# 50:50 —Sovereignty, Price, Density, Efficiency: *Housing-led Economic Urban Expansion in Hong Kong*

by

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## Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.



# Abstract

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Hong Kong is an ideal laboratory in which to study relationships between economy and architecture. In this city, tremendous power is held by both the state and in private capital. Urban form may be read as a tangible spatial manifestation both calculated and inadvertent, of a historic model of economic development since its origins as a colonial outpost living in borrowed times. Significantly, housing dominates the urban landscape and the city's economic underpinnings.

The housing-led economic urban system is not a reflection of market rationality. Instead, it is a complex and protracted attempt to preserve its land system. In colonial history, British authorities relied on the leasing of lands to control its ongoing development and to benefit from its ongoing economic growth. Today, although the model allows administrators to finance the government and maintain low direct taxation, it also requires the perpetuation of spatial distortions and the inflation of housing prices. These distortions result in a housing system that divides its population into two equally populous economic classes: defined by the difference between public and private home ownership.

Using a combination of photographs, illustrations, textual documentation, and spatial and statistical analyses, this thesis explores the social, economic and spatial impact of value maximisation in four key areas: Sovereignty, Price, Density and Efficiency. These measures of productivity respectively address the domains of power, market, urban geography and architectural morphology. Hong Kong's housing infrastructure is framed as a calibrated production, optimising all four aspects identified at the cost of chronic housing unaffordability. As space is designed for the abstract value it represents, Hong Kong has refined a rigorous process of spatial design that is paradoxically non-spatial, which has led to a homogenisation of spatial forms amidst growing socio-economic polarisation. The identification of spatial distortions and operations integral to the model's logical irrationality is the primary intent of this thesis.



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# Dedication

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245 f4·07 Composite documentation of wall-effect-like block formation permitted by early post-war legislation.

246 d4·02 Table showing key development attributes regulated by the 1962 Building Regulation: plot ratio, site cover, and height according to site classification. (HKPSG 2005, Table4)

246 p5·09 Photograph series showing Major Housing Estates representative of the early typologies under the 1962 Building Regulation: Cosmopolitan Estate.

248 f4·08 Diagram series highlighting the implications of block footprint optimisation to the total block spread over the site.

248 p5·10 Photograph showing two marginally spaced cruciform-shaped blocks forming a wall-like sequence.

249 f4·09 Diagram series outlining selected examples of configuration optimisation by open space consolidation in private housing estates.

250 p5·11 Photograph series documenting the typical courtyard view of various estates with different spatial configurations.

253 f4·10 Composite documentation of Mei Foo Sun Chuen: first podium-based major housing estate.

254 f4·11 Diagram series showing key private housing estate-ground interface types.

255 f4·12 1983-2003: Diagram series showing emerging podium adoption over time..

257 p5·12 Photograph series of notable podium and centralised amenities implementation in private housing developments to show the trend of increasing massiveness.

259 p5·13 Photographs juxtaposing the two primary functions of the The Belcher's podium.

260 p5·14 Photograph series showing various views from the surrounding of Villa Esplanada and Tierra Verde.

264 f4·14 An example of a decade-based historicisation of the public housing programme entitled 'Five Decades of public housing in Hong Kong' featured in the Hong Kong Housing Authority's golden jubilee review.

266 f4·15 Evolution of early public housing block typologies

269 f4·16 Diagram series explaining early public housing block area expansion strategies.

270 p5·15 Diverse housing block types.

270 f4·17 Diagram series explaining the trade-offs between block height and geometric profile in plan.

271 f4·18 Diagrams showing examples of typologies that are associated with the 1970s-1980s time period of block design experimentation.

273 d4·03 1960-2005: Composite data series documenting and tracing the evolution of block typologies over time through various geometric and developmental efficiency criteria.

274 f4·19 Annotated call-outs of Trident block plans showing the application of indentation for blocks containing larger units.

275 f4·20 Plan series showing the floor plan of cruciform-shaped blocks now currently used in multiple public housing programmes.

276 p5·16 Satellite image showing the repetition of cruciform-shaped blocks over Tai Koo Shing.

277 p5·17 Photograph of cruciform-shaped blocks in Kingswood, Park Central .

278 f4·21 Composite architectural documentation showing the average private housing development block.



279 f4·22 Architectural plan and section series showing shophouse-based typologies and variants representative of Hong Kong housing developments between 1900-1950s.

280 f4·23 Diagram series reviewing the building design implications of the 1962 Building Regulation.

280 p5·18 Photograph showing the proliferation of pencil towers in the city's older neighbourhoods.

280 f4·24 Architectural plan and axonometric drawing series showing various pencil tower case studies.

282 f4·25 Diagramming block-scale geometric operations (1).

282 p5·19 Floor plans of housing blocks with profile resembling block-scale geometric techniques described in 4.2.2 (1).

283 f4·26 Diagramming block-scale geometric consolidation operations (1).

283 p5·20 Floor plans of housing blocks with profile resembling block-scale geometric techniques described in 4.2.2 (1).

284 p5·21 Photograph series showing common private housing block-ground or -podium interface.

285 f4·27 Schematic drawing of space-saving scissor stairs.

285 p5·22 Photograph showing a static block-ground interfaces in a luxurious private housing estate.

285 p5·23 Photographs showing view through a residualised shaft space.

286 f4·28 Floor plans showing examples of early inefficient cruciform-shaped blocks.

287 f4·29 Composite documentation comparing and juxtaposing fragmented housing block in historical precedents and in Hong Kong's implementation.

288 f4·31 Composite documentation containing diagrams analysing housing blocks that are representative of common private housing blocks typologies in Hong Kong.

290 f4·32 Plan series of unique block designs selected from estates developed through the Private Sector Participation Scheme to highlight additional geometric manipulation on the point tower profile that produces increased developmental efficiency.

294 f4·33 Composite documentation juxtaposing similar forms of subdivision-based unit designs-in the past and present, and within both public and private sector housing.

296 f4·34 Artist's Documentation of domestic life within the units of Lower Ngau Tau Gok Estate.

299 f4·35 Axonometric drawing series showing the gradual development of self-sufficiency in the evolution of early public housing unit design.

299 f4·36 Plan series showing flexible unit configuration by Time-Budget Method.

300 f4·37 Public housing unit-room subdivision case study #1.

301 f4·38 Public housing unit-room subdivision case study #2.

302 f4·39 Public housing unit-room subdivision case study #3.

303 f4·40 Public housing unit-room subdivision case study #4.

304 f4·41 Photograph showing the appropriation of living spaces inside a large rectilinear unit-room.

305 p5·24 Photograph showing the appropriation of spaces inside a self-sufficient unit-room.

307 f4·42 Diagrams comparing possible internal unit configuration permutations as revealed through occupants survey.

312 f4·43 Axonometric drawing series highlighting two key stages in the optimisation-led evolution of the private housing unit.

313 p5·25 Photograph showing a typical window view from a kitchen or toilet inside a private housing unit.

313 p5·26 Photograph showing typical view from the streets looking up into the shaft space used to provide lighting and ventilation to the kitchen and bathroom programmes.

314 f4·44 Photographic collage curating the façade elevation collected from multiple private housing apartments to show the repetitive rhythm produced by the typical unit organisation.

316 f4·45 Diagram series showing unit-scale geometric operations (1).

317 f4·46 Diagram series showing unit-scale geometric consolidation operations (1).

318 f4·47 Composite figure series documenting the effects of geometric manipulations to the interior unit profile.

319 f4·48 Diagram series showing the overall unit-scale geometric trend of slenderisation and volumetric fragmentation.

322 f4·49 Composite documentation containing diagrams analysing housing units that are representative of common private housing unit typologies in Hong Kong.

328 p5·01 Photograph of a well-maintained Housing and Development Board (HDB) estate in Singapore's Chinatown.




# Preface

September 5th, 2012 2AM in the Wan Chai District of Hong Kong: it was my Norwegian friend Knut's last day in Hong Kong. Instead of engaging the common nightly festivities in Lan Kwai Fong that Hong Kong is so renowned for, we opted to take a stroll along Gloucester Road to reflect on our brief stays at the Fragrant Harbour.

Silence guided us and our instincts led us towards the business district Central—as far away from the noises of overplayed Swedish Electronic music emanating from the gentrified red-light district of Wan Chai's Harcourt Road behind us. I have of course taken this stroll many times before in my teenage years when the bus I normally take ceased to operate at this hour after a evening of conviviality with friends.

The sudden expense of undefined space that emerged at the western edge of Wan Chai [see pp.15 p1·03]—the threshold framed by Gloucester Road as it meets the Connaught Road veering sharply North—has a tranquillizing and analgesic effect: the overbearing density that typifies Hong Kong is abruptly displaced by an equally daunting landscape of concrete emptiness fragmented by layers of motorway infrastructures and street barriers masquerading as street vegetation.‡0.1

‡0.1 *As explained in 1.1.1, the peculiar discontinuous urbanism in this central urban area of the city is the result of early uncoordinated and negotiated planning.*

What was different this time—as I quickly realised upon passing the Anne Black Hong Kong Red Cross Headquarters—was that we were not alone: music was chanted in the distance.

I recall a reminder from my mother earlier in the day that students were camping outside of the new Legislative Building in protest of the latest instalment of Beijing's Orwellian policy imposition on education.‡0.2 The law would mandate that all secondary students participate in a course known as National Education; students were to be evaluated on the level of their 'patriotism'.

‡0.2 *The student protests took place ahead of the Hong Kong Legislative Election in 2012.*

t0.1 國民教育

A commentary on the ethical merits of this legislation is beyond the scope of this thesis, but it's suffice to say that the bill was not received well by the majority of the population. So in the usual manner of Chinese democratic activism, the university youth and unionised educators were the first to march on to the streets. The drama has temporarily faded by 3 AM, as only students remained in the tents they have set around the legislature. As we scanned the area, we saw students chanting, reading, writing slogans, and conversing. Slogans were plastered all over the banal curtain wall that adorned the postmodern podium structure.

I decided to listen in to a circle discussion that had just begun. The students were passing megaphones around as they shared their thoughts on the legislation. What began as a general confusion on the state of current political governance—as students pondered why their government appeared so opposed to intellectual welfare—soon evolved into a conversation about the city's general welfare.

Of the topics that remained, issues on housing topped the agenda. In one moment a student stated in great apprehension that he could not fathom the policy intentions of the state with regards to the younger generation: housing prices soared to record levels of unaffordability and the economy remained undiversified with little employment opportunities for the educated. In an attempt to lighten the mood, he jokingly suggested that perhaps the pro-Beijing government would like them to settle north of the border - in the manner that shopping and even mating north of the border had gained popularity or notoriety. The group smiled nervously - the joke seemed too close to home.

This conscious stream of emotionally charged queries on matters related to housing continued for several minutes. I was impressed by the calm rationality and comprehensive knowledge that the undergraduate students exhibited in their analysis of the affairs of their city. At the same time, I was saddened by the deafening tone of self-defeat and hopelessness. Initially, I could not comprehend why this group of students could possibly feel






so helpless—a group that nonetheless belonged to a statistically privileged class with future average salary likely above the city's median income.

My ignorance fortunately did not persist for too long; I was quickly reeducated on the strange economic reality that has always defined Hong Kong: that the city's wealth inevitably flows from land. And the existing policy on land is intrinsically tied to the city's prevailing socio-economic ills. All the reason why political activism regarding land and housing policy is pervasive and pressing: it is the question to which all social unrests eventually leads.



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# Introduction

0-1 Our built environments are fascinating reflections of the negotiation of interests between the various agents, whether state, capital, or consumer, responsible for its production. Whereas development models vary across jurisdictions, the underlying principles are consistent. The state, in accord with a set of social, political and economic requirements, provides a regulatory framework that defines freedoms of ownership and of the production of space. Development capital in turn responds to these requirements to generate space in accordance with market demand, satisfying its institutional mandate to maximise profit. The consumer dictates the quality of spatial production with its residual capacity as purchaser. This is the general operation of a capitalist political economy, where policy, production, and domestic and external economic factors interact with consumer aspirations to influence the movement of the property market to which all agents of society are subjected.

0-2 The exact constituent relationships of form, decision and economy, however, are not always easy to distinguish. But in a society where power, ownership and capital are to a large degree controlled and concentrated in the hands of identifiable agents serving largely singular objectives, these relationships become readily apparent. Such is the case of Hong Kong. Hong Kong is a city where both government and private developers hold extraordinary wealth and power.[‡0.3] Each are readily capable of implementing changes on an urban scale. Thus, the city constitutes an ideal, relatively well-defined laboratory in which to study relationships between economy and architecture. Using Hong Kong's housing architecture as the context for this investigation, the research seeks to provide an overview of the development of its housing-led urban form—an urban form that is the tangible spatial manifestation, both calculated and unintended, of the city's particular model of economic development engendered by its unique of particular set of political circumstances. Particular attention is given to the role of the public housing programme, a system which encompasses approximately half of the population, in facilitating the city's development objectives.

‡0.3 *1) The state is legally the owner of all land except for St. John's Cathedral in 4 Garden Road, the only freehold land, and 2) The 5 largest developers supply 51-71% of private units.*

0-3 Whereas the suggestion that production of space is responsive to economic conditions is simply a logical condition of a functioning market economy, a problem observed in Hong Kong is that the housing market is not a reflection of market freedom, rationality nor demand. Rather, the housing market in Hong Kong is heavily distorted by a complex development model, consisting of a policies designed to preserve its land system. British colonial authorities implemented a *Leasehold System* to maintain ownership of all land in order to control its ongoing development, and to extract ongoing benefits from the improvement of land value in order to maintain low taxation. In the present perpetuation of this model, land is auctioned off to property developers who pay an upfront premium and develop the land according to conditions attached to its lease. The model was conceived to respond to the circumstances of the time; the colonial administration sought to achieve financial self-sufficiency, optimise its control, and maximise the economic development of Hong Kong in face of its eventual return of its land to Chinese rule.

0-4 The simple logic behind this model, however, conceals a contrived system of irrational policies designed to maintain the development model by generating ongoing spatial and social distortions. In response, this thesis does not simply seek to explore the spatial implication of economic development, but rather uncovers the spatial consequences of the system's

logical irrationality. As public finances are dependent on land revenues, and land revenue is dependent on housing price, the government is required to maintain high property prices. Referred to as the *High Land Price Policy*, land value has been inflated by various factors: the ongoing restriction of land supply, the intensification of land use, the ongoing infrastructural improvement of land, and the optimisation of its value through a variety of mechanisms. Thus, the same land system that assists the government in achieving financial and political independence ironically subjects it to a mode of spatial production that is subservient to market volatility and contingent on the continuous exacerbation of the city's developmental pressures regardless of social consequences.

0-5 With public finance tied to the need for development, and the value of land tied to developmental intensity, public policies related to the production of space are designed to support private development capital under a framework of high development intensity. Consequently, the model incentivises the government to act as a collaborator with private development, and to facilitate its entrenchment in the economy. As the government's interest is aligned to the property sector, its capacity to act as a fair arbiter between public and private interests is compromised. Over time, the property development industry has consolidated unprecedented power over the political process of the city. As these private developers have acquired large segments of the economy, their influence over the city's economy and their control of the housing market has strengthened, propelling further housing speculation within an already dysfunctional market.

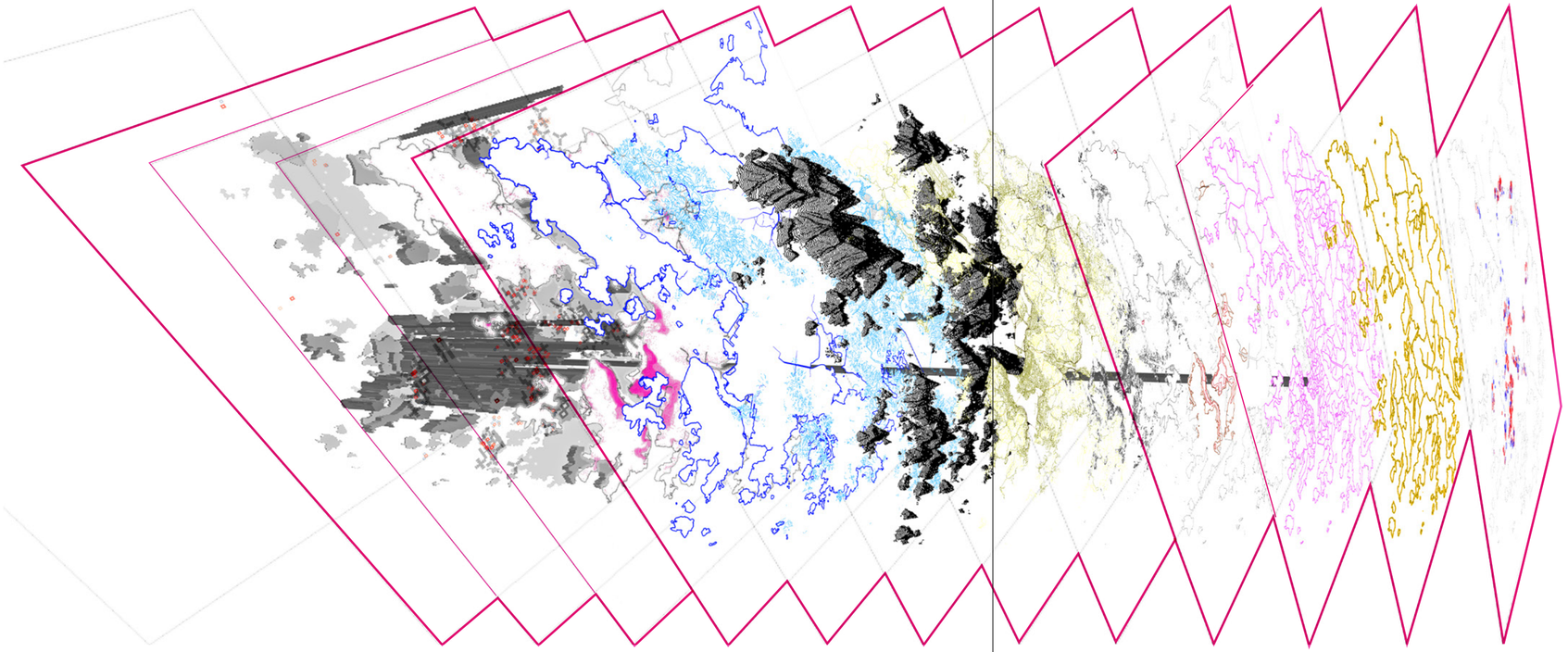
0-6 In practice, the support of large-scale private housing development is indicative of the development model's general predilection for intensified developmental scale and density. As these spatial preferences increasingly contradict the growing planning emphasis on balanced development and urban de-congestion, however, the legal facilitation of developmental intensity remains implicit, permitted by a flexible system of building and planning regulations. The system simultaneously misrepresents land scarcity and proposes spatial improvement, while lacking concrete, measurable specifications, or legal enforcement of its fulfilment. With over-density officially denounced but covertly tolerated by the various mechanisms embedded in the flexible planning framework, its role in permitting housing developers in all sectors to achieve ongoing development intensities would not be suspected. As such, high-density housing types have continued to proliferate across Hong Kong's territory despite proposed changes in planning.

0-7 The most obvious policy of spatial distortion, however, is observed in the government's direct intervention in space. Inflated housing prices inevitably results in a large segment of the population being unable to afford housing. As such, the government is compelled to provide housing directly in order to preserve the land policy contingent on high housing price. A second spatial distortion is thus created to support the existence of another: one of the world's largest public housing programme has emerged in what is supposed to be the world's freest economy. Furthermore, like Hong Kong's other spatial policies, the public housing programme has been capitalised to enhance the functioning of the land system. Subsequently, the public housing programme is a powerful urban expansionary tool that opens new land for future speculation and optimises the distribution of population across the geography. As a clear government intrusion in private economy, the public housing programme justifies its existence by subsidizing the economic development and absorbing the developmental pressure of the city.

0-8 Today, public housing has become an integral part of a national narrative on social improvement, centred on the transformation of a Chinese immigrant population into a productive urban middle-class whose success is defined by their future home-ownership capacity. It is a narrative representing the paradoxical role that the public housing programme has assumed as the facilitator of private housing development. Demographically, this programme divides the society approximately in half, into two economic classes defined by the difference between public and private housing accommodation and between home owners and renters. This composition has been calibrated to maintain housing demand while preventing social unrest. The two groups are locked in a perpetual cycle of social interaction where their interests are set in opposition. These interactions are manifested in the movement of housing price and production, which together form space at multiple scales as a secondary effect of the city's underlying economic conditions.

0-9 Behind this social polarisation, however, is the homogenisation of spatial form as housing developments increasingly converge toward a limited number of typologies, as builders adopt similar strategies of spatial optimisation. The consequences of market distortions are borne by all residents of Hong Kong, who have seen their housing standards stagnate even in face of enviable economic growth. The local development model accentuates the significance of housing price in spatial production such that the value of housing has become largely detached from measurable spatial quality. Consequently, the design and distribution of space is no longer the outcome of thoughtful consideration of its utility to it user, but skewed excessively towards the optimisation of its value and the maximisation of profit it can generate. As space is designed for the abstract value it represents, Hong Kong has refined a rigorous process of spatial design which is paradoxically non-spatial.





The thesis is divided into four parts, covering four components integral to the development model of Hong Kong: Sovereignty, Price, Density and Efficiency. These measures of productivity address the respective domains of power, market, urban geography and architectural morphology. Hong Kong's built environment is framed as a calibrated production that optimises the spatial attributes in all four categories.

The notion of Sovereignty is addressed in Part 1, which outlines the emergence of the city's development model centred on its land system and examines both the incidental spatial consequences generated by the model and the intentional spatial distortions implemented to the facilitate the land system through the public housing programme.

Price constitutes the core topic in Part 2. Discussion is centred on the commodification of housing in both the public and private housing sector as public policy evolves over time to facilitate private housing development. Whereas the first chapter examines the relationship between capital and scale, and the state and capital, the second chapter examines the calibration of housing price and production in space over time

The distribution of housing production across Hong Kong's geography as optimised density forms constitutes the topic of study in Part 3. While chapter 3.1 explores the systematic mechanisms supporting density embedded in the planning framework and housing market, chapter 3.2 explores the morphology of public housing-led urban expansion over time.

Maximizing permissible density, optimisation of spatial efficiency is achieved at the intimate scale of architecture by manipulating the configuration of the housing estate, the block, and the unit. Part 4 explores the spatial strategies across multiple scales of housing design in both public and private housing development to understand their long-term trajectories. ◊



# 1

## Sovereignty in finite time:
*production of colonial space*

# 1.1

## **State monopoly on time and space:** *borrowed place in borrowed time*

# 1.1.1

## Development by expediency: *a city's birth at the height of British mercantilism*

### 1111 *Trade imbalance*

1·1 In the early nineteenth century history of bilateral trade between China and Britain, the British demand for Chinese high-value luxury goods was fuelled predominately by their insatiable demand for tea. But because China would only accept payment in silver, this arrangement led to chronic trade deficits for Britain.[1-01] Thus in an attempt to reduce this trade imbalance, and to simultaneously render the Indian colony profitable, the British began exporting narcotic Indian opium to China.[1-02]

1·2 The opium trade grew quickly, and the flow of silver reversed as Chinese opium consumption accelerated [see p1·01].[1-03] The Daoguang Emperor hoped to end the opium trade in 1839 with the appointment of Lin Zexu as Governor of Canton, who ordered the seizure and disposal of opium stored in British factories and ships. A series of attempts by the British Superintendent of Trade to negotiate a compromise failed. When another **20'000 crates** of opium were seized in June 1839, the superintendent ordered a blockade of the Pearl River and a naval battle ensued.[1-04] Thus began the first of the Opium Wars. The birth of Hong Kong was intrinsically tied to the calibration of imperial trade calculus.

1·3 Although the First Opium War was officially fought on the principles of free trade according to the British Foreign Secretary Lord Palmerston, the early outline of the Treaty of Nanking that was drafted prior to China's defeat indicates that the British had always anticipated the acquisition of Chinese territory as settlement and compensation.[1-05] This outline, however, did not initially specify which territory to cede: a blank was left for the name of the colony to be inserted later.[1-06] Robert Montgomery Martin, an Anglo-Irish author and civil servant who was the first Colonial Treasurer of Hong Kong, wrote in an official report:

> *[T]he old treaty framed by the late Mr. Poulett Thompson in 1840... [was] sent out as a rough outline for the guidance of Captain Elliott in 1841, with a blank after the words 'the cession … of _____..' .. this old draft of a treaty was sent on shore by Sir Henry Pottinger with … the word 'Hong Kong' [included].*[1-07]

1·4 Thus, the final selection of Hong Kong in the *Treaty of Nanking* was not preconceived [see f1·01], but was instead a born out of expediency, to the extent that the 'actual cession was a surprise to all' — the selection of Hong Kong was an unwilling choice because the superintendent 'could hardly do otherwise.' [1-08]

### 1112 *Initial settings and control*

> *Hong Kong commands nothing: a glance at the chart will show that the navigation of the China seas is perfectly independent of Hong Kong; even the entrance of the Canton river is not controlled by Hong Kong. It is not possible by any outlay of money to make the island a fortress; and it is commanded by the opposite shore of the mainland.*[1-09]

[1-01] A. Peyrefitte, "After Macartney or a Spiral of Misfortune," in *The Immobile Empire*, Illustrated ed. (New York City: Alfred A. Knopf, 1992), 487–503.

[1-02] Ibid., 520.

[1-03] P.W. Fay, *The Opium War, 1840–1842: Barbarians in the Celestial Empire in the Early Part of the Nineteenth Century and the Way by Which They Forced the Gates Ajar*, Illustrated, Reprint, Revised ed. (Chapel Hill: U of North Carolina, 1997).

[1-04] A. Farooqui, *Smuggling as Subversion: Colonialism, Indian Merchants, and the Politics of Opium, 1790–1843* (Lanham, MD: Lexington, 2005).

[1-05] J.G. Ridley, *Lord Palmerston* (New York City: Dutton, 1971), 248.

[1-06] Martin, *China; Political, Commercial and Social in an Official Report to Her Majesty's Government*, 84.

[1-07] R.M. Martin, *China; Political, Commercial and Social in an Official Report to Her Majesty's Government*, Vol. 2 (London: J. Madden, 1847), 84.

[1-08] E.J. Eitel, "The Opium Question and the Exodus," in *Europe in China: The History of Hong Kong from the Beginning to the Year 1882* (London: Luzac, 1895).

[1-09] Martin, *China; Political, Commercial and Social in an Official Report to Her Majesty's Government*, 357.

*01 Hulton Archive/ Getty Images, "A group of opium smokers in Hong Kong," painting, 2001, *AVAX News*, http://avaxnews.net/touching/Opium_Smokers.html (accessed August 1, 2014).



p1·01 Photograph of a typical opium den in Hong Kong.

*02 J. Platt, "The Signing and Sealing of the Treaty of Nanking in the State Cabin of H. M. S. Cornwallis, 29th August, 1842," painting, 2001, *MIT Visualizing Cultures*, http://ocw.mit.edu/ans7870/21f/21f.027/opium_wars_01/ow1_essay04.html (accessed August 1, 2014).



f1·01 Painting showing the signing of the Treaty of Nanking.

— **Robert Montgomery Martin**, the colonial treasurer of Hong Kong, describes the lack of strategic value to maintaining Hong Kong.

2·1 As they settled in Hong Kong, the British described the sparsely populated territory of **7,450 persons** as a 'haunt of smugglers and pirates and inhabited by a few farmers, fishermen and stonemasons.' A considerable part of the town has a very 'barren appearance.' Though the colony was well situated athwart the Indo-China and China coast shipping routes and located in an 'enviable position with regard to the great inlet to Canton', its advantages were not unique and it was 'never actually required' by the British merchants.[1·10] The topography was noted to be extremely relieved with a shortage of natural developable flat land. Unsurprisingly, the colonial administrators periodically questioned the value of maintaining a colony that many thought was anything but 'prepossessing.'[1·11]

2·2 British businesses were nonetheless encouraged by the prospect of a permanent British territory in the Far East. The 'necessary ingredients to a speculative market', which would continue to characterise Hong Kong until the present day, were seemingly in-place from the region's colonial infancy.[1·12] Sites were occupied and building works begun without official approval soon after British occupation was confirmed. The early administrators were impressed with the speed of construction, and hastily conducted land sales before the formal legal framework was established [see p1·02]. Only *leaseholds*—not *freeholds*—were granted, however. The government retained the status of landlord over the entire population, so that it could maintain control over all development by means of the conditions which it attached to its leases.[1·13] These government leases would mature to become one of the city's primary and most powerful planning instruments.

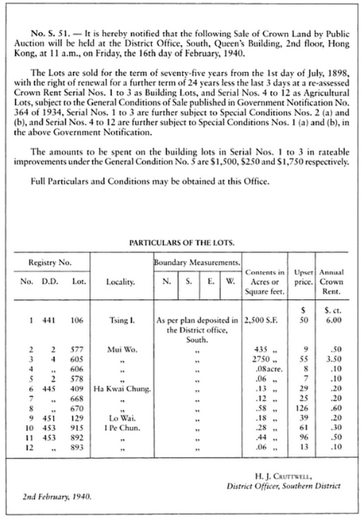
[1·10] R.H. Hughes, "1951. Hong Kong: An urban study." *The Geographical Journal* 117, no. 1 (1951): 1.

[1·11] Martin, *China; Political, Commercial and Social in an Official Report to Her Majesty's Government*, 321.

[1·12] R. Nissim, *Land Administration and Practice in Hong Kong*, 3rd ed. (Hong Kong : Hong Kong University Press, 2007), 3.

[1·13] Ibid., 11.





No. S. 51. — It is hereby notified that the following Sale of Crown Land by Public Auction will be held at the District Office, South, Queen's Building, 2nd floor, Hong Kong, at 11 a.m., on Friday, the 16th day of February, 1940.

The Lots are sold for the term of seventy-five years from the 1st day of July, 1898, with the right of renewal for a further term of 24 years less the last 3 days at a re-assessed Crown Rent Serial Nos. 1 to 3 as Building Lots, and Serial Nos. 4 to 12 as Agricultural Lots, subject to the General Conditions of Sale published in Government Notification No. 364 of 1934, Serial Nos. 1 to 3 are further subject to Special Conditions Nos. 2 (a) and (b), and Serial Nos. 4 to 12 are further subject to Special Conditions Nos. 1 (a) and (b), in the above Government Notification.

The amounts to be spent on the building lots in Serial Nos. 1 to 3 in rateable improvements under the General Condition No. 3 are $1,500, $250 and $1,750 respectively.

Full Particulars and Conditions may be obtained at this Office.

