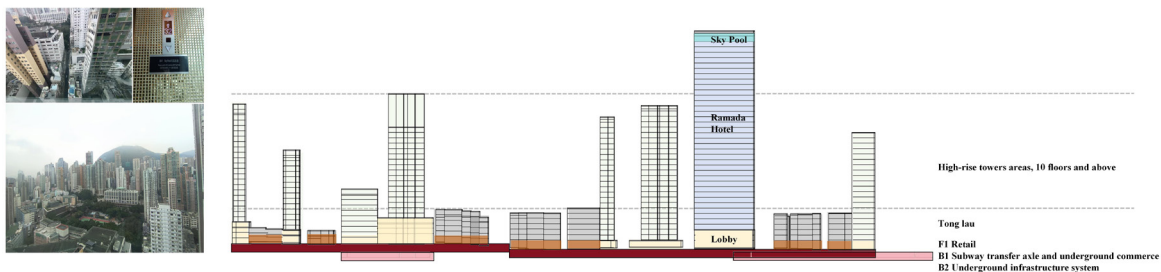
The empirical evidence from Sai Ying Pun demonstrates how Western theories of congestion undergo significant transformation when implemented in Hong Kong's unique context. The district's development pattern reveals several key innovations:

1. *The integration of heritage preservation within high-density development.*
2. *The creation of multiple ground planes to maximize spatial utility.*
3. *The sophisticated layering of circulation systems and programs.*
4. *The strategic use of topography to create three-dimensional urban connections.*

These innovations suggest that the transfer of congestion theory from West to East has not been a simple process of adoption but rather a sophisticated transformation that responds to local conditions while generating new spatial possibilities. The resulting urban form demonstrates how theoretical frameworks can evolve through practical application, creating urban environments that challenge and extend original theoretical propositions.

FIGURE 8 – Sectional Analysis of Vertical Program Distribution in Sai Ying Pun by Guo Yi, 2024.

Sources: (Guo Yi, 2024).



## Shenzhen Bay Super Headquarters Base: Laboratory of Vertical Urbanism

The Shenzhen Bay Super Headquarters Base represents perhaps the most ambitious contemporary manifestation of congestion theory, where theoretical concepts are translated into architectural form with unprecedented scale and sophistication. As evidenced in Figure 9's collection of architectural visualizations, the development embodies what might be termed "curated congestion" – a carefully orchestrated assemblage of iconic towers designed by leading international architects. The Central Green Axis (Project 1) and OPPO headquarters by Zaha Hadid Architects (Project 2) demonstrate how theoretical concepts of vertical urbanism are being reimagined through contemporary architectural expression, creating new typologies of corporate space that challenge conventional understanding of density and program.

FIGURE 9 – Architectural Visualization Collection of Shenzhen Bay Super Headquarters Base Development by Guo Yi, 2024.

Sources: (Guo Yi, 2024).



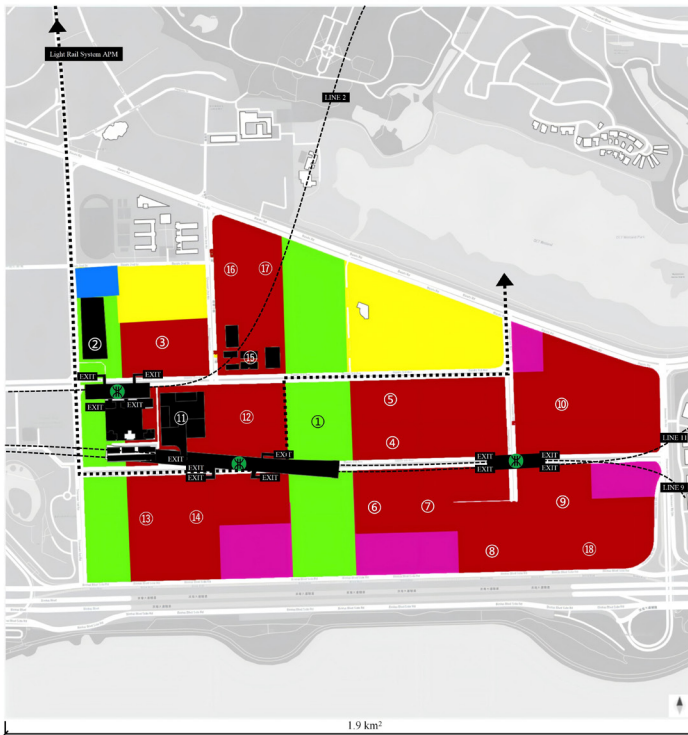
The strategic organization of the district, revealed in Figure 10's land-use plan, demonstrates a sophisticated approach to programmatic distribution across its 1.9 km<sup>2</sup> site. The careful balance of commercial service land (red), public green space (green), and administrative facilities (yellow) reveals how congestion theory has evolved to encompass not just density metrics but complex considerations of program mix and public amenity. This planning approach demonstrates a significant evolution from Western models of central business districts, introducing what might be termed "programmatic stratification" – the careful layering of different uses to create a more resilient and vibrant urban environment.