PARTICULARS OF THE LOTS.

| Registry No. | | | Locality. | Boundary Measurements. | | | | Contents in Acres or Square feet. | Upset price. | Annual Crown Rent. |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | D.D. | Lot. | | N. | S. | E. | W. | | | |
| | | | | | | | | | $ | $. ct. |
| 1 | 441 | 106 | Tsing I. | As per plan deposited in the District office, South. | | | | 2,500 S.F. | 50 | 6.00 |
| 2 | 2 | 577 | Mui Wo. | ,, | | | | 435 ,, | 9 | .50 |
| 3 | 4 | 605 | ,, | ,, | | | | 2750 ,, | 55 | 3.50 |
| 4 | ,, | 606 | ,, | ,, | | | | .08acre. | 8 | .10 |
| 5 | 2 | 578 | ,, | ,, | | | | .06 ,, | 7 | .10 |
| 6 | 445 | 409 | Ha Kwai Chung. | ,, | | | | .13 ,, | 29 | .20 |
| 7 | ,, | 668 | ,, | ,, | | | | .12 ,, | 25 | .20 |
| 8 | ,, | 670 | ,, | ,, | | | | .58 ,, | 126 | .60 |
| 9 | 451 | 129 | Lo Wai. | ,, | | | | .18 ,, | 39 | .20 |
| 10 | 453 | 915 | I Pe Chun. | ,, | | | | .28 ,, | 61 | .30 |
| 11 | 453 | 892 | ,, | ,, | | | | .44 ,, | 96 | .50 |
| 12 | ,, | 893 | ,, | ,, | | | | .06 ,, | 13 | .10 |

H. J. CRUTTWELL,
*District Officer, Southern District*

*2nd February, 1940.*

p1·02 Scan of a typical government Notification for Sale of Land.

2·3 By placing an expiration date on all developable land, the government could ensure that the leaseholders would utilise the land efficiently and expediently. The first Governor of Hong Kong, Henry Pottinger, was instructed by the Secretary of State for the Colonies in London that land must not be granted 'either in perpetuity or for a greater length of time than may be necessary to induce the tenants to erect substantial buildings.'[1·14] Referred to as the *Building Covenant*, the condition is a central feature in land administration since the colonial foundation of the city that requires that 'an acceptable amount of floor space (be constructed) within a reasonable period of time.' [1·15] Inadequate progress on site at the end of the *Building Covenant* period could result in the government's resumption of the site without any payment of compensation. Indeed, a sense of urgency prevailed as owners were obliged to maximise the development potential of land during their limited leasehold tenure.

[1·14] Ibid., 9.

[1·15] Ibid., 58.

## 1113 *Expedient planning and negotiated urbanism*

3·1 As building construction was initiated in haste driven by policy, urban planning in the city, too, was a by-product of colonial interests. There was initially little desire to industrialise the city or Hong Kong. For much of its early history, the British resisted attempts to conduct large-scale planning for the city. The early town planning of Hong Kong was ordinary and piecemeal, intended to provide basic infrastructure required to sustain development, and the most minimal planning framework and regulations capable of enabling speculation and ensuring that the development process would not 'wholly become anarchic capitalist urbanisation.'[1·16] As such, the early layout of the island was to be achieved by a contentious negotiation of interests between the early governor, the military, London, and the business and industrial class,[‡1.1] which were able to directly influence the laws they lived by.

[1·16] A.R. Cuthbert and K.G. McKinnell, "Ambiguous Space, Ambiguous Rights – Corporate Power and Social Control in Hong Kong," *Cities* 14, no. 5 (1997): 298.

‡1.1 *The early industrial and business class were concerned that the colonial government's land and planning policies would lengthen the overall approval process.*

3·2 A cliff between Albany and Glenealy Roads marks the site where the colonial administrator chose to build his headquarters: a centre which included the government Hill and the Murray Battery. It was at this position, 150 feet above sea level, that guns had an unobstructed line of fire into the harbour to defend the town and the anchorage [see f1·02].[1-17] The Murray Barrack, Victoria Barrack and the Headquarters for the British Forces Overseas Hong Kong were established in the areas immediately east of the government hill, thereby creating a military complex. The early city grew upon the residual space unoccupied by the Military Complex, extending east and west of the government Hill [see f1·03]·4.

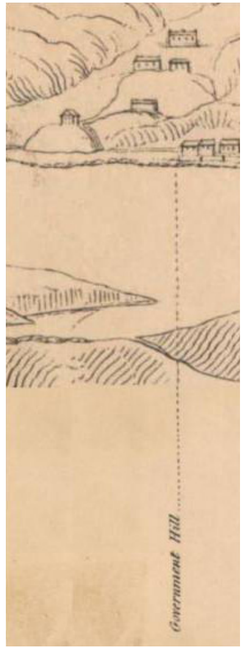
3·3 The first roads of Hong Kong serviced military needs. Holly Road, for example, was constructed to connect the military barracks in the north-west and centre of Hong Kong Island.[1-18] The prioritisation of military needs at the expense of urban considerations would eventually produce significant repercussions in the city's form. The appropriation of multiple sites for military use in otherwise central areas of the city reduced urban continuity by indiscriminately dividing the building fabric in several key urban areas. A notable example is the military district that divided Wan Chai from the central districts so severely that the urban effects of the segregation can still be perceived today [see p1·03].

3·4 Despite its precarious planning framework, Hong Kong's development gathered momentum quickly in these early years. Constructions of buildings, roads and other infrastructure continued with new land sales. The nucleus of a powerful European community appeared firmly in place. This confidence can be found in Governor Pottinger, who reported to London that 'the settlement had already advanced too far to admit of its ever being restored to the authority of the Emperor.' [1-19]

[1-17] "Historic Photos," *Government Hill Concern Group*, accessed January 1. 2015, http://www.governmenthill.org/images/history-TPB.htm.

[1-18] B.Y. Feng, *Xianggang Di Chan Ye Bai Nian = A Century of Hong Kong Real Estate Development* (Shanghai: Dong Fang Chu Ban Zhong Xin, 2007), 27.

[1-19] Nissim, *Land Administration and Practice in Hong Kong*, 6.




f1·02 Sketch of the early elevation of Government Hill.

*03 "outline sketch map of Hong Kong Island (detail)," Government Hill Concern Group, accessed January 1. 2015, http://www.governmenthill.org/images/history-TPB.htm.



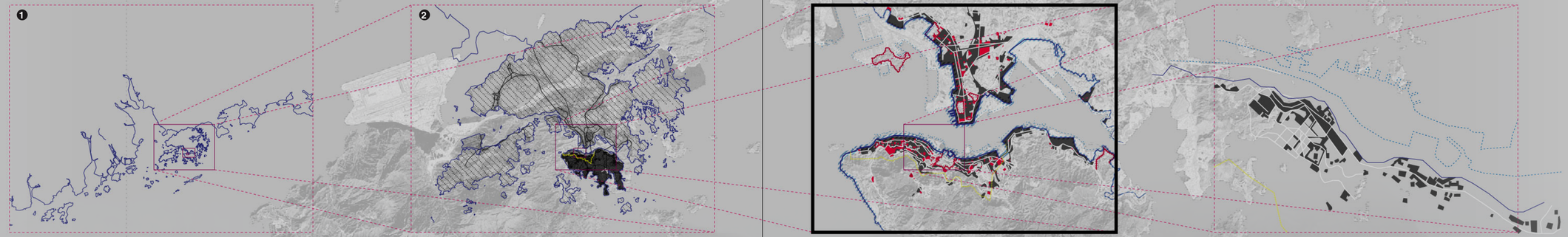
p1·03 Image sequence showing discontinuous urbanism in the older urban area around government hill.



***Key:***

***(1)***
- *Treaty of Nanking;*
- *Treaty of Beijing;*
- *Second Convention of Peking; and*
- *Victoria City, which is considered the capital of Hong Kong in the colonial era.*

***(2)***
- *Built-up area;*
- *Military buildings;*
- *Institutional buildings;*
- *1950 coastline.*




**f1-03** Map series highlight key aspects of Hong Kong's historical, contextual and urban developments.
***Content:*** (1) Hong Kong in Southeast China; (2) Mapping of Britain's piecemeal territorial acquisition of land that makes up Hong Kong today; (3) Architectural mapping of Hong Kong's built environment in the 1950s; and (4) Architectural mapping of Hong Kong's built in the early colonial year of 1890.

*04 É. Bayard, "Palikao's bridge, on the evening of the battle," painting, 1860. Wikipedia.org, https://en.wikipedia.org/wiki/Second_Opium_War.



**f1-04** Painting showing a battle in the second Opium War.

3-5 Since its beginning, Chinese nationals have been attracted to Hong Kong. Immigrants have come in large numbers to the city for employment opportunities, or to escape political turmoil, famine and weather calamities north of the border. These Chinese immigrants would exert tremendous developmental pressures to the city throughout its history, exacerbating both land and housing shortages.

1114 *Final war: expansion-expiration trade-off*

4-1 In 1858, the Chinese authorities once again drew the ire of the British when they seized the *Arrow*, a vessel displaying the British flag.[1-20] Dismissing China's claim that the vessel was engaging in piracy, the British Governor of Hong Kong ordered warships to bombard Canton, instigating the Second Opium War.[1-21] When the war ended in October 1860, the *Convention of Peking*, ratified by Prince Gong, opened new ports, ceded Kowloon to Britain, and established the right to freedom of religion.

4-2 Lord Palmerson, now the Prime Minister of the United Kingdom, claimed that the Second Opium War was fought to uphold British prestige.[1-22] As in the First Opium War, however, behind the lofty patriotic sentiments stood self-serving and contentious demands, such as the legalisation of opium and the regulation of the coolie trade. Fearing that Hong Kong could not be defended unless surrounding areas were also under control, the British demanded a **99-year** rent-free lease of New Territories, to expire at midnight on 30 June 1997, in the *Second Convention of Peking*.[1-23]

4-3 It was at this strategic moment that Hong Kong's territory was expanded to its contemporary legal boundary. As the new addition was set to expire in 1997, the conditions earning Hong Kong the epithet of 'borrowed places in borrowed times'

[1-20] J.F. Tsai, *Hong Kong in Chinese History : Community and Social Unrest in the British Colony, 1842-1913* (New York City: Columbia University Press, 1993).

[1-21] R. Cobden, *Speeches on Questions of Public Policy*, James E. Thorold Rogers ed. (London: T. Fisher Unwin, 1908).

[1-22] G. Melancon, "Honour in Opium? The British Declaration of War on China, 1839–1840," *The International History Review* 21, no.4 (1999): 874.

[1-23] J.W. Kyshe, *History of the Laws and Courts of Hong Kong. Tracing Consular Jurisdiction in China and Japan and Including Parliamentary Debates, and the Rise, Progress, and Successive Changes in the Various Public Institutions of the Colony from the Earliest Period to the Present Time*, Vol. 2 (London: T. Fisher Unwin, 1898), 529.



were attained. The British administrators were now ironically subjected to the temporality that has always been wielded by the British as a tool for exerting control over land development.

4-4 Their awareness of their own anachronism had a pervasive effect upon Hong Kong's urban development. It has arguably contributed to Hong Kong's rapid progress, which frequently favoured expediency over prudence, order over freedom, and differentiation over solidarity. These attitudes cannot be understated as they provide the context to which public policies that frequently caused social polarisation amidst spatial homogenisation could be rendered understandable and logical. The narrative of 50:50 is not a contemporary urban phenomenon, but an integral component of the city's development since its colonial founding. Hong Kong is the expedient product of competing sovereignties at a time when territory constituted the ultimate currency.

# 1.1.2

## **Differentiated privileges:** *developmental expediency by social segmentation*

1121 *New Territories as the instigator of expedient history*

1·1 The *Second Convention of Peking* in 1898 leased the remainder of Kowloon and the New Territories, including all the northern shores of the harbour, the land south of the Kowloon hills, and the island of Lantau to Britain for a period of 99 years to be expired in 1997—multiplying Hong Kong's territory twelvefold overnight.

1·2 Ostensibly intended to ensure proper military defence of the colony around the island, there was in fact little initial economic gain to be made from this territorial expansion. Instead, the territorial expansion was simply 'part of the geopolitics of the time in which foreign imperial powers were engaged in a race to divide up Chinese territories.'[1·24] And in this general context of disinterest towards the hinterland, the New Territories had for the first half-century of British rule 'remained virtually in the same relationship to the main city as they had been for centuries to the Imperial administration in Beijing.' Rice farming, local marketing, traditional clan organisations and village festivities persisted well into the colonial era [see p1·04].

1·3 With the lease of the New Territories set to expire after 99 years, it is understandable that the government was not eager in developing the area.[1·25] But notwithstanding this initial nonchalance, New Territories would become indispensable to the urban development of Hong Kong——legally serving

[1·24] P.Y.D. Lung, H.Y. Lee and T.Y.E. Chow, "The Changing 'Rural' Setting of Hong Kong's New Territories in the 20th Century," in *15th ICOMOS General Assembly and International Symposium: 'Monuments and Sites in Their Setting Conserving Cultural Heritage in Changing Townscapes and Landscapes,'* October 17–21, 2005 (Xi'an, CHN: ICOMOS,2005), 1.

[1·25] D.J. Dwyer, "Land Use and Regional Planning Problems in the New Territories of Hong Kong," *Geographical Journal* 152, no. 2 (1986), 232.



p1·04 Photograph showing a typical scenery of the New Territories in the 1950s.

*05 "Tai Po Aerial 1950s," photography, 1950. GX Garnerings, http://ricoh-gx.blogspot.hk/2010/03/tai-po.html (accessed August 1, 2014).

as the catalyst for decolonisation, and physically providing the background infrastructure required by the growing city. In a city in which the political economy is closely entangled with the land administration, the uncertainty surrounding the scheduled reversion of the New Territories to the People's Republic of China would also render Hong Kong's imminent return an unavoidable topic of discussion.[1·26]

[1·26] S.Y.S Tsang, *A Modern History of Hong Kong* (London: I.B. Tauris, 2003), 177.

1·4 Just as the finite tenure of the New Territories delimited the expiry of British imperialism, the tenure also provided a context of ephemeral sovereignty that helped legitimatise the *Leasehold System*. Because the New Territories constituted up to **90%** of Hong Kong 's land area, the New Territories were understood to be imperative to the future of Hong Kong. As such, Hong Kong's return to China was deemed an inevitable reality. Since the land did not belong to Britain, the colonial administration was able to retain totalitarian control over both land and politics by claiming that rights to the land were not theirs to grant to the local population in the first place. Britain styled itself as a temporary caretaker of the land, who was obliged to recognise Chinese sovereignty and 'its method of government in the event of the return of land leased from China.' [1·27] As such, the de facto nationalisation of land was justified as an inalienable institutionalised reality, necessitated by circumstances supposedly outside of British control that the public must simply accept.

[1·27] Cuthbert and McKinnell, "Ambiguous Space, Ambiguous Rights – Corporate Power and Social Control in Hong Kong," 296.

### 1122 *Arbitrary privilege for administrative convenience*

2·1 In practice, the legal situation of the New Territories was exploited extensively by the colonial administration to further its own interests. The agenda achieved expedient urban developments through social segmentation, to the extent that the colonial activities in the New Territories had largely served as the testing beds for the divisive framework of **50:50** that is so integral to Hong Kong's contemporary housing system.

2·2 At the time of British possession, the New Territories had around **100,000 persons** living in some **800 villages**. These figures stand in contrast to the estimated population on Hong Kong Island of **7,450 persons** at the time of its colonial foundation in 1941. It was clear that displacement of so many people would be logistically implausible.[1·28] A different approach to land administration than that adopted for the rest of Hong Kong was therefore necessary. So by administrative expediency, the indigenous persons of the New Territories were conferred special privileges while Hong Kong Island, Kowloon and New Kowloon were subjected to British laws that were strictly enforced.

[1·28] Nissim, *Land Administration and Practice in Hong Kong*, 12.

2·3 The new land administration devised by the incoming British administrators imitated the imperial land administration that existed before. 'We should govern somewhat in the present Chinese system', the Officer Administering the Government advised London. Residents of the New Territories were given the opportunity to prove their land ownership for title to their land.[1·29] Claimants who could establish their title to the satisfaction of the Land Court would enter into the *Schedule to the Block Government Lease* on the condition that land allocated was zoned as agricultural ground. A crown rent would be charged and these leases were given renewal rights. Additionally, special legislation was introduced to accord villagers special privileges with regard to land ownership, social organisation and the authority of the elders.

[1·29] J. Hayes, *The Hong Kong Region 1850-1911: Institutions and Leadership in Town and Countryside* (Hong Kong: Hong Kong University Press, 2012), 175.

2·4 Thus the precedent of unequal privileges was established. Over time, the initial privilege granted to the indigenous population would burgeon into a complex system of accommodative policies that continues to intensify the economic disparities induced by land and housing shortages.



This was especially the case towards the 1960s as urban expansion began to encroach into the New Territories through the New Towns development programmes.

[1·30] A. Poon, *Land and the Ruling Class in Hong Kong*, 2 ed. (Singapore: Enrich Professional Pub., 2011), 57.

2·5 The development of New Towns necessitated a large amount of land resumptions. In response, the cash-strapped government devised a system known as *Land Exchange Entitlements* (also called Letter A/B) beginning in the 1960s to acquire private land by offering a landowner affected by the resumption a choice of a future grant of developable land or compensation in cash, so that land was established as the currency to pay for the developmental costs. The *Letter B* stipulates an exchange ratio of **5 ft²** of agricultural land resumed to **2 ft²** of building land granted, and **1 ft²** of building land resumed to **51 ft²** of land granted. Cultural preferences determined that nearly no landowners opted for cash compensations.[1·30]

2·6 Similarly, the 1972 *Small House Policy* was 'devised to entice New Territories villagers to sell land to the government for New Towns development' in exchange for a once-in-a-lifetime grant of a housing site for occupancy by the village landowner and his family in designated areas, under the condition that the house to be erected not exceed **700 ft²** in area and **3 stories** in height **[see p1·05].** The entitlement was available to males over the age of 18 who could trace their ancestry, through the male line, back to 1898 as being an indigenous villager of an established village in the New Territory.[1·31] It was said that the policy would protect the 'perceived rural setting' of the New Territories and would help in 'preserving the cohesiveness of the indigenous villager community.'[1·32]

[1·31] S. Brown and C. Loh, *The Political Economy of Land* (Hong Kong: Civic Exchange, 2002), 5.

[1·32] Lung, Lee and Chow, "The Changing 'Rural' Setting of Hong Kong's New Territories in the 20th Century," 1.

### 1123 *Consequences of expediency*

3·1 Shortcomings abound in these policies, as the







**p1·05** Photograph series showing several typologies of New Territories housing.
(1) Traditional; and (2) Modern

*06 J. Belote, "Village in the New Territories 1950s," photography, 1950. Panoramio.com, http://www.panoramio.com/photo_explorer#view=photo&position=69&with_photo_id=19745710&order=date_desc&user=2497136 (accessed August 1, 2014).

entrenchment of differential privileges produced undesirable social and spatial consequences. The preclusion of building construction on the *Block Government Lease* in the absence of statutory planning requirements created barren landscapes of open storage in lots supposedly defined as agricultural grounds,[1·33] while the practice of the *Small House Policy* gave rise to low-density housing that replaced the vast majority of vernacular village housing typologies [see p1·05].[1·34]

[1·33] Nissim, *Land Administration and Practice in Hong Kong*, 119.

[1·34] Lung, Lee and Chow, "The Changing 'Rural' Setting of Hong Kong's New Territories in the 20th Century," 1.

3·2 Additionally, the open-ended commitment of the policy contributed to the inefficient use of scarce land resources and placed the rights of the indigenous people in direct opposition to the collective urban rights of the rest of the population, who continues to suffer from dismal spatial standards today. Whereas indigenous villagers were generously compensated in land resumption, non-indigenous villagers who upheld the agrarian tradition could be evicted with little compensation. What is more, the eligibility requirement of male linage constituted state-sanctioned gender discrimination.[1·35]

[1·35] Brown and Loh, *The Political Economy of Land*, 5.

3·3 Perhaps the greatest consequence of these divisive policies was that they set the stage both socially and economically for the increasingly private orientation of Hong Kong's housing system — a system contingent upon the assertion self-interests. The land privileges conferred to qualified villagers 'created a self-enforceable rule' whereby legally licensed villagers were financially 'motivated to protect their own interest by helping to stamp out' the illegal constructions of non-qualified villagers.[1·36]

[1·36] Lung, Lee and Chow, "The Changing 'Rural' Setting of Hong Kong's New Territories in the 20th Century," 1.

3·4 In fact, these land privileges have even fuelled speculation within the development model. For instance, the right of qualified villagers to transfer ownerships to non-indigenous persons opened the possibility for villagers to profit from the sale of their small houses. Similarly, the *Land Exchange Entitlement* became an instrument of speculation, rewarding those developers who collected large amount of agricultural land in the New Territories with unrivalled developmental rights—giving them a virtual monopoly in New Town housing developments.[1·37] #1.2

[1·37] Poon, *Land and the Ruling Class in Hong Kong*, 60.

### 1124 *Differentiated privileges to maximise state autonomy*

4·1 Divisive policies were not exclusive to the management of the New Territories: in the colony's early days, European elites were acutely concerned with the urban conditions of Chinese settlements, as indicated in Sir William Robinson's report that 'the filthy habits of life amongst the **210,000 Chinese** who reside here have rendered Hong Kong liable to the invasion and development of the… bubonic plague.' [1·38] The maintenance of a 'healthy place of residence' for European settlers 'who are accustomed to a temperate climate ' consequently led to the 1904 *Peak District Reservation Ordinance*, which exclusively reserved parts of the Victoria Peak as an place of residence for non-Chinese people.[1·39] The policy followed a precedent set by the 1888 *European District Reservation Ordinance*, which mandated the construction of European-style single-family detached houses in certain areas of Victoria City [see f1·05].

[1·38] E.G. Pryor, *Housing in Hong Kong in Hong Kong*, 2nd, Illustrated ed. (Hong Kong: Oxford University Press, 1983), 65.

[1·39] T. Wiltshire, *Old Hong Kong*, Vol. 2 (Hong Kong: FormAsia, 1997), 21.

4·2 It is evident that the strategy to influence public order by the regulation of architectural and urban forms was well established in the colony's early history. As the examples of the *Small House Policy* and *European District Reservation Ordinance* show, differential privileges were established through building regulations that entrenched social identification to spatial form, which produces a coupling of social and spatial policies that achieved a host of governmental objectives through the control of space. It was an apparent concern for the built environment that frequently harboured deeply rooted anti-social intentions designed to institute a particular social hierarchy. In the early history of Hong Kong, the sequence of privilege is ranked as follows: Europeans, recognised indigenous residents, and the remainder of the local Chinese populace [see d1·01]. Based on a range of simplistic formal generalisations, these policies have even led to unintended consequences in the city's urban form.

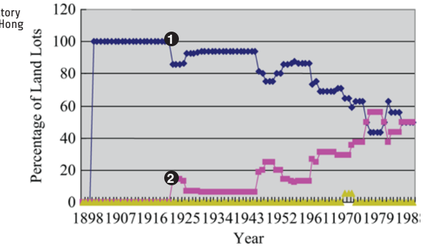


*07 L. Lai, "Discriminatory zoning in colonial Hong Kong," *Property Management* 29, no. 1 (2011), 56.



f1·05 Map showing the areas prohibited by the Peak District Reservation Ordinance from use for non-Europeans.

*08 Lai, "Discriminatory zoning in colonial Hong Kong," 76.




d1·01 Graph showing the percentage composition of land ownership by race in the colonial era.
***Race:*** (1) Europeans; and (2) Chinese.

4·3 Differential privilege in housing policies is a practice that persists throughout Hong Kong's history. Examples are numerous: the distinction between squatters in 'tolerated areas' and squatters in 'non-tolerated' structures provides differential public housing eligibility for different classes of squatters.[1·40] Historically, the preferential allocation of public housing to the selected class of squatters, civil servants and residents of early resettlement housing over applicants with genuine compassionate socio-economical needs constituted another form of differential privilege. The next chapter will continue to explore emergent divisions within the public housing system and their spatial implications [see f1·06].

[1·40] M. Castells, L. Goh and R.Y.W. Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore* (London: Pion, 1990), 22.

4·4 In confronting the diverse geographic and demographic distribution of Hong Kong, which presented significant logistical challenges, the early administration sought expediency and the maximisation of its autonomy by the practice of social segmentation. In this regard, the government merged the provision of social rights with the monopolistic practice of absolute price discrimination. However, as demonstrated in numerous instances throughout this sub-chapter, social categories by circumstances have in turn incapacitated the government—both past and present—from fulfilling its own policy objectives, and have produced unnecessary social tensions and unintended spatial consequences.

4·5 In the negotiations leading to the 1984 *Sino-British Joint Declaration* to determine Hong Kong's future, then-Chairman of the Central Advisory Commission of the Communist Party, Deng Xiao Ping, formulated a constitutional principle known as *One Country, Two Systems* to quell public fears on

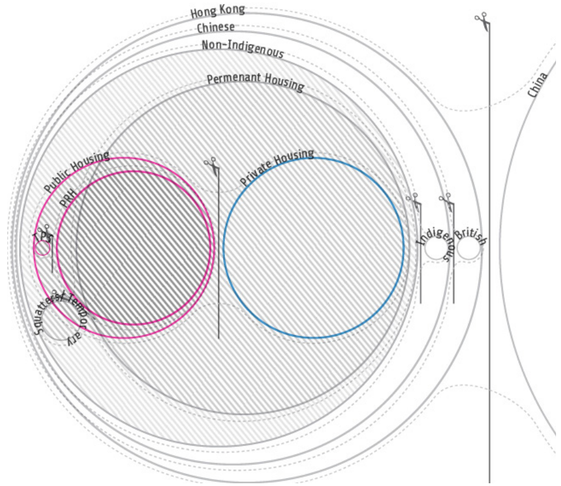
the return of Hong Kong to Chinese sovereignty.[1-41] The principle guarantees that distinct Chinese regions such as Hong Kong, Macau, and Taiwan could retain their established capitalist economic and political systems under a high degree of autonomy for at least 50 years after reunification, with constitutional protection on various fundamental human rights and freedoms.[‡1.2] Although the agreement was considered a breakthrough in Chinese politics, Hong Kong—as amply demonstrated in this subchapter—was no stranger to the notion of united citizenship existing in simultaneity with differentiated privileges. The precedent of **50:50** had long been established in the city's early history as a tool to maximise state control in the pursuit of expedient urban development.

‡1.2 *Some scholars had claimed that the framework of 'One Country, Two Systems' was originally designed to entice the Republic of China (Taiwan) into considering unification with China. The People's Republic of China hoped to pilot the system in Hong Kong to demonstrate that capitalism, and its associated prosperity, can be preserved within China* [1-42].

[1-41] G.E. Edwards, "Applicability of the 'One Country, Two Systems' Hong Kong Model to Taiwan: Will Hong Kong's Post-Reversion Autonomy, Accountability, and Human Rights Record Discourage Taiwan's Reunification with the People's Republic of China?" *New England Law Review* 32, no.2 (1998): 756.

[1-42] Ibid., 752.






f1-06 Diagram showing the various social, economical and political classifications of Hong Kong's population that constitute differential privilege and social segmentation.

# 1.1.3

## Taxation by perpetual land value inflation: *state-sanctioned price maximisation*

1131 *Fiscal survivalism*

> *We hesitate not to assert, that with the exception of two or three houses… nearly every merchant in the place would cheerfully dispose of his property at cost price, and abandon this island; and even the exceptions we have made, could manage their business equally well at Macao.*[1·43]
>
> — **Robert Montgomery Martin** reports the opinions of '**Friend of China**' to show the value of settlement in the estimation of the merchants who 'unfortunately' settled at Hong Kong.

[1·43] Martin, *China; Political, Commercial and Social in an Official Report to Her Majesty's Government*, 346.

1·1 While Hong Kong was officially acquired by Britain to advance imperial trade, many in the merchant class remained sceptical that the colony could become 'a place of commerce.'[1·44] Chronically under-appreciated, the colonial administration had no choice but to implement a land system that would allow it to retain ultimate control over the land, so that it could compel the colony's ongoing development.

[1·44] Ibid.

1·2 Mere control cannot guarantee the viability of a colony, however, nor does it explain the necessity of the land administration. In fact, the *Leasehold System* must be conceived not only as a mechanism for maintaining control, but rather a revenue generator required to counter recurrent denouncement of the colony's 'utter worthlessness in every



*09 "1850 Victoria Harbour," photography, 1850. China Mike, http://www.china-mike.com/wp-content/uploads/2011/02/ (accessed August 1, 2014).

f1·07 Painting conveying the barren quality of Hong Kong when it was initially colonised.

point of view to England.'[1·45] It was through the *Leasehold System* that the colony could achieve autonomy,[‡1.3] ensure its preservation and concretise its benefits to Her Majesty's government.

1·3 In its early days, Hong Kong occupied a precarious fiscal position: the cost to Britain to maintain Hong Kong was approximately **250,000 Sterling per year** (equivalent to **28 million GBP**, or **43 million USD** in today's funds), without Hong Kong contributing ascertainable benefits to England.[1·46] Resentments emerged in the Parliament of Great Britain as the government bore the total cost of defence, administration and public works. Subsequently, instructions were issued early on 'that Hong Kong was expected to pay for itself.'

1·4 Since confidence in the city's economy rested upon its ability to operate as a free entrepôt,[1·47] the colony's ability to generate revenue through taxation was severely limited. Custom duties levied on imports and higher income taxation were infeasible, both politically and economically. Even though the government sought to experiment with alternative means to raise revenue, it was understood that 'the principal source revenue was to be rent from land.'[1·48]

1·5 There was a strong political rationale for adopting a less direct form of taxation. The use of land revenue, instead of more overt forms of taxation, is cited by some academics as having been a pre-emptive measure to reduce the natural demand for democracy that would readily arise in a society subjected to more explicit forms of taxation.[1·49] As such, indirect taxation by land value extraction served to preserve the autonomy of the unelected and largely unaccountable colonial administration.

‡1.3 *Whitehall posits that Britain's decision to use land as the principal source of revenue in Hong Kong was a result of their experience in the Americas, where explicit taxation in the context of colonial United States had rapidly generated calls for representation. Thus, the reliance on land taxes, in place of individual taxes, could pre-emptively reduce demands for democracy, at a time when only 10% of the population in Britain was allowed to vote.*

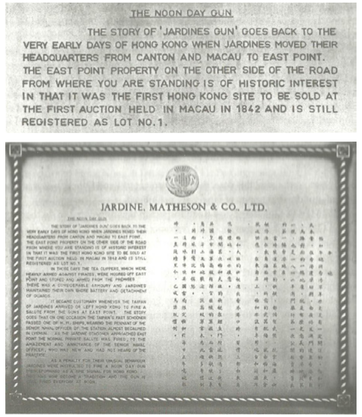
[1·45] Ibid., 403.

[1·46] Nissim, *Land Administration and Practice in Hong Kong*, 11.

[1·47] Tsang, *A Modern History of Hong Kong*, 162.

[1·48] Ibid., 11.

[1·49] Brown and Loh, *The Political Economy of Land*, 9.




f1·08 Photographs showing the commemoration of the first land sale in Hong Kong.

*1·0 Nissim, *Land Administration and Practice in Hong Kong*, 8.



[1·50] Y.C.R. Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, Illustrated ed. (Hong Kong: Hong Kong University Press, 2015) 153.

[1·51] P.W. Liu, "Land Premium and Hong Kong Government Budget: Myths and Realities," Working Paper 19 (Institute of Global Economics and Finance, Chinese University of Hong Kong, Shatin, Hong Kong, 2014), 1.

[1·52] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 153.

## 1132 *Hidden taxation—the High Land Price Policy*

2·1 In an undeveloped city with few existing amenities, however, land value had to be constructed through tight legal restriction in its transfer and development. This is the premise of the *High Land Price Policy*, a view alleging that the government had 'deliberately reduced supply of land in order to raise its [property] price so as to maximise government revenues from land sales.'[1·50] The theory continues to hold wide currency among broad spectrum of the public, academia and political parties. A more scathing interpretation of the policy additionally faults the government for accumulating massive fiscal reserve through 'land sale revenue with little regard for the social consequences of high land prices.'[1·51]

2·2 Although no one would dispute that both housing prices and land costs are high in Hong Kong, the *High Land Price Policy* remains a controversial proposition that is consistently denied by both the colonial and current Special Administrative Region governments. Certainly, there has never been any mention of such policy in publicly available government documents. It is also true that government revenues cannot simply be increased indefinitely, because businesses would be 'driven out by higher land values.' [1·52] But while the existence of an official policy towards price inflation is debatable, the capacity of the government to influence the city's property prices is not.

2·3 In fact, an examination of the statistics from 1980 to 2010 on housing price, government revenue, land supply and land premiums readily establishes key correlations indicative of the *High Land Price Policy*. Whereas land supply is negatively correlated to housing price, both government revenue and land premiums are positively correlated to housing price. Evidently, the government has an incentive for preserving housing prices to maintain strong public finances. Combined with the observation that land supply has experienced both long-term overall decline and short-term decline amidst a period of property market upswing, it is not difficult to establish that the restriction of housing supply, whether deliberate or not, had intensified the inflation of housing price to the benefit of the government [see f1·09].

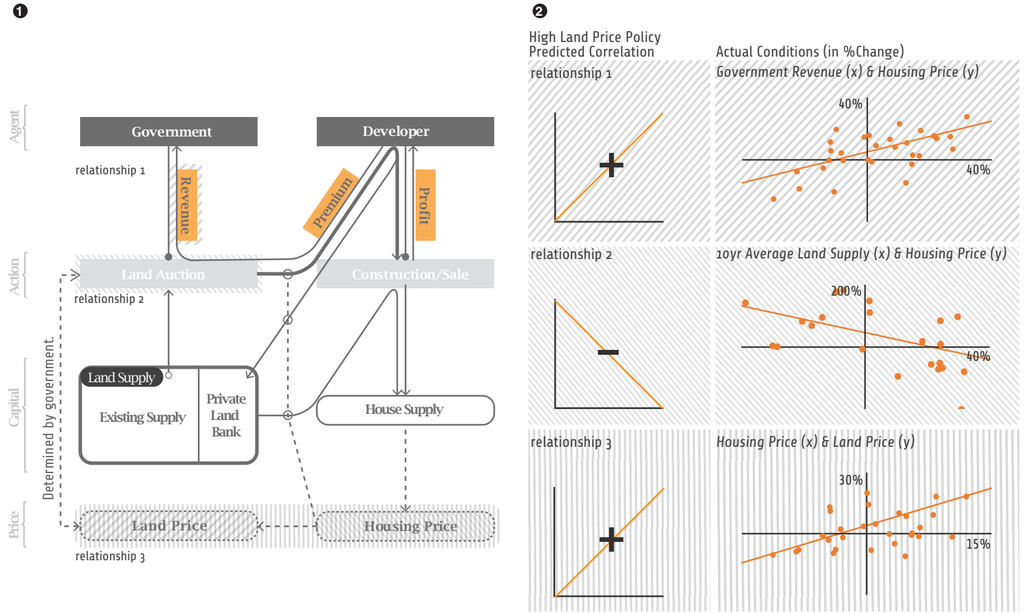
2·4 In addition to statistical evidence, there also exists extensive historical documentation suggesting that the government has been highly conscious of its capacity to impose land restrictions that can facilitate land revenues maximisation since the colonial era. In his first days as the Governor of Hong Kong, Sir Pottinger established a *Land Committee* to consolidate the land administration of the colony. The committee reported that land had been sold previously for less than its real value, and suggested a revaluation.[1·53]

2·5 What followed was a familiar pattern of exchange and negotiation between the merchant class, the colonial administration, and the Secretary of State for the Colonies that persists in the city's land administration today. When complaints were issued by the chief merchants, the colonial administration would show little sympathy, and the home government in London would reiterate its support for the administration's effort to self-finance by high land rents.[1·54] Although some concessions were made for the merchants, the governing principle remained: the tenure of *leasehold* was used as tool by the state to influence development and to extract the benefits of ongoing growth.

2·6 Further suggestions on the motive of the *Leasehold System* can be found in the dispatch from Joseph Chamberlain in his capacity as the Officer administering the government of Hong Kong. In his letter, he urged that future leases should be granted for no longer than **75 years**, in order to ensure that the government could maintain effective control over the 'land

[1·53] Nissim, *Land Administration and Practice in Hong Kong*, 10.

[1·54] Ibid., 11.




**f1·09** Composite figure showing the mechanisms and effects of the High Land Price Policy.
***(1)*** Digram showing the interactions between the state and capital, as expressed in the production and price of land and housing; and ***(2)*** Corresponding statistics indicate of the relationships expressed in (1).



of the Colony, and of all the advantage of any future enhanced value of the land.'[1·55] It is clear that the ultimate objective for land administration was to facilitate the appreciation of land value with the expectation that the government should be able to benefit from the ongoing improvement of land in a repeatable, predictable and systematic manner.

[1·55] Ibid., 12.

2·7 The success of revenue generation by the collection of land premiums materialised within less than fifteen years following the founding of the colony. By 1847, **45%** of the total revenue collected, or **50,959 Sterling**, was derived from land. And with Hong Kong's ability to produce budgetary surpluses attributed to the colonial administration's resolve to extract value from land, the notion that land revenues were indispensable to the colony's maintenance of sound finances was firmly accepted by both the home government and the colonial administration.[1·56]

[1·56] Ibid., 14.

### 1133 *Perpetual construction state*

3·1 Perpetual maximisation of land revenue required ongoing physical distortions, however. In addition to the technique of supply restriction, the government encouraged the appreciation of land value by affecting improvement to the land. This was evident in the colony's early practice of maximizing the land value of a newly opened site by constructing new roads and streets.[1·57] Even unto the present day, Hong Kong continues to be a 'construction state,' to the extent that some have faulted the land system as being the reason why 'much of Victoria Harbour—once one of the world's most beautiful waterways—has disappeared under concrete,' It seems the government is locked in a permanent existential quest to form new land in order to generate revenue to sustain itself.[1·58]

[1·57] Ibid.

[1·58] David Pilling, "Hong Kong's Land System that Time Forgot," *Financial Times*, March 9, 2001, http://www.ft.com/cms/s/0/27310d50-4a87-11e0-82ab-00144feab49a.html.

3·2 Today, the budgetary mechanism enabling infrastructural spending is known as the *Capital Works Reserve Fund*. The fund exists within the *Capital Account*, which encompasses approximately **20%** of the government's consolidated fiscal account. It derives its major revenue item from land premiums, and its funds can only be allocated for expenditures on transportation infrastructure, hospitals, schools, and other facilities.[1·59] With a substantial portion of the city's budget systematically allocated for infrastructural projects, a 'building frenzy is generated in perpetuity.'[1·60] Thus development model contingent on land supply restriction not only deprives the public of housing affordability, but also mandates that the value extracted from land be returned to the ongoing exacerbation of its inflation.

[1·59] Liu, "Land Premium and Hong Kong Government Budget: Myths and Realities," 11.

[1·60] Pilling, "Hong Kong's Land System that Time Forgot."

### 1134 *Long-term volatility for short-term fiscal security*

4·1 As revenue from land premiums is aligned to the property cycle, the greatest risk posed by this dependency on land premiums is that the government has rendered its fiscal capacity vulnerable to market volatility. Since land premiums are dictated by changes in prices in the property market, the magnitude of fluctuations in the percentage share of land premiums to government revenue has ranged anywhere between **2% to 25%** during the period from 1980 to 2013. This volatility makes land premiums an unreliable source of income, and logically leads to myopic spending practices that avoid expansion of long-term spending commitments, such that public policy is institutionally conditioned to be short-sighted [see d1·02].

4·2 Pro-cyclical spending patterns also have the potential of exacerbating market movements:‡1.4 since there is no guarantee that a surplus will return in a subsequent year, surplus in one fiscal year 'puts pressure on the government to spend more in the following year.'[1·61] As a consequence, both

‡1.4 *Keynesian economists generally advocate the automatic use of discretionary counter-cyclical spending to lessen the impact of the business cycle, which in turn helps stabilise the economy.*
[1·62] *Thus, pro-cyclical practices refer to economic policies that could magnify the economic fluctuations caused by the business cycle.*

[1·61] Liu, "Land Premium and Hong Kong Government Budget: Myths and Realities," 11.

[1·62] S. Jahan, A.S. Mahmud and C. Papageorgiou, "What Is Keynesian Economics?" *Finance and Development* 51, no. 3 (2014): 53.

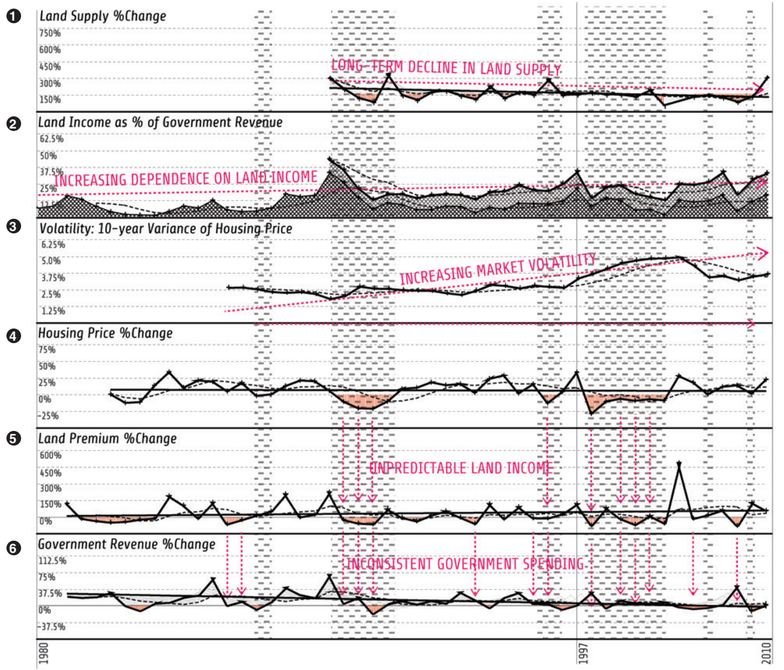
housing unaffordability and the negative social consequences associated with respective economic growth and contraction are unnecessarily intensified—a situation further compounded by the balanced budgetary practice mandated by the city's constitution.

[1-63] Brown and Loh, *The Political Economy of Land*, 10.

4-3 It is estimated that no less than **45%** of government revenue comes from land, including land premiums, property rates and taxes on property developers' profits.[1-63] High land prices are often mistakenly interpreted as a barometer for an economy's success. Such logic is reductive, and it ignores the capacity for a government to manipulate land prices by land administration and planning regulations. In the case of Hong Kong, land prices are a testament to the nascent colonial administration's attempt to produce and extract value from a city with minimal inherent investment and productive capacity.

4-4 However, in entrenching a system that was ostensibly designed to sustain the city's public finances and maximise the city's autonomy, both the previous colonial and current Special Administrative Region governments of Hong Kong have ironically rendered the city subservient to a particular mode of development that is contingent upon the aggressive pursuit of property development—a mode of development that has the potential to intensify the economic volatility of the city and thus negate the capacity of the government to sustain its independence.






***Key:***
*2-year moving average [dashed line];*
*Least squares linear regression [thick straight line];*
*Years in which the respective metric is experiencing negative growth [red hatch]; and*
*Years when the private housing market is contracting [minus sign pattern].*

*(1) The growth rate steadily declining over time from positive to negative annual growth. Intensification of the supply restriction of land, as the government becomes more dependent on land revenues (2), leads to constant private housing price increase (4).*

*The inflation of the housing prices also tends to increase the volatility of the housing market (3), which render land income and unpredictable source of government revenue (2)(5). This in turns encourages the government to adopt pro-cyclical and unstable spending practice that has the potential to further intensify the market dynamics.*

*As the government increasingly becomes both dependent and supportive of the speculative housing market, its fiscal capacity is ironically rendered subservient to the housing market (6)—a market whose volatility it has helped exacerbated.*

d1-02 1980-2010: various governmental, land, and housing statistics indicative of the High Land Price Policy and its consequences.

# 1.2

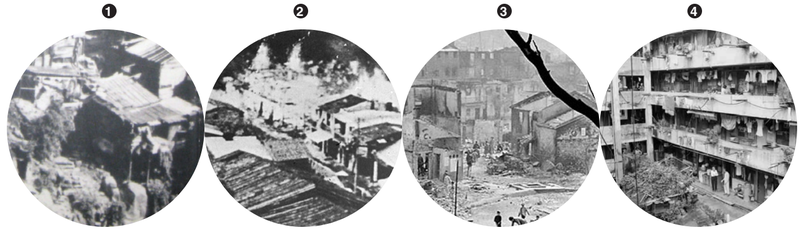
## **The multiplier effect of public housing:** *building a colonial nation and legacy*

*11 HK History Museum, "Shek Kip Mei squatter area," photography. [Favelissues], http://favelissues.com/2010/11/23/hong-kong-intro/.

*12 "The Shek Kip Mei fire," photography, 1953. *Hong Kong Memories*, http://www.hkmemory.hk/collections/hkplaces/AllItems/images/201107/t20110723_43982_cht.html.

*13 "The Shek Kip Mei squatter area after fire," photography, 1953. *Hong Kong Heritage Museum*, http://www.heritagemuseum.gov.hk/archive//eng/exhibitions/Past_Exhibitions_45.html.

*14 "The Shek Kip Mei Estate," photography, Hong Kong Housing Authority, http://www.housingauthority.gov.hk/hdw/bs/aboutus/publication/sr080g/stakeholder-engagement.htm.




f1·10 Photograph series showing the Shek Kip Mei Squatter Village before and after the conflagration.
(1) Squatter Village (2) Conflagration (3) Ruins (4) multi-storey Reconstruction



1.2.1

# 1.2

## Production of socio-political order in the built environment: *the Shek Kip Mei tale and the political symbolism of spatial informality*

1231 *The Shek Kip Mei Syndrome*

1·1 Narratives that trace the origins of Hong Kong's public housing programme frequently cite the Shek Kip Mei Fire as a foundational moment. The fire broke out on December 25, 1953 destroyed the homes of an entire community of immigrants who had fled to Hong Kong from Mainland China—leaving **53,000 persons** homeless overnight.

[1·64] Y.M. Yeung and Macra Wu, introduction to *Fifty Years of Public Housing in Hong Kong: a Golden Jubilee Review and Appraisal*, ed. Y.M. Yeung, and Timothy K.Y. Wong (Hong Kong: The Chinese University of Hong Kong, 2003), 8.

[1·65] B.F. Will, 'Housing Design and Construction Methods,' in *Housing in Hong Kong: A Multi-Disciplinary Study*, ed. Luke S.K. Wong, (Hong Kong: Heinemann Educational Books (Asia) Ltd, 1978), 96.

[1·66] O.J. Golger, *Squatters and Resettlement: Symptoms of an Urban Crisis; Environmental Conditions of Low-standard Housing in Hong Kong* (Wiesbaden: O. Harrassowitz, 1972), 12.

1·2 Shortly afterwards, the government cleared the remaining squatter area and erected temporary housing blocks. This action was followed by the construction of the experimental **multi-storey** H-shaped Mark I and Mark II resettlement block.[1·64] On the site of the burnt-down shanty town grew a **29-block** resettlement estate, bringing about noticeable reduction of homelessness. Between 1954 and 1964, **240 basic blocks** were built, and about **half a million persons** rehoused [see f1·10].[1·65]

1·3 These projects proliferated, and by the early 1970s, over one-third of the population lived in some form of subsidised housing.[1·66] The impact of the direct provision of housing by the government is undoubtedly profound. It is impossible to address any aspects of Hong Kong's modern history without referencing the role of the world's largest landlord. That a government typically viewed as a disciple of the economic philosophy of laissez-faire economics would decide to intervene so strongly in a market, and particularly in the area of housing, indicates a significant departure in public policy that deserves attention. Conflagrations ravaged other squatter areas before and after the Shek Kip Mei Fire without comparable treatment, and housing subsidies had existed previously.[1·67] In spite of various official justifications for the programme, it is evident that the programme that emerged after the Shek Kip Mei Fire was not the true beginning of housing intervention—nor was housing in fact the primary intent of the programme.

1·4 Following the historical and philosophical model set up by Alan Smarts, the public housing programme of Hong Kong must be conceived in its geopolitical context as part of an ongoing series of attempts to preserve an arcane political-economy based on land, and to preserve a preferred mode of social order through space: order is to be generated through the calibration of construction economics, spatial politics and built design.

[1·67] A. Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950-1963*, Illustrated, Annotated ed. (Hong Kong: Hong Kong University Press, 2006), 2.

1232 *Colonial perceptions of Chinese housing*

> *Predisposing causes are… insanitary conditions, and of these filth and overcrowding must be… two of the most important factors. The district of Tai Ping Shan supplied these factors in a marked degree at the beginning of the outbreak, the majority of houses being in most filthy condition, as owing to the uncleanly habits of the people, the amount of… rubbish accumulates in the Chinese house… to an extent beyond the imagination of the most civilised people.*[1·68]
>
> — Excerpts from the report on the cause of the 1884 Great Plague in Hong Kong, as prepared by **Dr J.A. Lowson**

[1·68] Pryor, *Housing in Hong Kong*, 15.

*15 Feng, *Xianggang Di Chan Ye Bai Nian = A Century of Hong Kong Real Estate Development*, 35.

*16 E.G. Pryor, *Housing in Hong Kong in Hong Kong*, 6.

*17 Ibid., 11.

*18 J. Thomson, "Pedder Street Clock Tower," AllPosters.com, http://www.allposters.com/-sp/Pedder-Street-Clock-Tower-Hong-Kong-C-1868-71-Posters_i10110937_.htm.




f1·11 Photograph series showing the type of urban environments common in pre-war Hong Kong.
Chinese: (1) Residential and (3) Commercial Street, European: (2) Commercial and (4) Residential District



[1·69] Golger, *Squatters and Resettlement: Symptoms of an Urban Crisis; Environmental Conditions of Low-standard Housing in Hong Kong*, 12.

[1·70] A.G. Bremner and D. P. Y. Lung. "Spaces of exclusion: The significance of cultural identity in the formation of European residential districts in British Hong Kong, 1877-1904." *Environment and Planning D: Society and Space* 21, no. 2 (2003): 239.

[1·71] Pryor, *Housing in Hong Kong*, 15.

[1·72] Feng, *A Century of Hong Kong Real Estate Development*, 58.

[1·73] Hong Kong, Building Reconstruction Advisory Committee, *Final Report of the Building Reconstruction Advisory Committee*, Appendix 2, 13.

2·1 The notion that housing can adversely impact social order has always been a prominent concern for developing societies under pressures of urbanisation and industrialisation. In Hong Kong, however, discussions of housing have typically generated a cultural schism between the ruling European administrators who represented 'civility and order', and the Chinese, who embodied 'disease, and disorder.' [1·69][see f1·11]

2·2 This duality had previously offered a basis for policies of social segregation. Outbreaks of diseases were further exploited to substantiate the cultural bias, as echoed in the comment of Dr. J.A. Lowson's report.[1·70] The conflation of congestion and disease in the description of Chinese housing in Hong Kong continued to persist half a century later. During a research visit in 1950, the Colonial Office described that the conditions in 'the wealthy tropical city of Hong Kong are worse than they were in England in 1840.' Golger—a specialist who studied the living conditions in squatter and resettlement housing—also called housing in Hong Kong the 'gravest social problem.'[1·71]

2·3 The Second World War further exacerbated the housing problem: it left Hong Kong severely damaged, to the extent that a quarter of the total building fabric had been completely or partially destroyed according to the Final Report by the Building Reconstruction Advisory Committee [see f1·12].[1·72] Consequently, approximately **161,000 persons**, which equalled about one-third of total population at the end of Japanese occupation, needed to be resettled.[1·73] As those who fled the city during the war soon returned to Hong Kong at unprecedented rates, a serious shortage of accommodation resulted, and overcrowding—a social problem characteristic of the Colony and temporarily abated during the war—returned along with the peace.

2·4 Political turmoil, like the Chinese Revolution to the north, further accelerated the flow of immigrants into the city. The average cost of rent rose **3 to 5 times** during the period from 1941 to 1945.[1·74] By 1946, the city's population had more than doubled to **1,200,000 persons**. The influx of refugees taxed the sources of a struggling community — a situation exacerbated by the construction rate that was lowed as a result of shortage in material and labour.[1·75] Although Hong Kong maintained a remarkably high construction rate that was surpassed only by a few countries, the lack of sufficient legislation for the control of the quality of housing had meant that overall housing condition as a whole did not necessarily improve.[1·76] Even by the early 1970s—many years after the start of the public housing programme—private tenement still constituted over **32%** of all permanent domestic accommodation in the metropolitan area [see d1·03].[1·77] The appalling living conditions are described below:

> *Living space is at a premium. It is not uncommon for a family of four — or more — to live in a bedspace, that is, a bunk bed with two or more tiers and the space it occupies. Such privacy as there is must be provided by curtains. Ventilation depends on the whims of the tenants with access to the windows. Water is scarce and has to be queued for; sanitary arrangements are insufficient; cooking facilities have to be shared by all. Disease flourishes and quarrels are frequent.*[1·78]

[1·74] T.N. Chiu, *The Port of Hong Kong: A Survey of its Development*, Illustrated ed. (Hong Kong: Hong Kong University Press, 1973), 71.

[1·75] Feng, *A Century of Hong Kong Real Estate Development*, 55.

[1·76] Chiu, *The Port of Hong Kong: A Survey of its Development*, 74.

[1·77] L.S.K. Wong, "An Overview of Housing Provision and Housing Needs in Hong Kong," in *Housing in Hong Kong: A Multi-Disciplinary Study*, ed. Luke S.K. Wong (Hong Kong: Heinemann Educational Books (Asia), 1978), 25.

[1·78] Yeung and Wu, introduction to *Fifty Years of Public Housing in Hong Kong: a Golden Jubilee Review and Appraisal*, 1.

## 1233 *Production of order amidst urban informality*

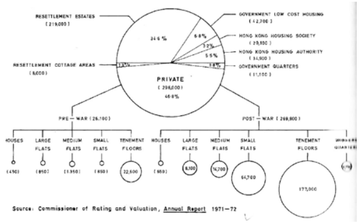
3·1 While it may be accepted that government action in housing was inevitable in this climate, what remains unclear is the necessity of direct public housing provision, and the decision to focus the programme on the resettlement of squatters when the abysmal housing situation of ordinary

*19 "1945 Hong Kong," *Frank Arthur Stockwell, R.N. Collection*, http://www.maritimequest.com/misc_pages/frank_a_stockwell_collection/frank_a_stockwell_collection_page_11.htm.



f1·12 Photograph showing Hong Kong in the early aftermath of World War Two, with damages to the urban fabric.

*20 L.S.K. Wong, "An Overview of Housing Provision and Housing Needs in Hong Kong," 26.




d1·03 Pie chart showing the distribution of Permanent domestic accommodation by main Sources of supply in the Metropolitan Area as at 31st December, 1971.

Hong Kongers residing in private tenements deserved much greater attention, as their living conditions were often inferior even to those residing in squatter settlements.

3·2 The evidence contradicts the claims that the squatter settlement threatened general public safety.[1·79] The squatters were highly resilient people who had withstood conflagrations and typhoons repeatedly in the past and they demanded few social investments other than the ability to 'remain where they were.'[1·80] In fact, over **41%** of the squatter population did not wish to be resettled.[1·81] The author of the Colonial Report himself concluded, 'I would far rather live in a squatter's hut in the fresh air than in a stuff, tepid, dark tenement cubicle.'[1·82]

3·3 The discrepancies between descriptive reality and normative account of the squatter settlements indicates a bias against informal urbanisation, motivated by considerations not necessarily related to health and safety. Although the squatter settlements did have low standards of living spaces and environmental comfort, their biggest fault in the eyes of the government was that they existed outside of a planned infrastructure.' Their urbanism contradicted conventional European planning in the most visceral manner: they lived exposed lives and they readily appropriated outdoor space.[1·83] They represented the 'continuum of spontaneous expansion' that characterised Chinese urbanism—an urbanism with 'limitless capacity for life and livelihood, and [urban] encroachment' to develop 'infinite potential… of [spatial] difference without a distinction.'[1·84][see f1·13] The notion that order in modern spaces requires the clear compartmentalisation and delineation of programmes is, of course, the guiding design principle of the standard Hong Kong housing morphologies.

3·4 Aside from presenting a spatial affront to the established urban fabric, the squatter settlements constituted a security threat to the British administration: outside of government

[1·79] Golger, *Squatters and Resettlement: Symptoms of an Urban Crisis; Environmental Conditions of Low-standard Housing in Hong Kong*, 16.

[1·80] Ibid., 31.

[1·81] Ibid., 18.

[1·82] H. Ingrams, *Hong Kong* (London: Her Majesty's Stationary of Office, 1952), 45.

[1·83] Golger, *Squatters and Resettlement: Symptoms of an Urban Crisis; Environmental Conditions of Low-standard Housing in Hong Kong*, 32.

[1·84] F. Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, illustrated ed. (Hong Kong: Oxford University Press, 1977), 161.



*21 "Hong Kong Slum," photography, *China Mike*, http://www.china-mike.com/chi-na-tourist-attractions/hong-kong/histo-ry-timeline-part4/.



f1·13 Photograph of a typical view of the squatter community in early post-war Hong Kong.



f1·14 Photograph showing housed constructed in the licensed squatter village at Pokfulam today.

control, these settlements were a permanent danger to 'law and order.' [1·85] Symbolically, their existence was a continual reminder of the colonial government's inability to impose control upon the city's urban expansion.

3·5 The resettlement housing programme was not the first attempt by the colony to contain the growth of the squatter settlement. Previous policies based on the combination of containment of existing settlements, relocation of settlements in need of clearance and the demolition of new unregistered settlements had all failed as the displaced population 'would simply reappear elsewhere.'[1·86] A general suspicion towards the Chinese, as an 'unreliable population whose fundamental loyalty was to China', roused security concerns that the squatter settlements would become a hotbed of Communist-inspired civil unrest.[1·87]

## 1234 *Manufacturing colonial legacy*

4·1 It was in this context that the Shek Kip Mei Fire provided an opportune moment for the government to reinstate its authority. Even though the housing response to the fire was incremental and premeditated,'[1·88] its retrospective role as the momentous starting point of an enormous and supposedly humanitarian public housing programme facilitated the creation of a foundational myth that vitally contributed to the government's ability to generate public support in later large scale urban development initiatives. The qualified offer of public housing alleviated the likelihood of social discontent in response to land resumptions.

4·2 The promise that the public housing programme could produce social stability, cohesion and even allegiance to the colony was an especially crucial benefit for the colonial administrators in face of chronic and prominent episodes of

[1·85] Golger, *Squatters and Resettlement: Symptoms of an Urban Crisis; Environmental Conditions of Low-standard Housing in Hong Kong*, 15.

[1·86] Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950–1963*, 188.

[1·87] Ibid., 73.

[1·88] F. Welsh, *A History of Hong Kong*, Illustrated, Reprint ed. (London: Harper and Collins, 1993), 454.



*22 "Escorted by the former Governor, Sir Murray MacLehose (first right), Queen Elisabeth II toured Oi Man Estate during her first visit to Hong Kong in 1975", *Hong Kong Housing Authority*, http://www.housingauthority.gov.hk/en/about-us/publications-and-statistics/housing-dimensions/article/20111111/okk200.html.



*23 "Accompanied by Donald Liao (first left), the former Director of Housing, Margaret Thatcher (second left) tours a resettlement estate", *Hong Kong Housing Authority*, http://www.housingauthority.gov.hk/sc/about-us/publications-and-statistics/housing-dimensions/article/20111111/okk201.html

**f1·15** Photographs depicting various royal dignitaries visiting the public housing estates.



[1·89] MacLehose, M. "Housing Policy Speech by His Excellency The Governor Sir Murray MacLehose" (speech, Legislative Council, Central, Hong Kong, 18 October 1972)

[1·90] Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950–1963*, 118.

[1·91] C. Chu, "The Myths and Politics of Housing in Hong Kong: The Controversy Over the Demolition of the Hunghom Estate," *Habitat International* 32, no. 3 (2008): 376.

social unrests in 1966 and 1967. This was the context that prompted Sir Murray MacLehose's announcement of the *Ten-Year Housing Policy*, which aimed to provide 'permanent self-contained accommodation, in a reasonable environment, for virtually everyone in Hong Kong' so that the provision of low-cost housing for needy citizens would eventually lead to gains in social stability.[1·89] The public housing programme thus enabled the government to dispel perception that it embodied 'heartless British imperialism'[1·90]—allowing its self-portrayal- as a 'benevolent' guarantor of 'public good' [1·91] who would balance public and private interests in face of the urban developmental pressure that it had in fact engendered [see f1·15].

4·3 The capacity for the public housing programme to simultaneously enhance state autonomy and reputation, while entrenching an asynchronous political-economy, rendered the *emergency*-led narrative politically attractive. The living conditions of the colony regularly generated unwelcoming press coverage, which were embarrassing for London. David Faure, a Hong Kong anthropological historian at the Chinese University of Hong Kong, argues that resettlement housing initiatives would have allowed Governor Grantham to produce social welfare amidst the 'pressure exerted on him by United Kingdom' and a colonial legislature 'highly suspicious of any extension of social services.'[1·92]

[1·92] David Faure, *Colonialism and the Hong Kong Mentality* (Hong Kong: Hong Kong University Press, 2003), 665.

4·4 While there is little evidence indicating that London had systematically exerted pressure on the colony, it is plausible that the colonial administration had a natural incentive to promote social development in face of the powerful and inevitable forces of decolonisation, especially if social welfare could be produced in a method that simultaneously strengthened governmental control, and addressed a housing shortage that was created by the government's land system. Furthermore, the public housing programme installed the government as a permanent player in the city's urban development.