The sectional complexity of the development is particularly evident in Figure 11's analysis of the Huiyun Center (Project 11). Rising to 359.2 meters over 80 floors, the tower exemplifies how vertical congestion is being reimagined through sophisticated programming strategies. The building's tripartite organization – hotel, office/serviced apartments, and underground commercial space – demonstrates how contemporary interpretations of congestion theory emphasize programmatic diversity and vertical connectivity. The three underground levels (B1-B3) create a complex subterranean realm of public space and infrastructure, extending the concept of urban intensity below grade.



FIGURE 10– Programmatic Distribution and Land Use Strategy in Super Headquarters Base by Guo Yi, 2024.

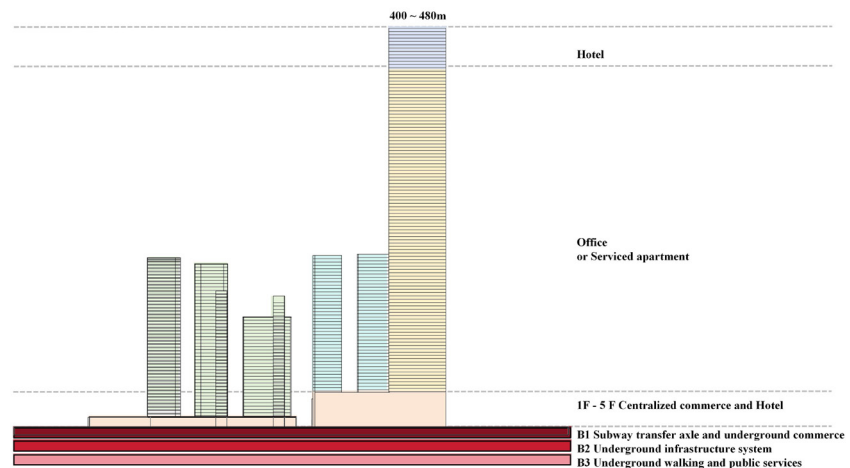
Sources: (Guo Yi, 2024).



- Shenzhen Bay Super Headquarters Base**  
 Stararchitect's work/foreign architect's work between 2013 and 2035
1. Central Green Axis
  2. OPPO. Zaha Hadid Architects
  3. Meituan
  4. Jmgdong
  5. Icar BonX. Design: Steven Holl Architects
  6. Evergrande Center. Design: East China Architectural Design and Research Institute  
Floors 71, 393.9 m, Office
  7. Vanke Headquarters Building. Design: Perry Clark Perry Architects
  8. CEC, China Electronics Shenzhen Bay headquarters base. Design: Gensler Architects
  9. ZTE headquarters. Design: Ole Scheeren Architects
  10. Uniontech
  11. Huiyun Center, SIC Shenzhen Super Bay Headquarters, Design: RFR Group  
Floors 80, 359.2 m, Hotel / Office
  12. Shenzhen Investment Holdings Company Limited
  13. CITIC Financial Center. Design: Skidmore, Owings & Merrill LLP  
Residential / Office SOHO / Hotel
  14. China Merchants Bank global headquarters building. Design: Foster & Partners
  15. Digital China Group headquarters base. Design: Shenzhen Huahui Design
  16. TCL
  17. Tianyin Building. Design: gmp Architects
  18. Hengli Building. Design: gmp Architects
- Legend:
- Black: Built-up area
  - Red: Commercial service land
  - Green: Public green space
  - Yellow: Development reserve
  - Pink: Land for public administration and service facilities
  - Light blue: Residential land
  - Dark blue: Land for public facilities

FIGURE 11 – Sectional Study of Huiyun Center: Vertical Programming and Connectivity by Guo Yi, 2024.

Sources: (Guo Yi, 2024).



The volumetric complexity of the development is further revealed in Figure 13's three-dimensional analysis. This diagram demonstrates how traditional concepts of urban grain and massing are being reconceptualized through what might be termed "volumetric articulation" – the careful manipulation of building form to create complex spatial relationships and visual connections. The resulting urban ensemble demonstrates several key innovations in the implementation of congestion theory:

**1. Programmatic Hybridization:** *The development moves beyond simple mixed-use to create complex programmatic relationships both horizontally and vertically. Notable examples include:*

- *The Evergrande Center (Project 6) with its 71 floors reaching 393.9 meters*
- *The ZTE headquarters (Project 9) integrating corporate and public functions*
- *The CITIC Financial Center (Project 13) combining office, residential, and hotel programs*

**2. Infrastructural Integration:** *The project demonstrates sophisticated integration of multiple infrastructure systems:*

- *Three-dimensional pedestrian networks connecting different ground planes*
- *Underground commercial and transit connections*
- *Elevated public spaces and sky gardens*

**3. Spatial Hierarchy:** *The development creates a complex hierarchy of public, semi-public, and private spaces through:*

- *Strategic placement of cultural and recreational facilities*
- *Integration of multiple ground planes and elevated public realms*
- *Sophisticated handling of vertical circulation and access*

**4. Environmental Innovation:** *The projects incorporate advanced environmental strategies:*

- *Integration of green spaces at multiple levels*
- *Use of sophisticated building systems for energy efficiency*
- *Creation of microclimate-conscious public spaces*

This evidence suggests that the Shenzhen Bay Super Headquarters Base represents not merely an implementation of Western congestion theory but rather its fundamental transformation. The development demonstrates how theoretical concepts of urban intensity can be reimagined through contemporary architectural and urban design strategies, creating new possibilities for vertical urbanism that extend beyond simple density metrics to encompass complex social, cultural, and environmental considerations.

Disclosing Transatlantic Influences On The Congestion Paradigm in Hong Kong and Shenzhen

Divulgando as influências transatlânticas no paradigma do congestionamento em Hong Kong e Shenzhen

Revelando las influencias transatlánticas en el paradigma de la congestión en Hong Kong y Shenzhen

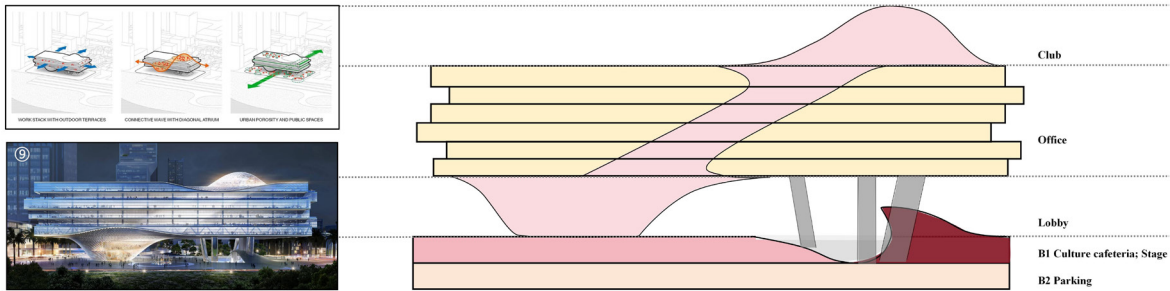


FIGURE 12 – Public Space Integration in ZTE Headquarters Building Section by Guo Yi, 2024.

Sources: (Guo Yi, 2024).