4·5 Public Housing development in Hong Kong was not an end in itself, but part of a wide-ranging policy tool designed to address concerns of state autonomy, social stability, and the processes of urbanisation in an industrializing economy. The production of control through the public housing programme was not a continuous path; instead, it was part of a longer process of power optimisation in the government's quest to balance the feasibility of inaction and the cost of interventions In this regard, the resettlement housing programme that followed the Shek Kip Mei fire represented an instance in which the government had finally attained some efficacy in its ability to implement order through the built environment. This process would continue into both the development and design of the public housing programme to emerge later—a programme which became a vehicle for transforming urban and domestic spaces to encourage a particular form of order.

# 1.2.2

## Land optimisation by state-induced density and displacement: *preservation of an anachronistic land-based political-economy*

### 1211 *Active interventionist strategy to preserve land system*

1-1 The government of Hong Kong was long aware of the 'problem of the housing conditions of the Chinese population.' Governor Sir Alexander Grantham stated in 1950—well before the Shek Kip Mei fire—that he 'considered the provision of adequate housing, particularly for the lower paid sections of the community, one of the most important development needs of the Colony' and that he intended to dedicate substantial funding towards housing.[1-93]

1-2 By recognizing that the 'fundamental problem was the poverty of the population and their inability to pay an economic rent for accommodation,'[1-94] the government had in fact chosen a very particular path to subsidise housing for the working classes. Whereas the previous subchapter established the social-political impetus for housing intervention, this subchapter seeks to explain the motives behind the government's decision to pursue housing provision in its current direct form of provision.

1-3 Economically, it is unclear why it was necessary for the government to pursue an interventionist role when far more passive strategies were available to improve housing affordability. For instance, the government's own Special Committee on Housing had found that one of the important factors contributing to housing shortage was inadequate land supply, which led to large rise in price of land.[1-95] Other proposals included recommendations that the government relax land-use control to allow villagers to develop their own agricultural land, or to repeal rent control in order to incentivise private landlords to make improvements to their properties.[1-96] But in a familiar pattern, proposals that would weaken the government's control of the *Leasehold System* were consistently ignored despite revelations that the system might have exacerbated the housing crisis.

1-4 As it is shown in different ways through this research, the *High Land Price Policy* produces tangible market distortions-raising housing production costs for property developers that are ultimately passed on to the consumers. In fact, this criticism had been raised by members representing business interests appointed to the city's Legislative Council.‡1.5 By providing housing directly, however, the government could pre-emptively address the known negative consequences of land supply restriction while simultaneously entrenching itself as a permanent actor in urban development.

1-5 The intervention would be justified as a response to a private sector 'market failure' in producing affordable housing that the government had in fact partially orchestrated. As a consequence, neither the underlying factor of high housing cost nor the paradoxical coexistence of the world's largest public housing programme in the world's freest economy would ever be questioned. As such, the present fiscal model contingent on high land revenues led by high land prices would be preserved.

### 1212 *Direct housing provision to facilitate land system*

2-1 It is the capacity for the public housing programme to preserve the *Leasehold System* that renders it compatible

[1-93] M. Jones, "Tuberculosis, Housing and the Colonial State: Hong Kong, 1900–1950," *Modern Asian Studies* 37, no. 3 (2003): 680.

[1-94] Ibid.

[1-95] Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950–1963*, 48.

[1-96] Ibid., 47.

‡1.5 *In one parliamentary sitting, several unofficial members from the business sectors appointed to the Legislative Council have argued that the government should 'remove all unnecessary impediments,'* [1-97] *and 'give every encouragement and inducement to the public to build both domestic and office premises.'*[1-98] *Particularly, they referred to the 'unfair and repressive policy in regard to the renewal of 75-years Crown Leases,'*[1-99] *the irksome covenants governing the renewal of leases, and the high price of land at its public auction.*[1-100]

[1-97] Hong Kong, *Official Record of Proceedings of the Legislative Council*, 3 July 1947.

[1-98] Ibid., 203.

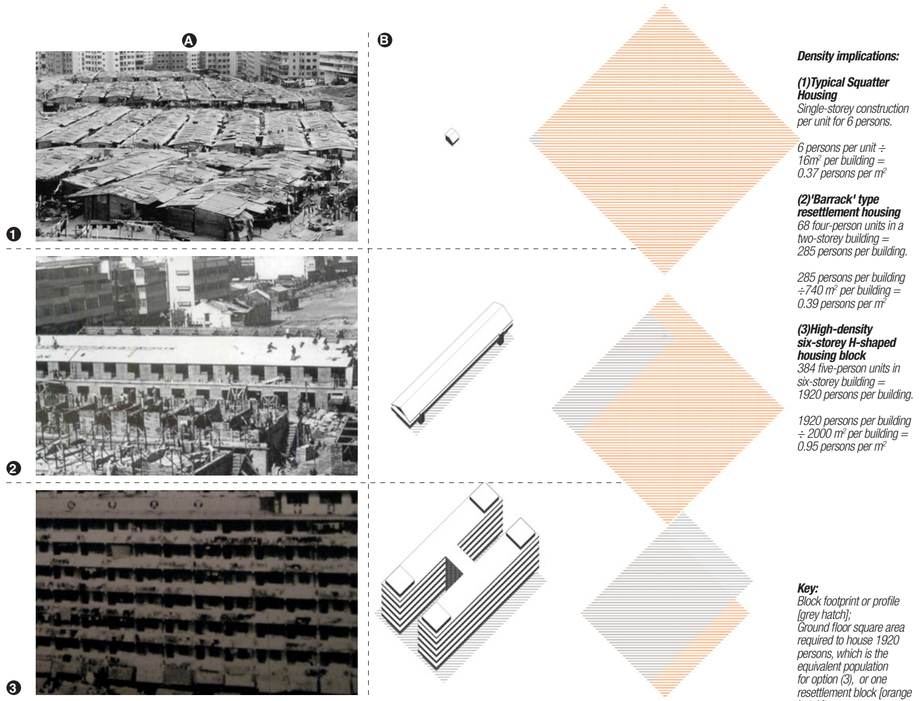
[1-99] Ibid., 191.

[1-100] Ibid., 203.

*24 T.K. Ko,"Temporary housings in the Hong Ling Road Licensed Area are surrounded by concrete buildings," photography, 1967. *Hong Kong Memories*, http://www.hkmemory.hk/collections/public_housing/all_items/images/20130702_61628.html.

*25 Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950–1963*, PS11/140.

*26 HK History Museum, "Shek Kip Mei Public Housing," photography. *[Favelissues]*, http://favelissues.com/2010/11/23/hong-kong-intro/.




***Density implications:***

***(1)Typical Squatter Housing***
*Single-storey construction per unit for 6 persons.*

*6 persons per unit ÷ 16m² per building = 0.37 persons per m²*

***(2)'Barrack' type resettlement housing***
*68 four-person units in a two-storey building = 285 persons per building.*

*285 persons per building ÷740 m² per building = 0.39 persons per m²*

***(3)High-density six-storey H-shaped housing block***
*384 five-person units in six-storey building = 1920 persons per building.*

*1920 persons per building ÷ 2000 m² per building = 0.95 persons per m²*

***Key:***
*Block footprint or profile [grey hatch]; Ground floor square area required to house 1920 persons, which is the equivalent population for option (3), or one resettlement block [orange hatch].*

**f1·16** Composite documentation of the spatial and architectural implications for alternative resettlement housing options. (A) Photographs of the built forms for each alternative; and (B) Corresponding spatial requirement for each alternative.



[1·101] G. Ure, *Governors, Politics and the Colonial Office : Public Policy in Hong Kong, 1918–58*, 171.

[1·102] Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950–1963*, 97.

[1·103] Ibid.

[1·104] A.G.O. Yeh, "Public Housing and New Town Development,' in *Fifty Years of Public Housing in Hong Kong: a Golden Jubilee Review and Appraisal*," ed. Y.M. Yeung, and Timothy K.Y. Wong (Hong Kong: The Chinese University of Hong Kong, 2003), 86.

[1·105] D.W. Drakakis-Smith, *High Society: Housing Provision in Metropolitan Hong Kong, 1954 to 1979, a Jubilee Critique* (Hong Kong: Centre of Asian Studies, University of Hong Kong, 1979), 161.

[1·106] Ibid., 155

ǂ1.6 *Smart explains that approved and tolerated areas were less efficient in generating rents in relation to capital and recurrent expenditure than existing squatter settlements because of expectations about minimum standards of housing and maximum rents that could be charged in such a new arrangement.*[1·103]

ǂ1.7 *Drakakis-Smith claimed that 'from the outset in 1954, economic and political objectives have dominated government decisions on housing investment.*[1·106]

to political-economical objectives. Combined with direct housing provision, the public housing programme can even be transformed into a powerful tool that enhances the governmental objectives of the Land Tenure System.

2·2 Such considerations have been well documented in the development of the first resettlement policy. The key recommendations of the *Wakefield Report* suggested that squatters affected may construct a regulated type of hut or bungalow in an approved area or continue to reside in a tolerated area and move to another tolerated area when they are affected by clearance.[1·101] Since the policy required no direct housing provision from the government, it would h ave closely aligned to the fiscally conservative attitudes of the time.

2·3 The problem however was that it was 'uneconomical [and inefficient] in its use of what was the scarcest factor [developable land] of production in Hong Kong.'[1·102] It was uneconomical because it deprived government of the opportunity to maximise land revenue through private development, and inefficient[ǂ1.6] because of the relatively high cost of setting up such a system. And the colonial government's tendency to formulate housing policy based on land use economy continues to this day, as multiple researchers have noted.[1·104] David Drakakis-Smith,[ǂ1.7] a renowned and prolific geographer of Hong Kong's housing developments, had for instance insisted that the primary reason for squatter resettlement was to release land available for development by private enterprise and for public works.[1·105]

### 1213 *Public housing density to maximise land use efficiency*

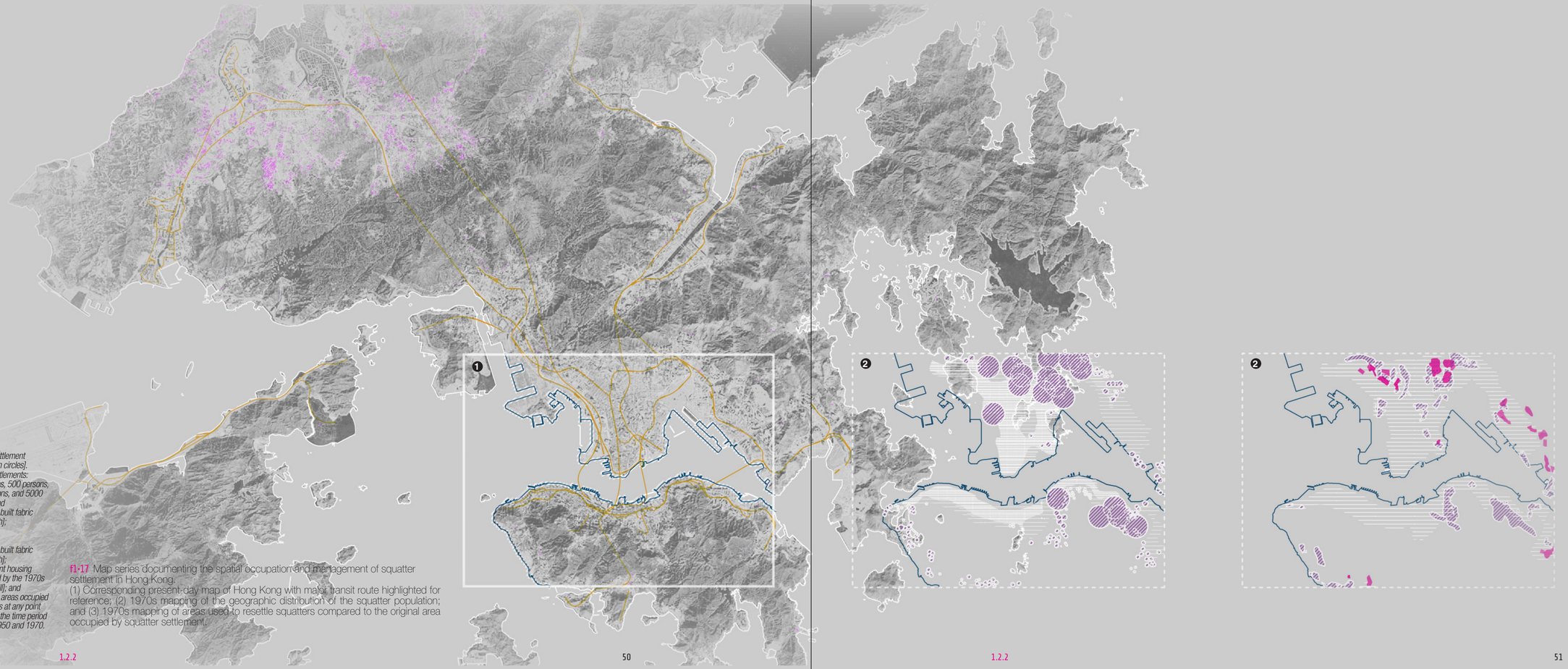
3·1 Releasing valuable land for private sale would produce the requisite funds for implementing the housing programme, but sufficient land must still be found for the construction of public housing. In practice, these conflicting land requirements were resolved through density. For this reason the **2-storey** temporary housing constructions that were being constructed after the Shek Kip Mei Fire would eventually be replaced by **multi-storey** resettlement blocks. The drastic implications of density in land use efficiency is demonstrated by the simple calculation that the **2-storey** resettlement housing option would have required a total development area that was is **2 to 3 times** greater than the area consumed by the **multi-storey** proposal [see f1·16]·2.[1·107]

3·2 The use of public housing densification as a tool to produce surplus land was also demonstrated in Drakakis-Smith's study, who calculated that the one million squatters resettled by 1971 were relocated onto land equivalent to only **34%** of the space previously occupied.[1·108] Thus the development of the resettlement housing initiated an ongoing pattern in Hong Kong's housing development: to rely on the developmental intensification of public housing to produce both developable areas for private sector development and to optimise the cost of its own development. A similar studying mapping the all land previously occupied by squatter and all land used for resettlement housing developments in Hong Kong's history is also presented here [see f1·17].

3·3 Inside the housing block, additional density was achieved through the minimisation of the internal unit area. As an emergency response to provide shelter to large number of fire victims, resettlement blocks were deliberately built to minimum standards to minimise cost. In fact, a spatial standard of **24 ft² per adult** was adopted in the Mark I block even though the legal minimum at the time was **35 ft² per adult**. Not surprisingly, this was opposed by the Director of Medical and Health Services who argued for a higher spatial allocation, while the Deputy Colonial Secretary at the time felt that as 'an emergency measure…we must accept a lower

[1·107] B.F. Will, 'Housing Design and Construction Methods,' in *Housing in Hong Kong: A Multi-Disciplinary Study. Hong Kong*, ed. Luke S.K. Wong, (Hong Kong: Heinemann Educational Books, 1978), 97.

[1·108] Drakakis-Smith, *High Society: Housing Provision in Metropolitan Hong Kong, 1954 to 1979, a Jubilee Critique*, 34.




***Key:***

***(2)***
*Squatter settlement [indicated in circles]. Sizes of settlements: 100 persons, 500 persons, 1000 persons, and 5000 persons; and Permanent built fabric [white hatch];*

***(3)***
*Permanent built fabric [white hatch]; Resettlement housing constructed by the 1970s [magenta fill]; and Cumulative areas occupied by squatters at any point throughout the time period between 1950 and 1970.*

**f1.17** Map series documenting the spatial occupation and management of squatter settlement in Hong Kong.
(1) Corresponding present-day map of Hong Kong with major transit route highlighted for reference; (2) 1970s mapping of the geographic distribution of the squatter population; and (3) 1970s mapping of areas used to resettle squatters compared to the original area occupied by squatter settlement.

*Map (2) in particular shows that the squatters were typically resettled in a vastly smaller site that is located at a greater distance from the main urban areas.*

standard, since the number of units required would be 'more than half the number of units [the Director of Public Works] originally planned' if higher spatial standards were accepted.[1-109] [1-110]

3-4 That 'overcrowding was a feature by design',[1-111] however, would continue well past the time period of justifiable 'exigencies.' Even as late as the 1970s, the average spatial allocation for both the Housing Authority (HA) and Low Cost Government Housing (LCGH) options was maintained at the minimum standard of **35 ft² per adult**.[1-112] Evidently, acceptable standards would continue to be defined within an emergency-inspired framework. The consistent and inadequate provision of spatial allocation in public housing exerts enormous pressure on private home prices as dismal spatial standards will likely compel public housing tenants to seek improvement in their living conditions within the private housing system .[1-113]

### 1214 *Public housing as population mobiliser to maximise land-use economy*

4-1 While densification is a spatial tool that effectively maximises land use efficiency, it is the economical use of land that maximises land use revenues, and consequently interests the government Since public housing developments do not generate land premiums, the indefinite quest for optimizing land use efficiency logically leads to the removal of public housing estates from all valuable urban areas so that land could be better utilised or, in other words sold, to generate revenue. Thus the pursuit of land revenue optimisation transforms the public housing programme into a vehicle for social displacement. Studies on early public housing development also point out that resettlement housing was typically placed on land that was more peripheral and less valuable.[1-114] This is the main thesis of Drakakis-Smith who asserts that the primary beneficiaries of the resettlement programme were in fact private developers—an argument which is supported by official statements from both government and private interest bodies.[1-115] Within the context of the ambitious *Ten-Year Housing Programme*'s desire to accommodate **1.8 million persons** in **10 years**, housing production was achieved through the decentralisation of the population from urban areas to New Towns developments in the New Territories. It was at this moment that the public housing programme achieved its dual capacity as both a mechanism for territorial-scale displacement and as an infrastructural tool to open remote areas for urban development—in the process simultaneously releasing and preparing old and new urban areas respectively for optimal land revenue generation.

4-2 Although the public housing programme was born out of the necessity to manufacture social stability within a colonial state facing ongoing geopolitical uncertainty and to preserve an anachronistic political-economic model that was in fact responsible for producing the problem it was designed to correct, the programme has developed into a comprehensive policy tool for preserving the *Leasehold System* based on the *High-Land Price Policy*. Using the spatial and geographical tools of densification and dislocation, the programme enhances both the efficiency and economy of land utilisation thereby maximizing land revenues that the government receives from land disposals. More importantly, the public housing programme underscores the systematic tendencies of the government to subject welfare services to the objectives of the land system. The integration of land and welfare policies are so severely entrenched that government subsidies are frequently measured in the provision of land.‡1.8 Consequently, the survival of the public housing programme appears increasingly contingent upon its continual displacement and developmental intensification.

[1-109] Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950-1963*, 16.

[1-110] Hong Kong, *Official Record of Proceedings of the Legislative Council* 163-1-1677, 5 February 1954.

[1-111] Yeung and Wu, introduction to *Fifty Years of Public Housing in Hong Kong: a Golden Jubilee Review and Appraisal*, 8.

[1-112] B. Sullivan and K. Chen, "Design For Tenant Fitout: A Critical Review Of Public Housing Flat Design In Hong Kong," *Habitat International* 21, no. 3 (1997): 297.

[1-113] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 48.

[1-114] Drakakis-Smith, *High Society: Housing Provision in Metropolitan Hong Kong, 1954 to 1979, a Jubilee Critique*, 34.

[1-115] Ibid., 56.

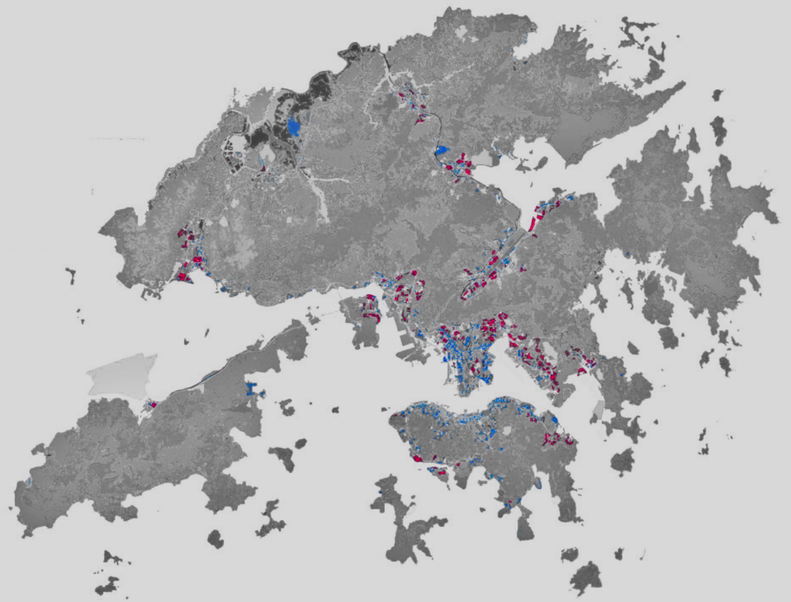
[1-116] Brown and Loh, *The Political Economy of Land*, 4.

‡1.8 *Brown and Loh explains that the government uses land not only to generate government revenue, but also as 'soft land subsidies' to pay for public services. They referred to quasi-public corporations like the Airport Authority (AA), Kowloon Canton Railway Corporation (KCRC), MTR Corporation (MTR) and Urban Renewal Authority (URA) that are increasingly reliant on the sale of government-allocated land developmental rights to the private sector to subsidise the cost of capital and even recurrent expenditure on services these corporations.* [1-116] *Additionally, it should be noted that the Hong Kong Housing Authority (HKHA) is funded partially through land grants received from the government.*



***Key:***

*Public housing.*
*Private housing.*



**f1·18** Map showing the distribution of non-subsidised and subsidised housing in Hong Kong.

*As explored in later chapters, Public Housing will become a tool of urban expansion for developing the city's periphery.*

# 1.2.3

## State, capital and public housing as a bipartite development strategy: *construction of a post-war socio-economical order.*

### 1221 *Positive non-interventionism*

1-1 With the official introduction of a state-managed housing programme in 1954, the government of Hong Kong could no longer officially claim that Hong Kong was laissez-faire. In reconciling the principles of economic liberalism with the government's growing economic intervention, Sir Haddon-Cave, who was Hong Kong's Financial Secretary between 1971 and 1980, referred the new approach as 'positive non-interventionism.' [1-117]

[1-117] P. Haddon-Cave, "Introduction: the Making of Some Aspects of Public Policy in Hong Kong," in *The Business Environment in Hong Kong*, Lethbridge D ed. (Hong Kong: Oxford University Press, 1980): xii.

1-2 Although the Financial Secretary maintained deep classical liberal convictions that any public interventions to alter the 'allocation of resources available to the private sector' would be 'futile and damaging to the… economy', he conceded that 'for the sake of social justice and stability, …[and the ensurance of] efficient allocation of resources, there must be a sense of social responsibility.'[1-118] Thusly, the government entered a phase that some social scientists refer to as 'intervention by discretion.'

[1-118] Ibid., xiii.

### 1222 *Factors leading to the East Asian Tigers' exceptionalism*

2-1 Collectively referred to as the Four Asian Tigers, Singapore, Taiwan South Korea and Hong Kong are notable for their exceptionally high growth rates and rapid industrialisation following the Second World War. All four areas developed into advanced high-income economies by the twenty-first century [see d1-04]. In contrast to its Asian Tigers counterparts and other developed Western nations, Hong Kong retained an exceptionally minimal state. Strategic interventions aside, the government never used fiscal expansion — the Keynesian approach — to stimulate economic growth,[1-119] never deviated from its free trade regime and never attempted to alter its industrial structure.[1-120] The absence of welfare provisions and economic interventions notwithstanding, Hong Kong still sustained rapid export-led growth 'with high equal income distributions.' [1-121][see d1-05]

[1-119] N.M.K. Lam, "Government Intervention in the Economy: A Comparative Analysis of Singapore and Hong Kong," *Public Administrative and Development* 20, no. 5 (2000): 408.

[1-120] J. Page, 'The East Asian Miracle: Four Lessons for Development Policy,' *NBER Macroeconomics Annual* 9 (1994): 226.

[1-121] Ibid., 227.

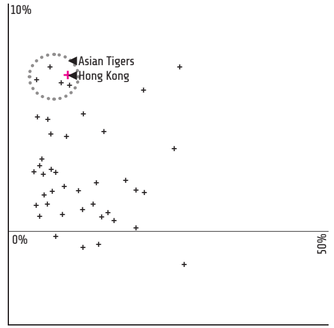
2-2 Manuel Castells, an accomplished Spanish urban sociologist, similarly asserts that Hong Kong's competitiveness is empirically traced to several fundamental characteristics: flexible industrial structure, favourable business environment, social stability and fiscal, price and monetary stability.[1-122] On areas directly affected by policies, these benefits can be distilled into two core advantages: low production cost and strong social stability. The major policy instruments facilitating this favourable economic climate are the complimentary systems of the land administration and the public housing programme.

[1-122] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 112.

2-3 It is important to review the unique contextual factors in early post-war Hong Kong. The city began enjoying economic success in the 1960s with rapid expansion in manufacturing followed by industrial diversification in the 1970s.[1-123] Small and medium-sized firms played an unusually significant role in the industrial system as they formed highly sophisticated business networks centred on their respective local economies. In 1975, **96.5%** of manufacturing establishments employed fewer than **100 workers**.[1-124] Demographically, China provided a steady stream of refugees fleeing form the Communist regime including entrepreneurs with industrial expertise and investment capital, and politically apathetic

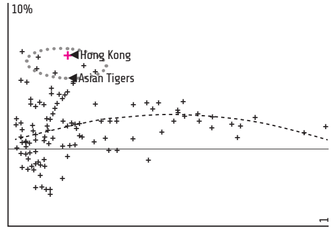
[1-123] Lam, "Government Intervention in the Economy: A Comparative Analysis of Singapore and Hong Kong," 406.

[1-124] C.R. Schenk, "Economic History of Hong Kong," EH.Net Encyclopedia, ed. Robert Whaples, last modified March 16, 2008, http://eh.net/encyclopedia/economic-history-of-hong-kong/.




d1·05 1960-1985: Plot graph showing per capita gross domestic product as a percentage of Gross Domestic Product of the United States [x-axis] and per capita Gross Domestic Product growth rate [y-axis].

*27 J. Page, "The East Asian Miracle: Four Lessons for Development Policy," 222.




d1·04 1965-1989: Plot graph showing income inequality in gini coefficient [x-axis] and per capita gross domestic product growth rate [y-axis].

*28 Ibid., 226.

immigrant labourers who simply desired to earn a livelihood and were willing to work with minimal compensation.[1-125]

2-4 Examination of what constituted a favourable business climate in this context offers some immediate clues as to how the land administration facilitated industrial expansion. The advantages were low direct taxation, loose labour and capital regulation, low production costs and moderate direct wages.[1-126] That Hong Kong can maintain low direct taxation is of course due to the rationale of the *High Land Price Policy*——an unwritten policy devised in the early colonial days to maintain Hong Kong's status as a free entrepôt. The policy allows the government to derive a substantial portion of its revenue from optimised land revenues—allowing the city's taxation on both individuals and corporations to be maintained at extraordinarily low levels.

[1-125] M.K. Ng, and A. Cook, "Reclamation: an Urban Development Strategy Under Fire," *Land Use Policy* 14, no. 1 (1997): 7.

[1-126] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 112.

## 1223 *Lowering of production cost by urban efficiency*

3-1 Complementing the land administration were a number of urban development and housing initiatives that contributed to an overall reduction of capital cost. Since the *High Land Price Policy* had the potential risk of depressing economic growth by increasing development costs for the construction of factories, there was a conscious effort by the government to facilitate the production of land supply for industrial use in the 1960s and 1970s.

3-2 The public housing programme also contributed to land provision through its involvement in the land clearance programme and New Towns developments. As the public housing programme prioritised squatter clearance over income-based needs, an increased amount of land was made available for industrial use. Furthermore, early New Towns developments like Kwun Tong and Tseun Wan were designed



ostensibly as industrial towns to aid industrial development by providing accessibility to infrastructure, industrial lands, and labour housing.[1-127] As such, the government actively formed and reclaimed new lands to be designated for industrial use.[1-128] The practice of explicitly ensuring adequate land areas were designated for industrial use would continue in later New Towns developments.[1-129] [see f1·19]

3-3 Evident in the government's attempt to integrate housing and industrial development was the provision of multi-story resettlement factories, which at one point totalled **11,800 factory units**. While the programme was modest in scale, it was nevertheless ambitious in its objective to create an alternative domestic living condition, which incorporated light cottage-type industries.[1-130] The pilot resettlement factory project was setup at Cheung Sha Wan in 1957 and was based on the initial H-type Mark I blocks [see p1·07].

3-4 The most direct contribution of the public housing system to industrial production, however, was the 'maintenance and reproduction of the working-class.'[1-131] With average manufacturing monthly wage in 1975 amounting to **149 HKD** and small home prices at **265 HKD** per square feet, a private 300 square feet apartment would roughly equal to **45 years of income** for the average industrial worker.[1-132][1-133] Housing provisions thus socialised the largest component of the labourer's individual consumption thereby allowing the reduction of wages paid by employers. Reduction in labour cost amounted to the lowering of production costs, which in turn contributed to overall price stability.

3-5 There is evidence suggesting that the government was aware of its role in reducing hiring costs by improving living affordability for its tenants as far back as the design of the resettlement Mark I block. Architects were instructed to construct a building block that 'could be afforded' by

[1-127] Ng and Cook, "Reclamation: an Urban Development Strategy Under Fire," 7.

[1-128] J.M. Wigglesworth, "The Development of New Town," in *Asian Urbanisation: A Hong Kong Casebook*, ed. D. J. Dwyer (Hong Kong: Hong Kong University Press, 1971), 52.

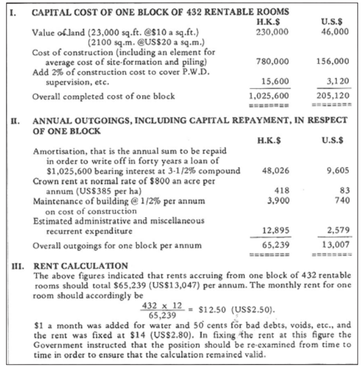
[1-129] Yeh, "Public Housing and New Town Development," 97.

[1-130] Will, "Housing Design and Construction Methods," 109.

[1-131] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 76.

[1-132] Ibid.

[1-133] Feng, *A Century of Hong Kong Real Estate Development*, 116.



I. CAPITAL COST OF ONE BLOCK OF 432 RENTABLE ROOMS

| | H.K.$ | U.S.$ |
|---|---|---|
| Value of Land (23,000 sq.ft. @$10 a sq.ft.) (2100 sq.m. @US$20 a sq.m.) | 230,000 | 46,000 |
| Cost of construction (including an element for average cost of site formation and piling) | 780,000 | 156,000 |
| Add 2% of construction cost to cover P.W.D. supervision, etc. | 15,600 | 3,120 |
| Overall completed cost of one block | 1,025,600 | 205,120 |

II. ANNUAL OUTGOINGS, INCLUDING CAPITAL REPAYMENT, IN RESPECT OF ONE BLOCK

| | H.K.$ | U.S.$ |
|---|---|---|
| Amortisation, that is the annual sum to be repaid in order to write off in forty years a loan of $1,025,600 bearing interest at 3-1/2% compound | 48,026 | 9,605 |
| Crown rent at normal rate of $800 an acre per annum (US$385 per ha) | 418 | 83 |
| Maintenance of building @ 1/2% per annum on cost of construction | 3,900 | 740 |
| Estimated administrative and miscellaneous recurrent expenditure | 12,895 | 2,579 |
| Overall outgoings for one block per annum | 65,239 | 13,007 |

III. RENT CALCULATION

The above figures indicated that rents accruing from one block of 432 rentable rooms should total $65,239 (US$13,047) per annum. The monthly rent for one room should accordingly be

$$\frac{432 \times 12}{65,239} = \$12.50 \text{ (US\$2.50)}.$$

$1 a month was added for water and 50 cents for bad debts, voids, etc., and the rent was fixed at $14 (US$2.80). In fixing the rent at this figure the Government instructed that the position should be re-examined from time to time in order to ensure that the calculation remained valid.

p1·06 Scan showing the calculation of rental cost for early resettlement housing occupants according to MARK I construction costs.

*29 Will, "Housing Design and Construction Methods," 114.

*30 "Mei Ho House, Hong Kong's Heritage Hostel," photography, 2013, *The Wall Street Journal*, http://www.wsj.com/articles/SB10001424052702304403804579265171851843930.

*31 "Chai Wan Factory Estate before alteration," photography, 2013, *Panoramio.com*, http://www.panoramio.com/photo/75870720.




p1·07 Photograph series showing design cross-pollination between resettlement housing and industrial typologies. (1) Resettlement Housing Estate and (2) Resettlement Factory



[1·134] Will, "Housing Design and Construction Methods," 114.

[1·135] D.W. Drakakis-Smith, *Urbanisation, housing and the development process* (London: Croom Helm, 1981), 4

[1·136] J.A. Prescott, "Hong Kong: the Form and Significance of a High-Density Urban Development," in *Asian Urbanisation: A Hong Kong Casebook*, ed. D. J. Dwyer, (Hong Kong: Hong Kong University Press, 1971), 15.

[1·137] Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, 111.

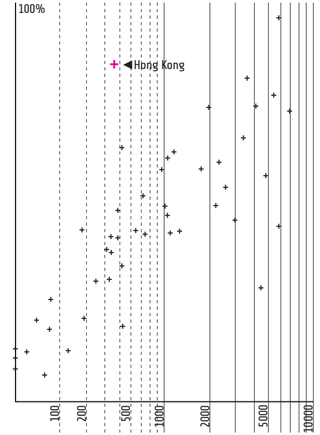
[1·138] M. Leung and J. Chiu, *From Shelter to Home: 45 Years of Public Housing Development in Hong Kong* (Hong Kong: Hong Kong Housing Authority, 1999), 143.

the tenants — leading to a process of iterative calculations that calibrated design attributes with production cost [see p1·06].[1·134]

3-6 In practice, these cost-reduction factors derived their efficacy from the use of the state-managed housing system as a tool for urban expansion such that the efficiency benefits of urbanisation were effectively capitalised. Drakakis-Smith demonstrates, in his study of Asian urbanisation, that there is a correlation between industrial growth and urbanisation [see d1·06].[1·135] In the context of Hong Kong, the public housing programme converted a largely agrarian-based Chinese immigrant population into an urban working class housed in densely-packed **multi-storey** blocks, which were built in close proximity to their respective place of industrial employment [see f1·19]. With housing estates developed near existing industrial areas,[1·136] the elimination of commute led to both a reduction of employers' production cost by the elimination of transportation cost and to increased productivity by the reduction of travel time. Moreover, the locally-based planning stimulated the local economy,[1·137] complimenting the sophisticated local business networks described earlier.

### 1224 *Maintenance of the Minimalist Welfare State*

> *If the government could actively participate in providing low-cost housing for needy citizens,...the construction of housing estates would increase employment opportunities and stimulate consumption, and so bring further economic growth.*[1·138]
>
> — The former Chairman of the Hong Kong Housing Authority, **Donald Liao**, describes the economic considerations leading to the development



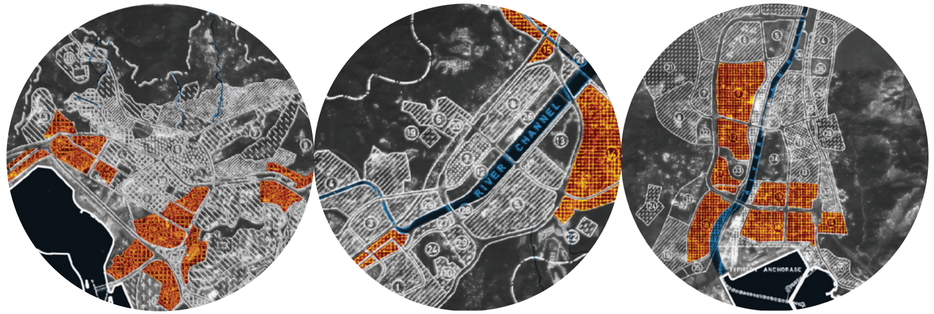

d1·06 1974: Plot graph examining level of urbanisation [y-axis] and Gross National Product [x-axis] in 1974 US Dollar for various countries.

*32 D.W. Drakakis-Smith, *Urbanisation*,4

*33 J.M. Wigglesworth, "The Development of New Town," 54.

*34 Ibid., 57.

*35 Ibid., 61.




❶ ❷ ❸

**f1·19** Mapping series showing areas zones for industrial-use in the New Towns.
(1) Tseun Wan (2) Sha Tin (3) Tuen Mun





4·1 The strategic selection of housing as the foremost welfare provision produced a significant benefit: it allowed the government to maintain a minimalist social safety net without sacrificing labour peace—at a time when the economy was undergoing dramatic industrialisation. Since public housing provision effectively addressed the largest living expenses, the pressure to create income support systems such as unemployment benefits and retirement pensions, which would impose costs on both businesses and government, was significantly reduced. As a benefit, public housing provision enhanced both business profitability and labour flexibility while paradoxically containing the extent of state welfarism.

4·2 With the basic need of housing provided for, it was thought that economic growth would naturally be amplified as the entire execution of public housing programme was transformed into a multi-facet economic stimulus. The programme would result in a virtuous cycle whereby construction of public housing directly created opportunities for employment and skills training, which respectively increased consumption and facilitated labour mobility, which in turn expanded economic production thereby generating even more employment, consumption and growth.

4·3 It is in this context that the government consider the people of Hong Kong were rendered invulnerable against employment changes amidst large-scale macroeconomic volatilities.[1·139] As the programme will always be in operation, it serves permanently as a simultaneously fundamental social support, permitting volatilities, risks and flexibilities—characteristics required in a dynamic and entrepreneurial developing economy—and as a facilitator of economic growth that socialises hiring costs by strategically promoting welfare through housing.[1·140]

[1·139] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 112.

[1·140] Ibid., 113.

## 1225 *Socialisation of private developmental cost*

5·1 Approaching the twenty-first century, Public Housing continued to evolve as an economic development tool. Throughout Hong Kong's economic development, there had been competition between industrial and commercial interests as both sectors sought to influence policies on urban and public housing development. The irrevocable decline of the manufacturing sector starting from the 1980s logically led to the ascendency of the financial and real estate development sector as the primary beneficiary of the state-managed housing, land development and urban planning programmes.[1·141] Through this shift the fundamental mechanism of the public housing programme remained consistent: cost is to be socialised and profit privatised.

5·2 Certainly, the government was familiar with the notion of using public policy to facilitate private property development. It had provided a support system for property developers as early as the late 1950s. Continuing a policy pattern that conflate welfare and business subsidies, the government passed the 1947 *Landlord and Tenant Ordinance*, which introduced a flexible form of rent control that simultaneously encouraged development and protected tenants. Already exempting post-war premises, the law also allowed rent control to be lifted for pre-war properties to be renovated at a cost exceeding a prescribed formula. Further policy changes in 1955 included an amendment that facilitated repossession of rental units by landlords, and an amendment to the *Building Ordinance* that allowed for a much more generous plot ratio. Consequently, a period of excessive reconstruction followed as landlords sought to increase rental returns by redeveloping their properties.[1·142]

5·3 Large numbers of tenants were evicted in a short period of time and the squatter population swelled as many displaced tenants became squatters in hope of eventual resettlement

[1·141] Ng and Cook, "Reclamation: an Urban Development Strategy Under Fire," 7.

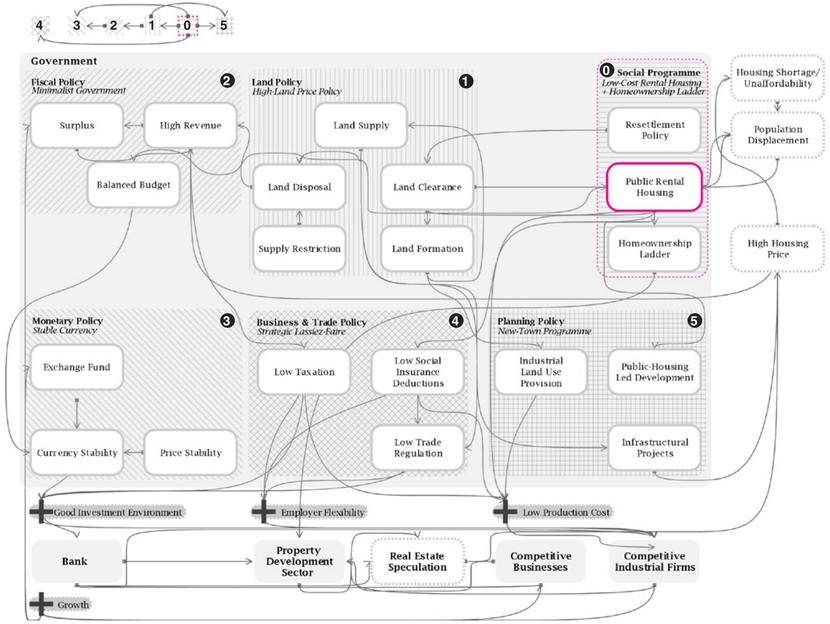
[1·142] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 62.

[1-143] Ibid.

through the then-nascent public housing programme. In this case, housing policies served as a vehicle of displacement in the pursuit of land use efficiency.[1-143] Functioning similarly as a subsidy, as it did for earlier industrial production, the public housing programme now lowered redevelopment costs for landlords and developers as displaced tenants could one day obtain a small public housing unit by squatting.

5-4 With the development of the *Ten-Year Housing Programme* and the *Long Term Housing Strategy*, the public housing programme would continue to assume an increasingly complex role in the promotion of private property development. The *Ten-Year Housing Programme* would initiate the largest exercise of population relocation in the city's history as public housing became a tool to open remote area for urban developments, while the *Long Term Housing Strategy* would construct a home ownership ladder to facilitate housing commodification by the invention of new privatised public housing programmes with the objective of stimulating private home-ownership [see f1-20]. The magnitude to which the government facilitated this particular mode of development will continue to be explored in the next few chapters.






f1-20 Diagram networking and examining the complex relationship between the capital and the state — in its functions, policies and programmes — that make up the apparatus of Hong Kong.

# 2

## Price maximisation:
*entangled state–business class and the emergence of commodified housing*

# 2.1

## **Capital, plutocracy and development:** *housing design for capitalisation*

# 2.1.1

## Capitalisation, commodification and scale:
## *housing abstraction by disassociation of ownership and consumption*

### 2111 *Commodification—beginning of a private home-owner class*

1-1 Compared to today's highly speculative property development environment, the residential housing market in the early post-war years was considerably more conservative and inactive. Then, the primary motive in purchasing properties was for owner-occupation or the collection of rental income. Most developers were small in scale and they sold their properties as an entire block. As such, only a wealthy few — typically affluent migrants from Mainland China or oversea Chinese communities — could afford to become proprietors. Housing prices moved slowly relative to land value and rents in this environment as housing production consistently failed to satisfy the demand led by the surging population growth.[2-01] Duo Taai Ng was one of the first savvy developers who would attempt to breakthrough this environment.[2-02]

> *'At the time very people could buy a multi-storey block, so I discussed with legal consultant Chow from Wilkinson and Grist Solicitor and Notaries a method to sell the block as separate floor-units. He had never prepared this type of lease before... When Chow had received approval from the Land Registry, I bought a 4'500 ft2 land Forrest Hill Road 56-58 from Cheung... A design with 10 units was prepared by architect Wong on my request. Advertisements were posted when the flat received approval… by the third day all units were sold.*[2-03]
>
> — **Do Taai Ng** describes the development of the new ownership arrangement, and its inaugural implementation, in the translation of the thesis author.

1-2 The new ownership arrangement, or *sales by floor*, was an innovation that revolutionised the city's property industry [see p2-01].[2-04][2-05] By selling a block as separate units, the accessibility of private housing was greatly expanded as the market of prospective buyers was widened to include a larger swath of the population.

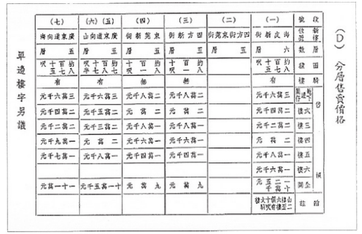
1-3 However, this financial and legal innovation was only a small milestone in the series of property market developments that would continually edge the city forward into the normalisation of private mass housing. In fact, the history of the city's property development industry should be conceived as an effective pattern created by private developers to capitalise and respond to political, economic, and social transformations with novel development strategies that would lead to the further intensification of housing commodification and the developmental scale of housing.

### 2112 *Commodification, the unit and the home-owner*

2-1 It did not take long for the new development model to become the standard industry practice. Although property sales for developers were greatly accelerated by the new scheme, the problem, however, was that the market was still confined to an affluent class of buyers who could afford to pay a single lump sum payment. In response, developers such as Ying Dong Fok's National Investment Co. Ltd pioneered a new model in 1953 allowing *payments by instalments*.[2-06] The arrangement

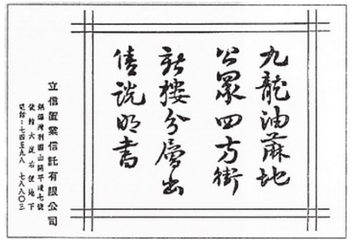
[2-01] Feng, *A Century of Hong Kong Real Estate Development*, 58.
[2-02] Ibid., 63.
t02 吳多泰
t03 分層屋
t04 周建勳師爺
t05 張靚鳳
[2-03] D.T. Wu, "Fen Ceng Chu Shou De Hui Yi," in *Si Yu Shi Ji*, ed. Duotai Wu (Hong Kong: International Hung Hsing Holding Limited, 1994), 83.
t06 黃祖常
t07 分層出售
[2-04] M.Z. Ou and W.H. Luo, *Zhongguo Yin Hang Ye Fa Zhan Shi: You Wan Qing Zhi Dang Xia* (Hong Kong: Xianggang Cheng Shi Da Xue Chu Ban She, 2011), 125.
[2-05] "The Land Registry – About Us – LR Background – Advertisement on Sale of Flats as Separate Units in the 1950's," *The Land Registry*, accessed January 1, 2015, www.landreg.gov.hk/en/about/1950.htm.
[2-06] The Land Registry, "The Land Registry – About Us – LR Background – Advertisement on Sale of Flats as Separate Units in the 1950's"
t08 霍英東

*36 Ou and Luo, *Zhongguo Yin Hang Ye Fa Zhan Shi: You Wan Qing Zhi Dang Xia*, 126.



p2·01 Scan of a sell-by-floor pamphlet.

*37 Ibid., 127.



p2·02 Scan of a pre-sale receipt.

permitted buyers to place an order deposit for the pre-sale unit (for example at **50%** of total price) with the remaining balance paid in subsequent instalments before an *Occupation Permit* was granted upon completion of the building.[2·07]

2·2 Referred to now as the *pre-sale market*, the purchaser was in effect paying for an unfinished project, or the promise of a future construction [see p2·02].[2·08] This innovation increasingly allowed housing ownership and occupancy to be conceived as separate conditions. And with the abstraction of housing production, the city's housing market was pushed one step further towards housing commodification. The new scheme was tremendously popular and the pre-sale units were sold out instantly. In some cases, 'buyers who purchased a pre-sale unit from the sales queue quickly resold their units afterward' thereby 'making a chunk of profit within the span of a day.'[2·09]

2·3 By popularizing private housing for a class of citizens who previously had few private market alternatives to satisfy their housing demands, the property developers had effectively capitalised on the improving socio-economic conditions of the time with a development model that expanded sales and increased the return on investment by increasing the scope of housing development and reducing the scale of the individual unit. In contrast to the traditional model of housing development for rental income collection, which required a payback period of **8 to 9 years**,[2·10] the new model significantly increased the turnover of working capital for developers and expanded their capacity to provide new housing. Thus, construction of new projects could occur successively with little delay.

2·4 The possibility of a mechanised process of mass housing construction had spatial implications. The spatial design mechanism to achieve affordability was by unit

[2·07] Ou and Luo, *Zhongguo Yin Hang Ye Fa Zhan Shi: You Wan Qing Zhi Dang Xia*, 126.

t09 售樓花

[2·08] Feng, *A Century of Hong Kong Real Estate Development*, 65.

[2·09] Ibid., 66.

[2·10] Feng, *A Century of Hong Kong Real Estate Development*, 63.



compartmentalisation, and the downward adjustment of internal unit areas—a method that would become common in housing developments for both public and private sectors. The housing block was no longer a series of floor extrusions sharing a central circulation spine, but a collection of units with a particularly curated mode of living. This marked a departure from the Tenement Housing typology prevalent in the inter-war period, which provided a utilitarian open plan that was then flexibly subdivided for various households. These households would all share a common latrine and kitchen facilities on the same floor.

[2·11] Wu, "Fen Ceng Chu Shou De Hui Yi," 83.

[2·12] Feng, *A Century of Hong Kong Real Estate Development*, 63.

t10 香檳大廈

t11 分層分單位

2·5 As Do Taai Ng ordered each unit to be equipped with 'a maid's room, a kitchen, a toilet, two living rooms and three bed rooms',[2·11] the modern housing unit tied to an individual home-owner was born. Refining the framework of selling each flat as separate floor-units, the National Investment Co. Ltd would innovate once more in the design of Champagne Court, which implemented a *doubly-partitioned model* characterised by the further partitioning of each floor into multiple separate saleable units, thereby creating the prototypical modern residential high-rise apartment [see p2·03].[2·12]

### 2113 *Commodification and developmental scale*

3·1 Although it is unclear whether property developers were aware of the trajectory in design that their modernisations were creating in housing development, what was evidently established in early post-war private housing development was the emergence of a correlation between commodification and space. More precisely, this commodification was led by the concurrent expansion of capital availability and reduction of investment capital required to produce housing. The scale of individual housing developments had become increasingly large in massing — a phenomenon that was encouraged by the

*38 "Champagne Court," photograph, 2001, *Wikipedia.org*, https://commons.wikimedia.org/wiki/File:Champagne_Court.JPG.





p2·03 Photographic series documenting Champagne Court.



p2·04 Photograph showing the corner elevation of Sim Gung Daai Haa.

lenient building regulations at the time.

3·2 One example of this was the Sim Gung Daai Haa t12 developed in 1955 by the National Investment Co. Ltd. Upon completion, the tower was the tallest building in Hong Kong [see p2·04]. Ying Dong Fok would later recall that the project costing **2 million HKD** produced a profit of **10 million HKD** only required an initial investment capital of **103'000 HKD**; the remaining balance was covered by *pre-sales*.[2·13] Thus, the new model allowed the seamless transfer of construction cost to the future home-owner thereby allowing developers to undertake projects of vastly greater scale. More importantly, the expanded capitalisation of housing enabled the developmental scale of projects to assume the scope of neighbourhood developments. This tendency was encapsulated by the Gung Zung Sei Fong Gaai t13 development that initially piloted the Pre-sale model. Encompassing a **17'000 ft²** site area, the project featured more than 100 housing blocks with a total output of **600 units** [see f2·01].[2·14]

t12 嶺宮大廈

t13 公眾四方街

[2·13] "Shou Chuang Mai Lou Hua Chou Zi Jin Qi Lou," *Apple Daily*, October 29, 2006.

[2·14] Feng, *A Century of Hong Kong Real Estate Development*, 82.

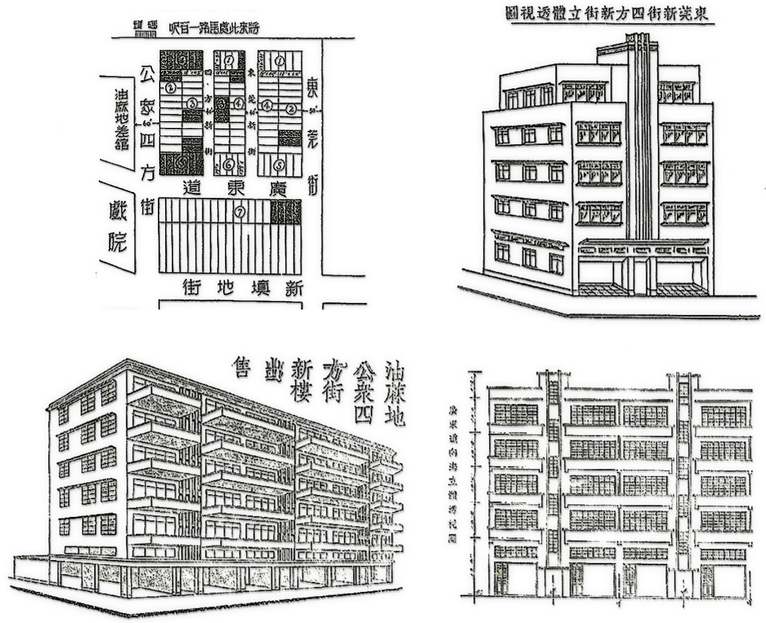
### 2114 *Financialization and the modern Major Housing Estates*

4·1 The escalating profits produced an optimism in the property market outlook that would directly contribute to its financialization in the late 1950s. Attracted by high returns, the financial sector played an increasingly active role in property developments. Loans were extensively provided to property developers and mortgages to prospective home buyers. The popularisation of mortgages for home purchases further completed the innovation of *payment by instalments*. In reality, the financialization of housing had entrenched the city's economic reliance on property development.[2·15]

[2·15] Ou and Luo, *Zhongguo Yin Hang Ye Fa Zhan Shi: You Wan Qing Zhi Dang Xia*, 127.

4·2 Within the context of the New Town developments, housing developments became an interchangeable concept






f2·01 Composite documentation on the design of Gung Zung Sei Fong Gaai.

*39 Feng, A Century of Hong Kong Real Estate Development, 82.

with large-scale neighbourhood and town planning. This was especially relevant in the late 1960s when urban expansion amidst rapid industrialisation depleted most developable land within the inner city area south of the Kowloon ridges — areas including the early new towns of Tseun Wan and Kwun Tong. Economic growth produced a class of middle-income households with home-ownership aspirations in a city that was burgeoning to over-capacity. [2·16]

[2·16] Wigglesworth, "The Development of New Town," 51.

4·3 It was understood that the solution to urban congestion would require the development of New Territories,[2·17] and the spatial typology to accommodate the new population was the Major Housing Estate. The precedents set by Mei Foo Sun Chuen and Tai Koo Shing in the late 1960s and into the 1970s demonstrated the popularity of large-scale mass housing estates.[2·18][2·19] However, these projects were led by well-funded foreign or British-owned companies, who possessed sizable industrial land banks within the main urban area because of their industrial roots. As such, a crucial innovation was still needed before large-scale Major Housing Estates could become a widespread construction type for the entire property development sector.

[2·17] B. Shelton, J. Karakiewicz and T. Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, ed. A. Rudkin (New York City: Routledge, 2011), 94.

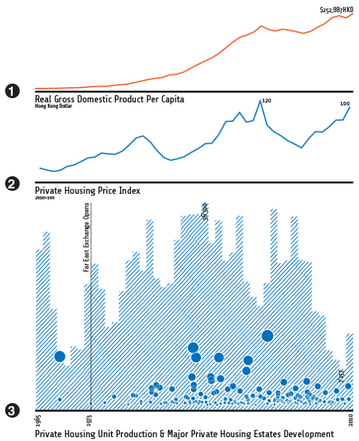
[2·18] Feng, *A Century of Hong Kong Real Estate Development*, 77.

[2·19] Poon, *Land and the Ruling Class in Hong Kong*, 77.

4·4 The opening of the Far East Exchange Limited in December of 1969 followed by two additional exchanges provided alternative venues where Chinese firms could be listed at a time when British firms had de facto dominance over the existing Hong Kong Stock Exchange Limited. This created an intensely competitive environment between the four exchanges as they lowered their listing requirements and standards to attract prospective firms. The context provided an enormous opportunity for the nascent class of Chinese-owned development firms: almost every major property developer today was listed within the year of 1972.[2·20]

[2·20] Feng, *A Century of Hong Kong Real Estate Development*, 134.

4·5 Equity financing permitted development firms to vastly




*The graph series show that virturall all private major housing estates (estate with above 1000 units) were developed after the mid-1970s, following the emergence of widespread capital availability through equity financing.*

***Key:** (i) Private housing unit production [bars aligned to y-axis]; and (ii) private major housing estates production [circles with colour fill], with relative population capacity of housing estates indicated [diameter of circle].*

**d2·01** 1965-2010: Graph series documenting housing prices and several production metrics.
(1) Real gross domestic product per capita; (2) Private housing price index; and (3) Private housing unit production and private major housing estates over time.



[2·21] Ibid., 153.

expand their enterprises, thereby providing a favourable context conducive to the rapid proliferation of Major Housing Estates towards the end of the 1970s [see d2·01]·3. One project that appears to capture the various emergent urbanisation tendencies of New Towns expansion, which include the use of equity financing and the development of Major Housing Estate ,was Sha Tin City One. The site area of **2'500'000 ft²** was successfully bided by a consortium comprising of the city's four largest developers today: Cheung Kong, Sun Hung Kei, Henderson Land and New World Development.[2·21]

4·6 Surrounded by hills and greeneries and with a capacity of **50'000 persons** to be accommodated in **52 blocks** with **11'000 units**, Sha Tin City epitomised the growing class of major housing developments to be inserted in the satellite cities — conceptually positioned at the intersection of mass production and modern private housing. The popularisation of the Major Housing Estate was the normalisation of a housing typology that operated at the scale of a miniature city [see f2·02].

4·7 There is no doubt that the scale of property developments intensified within a short span of **25 years**. A combination of legal and financial innovations transformed the development model by widening the availability of capital and reducing the amount of financial contribution required to produce housing, such that housing development could dramatically and consistently increase in scale. But to make major housing accessible to the population, the scale of the unit was compartmentalised and transformed into a monetary commodity that could be traded at ease. It was in this context that the evolution of the property development model caused the gradual abstraction of housing. In housing's evolutionary process it facilitated the dissociation of its use from its ownership.