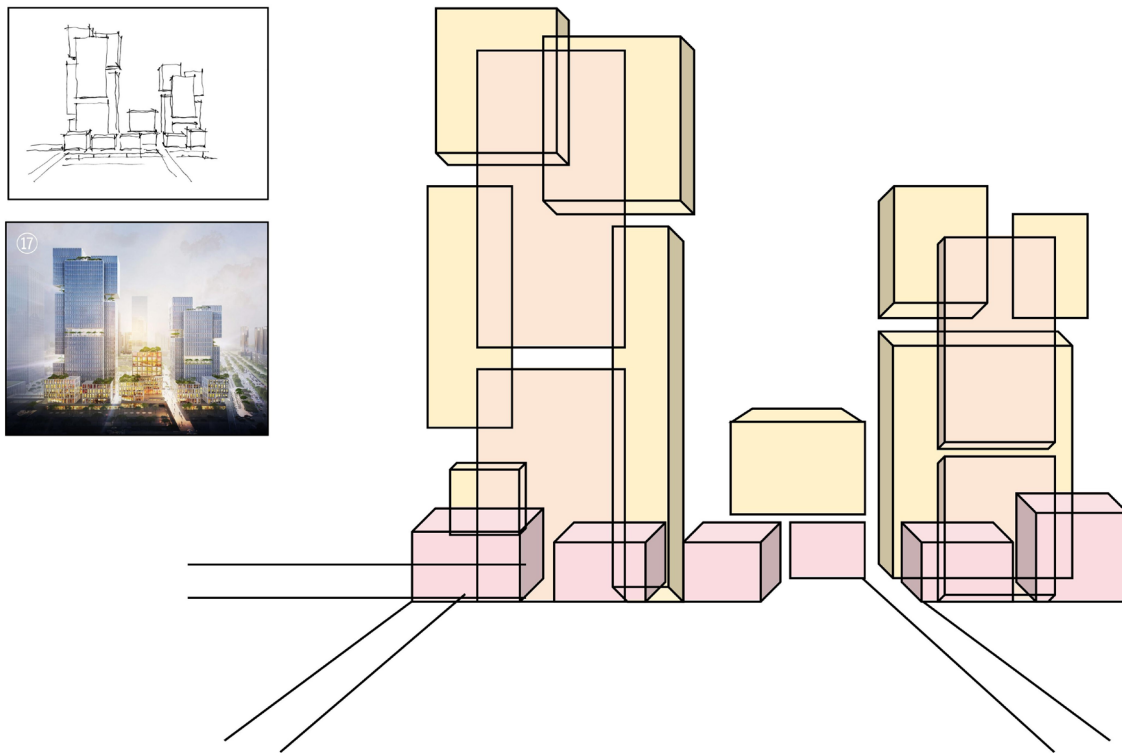


FIGURE 13 – Volumetric Analysis of Tianyin Building. by Guo Yi, 2024.

Sources: (Guo Yi, 2024).

## Final Considerations

The examination of transatlantic influences on the congestion paradigm in Hong Kong and Shenzhen reveals the complex processes through which theoretical frameworks traverse geographical and cultural boundaries, while also exposing fundamental contradictions in contemporary urban development. This research demonstrates how congestion theory has undergone a transformation from its origins in European critical thought to its contemporary deployment in Asian urban development, creating both opportunities and challenges for these rapidly evolving cities. The experiences of Hong Kong and Shenzhen illuminate how imported theoretical frameworks interact with local conditions to generate new spatial and social configurations that extend beyond their original conceptual boundaries, yet simultaneously produce significant

disparities in urban development and environmental impact. The implementation of congestion theory in these contexts has generated profound social and economic contradictions that characterize 21st-century urban development. In Hong Kong, the transformation of districts like Sai Ying Pun demonstrates how the strategic deployment of congestion has led to unprecedented wealth concentration while exacerbating social divisions. Housing affordability has reached crisis levels, with the average price-to-income ratio exceeding 20.8, making it the world's least affordable housing market. Similarly, in Shenzhen, the Super Headquarters Base represents a form of spatial privilege that contrasts sharply with the living conditions of the city's migrant workers, who comprise nearly half the urban population but often lack access to basic services and adequate housing. These disparities reveal how theoretical frameworks, when implemented within market-driven development systems, can inadvertently reinforce and amplify existing social inequalities.

The environmental implications of these development patterns present equally serious concerns that challenge the sustainability of the congestion paradigm. The extreme density of both cities has resulted in significant environmental challenges, including the urban heat island effect, air pollution, and excessive energy consumption. Recent studies indicate that buildings in Hong Kong's dense commercial districts consume up to 30% more energy per square meter than similar buildings in more moderate density environments. The emphasis on vertical development, while efficient in terms of land use, has created microclimatic conditions that often require additional energy expenditure to maintain comfortable living and working conditions. These environmental impacts suggest the need for a fundamental reconsideration of how congestion theory is implemented in contemporary urban development, pointing toward the necessity of integrating environmental sustainability more deeply into theoretical frameworks for urban density. As cities continue to evolve in the face of climate change and social inequality, the experiences of Hong Kong and Shenzhen offer crucial lessons about the possibilities and limitations of transferred theoretical frameworks in shaping sustainable and equitable urban futures.

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