4·8 The intensifying magnitude of property development is

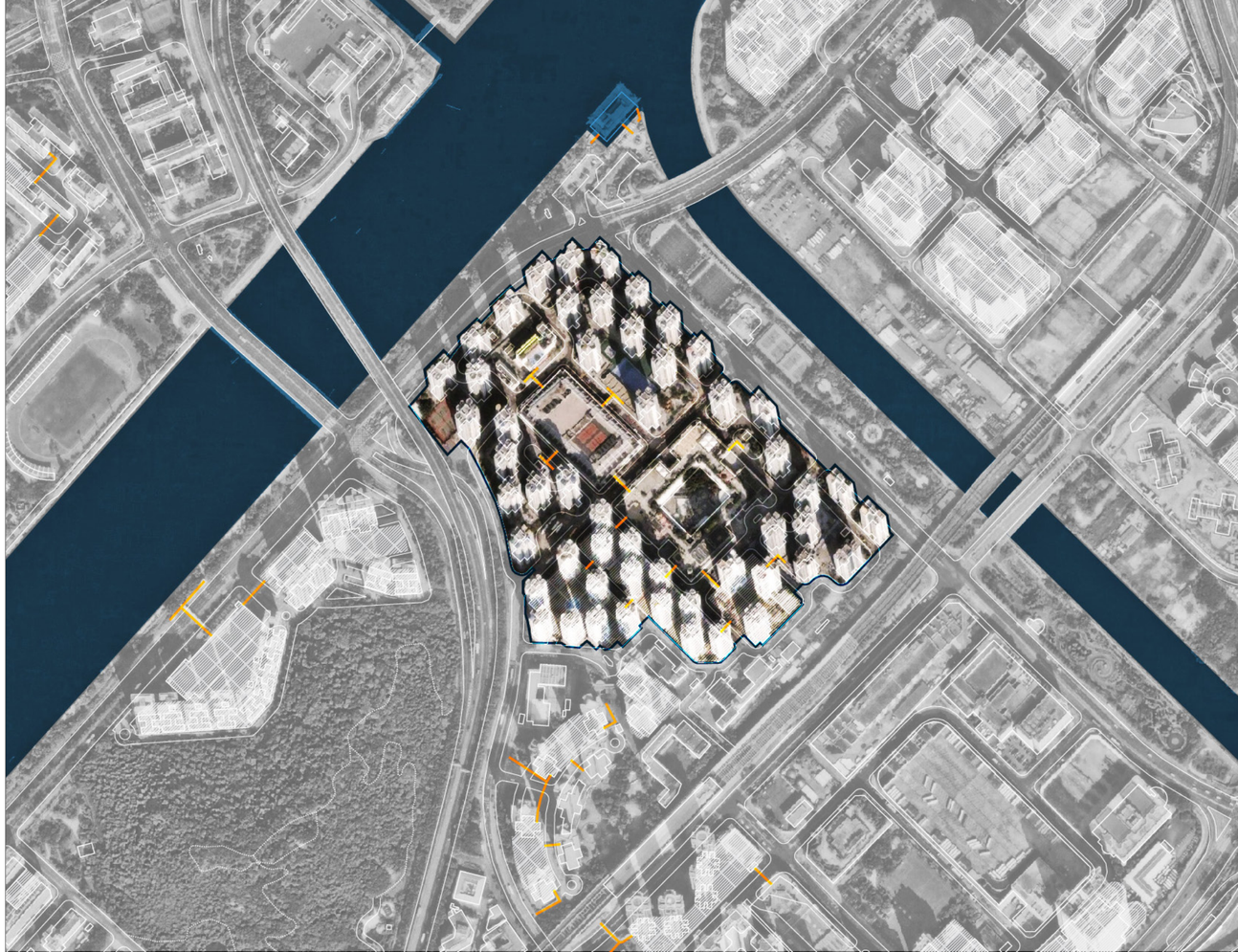
captured by its evolving social lexicon. Prior to the 1960s, most development firms called had the suffice *Zi Jip* attached to their names, which can be translated as 'home purchasing.' The emerging class of firms in the 1960s and 1970s, that would become prominent actors in contemporary real estate developments, however, would begin to address themselves as *Faat Zin Soeng*, *Kei Jip*, or *Sat Jip*—denoting respectively developer, enterprise or industry. Indeed, housing in the modern era of real estate development was no longer be conceived as ones' factors of production, but rather a traded commodity transcending the physical utility of housing.[2·22]

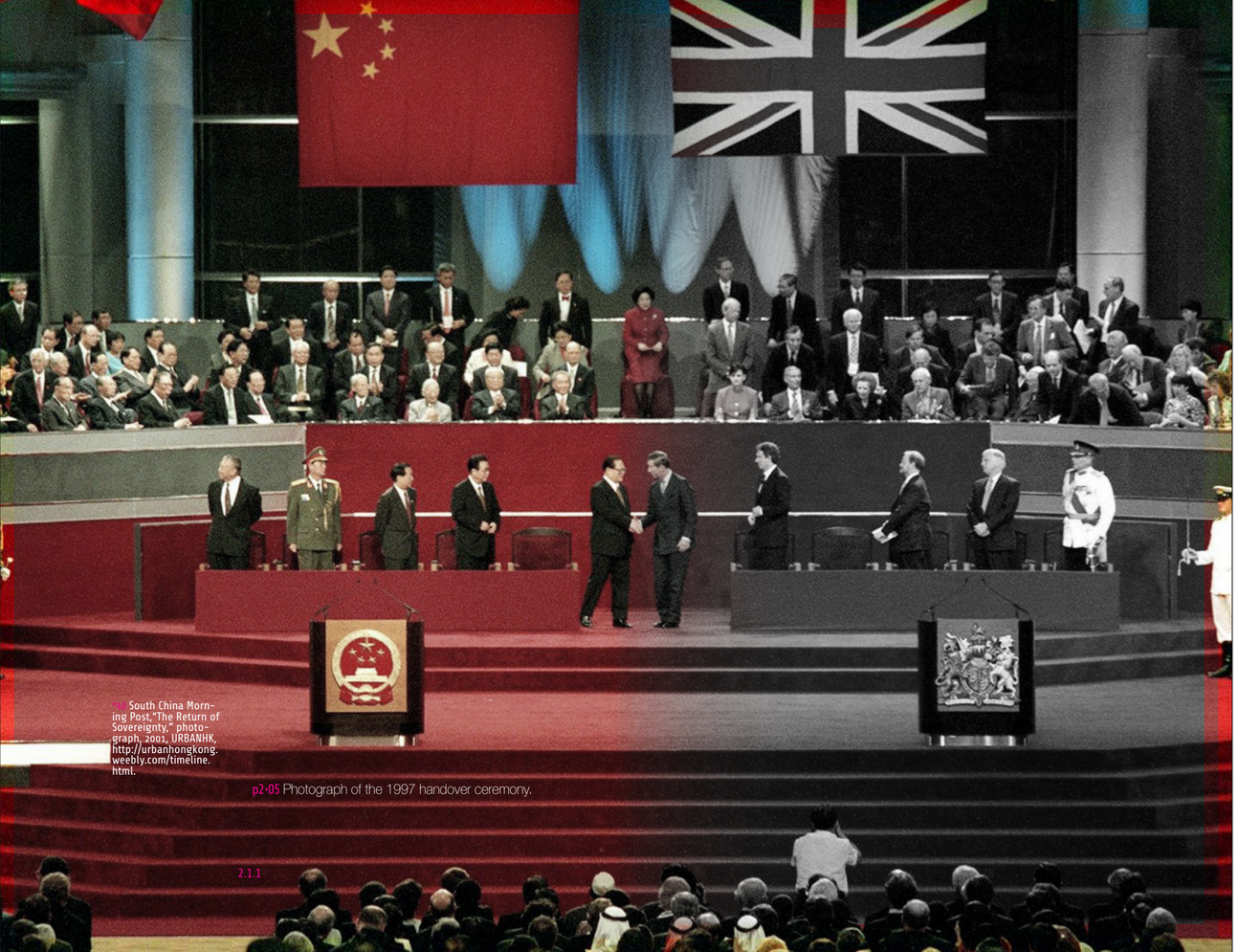
t14 置業
t15 發展商
t16 企業
t17 實業

[2·22] Ibid., 61.

f2·02 Stylised site plan showing City One.







[2-24] South China Morning Post,"The Return of Sovereignty," photograph, 2001, URBANHK, http://urbanhongkong.weebly.com/timeline.html.

p2-05 Photograph of the 1997 handover ceremony.



# 2.1.2

## Entrenched public-private partnership: *private facilitation, co-optation, collaboration*

### 2121 *Public-private sector separation—a foundational myth to legitimise colonial rule*

1-1 As described in the preceding subchapter, the property development sector developed considerable financial power by their capacity to capitalise on societal transformation with responses that further encouraged the commodification of housing. The entrenchment of their influence in public policy, however, required active facilitation by the government. In this long-standing partnership between the two sectors, the myth of Hong Kong as a bastion of free-market capitalism is revealed to be grossly inaccurate.‡2.1

1-2 It is popular in political discourse on urban developments to portray Hong Kong as a binary opposition of 'public' and 'private' interests.[2-23] Born out of a colonial nation-building project, the government is routinely characterised as a benevolent guardian of the public good, helping the population to secure ongoing improvements to living conditions in a severe environment characterised by land and resource scarcity. This interpretation establishes a separation between the public and private sector: the government's role in the economy is to act as a fair arbiter, to ensure that Hong Kong maintains its status as a free-market economy with enviable liberties and rule of law. Housing interventions, meanwhile, simply address the residual housing demand that the private market is incapable of satisfying.

1-3 Such simplification, however, obscures the more reliable characterisation that Hong Kong is in fact a plutocracy,[2-24] with substantive overlaps between the two sectors [see d2-02]. The government is not universally supportive of capitalistic principles, and the private sector is not alone in seeking profit maximisation. In fact, public policies have at times favoured private development to the extent that many in Hong Kong perceive a 'collusion between government and business.'[2-25]

1-4 This subchapter does not seek to substantiate the claims of collusion, which is a highly specific legal term that is difficult to substantiate.‡2.2 Conducted here instead is an analysis of Hong Kong's government structure that identifies the institutional mechanisms by which business priorities can be incorporated into the city's public policies. In reality, the entanglement of public and private sectors has been institutionally enabled by the structure of the administration that was inherited from colonial Hong Kong‡2.3 —a structure that lent itself readily to infiltration by corporate interests.

### 2122 *Democratic deficit*

2-1 At the core of the perceived failure in governance is the elementary condition that democratic politics have never prevailed in Hong Kong.[2-27]‡2.4 As explained in the earlier chapter, the lack of democracy was justified conveniently by the imminent expiry of British control as the colonial administrators were able to claim that they could not grant such democratic rights since lands did not belong to them. [see p2-05] With the liberation of government from the imposition of normal democratic controls, government bureaucracy wielded great political power, acting as both the creator and administrator of public policies.

2-2 Absent of democratic representation, the colonial

‡2.1 *The public and private partnership described generally in this research refers to both the colonial and present-day government's tendencies to support the private sector; it does not claim that the government had consistently favoured the private sector over public interests.*

[2-23] Chu, "The myths and politics of housing in Hong Kong: The controversy over the demolition of the Hunghom Estate," 381.

[2-24] "Planet Plutocrat," *The Economist*, March 15, 2014, http://www.economist.com/news/international/21599041-countries-where-politically-connected-businessmen-are-most-likely-prosper-planet.

[2-25] S.H.W. Wong, "Political Connections and Firm Performance: The Case of Hong Kong," *Journal of East Asian Studies* 10, no. 2 (May-August, 2010): 275.

‡2.2 *In legal literature, collusion refers specifically to deliberate acts of illegal cooperation that limit open market competition.*

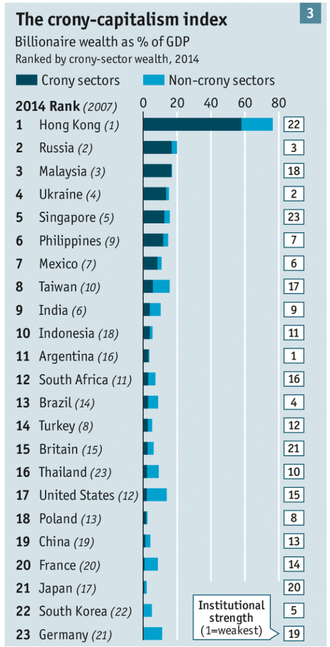
‡2.3 *Further complicating the discourse of 'collusion' is the perception that the problem is exclusive to the post-Handover phenomenon.*[2-26] *Such colonial nostalgia ignores the perennial practice of British Hong Kong of entrenching business interests into its policy making.*

[2-26] H. Restall, "Hong Kong Was Better Under the British," *The Wall Street Journal*, February 23, 2012, accessed January 1, 2015. Http://www.wsj.com/articles/SB10001424052970203960804577239252005926874.

‡2.4 *Although some electoral forms do exist in Hong Kong. Democracy is defined here as the presence of universal franchise for the entire legislative and executive branch of the government as common in other developed nations.*

[2-27] Cuthbert and McKinnell, "Ambiguous Space, Ambiguous Rights – Corporate Power and Social Control in Hong Kong,," 298.

*41 "Planet Plutocrat," *The Economist*, March 15, 2014, http://www.economist.com/news/international/21599041-countries-where-politically-connected-businessmen-are-most-likely-prosper-planet.




d2·02 Plutocracy index score for major world countries as calculated by the Economist.

government has historically relied on the 'administrative absorption of politics' through the appointment of prominent locals to various advisory boards, including the Legislative and Executive Councils.[2·28] Though some local representation existed within the Urban Council, its function was severely limited and it served a largely consultative role. The system selectively granted special privilege and indirect political power to small elite sectors of the population; consequently, an enormous amount of discretionary power was concentrated in the government bureaucracy. A powerful corporate state consisting of the professional class, the business class and the state bureaucracy emerged to enact a governmental agenda that regularly coincided with the interests of the capital class.

2·3 Given this degree of power concentration, resistance to democratisation in the political structure was expected.‡2.5 Even when partial democratisation was introduced in the 1980s, the newly allowed representation was still severely limited. In the first indirect election of the **24-member** Legislative Council, **12 members** were elected by an Electoral College, comprised of quasi-democratic bodies elected only by a small minority of the population. The remaining **12 members** were elected by Functional Constituencies, bodies representing professional or special interest groups, including both persons as well as other legal entities such as corporations and organisations.[2·29]

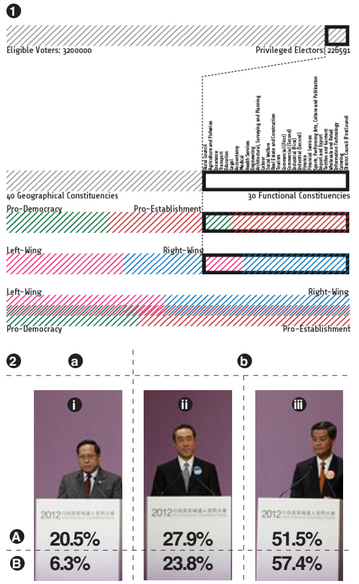
2·4 The existence of the Functional Constituencies is perhaps the most telling aspect of Hong Kong's political system, It indicates the ruling bureaucrats' inherent mistrust of popular democracy. Undeniably, it is paradoxical that a proposal that was ostensibly declared as a milestone towards democracy would in fact entrench and consolidate the local elites' power to the legislative process. By granting a minority group representative power equal to that of the entire population, the government of Hong Kong had effectively reiterated a doctrine of differential privilege—officially demonstrating

[2·28] Smart, *The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950–1963*, 51.

‡2.5 *Early post-war attempt to expand suffrage proposed by Hong Kong Governor Mark Young in 1946 were met with opposition. Proposal on democratic reforms were not revived until shortly after the Sino-British Agreement in 1984 based on the Green Paper issued by Governor Murray MacLehose on the Further Development of Representative Government in Hong Kong.*

[2·29] C. Loh, introduction to *Functional Constituencies: A Unique Feature of the Hong Kong Legislative Council*, ed. Christine Loh, vol. 1 of *Civic Exchange Guide*, illustrated ed. (Hong Kong: Hong Kong University Press, 2006), 3.






***Political camp:*** *(a) Pro-democracy; and (b) Pro-establishment.* ***Candidates:*** *(i) Albert Ho; (ii) Henry Tang; and (iii) Leung Chun-ying.*

*42 Reuters,"Hong Kong Chief Executive candidates," *The Wall Street Journal*, 2012, http://www.wsj.com/articles/SB10001424052702304636404577291391007449140.

d2·03 Data series showing the discrepancies between popular sentiment and actual composition of various branches of government.
(1) 2012 Legislative Council composition: Functional versus Geographical Constituencies; and (2) 2012 Chief Executive election results: Actual popularity according to public opinion poll (A) versus electoral committee (B).

contempt for popular opinion. The aspirations of the majority would be constantly examined, countered and corrected by a selective class of professional and business representatives whose opinions were deemed more enlightened and valuable, so that the actual composition of the government—both the legislative [see d2·03]·1, and the executive branch [see d2·03]·2—is consistently more right-wing than that which is desired by the public, as indicated through public opinion polls and the actual electoral results considering only the popular vote.

2·5 As corporations and legal entities were allowed to vote, some Functional Constituencies were comprised entirely of corporate electors.[2·30] Rules of business inevitably infiltrated governance, from the undemocratic quinquennial election of the city's Chief Executive, to the drafting of the Basic Law in the dozen years leading to the handover.‡2.6 Upon inspection, the tight association between business and governance becomes very clear. Some academics have even proposed that the city's constitution—otherwise known as the *Basic Law*—was a 'pact between the Chinese government and the business and industrial elites in Hong Kong.'[2·31][2·32]

### 2123 *Institutionalised state facilitation of private development*

> *The planner's knowledge is used ideologically, as both legitimation and justification for certain forms of action. Political struggles and arguments may, under the planner's influence be reduced to technical arguments for which a 'rational' solution can easily be found…, but it is the capitalistic definition of rationality to which we seek to appeal.*[2·33]
>
> — Excerpts from *The Urbanisation of Capital*, in

‡2.6 *The members in the committee responsible for electing the city's Chief Executive is largely derived from the corporate class, while 70% of the members in the Basic Law Drafting Committee are business elites. The Basic Law serves as the constitutional document of the Hong Kong Special Administrative Region.*

[2·30] Wong, "Political Connections and Firm Performance: The Case of Hong Kong," 277.

[2·31] Ibid., 278.

[2·32] Poon, *Land and the Ruling Class in Hong Kong*, 61.

[2·33] David Harvey, *The Urbanisation of Capital: The Urbanisation of Capital: Studies in the History and Theory of Capitalist Urbanisation* (Baltimore, Maryland: Johns Hopkins University Press, 1985), 177.

which **David Harvey** presents a 'definitive Marxist interpretation of the urban process under capitalism.'

3·1 On a policy level, positive governmental changes to the property development sector have regularly been reported and investigated by both journalists and academics. As noted by urban designer and political theorists Alexander Cuthbert, because public policy is 'dominated by the needs of development capital... urban planning in Hong Kong can be seen to act ideologically in support of the mode of production.'[2·34] Since the state constitutes up to **8%** of the labour force, it is by far the largest single employer of professionals and professional services in the territory, such that the supposed impartiality of professional bodies are readily compromised. Consequently, organisations like the Hong Kong Institute of Planners have been criticised for becoming 'servo-mechanisms of the state', instead of acting as independent and logical proponents of spatial reasoning.[2·35]

[2·34] Cuthbert and McKinnell, "Ambiguous Space, Ambiguous Rights – Corporate Power and Social Control in Hong Kong,," 297.

[2·35] Ibid.

3·2 In assessing the extent of government co-optation of the professional and business class, it becomes possible to understand how the laws governing spatial relations in Hong Kong have facilitated the convergence of housing typologies toward internalised and privatised forms. This point will be considered in-depth in the final chapter. Hong Kong upholds clean governance and laissez-fairism to an extent, stopping short of direct intervention to support business interests, but facilitates private interests implicitly through the minimisation of spatial regulations.[2·36] This is achieved through the deliberate construction of a flexible legal framework that transfers responsibility for spatial production to the private sector, maximizing their potential to develop privatised spaces.[2·37]

[2·36] Ibid., 310.

[2·37] Ibid., 298.

3·3 It is for this reason that the government has been consistently reluctant to implement planning standards. The *Hong Kong Planning Standards and Guidelines* remains a legally non-binding document that is routinely ignored.[2·38] Similarly, other primary legal documents regulating spatial production, including the *Town Planning Ordinance*, the *Crown Leases Ordinance* and the *Buildings Ordinances*, have remained fundamentally unaltered in the past half-century, even as Hong Kong has undergone significant transformations.

[2·38] Hong Kong, *Official Record of Proceedings of the Legislative Council*, 9 May, 2007.

3·4 By minimizing statutory regulations, a large number of developmental decisions are channelled through non-statutory procedures, which permit direct negotiation between the state and property development sector in an environment unencumbered by either democratic controls or spatial legislation of any force.[2·39] Consequently, even as the government of Hong Kong legally retains the ability to control all developments,‡2.7 its rights are rarely exercised. In Chapter 3.1, the spatial consequences of this flexible system of control upon the geographical distribution of density and the emergence of consolidated private housing forms will be examined.

[2·39] Cuthbert and McKinnell, "Ambiguous Space, Ambiguous Rights – Corporate Power and Social Control in Hong Kong,," 296.

‡2.7 *1) As the landlord, the Government of Hong Kong is in a position to control all development through the conditions which it attaches to its leases. 2) The Building Department has been granted the power to refuse any application if that proposal is thought to a) contravenes any statutory plan prepared under the Town Planning Ordinance, b) results in a building differing in height, design, type, or intended use from buildings in the immediate neighbourhood.*

3·5 The overall effect of the laissez-faire mode of planning is readily observable. Older areas in particular have been affected by successive building regulation changes. Even as the government has retained phenomenal discretionary power to influence urban forms, Hong Kong's built environment is characterised by formal dissonance, unbearable intensity and private exclusivity [see p2·06]. Indeed, the government's power is used simply to ensure that developments occur, leaving the content of private development largely unspecified.[2·40] Private developments are permitted as long as they satisfy elementary building regulations, and conform to the objectives of land value maximisation. Because land value is made so expensive, only powerful business entities have the potential to be viable leaseholders. These leaseholders exercise their power to control the form, access and tenancy of private developments with

[2·40] Ibid., 299.





p2·06 Photograph showing an example of built-environment-dissonance in To Kwa Hwan.

minimal interferences from the government.[2·41]

[2·41] Ibid.

### 2124 *Anti-market and pro-developer*

4·1 In recent years, the government of Hong Kong has moved towards more blatant forms of private sector facilitation. This facilitation, however, does not represent unconditional support for capitalist enterprises. The aftermath of the 1997 Asian Financial Crisis is particularly illustrative of the emerging nuanced symbiotic relationship between the public sector and selected members from among the property developers. With the property bubble bursting in the aftermath of the 1997 Asian Financial Crisis, many home-owners were trapped in negative equity as the economy suffered from high unemployment and rising bankruptcies.[2·42] The property sector and home-owners were quick to scapegoat the public housing policy for generating the protracted economic decline.

[2·42] Poon, *Land and the Ruling Class in Hong Kong*, 69.

4·2 To stabilise the property market, the government reversed its ambitious subsidised housing production targets‡2.8 and announced a series of plans to 'restore confidence in the property market.'[2·43] In practice, the policies manifested in the suppression of both land supply and subsidised housing production. These cuts were justified as being in the overall interest of supporting Hong Kong's free economy. By suppressing land supply, however, the government had in fact damaged business competitiveness and granted additional advantage to larger developers by depriving smaller developers the opportunity to augment their land banks at a time when land costs were low due to the market downturn. Not only did the policy contradict the government's own objective in achieving housing affordability, but it also discredited a professed adherence to laissez-faire capitalism.[2·44]

‡2.8 *At the time, the government was implementing an ambitious target to supply 85,000 flats per year by expanding housing production of built-for-sale units and land supply to be disposed.*

[2·43] K.Y. Lau, "The state-managed housing system in Hong Kong," in *Housing and the New Welfare State: Perspectives from East Asia and Europe*, ed. Alan Murie, Richard Groves and Christopher Watson (Aldershot, GB: Ashgate Publishing Company, 2007), 60.

[2·44] Poon, *Land and the Ruling Class in Hong Kong*, 118.

4·3 Concerns over the government's facilitation of anti-

competitive behaviour are not new. An investigation launched in 1994 by the Consumer Council, a consumer advocacy organisation, found evidence of a high concentration of market share in the industry and a lack of threat from new entrants. This is the product of the existing land system which fostered the consolidation of the property development sector. Land revenue maximisation led to land disposal practices that exacerbated the barrier to entry by favouring large developers with strong financial resources.[2·45] ‡2.9

4·4 The advantage of an economy of scale is perpetuated and entrenched into the built fabric. A political inclination towards large-scale development favours large developers who enjoy economies of scale, and high land prices favour developers with substantial land banks, since their net asset values continue to appreciate with increasing prices.[2·46] Researcher Yuming Fu observed that developers are able to attain 'abnormal' profits and 'exercise market power.' This power disincentivises the development of land at a 'socially efficient' level and leads to an 'increased cost of housing and building space.'[2·47] A vicious cycle of property development consolidation is produced over time as developers who cultivate strong financial resources are then better equipped to endure price volatility and capitalise on the property market cycles that they have helped produce.[2·48]

### 2125 *Direct collaboration: government as profit maximiser*

5·1 There are also more direct and explicit collaborations between the two sectors. As government agencies are instructed to operate under the framework of the existing land system, the continual objective of development efficiencies leads public agencies to adopt the profit-oriented strategies of private sector developers. This phenomenon was evident in the founding of the Land Development Corporation (LDC) in 1988 to accelerate renewal within the older urban areas. The corporation was required by ordinance to 'conduct its business according to prudent commercial principles' in order to be self-financing.[2·49] As such, the development agency was expected to engage in profit-making schemes to generate revenue to cover subsequent loss-making projects.

5·2 In practice, the financial constraint compelled the corporation to abandon projects with lower commercial value in favour of sites that generated the greatest commercial returns. To obtain financial security, partnerships were formed with private developers who, in return for their financial deposits, were granted access to some of the most valuable sites in the city's core.[2·50] As the agency was preoccupied with securing financial returns rather than maximizing community benefits, the government was effectively transformed into a private developer concerned primarily with profitability. Today, the Urban Renewal Authority (the successor of LDC) continues to be embroiled in controversies over side-lining cultural preservations, displacing established communities and prioritizing profit. To illustrate the profitability of URA projects, consider the Wan Chai development of the Queen's Road East Project, estimated to have generated a net profit seven times the compensation cost [see d2·04].[2·51]

5·3 The integration of profit considerations and programs ostensibly tied to the public good, such as urban renewal, is a testament to an ongoing approach to public policy which routinely subjects social welfare endeavours to the facilitation of private developments and the preservation of the land system. It is not difficult to see how such a development environment can cultivate a housing system which frequently produces social tension in the absence of substantive spatial differences.

5·4 The combination of private-sector facilitation, government

‡2.9 *Practices covered in this thesis includes, but is not limited to, the restriction of land supply by suspending land sales when the market is depressed, and the prioritised disposal of land with high value, such as land that can be developed at greater permissible plot ratio.*

[2·45] "How Competitive is the Private Residential Property Market?" *Hong Kong Consumer Council*, last modified 1996, accessed January 1, 2015, http://www2.consumer.org.hk/hseg607/hse_e.htm.

[2·46] Y.M. Fu and S. Ching, "Examining Competition in Land Market: An Application of Event Study to Land Auctions in Hong Kong" [Working Paper, Department of Real Estate and Urban Land Economics, School of Business, University of Wisconsin-Madison, Madison, February, 2001], 1.

[2·47] Ibid., 16.

[2·48] Poon, *Land and the Ruling Class in Hong Kong*, 76.

[2·49] D. Adams and E.M. Hastings,"Urban Renewal in Hong Kong: Transition from Development Corporation to Renewal Authority," *Land Use Policy* 18, no. 3 (001): 256.

[2·50] Ibid., 248.

[2·51] C.K. Yan, "Home for Post 80's: Housing Revolution in Hong Kong" (Master's Thesis, Chinese University of Hong Kong, 2011), 19.



*‡3 C.K. Yan, "Home for Post 80's: Housing Revolution in Hong Kong," 19.

A

1




B

**Queen's Cube**

| | | | |
|---|---|---|---|
| Site Area | | 378m² | |
| Original GFA | | 1806m² | |
| New GFA | | 3984m² | |
| Plot Ratio | | 10.5× | |
| *Component* | *Unit Cost* | *Area* | *Subtotal* |
| Selling Price | $169300/m² | 3984m² | + $674'500'000 |
| Construction Cost | $10'764/m² | 3984m² | - $42'900'000 |
| Compensation | $40,214/m² | 1806m² | - $72'600'000 |
| | | | = $559'000'000 |
| | | | **7.7× Compensation** |

d2·04 Composite accounting and administrative information for the URA Project Queen's Road East. ***Content:*** (A) Street view; with project (1) before, and (2) after construction. (B) Spreadsheet showing project revenue, cost and profit.

inaction, and the conflation of public and private interests is demonstrated by the saga surrounding the demolition of the Hunghom Estate. Originally conceived under the government's Private Sector Participation Scheme (PSPS) for low-income households to acquire home-ownership at a subsidised rate, the Hunghom Peninsula Estate was sold back to two of Hong Kong's largest property firms in February 2004 when the government suspended the scheme in response to the property slump following the 1997 Asian Financial Crisis.[2·52] Public outcry soon followed when plans to demolish the buildings and replace them with luxury condominiums were published.[2·53]

5·5 The property developers argued that the demolition was necessary to correct the existing 'inefficient use of land' which failed to 'maximise precious land resources.'[2·54] The government was reluctant to act, arguing that it must respect both the free enterprises and the contract of the sales. Although the demolitions were ultimately cancelled by the developers in face of civic activism—the apartment blocks were simply renovated and refurbished so that they are suitable as housing to be sold in the private housing market [see d2·04]—the event nonetheless underscored the recurring tendencies of both the public and private sector to conflate notions of public good with profit motives disguised as necessary economic processes. Not only do these practices run contrary to the professed doctrine of free-market capitalism, they obscure a systematically entrenched relationship between the public and private sectors which has in fact facilitated the consolidation of the property development industry.

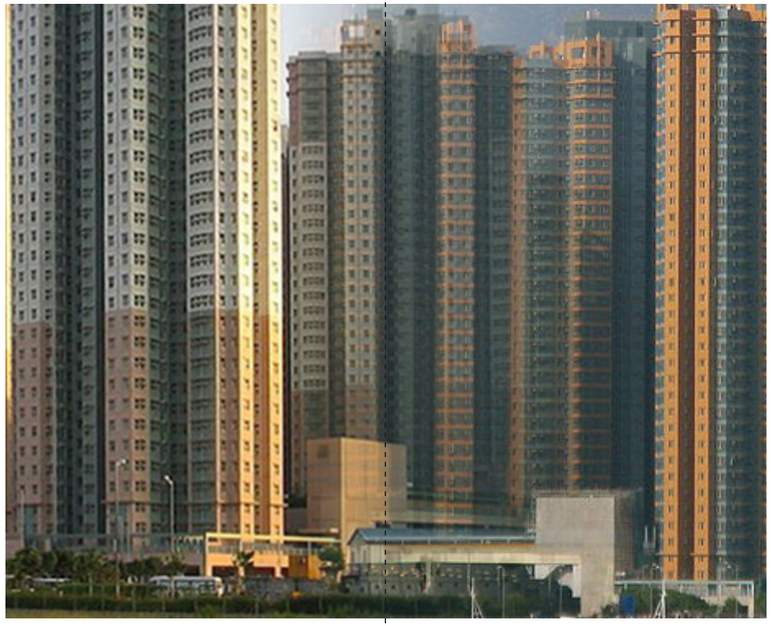
[2·52] "Cut-Price Sale of Flats on Harbour Stirs Anger," South China Morning Post, February 10, 2004.

[2·53] Chu, "The myths and politics of housing in Hong Kong: The controversy over the demolition of the Hunghom Estate," 378.

[2·54] Ibid., 379.

*44 Baycrest, "Hunghom Peninsula," photograph, 2004, *Wikipedia.org*, https://commons.wikimedia.org/wiki/File:Hunghom_Peninsula.jpg.

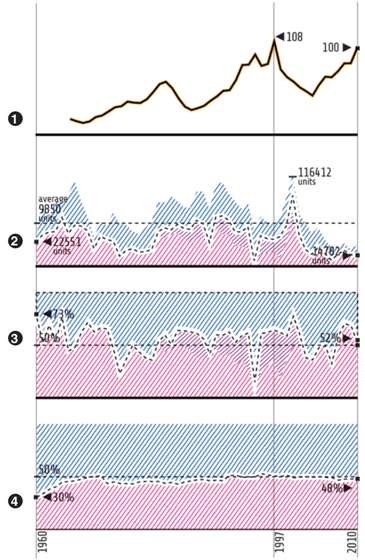
*45 Baycrest,"Harbour Place," photograph, 2007, *Wikipedia.org*, https://commons.wikimedia.org/wiki/File:Harbour_Place.jpg.




f2-03 Combined photographs showing the transformation of the Hunghom Peninsula from public to private housing. (1) Public housing before refurbishment: Hunghom Peninsula; and (2) Private housing at present: Harbour Place.

# 2.2

## **50:50 and the commodification of housing:** *social divergence amidst interdependence*

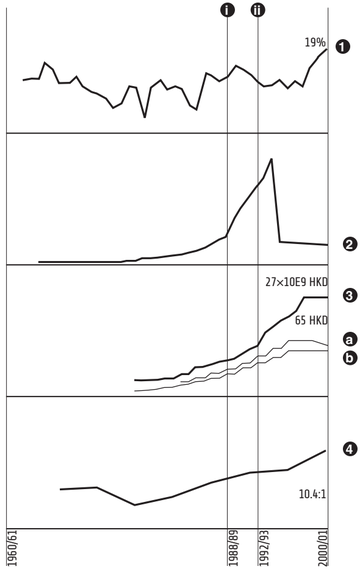



**Key:**

***(2)(3)***
*Public rental housing (PRH) [magenta hatch]; Privatised subsidised housing options, such as Home Ownership Scheme (HOS) and Private-Sector Participation Scheme (PSPS) [purple hatch]; and Non-subsidised private sector housing [blue hatch].*

***(4)***
*Housing population receiving no subsides [blue hatch], or some subsidies [magenta hatch].*

d2·05 1960-2010: Data series illustrating the tendencies of 50:50 in various housing production metrics over time.
(1) Real private housing price index; (2) Total housing production with development type breakdown; (3) Percentage composition breakdown of annual public housing production; and (4) Percentage of Hong Kong's housing population in public or private sector housing.




d2·06 1960-2001: Graph series indicating various aspects of the Hong Kong Housing Authority's financial arrangements.
(1) Housing expenditure as percentage of total government spending; (2) Government injection of capital in Hong Kong dollars; (3) Rental charges for different types of rental housing in Hong Kong dollars; and (4) Rent-to-income ratio.

*46 Hui and Wong, "Financial Arrangement," 163-164; 171.

**Key:**

***(3)*** *Public rental housing (PRH)*
*(a) Government lost-cost housing estates (GLCH)*
*(b) Resettlement estates*

***Year:*** *Hong Kong Housing Authority (i) declares its intentions to become self-financing, and (ii) finally achieves its objective to be financially self-supporting.*

*As government contribution dropped, the preparation of the Housing Authority to become a self-supporting agency had produced an increase in rental charge and led to the emergence of privatised housing options.*





# 2.2.1

## Construction of the home-ownership ladder: *co-optation of the middle-class to price*

### 2211 *Privatisation of the public housing programme*

[2-55] Hong Kong, Hong Kong, Housing Authority, *Long Term Housing Policy: A Policy Statement*, 2.

1·1 The 1987 *Long Term Housing Strategy* officially acknowledged the government's objective in using the public housing programme to facilitate private development. Home-ownership was to be achieved by increasing private sector involvement in affordable housing provision, and by tightening eligibility requirements to public housing.[2-55]

1·2 These objectives highlighted the increasingly contradictory role of the state-managed housing system in Hong Kong: whereas the unrelenting pursuit of housing accessibility would render private housing obsolete, the commodification of housing would naturally produce housing needs that cannot be met efficiently or profitably by private capital. That the two objectives were essentially opposed necessitated the development of an intermediary housing option that would prepare the household for commodification. It was in this context that the public housing programme first introduced subsidised built-for-sale housing options.

1·3 The emergence of subsidised built-for-sale housing options was a manifestation of several underlying developments. Administratively, the strategy was adopted in response to the transformation of the Hong Kong Housing Authority (HKHA) from a subsidised programme into a self-financed institution by the financial year of 1988/1989, as the privatised option was less costly to build [see d2·06].[2-56]‡2.10 Its introduction was also necessitated by the fact that rising prices and rents in private housing towards the 1980s had rendered a significant proportion of middle-income families below the income levels necessary to obtain a flat in the private market. Trapped in what is known as the *Sandwich Class*, these families were neither eligible for Public Rental Housing (PRH), nor able to purchase private housing.

‡2.10 *With an average sales-to-cost ratio of at least 2.5:1, the implementation of the various then-nascent built-for-sale housing options had contributed greatly to Hong Kong Housing Authority's ability to become financially self-sufficient by the year of 1992.*[2-57]

1·4 As a result, the Home Ownership Scheme (HOS) was designed to satisfy the home-ownership aspirations of these marginalised middle-income households. Under the scheme, which still exists presently, beneficiaries receive flats of different sizes and locations at favourable mortgage rates that are valued up to **90%** of the price,[2-58] and at prices that are typically set at **70% to 80%** of the market value. The scheme was initially conceived to provide an intermediate position between PRH and private home ownership for existing PRH users to purchase. Simultaneously, the move was envisaged to free up existing PRH units for applicants on the waiting list.

[2-56] Lau, "The state-managed housing system in Hong Kong," 60.

[2-57] Ibid.

[2-58] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 36.

### 2212 *Initialisation of 50:50 by subsidised home-ownership*

2·1 The rationale that the construction of HOS is needed to free up PRH units is particular revealing. Although denied by the government, the scope and objective of the public housing programme had historically been constrained by several numerical prescriptions that remained consistent independent of changing conditions. One of these unwritten rules is the tenuous 50:50 composition of public and private housing sector housing, which has been maintained for over three decades [see d2·05].[2-59]

[2-59] Lau, "The state-managed housing system in Hong Kong," 69.

2·2 The unwritten framework effectively affirms that government would not expand the public housing programme

indefinitely. Thus, confidence was provided to property developers, who could be certain that their housing investment would remain attractive since there would always be sufficient private housing demand.[2·60] As illustrated statistically, instead of expanding PRH, the HKHA had kept total housing production relatively constant at the same time as resources were diverted to the newly introduced programme of built-for-sale housing. Evidently, the primary objective of the combined programmes had little to do with controlling rising housing costs, but rather with producing a redistribution of tenants within the public housing programme.

[2·60] Ibid.

2·3 However, with rental charges substantially lower than the market rate, the PRH produced a sense of tenure security which made the programme attractive in comparison to available private housing options. The government was said to be a 'victim of its own success' as tenants preferred to stay in Public Rental Housing in spite of any general improvement in their disposal income. Since a content PRH tenant would have little financial incentive to participate in private housing; it was clear that there needed to be a new type of subsidised housing capable of charting an inevitable path towards private home-ownership.[2·61] In creating the built-for-sale options whereby tenants could directly benefit from the constant appreciation of land values, the new housing policy sought to construct a home-ownership ladder which could provide the populace a direct stake in private property.

[2·61] Ibid., 55.

### 2213 *Home-ownership ladder*

3·1 In technical literature, the home-ownership ladder refers to the tendency for home-owners to trade their existing property for more highly-valued property when they have accumulated sufficient equity. This process is accelerated if real income surpasses rent inflation or if rental rates are kept low. Since the programme's inception, the PRH has achieved this by charging artificially low rents.[2·62] Tenants with sufficient assets were then encouraged to acquire built-for-sale flats.

[2·62] S.L. Ho, W. Chung and G. Wong, "The Housing Ladder and Hong Kong Housing Market's Boom and Bust Cycle," CPPS Working Paper Series (Centre for Public Policy Studies, Lingnan University, Tuen Mun, Hong Kong, 2008), 5.

3·2 Although resale restrictions were in place, housing tenants of HOS could nonetheless enjoy partial benefit from the appreciation of housing prices. Indeed, prior to the 1997 Asian Financial Crisis, HOS home-owners typically made a good profit when they sold their unit and repaid HKHA the land cost subsidy from the unit's initial purchase price.[2·63] The profit gained from the sale could then be used to purchase private housing. In creating and articulating incremental steps structured to encourage interaction between the two housing sectors, the housing ladder not only entrenched the role of the public sector in facilitating the private sector, but ultimately co-opted an increasing proportion of public housing tenants to rely on the private housing market.

[2·63] Ibid.

3·3 The creation of an active home-ownership ladder required that the option to purchase private housing was not simply offered as a choice, but as a course that PRH tenants were compelled to take. Thus the long-term objective of private home-ownership facilitation transformed the administration of public housing into a programme that constantly mobilised tenants into further advancement within the home-ownership ladder.

3·4 The years following the announcement of the *Long Term Housing Strategy* saw successive reductions to housing subsidies through the tightening of eligibility requirements. These included two types of policies which targeted existing and prospective public housing tenants respectively. Whereas the 1987 *Housing Subsidy Policy* required well-off tenants to pay additional rents, the 1997 *Safeguarding the Rational Allocation of Public Housing Resources Policy* (SRA) introduced Net Asset Values as additional criteria for determining eligibility. Similarly,



[2·64] Ibid., 53.

[2·65] Ibid., 56.

prospective tenants were required to pass Comprehensive Means Test (CMT) to be placed on the waiting list.[2·64]

3·5 The policies produced the intended effects: the number of households who lived in PRH and paid double rents had dropped by **95%** from 1992 to 2003.[2·65] By 1999, Notices to Quit were served to market level rent-paying households; tenants in this category could only stay in the PRH on an application basis for a **12-month** period. Naturally, policies which encouraged better-off tenants to relocate contributed to an income homogenisation within the PRH programme, such that the home-ownership ladder had begun to consolidate a spatial order contingent upon income.

### 2214 *Subsidised private housing production*

4·1 Alongside the progressive restriction of access to PRH were additional housing programmes designed to propel middle-income residents towards private housing. Starting in 1977, the Private Sector Participation Scheme (PSPS) invited developers to tender bids for the construction of housing estates that would be sold to families eligible for HOS under conditions specified by the government.[2·66] The government hoped to improve and increase the quality and production of subsidised built-for-sale options by borrowing the experience and resources of the private sector. The new private orientation in housing policy has important architectural and ideological implications to the city's public housing developments. Architecturally—as explained in a later part—the unique set of administrative and financial constraints associated to the new housing schemes had led to the emergence of new typologies within the public housing program. Ideologically, the new subsidised housing options furthermore signalled a critical transition away from direct housing provision towards alternative methods of housing production that are reliant on the private sector, so that the public agency could both minimise housing production costs, and to create an opportunity for private property developers to profit from the construction of affordable housing.

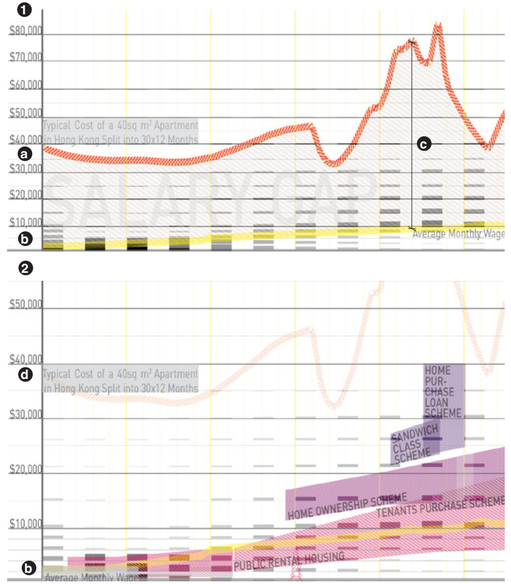
[2·66] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 37.

4·2 As the 1980s approached, the government had even experimented with consumer housing subsides, which began with the introduction of the 1988 Home Purchase Loan Scheme (HPLS)—providing non-interest-bearing loans to eligible applicants for down payments in private housing purchases. The scheme later merged with the 1997 Home Starter Loan Scheme (HSLS), which offered low interest-rate loans to first-time home owners, to form the Home Assistance Loan Scheme. Rising private housing prices further prompted new collaboration with the Hong Kong Housing Society (HKHS) to provide additional subsidised home-ownership options for middle-income households through the introduction of the 1993 Sandwich Class Housing Loan Scheme (SCHLS) and Sandwich Class Housing Scheme (SCHS).[2·67]

[2·67] Lau, "The state-managed housing system in Hong Kong," 59.

4·3 Providing loan schemes that could directly finance private sector home ownership, the government had completed the final step of the home-ownership ladder—effectively bridging public and private home-ownership, and constructing a national identity based on a carefully articulated narrative of social improvement. The public housing programme was no longer to be viewed as a humanitarian response towards displacement and poverty-induced homelessness, but an integral component in the pursuit of middle-class status. Significantly, the creation of a national narrative based on housing production directly aligned socioeconomic policy with spatial forms:[2·68] each stage in the home-ownership ladder has a definitive role in the city's economic order, involving a discrete set of public and private actors that reside in a particular location in the city and contained within a

[2·68] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 37.




f2·04 Timeline tracking the development and implementation of various publicly subsidised housing options.
(1) (a) Total cost of a small apartment divided by 30 years (or 360 months), average monthly wage, (b) Average monthly wage, (c) Salary gap over time [y-axis]; and (2) Simplified diagram showing the introduction of various subsidies housing programmes, and the range of their income eligibility over time.

specific architectural typology [see f2·04].

2215 *Co-optation to price maximisation*

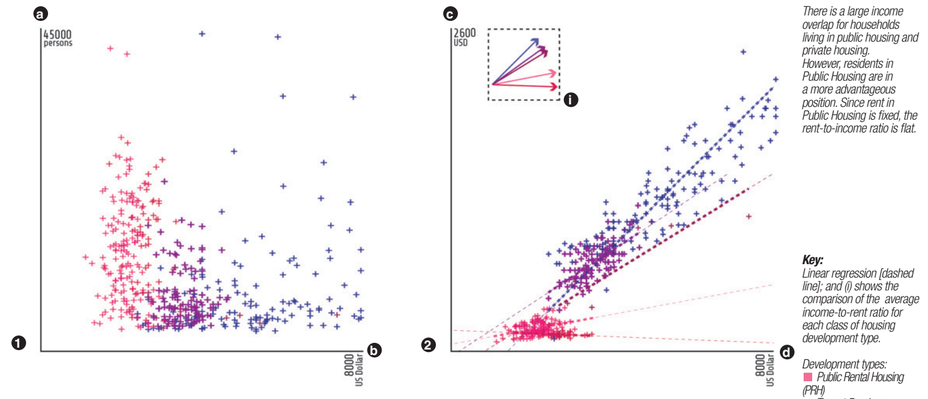
5·1 Although it is tempting to conclude that the paradoxical aims of the public and private housing programme were now reconciled by a mechanism that facilitated private home ownership, a fundamental contradiction remained in the public housing sector. The ongoing privatisation of public housing, and increasing reliance on private sector housing provision, produced a new category of subsidised housing tenants whose interests were now tied to the private housing market, in the processing producing new divisions within the public housing programme.

5·2 Furthermore, in relying on privatised housing options the government had in fact entrenched the city's economic reliance on the property development sector. Over time, the speculative market dynamic of the city was intensified and the city was rendered vulnerable to changes in the housing market. Although disincentives were set in place to minimise the risks of speculation in the privatised public housing options, the danger that consumer subsidy could inflate private housing prices remains a potential risk that it was even officially acknowledged in the 1987 *Long Term Housing Strategy*.[2·69] Moreover, the differentiation of subsidised housing options has widened the range of households served by the public housing programme, thereby expanding the income overlaps in the two sectors' housing. This confers differential privilege to households who are otherwise similar in income , and the situation is compounded by inconsistency in annual public housing production [see d2·08]·1.

5·3 Addressing the problem of differential privilege is, of course, the rationale for tightening eligibility requirements. In

[2·69] Hong Kong Housing Authority, *Long Term Housing Policy: A Policy Statement*, 5.





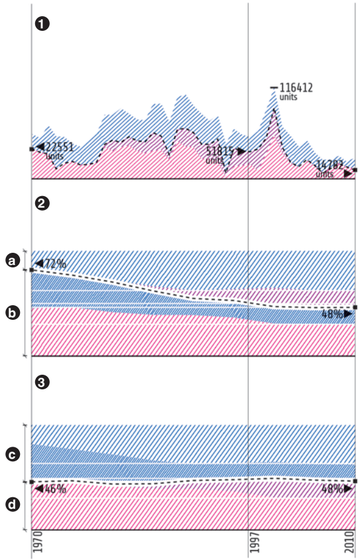

d2·07 Graphic series documenting income, rent, and population attributes of the major housing estates population.
(1) Household monthly income [x-axis, or b] versus the estate population [y-axis, or a]; and (2) Household monthly income [x-axis, or d] versus monthly rent paid by household [y-axis, or c].

*These graphs show the emergence of two 50:50 constants over time. Regarding development type: half the population lives in subsidised housing whereas the other half do esnot. Similarly, half the population is tenant while the other half is owner-occupier.*

***Key:***

***(1)***
*Public rental housing (PRH) [magenta hatch]; Privatised subsidised housing options, such as Home Ownership Scheme (HOS) and Private-Sector Participation Scheme (PSPS) [purple hatch]; and Non-subsidised private sector housing [blue hatch].*

***(2)(3)***
*Housing population residing in private sector housing who are tenants [blue fill], or owner-occupier [blue dense hatch].*
*Housing population residing in public sector housing who are tenants of Public Rental Housing [magenta hatch], or owner-occupier [purple hatch] in any of the subsidised and*




d2·08 Data series showing the shift in the composition of housing population over time.
(1) Total housing production with development type breakdown; (2) Percentage breakdown of housing stock by tenure type of (a) owner-occupiers, and (b) tenants; and (3) Percentage breakdown of housing stock by development type of (c) non-subsidised, and (d) subsidised housing.

practice however, census statistics continue to indicate a large degree of income overlap between households in the public and private sector. In other words, those who were allocated public housing are in a highly fortunate and favourable position compared to those who are on the waiting list, since households in both groups may in reality have similar level of needs [see d2·07]·1. With one group arbitrarily favoured over another however [see d2·07]·2, social and spatial differentiation is produced within a group of economically similar households, creating a new realm of division that is largely bureaucratic.

5·4 Home ownership has nonetheless become a symbol of civic participation in Hong Kong.[2·70] The emphasis on subsidised built-for-sale options is reflected in the housing production data between 1978 and 2003, which shows a public housing composition that underwent a noticeable shift from a system of predominately PRH, towards a system with a substantial component of built-for-sale housing [see d2·08]. Home-ownership rates in the same period had increased; however, it was the production of subsidised built-for-sale housing that mostly contributed to the increase in home-ownership rate. Thus, it is evident that the provision of affordable housing still remained a unilateral effort by the state-managed public housing system.

[2·70] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 41.

### 2216 *Spatial convergence by administrative expediency*

6·1 As an integral part of the nation-building project, the state-managed programme is prone to being exploited to serve expedient development goals of the state. As such, housing targets can shift unpredictably. One example was the failed 1997 proposal to reach a **70%** home-ownership rate in Hong Kong by 2007. Although never actualised, the strategy illustrated crucial emergent developmental attitudes indicative of the long-term private orientation of the public housing programme.[2·71]

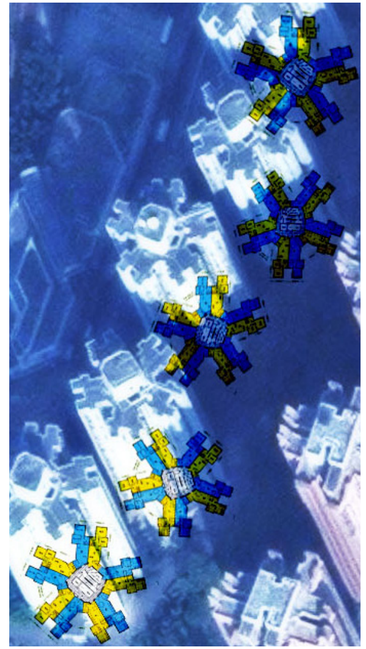
[2·71] Lau, "The state-managed housing system in Hong Kong," 68.

6·2 The Tenants Purchase Scheme (TPS), implemented temporarily in 1997, offered the opportunity for selected public rental housing tenant households to purchase their dwellings at substantial discounts that varied from **12% to 30%** of assessed market value.[2·72] According to the government, 'the scheme opens up a window of opportunity for PRH tenants, who would otherwise not be able to afford private housing, to become home owners.' Other similar schemes included the Buy or Rent Option (BRO), which provided an option for prospective applicants on the PRH waiting lists affected by the Comprehensive Redevelopment Programme (CRP) and clearance operations to buy PRH units from the outset. These heavily subsidised schemes continued the construction of an increasingly asymmetrical home-ownership ladder characterised by differential privilege that benefited an arbitrary subset of PRH tenants.

[2·72] Ibid., 63.

6·3 Initially conceived out of financial considerations to relieve the HKHA from subsidizing the ongoing PRH operational cost, the ad hoc privatisation schemes incidentally foreshadowed a new spatialisation trend that was taking shape within the public housing programme—a trend that reverses the spatialisation of income differences within the public housing programme as PRH estates now housed both tenants and landlord of various income levels [see f2·05]. These developments alluded to a broader architectural shift in the public housing programme that had seen emerging fluidity between PRH and certain types of built-for-sale schemes. For instance, the requirement to convert PRH housing into built-for-sale housing, when the needs arose, became a major consideration in the upgrading of PRH design, which logically led to a convergence of housing typologies between PRH and HOS options.[2·73] What separates PRH and built-for-sale options has in many cases become merely legal and financial

[2·73] Ibid.



f2·05 Satellite image of a the Private-Sector Participation Scheme housing project of Prime View Garden with floor plan superimposed.

*The new administrative and financial constraints particular to the Private-Sector Participation Scheme (PSPS) have produced a new housing typology that differed from traditional cruciform-shaped blocks.*

distinctions. This largely reflects a global development already commonplace in the private housing sector that price need not be commensurate with utility.

6-4 That price differentiation may occur in the absence of tangible qualitative differences, is of course, a typical phenomenon of functioning capitalistic society, as will be discussed in the following article. Remarkable in the case of Hong Kong, however, is that the government has been an active agent complicit in this act of dissociation. The architectural resemblance of housing blocks demonstrates that tenants of the spatially similar housing may in fact differ significantly with regards to their legal and financial status.

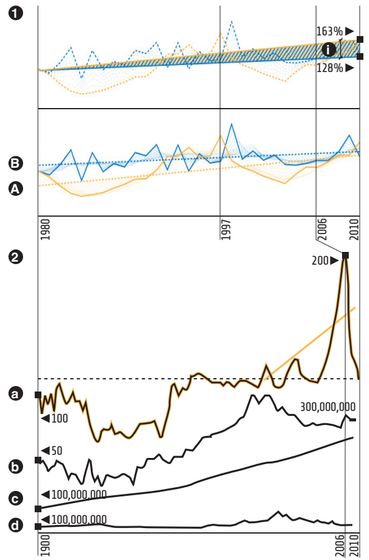
6-5 The *Private Sector Priority Strategy* proclaimed privatisation as the superior goal of public interest.[2-74] Although the three-decade strategy has since been superseded by new policies, its intentions are still evident in contemporary housing policies: private-facilitation and privatisation have become necessary objectives tied to the survival of the public housing programme. The entrenchment of home-ownership as a core principle is a significant development in the combined history of the government's land administration and the public housing programme. It has produced a mechanism which has the capacity to co-opt public housing households into the land system that partially contributed to their original housing insecurities.

6-6 By carefully framing private housing as the final destination on the home-ownership ladder, the government has succeeded in aligning the aspiration for social improvement with the current development framework, thereby ensuring its preservation. 50:50 is a public-private housing sector composition that is neither consequential nor accidental, but a tool consisting of multiple components that were gradually aggregated, elaborated and refined over time to provide inertia towards housing commodification.

6-7 These objectives, however, are not without consequences. Far from being monolithic, its constituent programmes may at times produce internal divisions while generating new conflicts within the public housing programme. In fact, the emerging complexities of the public housing programme in its latest stage of adopting a private orientation have exacerbated the differential privilege both between households within the public sector, and between households in both the public and private sectors—producing a unique phenomenon in which the social differentiation contingent on income is in reality alienated from both differentiation in price and in space.

[2-74] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and Public Housing in Hong Kong and Singapore*, 41.

*The two graphs in (1) show that the increase in the prices for a private housing unit is not commensurate with increase to spatial provision over time, since the rate of growth of the former far exceeds that of the latter.*




***Key:***

***(1)***
***(I)***
*Gap between increases in price of private housing unit, and growth to average unit area.*

***(2)***
*Building attributes: (A) Home prices; (B) Building costs; (C) Population; and (D) Interest rates.*

d2·09 Data series comparison private housing construction trends
(1) (A) Private housing unit price index adjusted for inflation, and (B) Average unit size index over time; (2) Various economic, construction and housing price metrics relevant to the United States private housing market over time.





# 2.2.2

## **Price by non-spatial determinants**: *price-based domestic consumption and utility*

### 2221 *Price-utility divergence*

1·1 An overview of Hong Kong's home price index and the average unit area of annual private housing supply readily indicates an obvious positive trend for the former and a relative stagnancy of the latter. Should housing prices remain stable, the increase in price per unit would directly correspond to an increase in spatial comfort. However, this is not the case in Hong Kong: unit areas have remained predictably consistent in spite of rising housing prices [see d2·09]·1.[2·75]

1·2 Although the disassociation between price and space is partially created by processes tied to economic growth such as income and population increase,[2·76] the divergence between price and other quantifiable spatial attributes of housing in Hong Kong compares starkly with other developed societies such as the United States, where housing prices, when adjusted for inflation, have largely stabilised for the last century [see d2·09]·2.[2·77] The observation suggests that housing price in Hong Kong may be affected by abstract factors unrelated to spatial utility. The fact that the escalation in price is incommensurate to economic conditions or spatial quality is certainly a symptom of Hong Kong's particular land system. The problem with housing price as the premier selection criteria, however, is that it can lead to the distortion of spatial preferences, influencing the manifestation of problematic spatial configurations contradicting the basic domestic functions of housing.

1·3 The observation that housing has assumed a non-spatial role is related to the increasing commodification of housing. In a decommodified system, housing would simply be evaluated for its use-value as an essential good. In contrast, housing in Hong Kong has become primarily an investment commodity.[2·78] As mentioned in the previous subchapter, the extent of this commodification is reflected in the increasingly private orientation of the public housing programme. The introduction of subsidised built-for-sale options, for instance, underscores a transition within the public housing programme from regarding housing for its use-value to emphasizing its exchange-value.

1·4 In a market economy with a high degree of commodification, the disassociation of price and utility is simply an accepted phenomenon since price fluctuations are inevitable.[2·79] Classic liberal economists like Ludwig von Mises assert that value is not an inherent property of a good.[2·80] Logically, this leads to the conclusion that attempts to determine the intrinsic value of a good are misguided and futile since the price of a good is simply the rate at which it is traded at market equilibrium.

1·5 Regardless of the impracticality in price deconstruction, the theoretical distinction between price and use-value nonetheless provides a framework for assessing the disparity between actual housing utility and the trajectory of private housing prices in a market characterised by a high degree of unaffordability and inadequate spatial standards. A literature review of existing hedonic analyses on Hong Kong's private housing market is conducted in this subchapter to identify the determinants of housing price in order to understand the existing development model's impact in the conception of domestic space. In economics, hedonic regression is a method that seeks to reveal

[2·75] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 47.

[2·76] W.M. Jayantha and E.C.M. Hui, "Determinants of Housing Consumption and Residential Crowding in Hong Kong," in *Extended Proceedings of the Central Europe towards Sustainable, Prague, June 30–July 2, 2010* (Prague: University Centre for Energy Efficient Buildings, Czech Technical University in Prague, 2010).

[2·77] R.J. Shiller, *Irrational Exuberance*, 2nd ed. (Princeton, NJ: Princeton University Press, 2000), 13.

[2·78] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 57.

[2·79] Lau, "The state-managed housing system in Hong Kong," 70.

[2·80] L. von Mises, *Human action: a treatise on economics*, The Scholar's Ed. (Auburn, AL: The Ludwig von Mises Institute, 1998), 96.

consumer preferences through price. Applied to real estate, the method is used as a tool to assess the strength of correlations between price variations and housing attributes predicted to impact the preferences of home-owners.

### 2222 *Consumption of housing price*

2-1 The observation that the determinants of housing choices have become non-spatial considerations is strongly tied to the development of housing's role as an investment instrument.[2-81] As such, utility in the ongoing consumption of housing is contingent upon its ongoing appreciation in price such that qualities related to the spatial consumption of housing are often relegated as secondary considerations.

2-2 In a study to empirically ascertain the degree to which the consideration of price appreciation is factored into housing preferences, housing market and economic development researcher Paavo Monkkonen has found a strong correlation between initial home prices and their subsequent price changes, particularly during periods of growth in the property market. In short, housing with higher initial price sees higher price appreciation.[2-82] Thus price serves to intensify its own advantage over time. So prominent is the correlation of price to itself that it accounts for the majority of variation during periods of growth, whereas spatial and socio-economic attributes such as urban adjacencies and job accessibility have no statistically significant correlation with price.[2-83]

2-3 The study reaffirms the importance of money accumulation in housing consumption. With housing regarded as a financial instrument for income security, the site of housing consumption exists beyond the physical confines of the individual housing unit and moves into the private housing market itself. Since it is anticipation that leads prospective buyers to become active, and active buyers that drive up home purchases,[2-84] the value of housing to the individual home-owners rests on the anticipation of collective market speculation.

### 2223 *Social stigma and the proximities of housing estates*

3-1 In practice, this notion of the 'collective' is founded on deeply anti-social mechanisms. Perpetual inflation of home prices above income growth produces a sizable population who cannot afford private housing, thereby necessitating the provision of public housing. The process leads to a spatialisation of income distribution by housing development types that begins to introduce new distortions to the spatial preferences in housing.

3-2 In a compact city like Hong Kong, the income classes of housing developments are readily recognisable: housing developments constitute tangible symbols of price across the urban geography. The home-owners' exaggerated instinct for price preservation logically leads to the voluntary practice of income segregation in housing selection. For example, Hin Li Ling, a Hong Kong University housing policy researcher, has found that direct adjacencies of large-scale subsidised built-for-sale housing options negatively affected the housing price achievable in private housing developments.[2-85]

3-3 Proximity to public housing may be perceived as 'undesirable' as it is negatively associated with a variety of social ills.[2-86] This unease, however, is largely psychological as the correlation between proximities and price disappeared upon examination at the scale level of individual housing blocks. Whereas the presence of the public housing estate can impose across-the-board downward pressure on entire developments of private housing estates adjacent to public housing estates,

[2-81] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 57.

[2-82] Ibid., 132.

[2-83] P. Monkkonen, K. Wong and J. Begley, "Economic Restructuring, Urban Growth, and Short-Term Trading: The Spatial Dynamics of the Hong Kong Housing Market, 1992-2008," *Regional Science and Urban Economics* 42, no. 3 (2012): 404.

[2-84] Ibid.

[2-85] L.H. Li, "The Impact of Social Stigma: An Examination of the Public and Private Housing Markets in Hong Kong," *Appraisal Journal* 73, no. 3 (2005): 305.

[2-86] L. Freeman and H. Botein, "Subsidised Housing and Neighbourhood Impacts: A Theoretical Discussion and Review of the Evidence," *Journal of Planning Literature* 16, no. 3 (2002): 359.



[2-87] Li, "The Impact of Social Stigma: An Examination of the Public and Private Housing Markets in Hong Kong," 313.

[2-88] Ibid.

the actual proximity of individual housing blocks within the same private development to its closest public housing block was not found to produce any effects to price.[2-87]

3-4 In other words, no substantiatable impact was produced for private estates in the same development based on their proximities to public housing. As such, the negative effect observed in the estate scale constitutes a groundless stigmatisation that exists only as a cultural construct.[2-88] But once the correlation between price and proximity becomes public knowledge, the overarching desire for price preservation nonetheless entrenches the anti-social preference to urban form as planners and architects voluntarily respond with arbitrary spatial strategies to produce noticeable phenomena of separation.

3-5 Over time, the intensification of anti-social spatial preferences influences urban expansion patterns. Since the negative effects of proximities to public housing have not been an ascertainable phenomenon, the ongoing attempt to enforce separation through space is an endless endeavour whose efficacy can never be evaluated. As development types approximately corresponded to household income, the consolidation of urban spaces by housing development type creates an income-biased social exclusivity.

3-6 Preferences for exclusivity provide a context conducive to the emergence of introverted estate typologies. Private Major Housing Estates are increasingly constructed as interiorised, internalised, and enclosed town centres featuring spatial strategies that limit the connections of housing estates to their adjoining urban fabric. These include planning practices such as the hierarchisation of the circulation distribution system to reduce the possibilities of urban path-making, the confinement of housing blocks within loop roads to buffer the estates from the urban fabric, and the proliferation of massive podium forms to separate the housing blocks from the estate's ground. These are all strategies that limit the exposure of housing blocks to their adjacent urban fabric [see f2-06].

### 2224 *Intimate exclusivity: aversion to common spaces*

4-1 Interaction of building regulations with the price-based development model can extend the preference for spatial exclusivity to an intimate scale. Density of private housing development in Hong Kong is governed by plot ratio — a measure referring to the ratio of the building's maximum permissible gross floor area (GFA) to its site area. The ratio makes no exception to the type of programmes contained within the GFA.[2-89]

4-2 Since it is plot ratio that determines the land price of development sites, developers are logically incentivised to maximise the allocation of space towards the component of housing carrying the highest saleable value—the internal unit area. The practice of profit maximisation by developers thus leads to a bias against the provision of common spaces within housing developments.[2-90]

4-3 Conceptually, the practice compels the home-owners to choose between the purchasing of common areas and their individual internal unit area.[2-91] Since the unit constitutes the programme area wherein home-owners spend the majority of their time, it is the unit area that most tangibly produces the effect of improvement to spatial standards and as such it is the unit area that the housing consumer is most willing to pay for.

4-4 Further exasperating the dilemma is the practice by Hong Kong developers to factor a portion of unusable common areas such as mechanical room into the calculation of 'architectural area'—a measure used historically in the pricing

[2-89] E.H.W. Chan, B.S. Tang and W.S. Wong, "Density Control and the Quality of Living Space: A Case Study of Private Housing Development in Hong Kong,' *Habitat International* 26, no. 2 (2002): 166.

[2-90] E.H.W. Chan, H.M. So, B.S. Tang and W.S. Wong, "Private Space, Shared Space and Private Housing Prices in Hong Kong: An Exploratory Study," *Habitat International* 32, no. 3 (2008): 337.

[2-91] Ibid., 345.




f2·06 Mapping designated pathways and podium structures in Tseung Kwan O

[2·92] Chan, So, Tang and Wong, "Density Control and the Quality of Living Space: A Case Study of Private Housing Development in Hong Kong," 164.

[2·93] Chan, So, Tang and Wong, "Private Space, Shared Space and Private Housing Prices in Hong Kong: An Exploratory Study," 345.

of first-hand properties.[2·92] The inconsistency and ambiguity in the calculation of 'architectural area' has negatively affected the perception of 'shared areas' as it became synonymous with nondescript undesirable spaces such as corridors, staircases, lift lobbies, car parks, etc. The negative correlation of 'shared spaces' and price is supported by Chan, So, Tang and Wong, in their investigation on the spatial implications of existing plot ratio calculation methods.[2·93]

### 2225 *Intimate exclusivity: privatised common spaces*

5·1 Despite the clear preference of internal unit areas over shared areas, both aspiring and existing Hong Kong home-owners are nonetheless aware of the importance of communal amenities in housing developments in enhancing the overall quality of living. In a development context of spatial exclusivity, this aspiration has materialised in the specific program-type of the private clubhouse—a type which is conducive to urban separation and preservation of the price of its supporting private housing.[2·94]

[2·94] Ibid., 344.

[2·95] Ibid., 346.

5·2 Clubhouses in private housing estates are typically control-access and centralised amenities providing social and recreational programme spaces for occupants within the same housing development. Frequently contained inside a building podium, the popularisation of the privatised communal space is tied to the evolution of the city's building regulations, which increasingly provide plot ratio concessions that allow full site construction for non-residential programmes. The preference for this particular mode of common space is captured in an additional analysis conducted by Chan, So, Tang, and Wong, which suggests that home-owners show distinct preferences for these privatised facilities.[2·95]

5·3 Although it is unquestionable that the provision of any amenity spaces would provide additional spatial comfort to the home-owners, the increasing dominance of a specific privatised program-type of 'shared' space in newer private housing estates nonetheless threatens to reduce the rich diversity of publicly accessible shared spaces that historically existed in the city's urban and housing forms. Moreover, the consolidation of clubhouse amenities to the podium serves to enlarge the mass of the podium over time, which potentially exacerbates its urban separation [see f2·07].

### 2226 *Price and quality*

6·1 In pricing theory the price-quality relationship refers to the perception by consumers that higher price corresponds to higher quality, especially when information is lacking on the product's quality.[2·96] A related price-quality effect stipulates that sensitivity to price variation is much lower when it is assumed that higher prices signal higher quality.[2·97] Certainly in Hong Kong, there is no question that housing price is an indicator of quality. This quality, however, has become disassociated from spatial attributes normally concerned in the practical assessment of domestic comfort such that price now serves as a self-referential proxy of its ability to appreciate over time. This is the development of housing commodification in Hong Kong, where housing has been transformed into an investment commodity concerned with the accumulation of money. As such, the enjoyment derived from ongoing housing consumption is contingent upon the movement of price in the housing market. Spatially, the strategies to achieve price preservation have encouraged anti-social and socially-exclusive spatial practices that influenced the development of price-centred urban housing typologies.

[2·96] K.B. Monroe, "Buyers' Subjective Perceptions of Price," Journal of Marketing Research 10, no. 1 (1973): 78.

[2·97] T. Nagle and R. Holden, *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 4th ed. (Upper Saddle River, NJ: Prentice Hall, 2002), 91.

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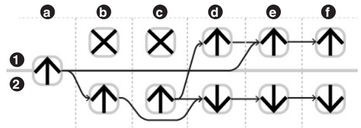
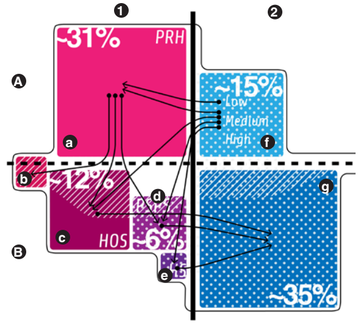
p2-07 Photographs juxtaposing the two primary functions of podium type.
***Function:*** (1) Privatised amenities in the form of a rooftop courtyard; and (2) Commercial spaces.




*Generally, rising housing price leads to increased consumption for owners, but decreased consumption for renters.*

f2·08 Diagram tracking the dynamics and reactions of tenants and owner-occupiers to rising housing price in a typical housing market.
(1) Owner-occupiers, who are current home-owners; and (2) Tenants, who are aspiring future home-owners.




f2·07 Diagram showing the two-dimensional classification of Hong Kong's housing population by reception of subsidies, or housing tenure type.
***Organisation:*** (1) Public; (2) Private; (A) Tenants; and (B) Renters. ***Development type:*** (a) Public Rental Housing; (b) Tenant Purchase Scheme (d) Private-Sector Participation Scheme; (e) Housing Society; (f) Private renters; and (g) Private owner-occupiers.



# 2.2.3

## 50:50—cyclical class interactions: *the economics of perpetual social antagonism and spatial distortions*

### 2231 *50:50—entangled income classes*

1·1 It is customary to conceive of Hong Kong's housing as predominately separated into public or private sector housing. Such categorisation erroneously suggests a homogeneity of interests within each group, belying the complexity of the actual housing composition. To be precise, Hong Kong consists of households residing in a variety of housing development types with overlapping or conflicting interests that traverse the conventional definition of public or private housing as defined by the contribution of government subsidy [see f2·08].

1·2 In a housing system oriented towards home-ownership and housing price appreciation, the ownership status of the occupant determines the housing market interests of the household. Housing price appreciation can benefit home-owners in both the public and private housing sectors while negatively affecting tenants in all rental sectors. The negative effects sustained by renters are caused by increases to their rental costs and down payments, such that their home-ownership capacity and consumption are reduced [see f2·09].[2·98] It is evident that the interests of users of various housing types are complexly connected in the housing system of Hong Kong. Each of these groups constitutes a major market segment integral to the functioning of the city's housing market interactions.

[2·98] M. Fung, M. Leung and F. Ku, "Economic Analysis of Housing Policy in Hong Kong," (Presentation, Program for Economic Education, The Chinese University of Hong Kong, Sha Tin, Hong Kong, June 19, 2013), 6.

1·3 Whereas the previous subchapter explored the conception of residential space in a system skewed towards housing price considerations by providing some insights on spatial strategies deployed in the urban and neighbourhood scale, this subchapter seeks to account for the expansion of housing production over time in relation to the prevailing housing market conditions.

1·4 A historical overview of Hong Kong's housing prices suggests an on-going rise in housing price that consistently outpaces inflation and income growth. The overall positive movement of price, however, is not linear but sinusoidal-like, consisting of periodic fluctuations corresponding to the property market cycle. Each of the periods within the general upward trend of housing price is an effectively coded macroeconomic response produced by the interactions of public and private housing production and economic events external to the housing system. A review of the relationship between housing price and production is therefore necessary to the understanding of market interaction.

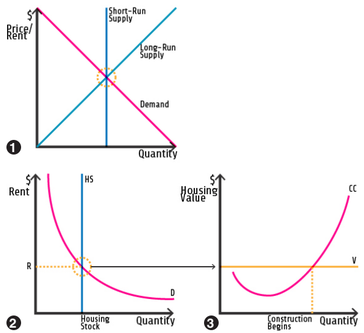
### 2232 *Long-term determinants of price movement*

2·1 Price is largely determined by demand in the short term, as the supply of housing is inelastic. The fundamental value of a house is the present value of the future housing service flows that it provides to the buyer. In a well-functioning market, the value of the housing service is approximated by the rental value of the house. It is the equilibrium of rental price to construction cost that determines the quantity of housing production.[2·99] In the long-run, housing supply is more elastic and the change to housing supply reaches equilibrium at a new price with the housing demand. [see f2·10]

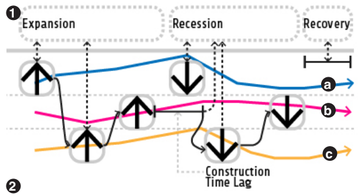
2·2 In the context of the business cycle, the expansionary

[2·99] J. Krainer and C. Wei, "House Prices and Fundamental Value," *Federal Reserve Bank of San Francisco* Economic Letter, last modified October 1, 2004, http://www.frbsf.org/economic-research/publications/economic-letter/2004/october/house-prices-and-fundamental-value/.

*47 Fung, Leung and Ku, "Economic Analysis of Housing Policy in Hong Kong," 34.




f2·09 Diagram series explaining the dynamics of housing production and costs.
(1) Determination of rent by long- and short- run supply; (2) Determination of rent by housing stock and demand; and (2) Determination of housing production by equilibrium in construction costs and housing service flow.




f2·10 Diagram documenting the typical interactions between the business cycle and the property market cycle.
***Cycle:*** (1) Business cycle; and (2) property market cycle.
***Attributes:*** (a) Demand; (b) Supply; and (c) Price.

phase of the property market cycle is characterised by a rise in demand due to an increase in economic growth. The rise in demand contributes to an increase to housing price, which signals developers to increase the production of housing. As there is typically a lag between planning and construction,[2·100] housing supply is not immediately responsive to market changes, and the release of the additional housing extends into periods of economic contraction when demand has declined.[2·101] Oversupply logically intensifies the downward adjustment in price until an increase to demand, or the gradual depletion of housing supply leads to a new equilibrium in price. Generally, a city's economic reliance on property development, as in the case of Hong Kong, can render the property market cycle a major driver in the overall movement of the city's economy [see f2·11].

2·3 Described above is the summary of the operation of the property market cycle in a classic scenario. In practice, development decisions are much more varied as each developer retains their own strategy for profit optimisation and calibrates production differently. In fact, in a city typically defined by housing shortages and excess demand, upward movement in housing price can endure for significant periods without interruptions.

2233 *Government intervention: production and price*

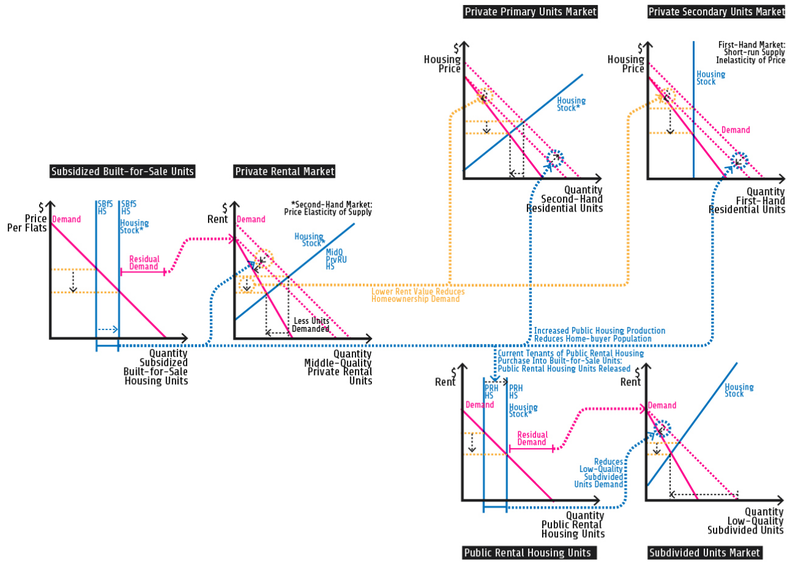
3·1 Government policy can intervene in the housing market to improve affordability by manipulating land supply, as well as housing supply and demand. Within the context of the home-ownership ladder, public housing production moderates the demand for rental units, thereby affecting the value of housing. An increase in the supply of built-for-sale subsidised housing options, for example, results in a greater quantity of flats being made available to aspiring home-owners, thus lowering rental

[2·100] L. Neng and K. Wong, "Land-Supply Restrictions, Developer Strategies and Housing Policies: The Case in Hong Kong," *International Real Estate Review* 2, no. 1 (1999): 152.

[2·101] Fung, Leung and Ku, "Economic Analysis of Housing Policy in Hong Kong," 20.



*48 Fung, Leung and Ku, "Economic Analysis of Housing Policy in Hong Kong," 70–77; 81–84.




f2·11 Diagram series explaining the consequences throughout Hong Kong's housing market when subsidised built-for-sale housing production is increased by the government.

prices by causing an inward shift in the demand curve within the private rental market and private secondary flats market [see f2·12].[2·102]

3·2 The supply of Public Rental Housing (PRH) is increased when units are freed up by the former PRH population who instead buy into the built-for-sale schemes. Accordingly, a reduction in the demand for lower-tier private rental flats is also observed. Reduction of rental demands amounts to a reduction of private rental value thereby also diminishing the rate of monetary return in home-ownership. As a consequence, prospective home-owners are discouraged from purchasing first- and second-hand flats.[2·103]

3·3 This pattern is the mechanism that allows the public housing programme to produce shifts in the price of private housing. Passive housing policies such as stamp duty land taxes and resale restrictions intended to curb speculation can further induce a downward adjustment in price by lowering housing demand [see f2·13]. Conversely, the government may exert an upward influence to private housing price by reducing the supply of public housing flats,[2·104] or by inducing consumer demands in home-ownership through providing consumer purchasing subsidies.[2·105]

3·4 There is no question that government of Hong Kong has developed a full range of policy tools to calibrate housing market price by using spatial production. As the city's largest developer, it has a tremendous capacity to moderate the housing market as it chooses to. The effect to which public housing production can impact rising housing costs has been demonstrated in a regression model examining housing price and public housing production [see d2·10].

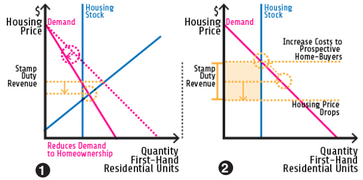
3·5 In practice, however, housing policies are not actively deployed as countercyclical measures to stabilise the housing

[2·102] Ibid., 81.

[2·103] Ibid., 84.

[2·104] Poon, *Land and the Ruling Class in Hong Kong*, 46.

[2·105] G. Riley, "Functions of the Price Mechanism," *tutor2u*, last modified September 23, 2012, http://tutor2u.net/economics/revision-notes/as-markets-price-mechanism.html.




f2·12 Diagram series explaining the mechanisms that certain government policy may exert negative pressures to private housing prices.
(1) Pre-sale restriction: and (2) Stamp duty.

```
      Source |       SS       df       MS              Number of obs =      22
-------------+------------------------------           F(  1,    20) =    3.90
       Model |  .422516639     1  .422516639           Prob > F      =  0.062 3
    Residual |  2.1683318     20  .10841659            R-squared     =  0.1631
-------------+------------------------------           Adj R-squared =  0.121 2
       Total |  2.59084844    21  .123373735           Root MSE      =  .3292 7

------------------------------------------------------------------------------
         lnP |      Coef.   Std. Err.      t    P>|t|     [90% Conf. Interval]
-------------+----------------------------------------------------------------
        lnO1 |  -.2609649   .1321929    -1.97   0.062    -.4889604   -.0329694
       _cons |   7.20087   1.367351     5.27   0.000     4.842575    9.559165
------------------------------------------------------------------------------
```

d2·10 Linear regression model output from statistical analysis software examining the effects of public housing production on private housing price.

*The model appears to suggest at a significant level of 0.1 that each 1% increase in public housing production correlates with a 0.26% decrease in private housing price.*



market. Evidence abounds that the government has in fact played a complicit role in facilitating speculation: the average housing price growth between 1975 and 2010 is over **8%** compared to an inflation rate of **5%**, whereas growth rates in housing price during economic expansionary phases have averaged at over **20%** annually between 1988 and 1997, and **15%** between 2004 and 2013. A historical account of the previous two decades provides some context to the general application of housing policies in relation to the market dynamics.

### 2234 *Representative market interaction: 1985-2005*

4·1 As mentioned in a previous subchapter, the 1987 *Long Term Housing Strategy* proclaimed privatisation as a long term objective for the public housing programme. Within five years, a series of public housing programmes intended to facilitate home-ownership through everything from consumer housing subsidies to home-ownership schemes for middle-income households, such as the Sandwich Class Housing Scheme (SCHS), were promptly established.[2·106] The new private-oriented housing subsidies were declared during a period of general optimism and prosperity following the Sino-British declaration, which had produced a decade of property market growth.

4·2 In the five-year period between 1988-1993, property prices rose by over **25%**. In response to complaints of housing unaffordability, the government introduced several measures in 1991 to curb speculation, which included restrictions and stamp duties to the pre-sale market. In spite of the minor correction generated, property prices surged upwards shortly afterward. Similarly, additional regulatory measures introduced in 1994 only led to temporary price adjustments.[2·107]

4·3 The restrained attempt to curb speculation follows a systematic pattern of reluctance to address the underlying conditions causing uncontrolled price appreciation. As a matter of fact, the government appears to have fuelled speculation by reducing per capita public housing production during periods of housing price escalation, seeing that production declined between 1988 and 1997, hitting its lowest point in 1994. It was not until 1997, at the height of the property boom, that public housing production accelerated following the announcement of the *85'000 Housing Policy* by the first Chief Executive in post-handover Hong Kong.[2·108]

4·4 The ambitious plan, however, coincided with the beginning of a protracted period of economic downturn following the 1997 Asian Financial Crisis. Between 1998 and 2003, housing prices declined at an average rate of **15%** annually. Falling property values damaged the economy as the unemployment rate doubled from **3.5% to 7.9%** by 2003 depleting public finances that had been heavily reliant on property-related income. An estimate of **170'000 property owners** were suffering from negative equity in 2000.[2·109] It was not difficult to see how the public housing programme became a scapegoat for contributing to economic calamity in this context: private developers and home-owners suffering from negative equity accused the government of the over-provision of public housing units and residential land supply.

4·5 Consequently, the home ownership target was shelved by 2000 and a new housing policy aimed at stabilizing the housing market was adopted. Regular land sales were halted and the Home Ownership Scheme (HOS) was ceased indefinitely, while PRH production continued to decline.[2·110][2·111] It was not until the economy improved, after the SARS epidemic had come to an end, that the property market cycle returned to growth, beginning in 2004.

[2·106] Lau, "The state-managed housing system in Hong Kong," 60.

[2·107] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 132.

[2·108] Lau, "The state-managed housing system in Hong Kong," 48.

[2·109] Poon, *Land and the Ruling Class in Hong Kong*, 69.

[2·110] L.Y.C. Yim, "Free Market Fancies: Hong Kong, Singapore, and the Asian Financial Crisis," in *The Politics of the Asian Economic Crisis*, ed. T. J. Pempel, Illustrated ed. (London: Cornell University Press, 1999), 106.

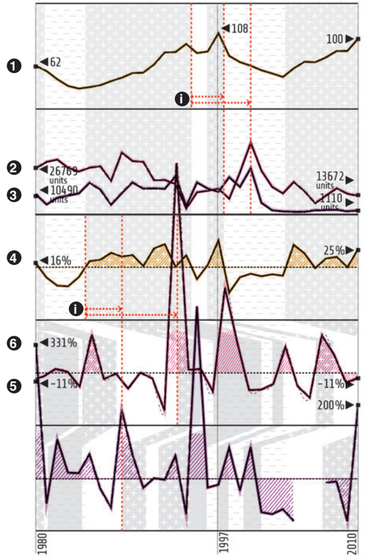
[2·111] Poon, *Land and the Ruling Class in Hong Kong*, 127.

***Key:***

*(i) Production lag;*

***Fills and patterns:***
*Property market cycle expansionary period [plus sign pattern];*
*Property market cycle contractionary period [minus sign pattern];*
*Peak periods for each of the metrics presented [light grey fill]; and*
*Years with annual positive growth rate in (c)(d)(e) [coloured hatch fill].*

*Public housing production does not usually commence until the expansionary period of the property market cycle has matured. Various factors, such as the construction lag time, create an offset of 3 to 5 years between the peaks of the two cycles. As such, the peak of public housing production frequently coincides with the early stages of contraction in the property market, which creates pressure for the government to reduce the production of public housing. Consequently, the problems of public housing shortages and high private housing prices are never fully resolved.*




**d2·11** 1980-2010: Chart series highlighting various housing production and price data to illustrate the pro-cyclical and restrained characteristics of public housing production over time.
***Main data: (1)*** Real private housing price index; ***(2)*** (a) Public Rental Housing and ***(3)*** Home Ownership Scheme Unit production; ***Derivative data: (4)*** Annual percentage change in (1); ***(5)*** Annual percentage change in (2.a); and ***(6)*** Annual percentage change in (2.b).

2235 *50:50—general market interaction: private facilitation*

5·1 Although the brief account described in the preceding section is a dramatic historical instance that is highly particular to the circumstances of the newly-formed Special Administrative Region government at the time, the overall dynamics nonetheless conforms to the general pro-cyclical pattern of Hong Kong's private-oriented housing production. It is a pattern that alternates between dramatic cessation and expansion of housing production, such that the spatial production of the city is highly contingent upon market volatility.

5·2 Typically, the property market cycle has a duration of 8 years, consisting of 5 expansionary years and 3 contractionary years. [2·112] Private housing production is generally aligned to market trends: more units are produced when the housing market is strong,[2·113] and fewer are produced when the market is weak. However, production is not precisely aligned to housing prices. Statistics indicate the practice of risk-minimisation, as signs of market cooling promptly trigger reductions in production, whereas an increase in housing production does not occur until market growth has sustained for a longer time period. Evidence of profit optimisation is also observed in the practices of the developers to raise the housing supply at the peak season, or delaying it otherwise, in order to maximise the selling price [see d2·11].[2·114]

5·3 Since the government possesses the capacity to moderate the housing market, its production target is aligned to the private housing market in practice.[2·115] This is of course a symptom of the *High Land Price Policy*, a policy which ties the health of public finance to the state of the property market. Indeed, the government's attempt to control housing price escalation has historically amounted to inadequate measures that result in little change, and do not effectively arrest

[2·112] Ibid., 63.

[2·113] Lai and Wong, "Land-Supply Restrictions, Developer Strategies and Housing Policies: The Case in Hong Kong," 156.

[2·114] Ibid., 149.

[2·115] Ibid., 159.



[2·116] Poon, Land and the Ruling Class in Hong Kong, 46.

‡2.11 *It should be noted the government of Hong Kong had historically missed all housing production targets set by its various long-term housing policy objectives. As Wong described, "when the supply fell short of the target, another plan would be put in place."* [2·117]

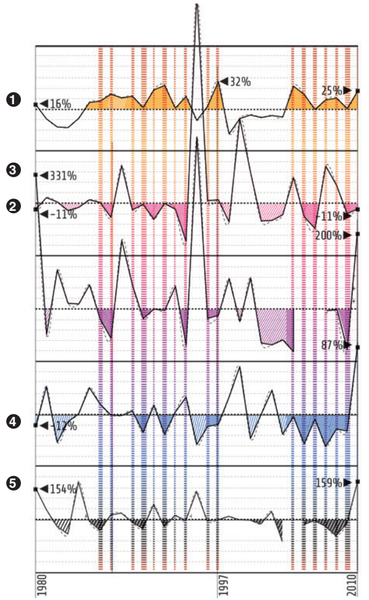
[2·117] Wong, Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy, 10.

housing market prices. Similarly, increases in public housing production are generally delayed from the onset of housing price appreciation, and reductions in production are promptly implemented upon requests by private property interests in the event of an economic downturn,[2·116] which are then followed by numerous policies intended to 'stabilise' the market by creating conditions conducive to a return to property price appreciation.

5·4 The combined effect of both sectors' housing production has resulted in a development pattern which is not only sensitive to market dynamics, but chronically under-supplied,‡2.11 as the duration of growth in housing production is typically shorter than the length of market growth, and the expansion of housing production appears to be carefully restrained. Sensitivity to market dynamics have further generated a phenomenon whereby housing production may decline even amidst longer periods of housing market growth, such that both housing shortage and housing price appreciation are perpetually intensified [see d2·12].

2236 *Social antagonism entrenched*

6·1 The convergence of both public and private sector development in a qualified pro-cyclical housing production strategy has systematically entrenched a recurring pattern of social interaction between the two housing sectors that is unnecessarily antagonistic. By subjecting public housing production to the objective of housing price appreciation, the housing policy renders the interests of aspiring public housing tenants secondary, thus reimposing differential privilege amongst the housing population. This pattern follows an extensive history in the city's public housing policy that systematically employs public housing development as a tool to absorb developmental pressure produced by the existing




***Key:***

***Fills and patterns:***
*Years in which any of the production metrics presented here can exert an upward pressure on private housing price [gradient-coloured straight lines]; and*
*Years with annual positive growth rate in (c)(d)(e) [coloured hatch fill].*

**d2·12** 1980-2010: Data series showing various annual percentage change figures regarding housing production and land supply to illustrate the chronic under-supply of land and housing in Hong Kong.
***Data:*** Annual percentage change in (1) Private housing price; (2) Public rental housing production; (3) Home Ownership Scheme housing production; (4) Private housing production; (5) Land supply.

development model.

6·2 Since public housing production promptly ceases when the market cools, the interests of public housing tenants are depicted as harmful to the overall interest of the private housing sector. [2·118] In reality, both housing sectors' interests are now forcefully tied to the upward trajectory of the private housing market, since all housing production is aligned with the property market. Thus, the strategy of restrained pro-cyclical housing production ensures that housing price may only continue to appreciate in the long-term, while lower-income families continue to be adversely affected by the policy, as their needs for affordable housing remain unaddressed over time.[2·119]

[2·118] Poon, *Land and the Ruling Class in Hong Kong*, 140.

[2·119] Ibid., 139.

### 2237 *50:50—spatial sistortion*

7·1 The perpetual upward trajectory can only be maintained by the calibration of housing production to sustain on-going housing demand. It is in this context that several key numeric constants integral to the maintenance of Hong Kong's 50:50 model have developed. Periodic fluctuations notwithstanding, both private and public annual housing production have largely been optimised around a mean of **23'000 and 30'000 units per year** respectively since the 1960s. This constancy has been maintained irrespective of differing demographic conditions across time. Combined with the calibration of the internal composition of annual public housing production, which includes both rental and built-for-sale options, the various housing production constancies work towards achieving a stable public-private and rental-ownership housing composition ratio of **50:50**.[2·120] But unit production constitutes only one aspect of space-price calibration: cyclical housing price dynamics pervade multiple scales of urban development, and affect the calibration of numerous spatial attributes pertaining to both the quality and quantity of space. While this chapter has investigated the relationship of price and the production of space, the following chapter will examine the correlation of density and price.

[2·120] Lau, "The state-managed housing system in Hong Kong," 70.

7·2 Since fiscal revenue is ultimately derived from land sales, and developable land supply must be acquired prior to housing production, the entrenchment of a market-sensitive spatial production pattern makes the movement of the urban frontier price-sensitive. Urban expansion can be measured by the production of land made available for development. With land supply tightly controlled by the government, in a city where public policy and property industry are known to prefer developments of new sites over redevelopment of existing neighbourhood, the annual land disposal rate reasonably serves as a crude proxy for predicting the rate of anticipated urban expansion. Indeed, the practice of revenue optimisation under the *High Land Price Policy*-driven *Leasehold System* logically leads to the alignment of the land disposal rate with the property market cycle such that land is sold when developmental demand warrants higher land price.[2·121]

[2·121] Y.H. Hong, "Myths and Realities of Public Land Leasing: Canberra and Hong Kong," Land Lines 11, no. 2 (1999): 2.

7·3 There is also a more conspicuous symbol of land formation: in a city characterised by shortage of developable flat land, the production of land is an active terraforming exercise entailing the terracing of heavy topography and the reclamation of the harbour.[2·122] As such, market-sensitive urban expansion ties the rate of visible territorial expansion by harbour destruction to the prevailing market conditions. This is substantiated both by the general correspondence of large scale reclamation projects with housing market growth and anecdotally by the documented practice of pausing major urban development programmes during periods of market downturns [see d2·13]. [2·123][2·124]

[2·122] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 10.

[2·123] Ng and Cook, "Reclamation: an urban development strategyunder fire", 7.

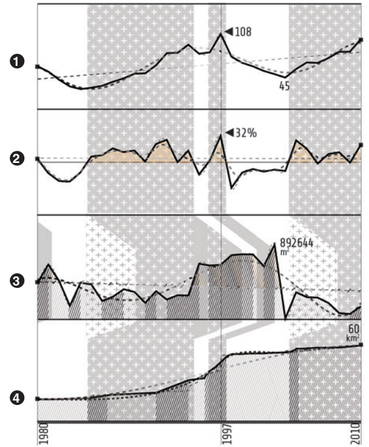
[2·124] Yeh, "Public Housing and New Town Development," 86.

7·4 By introducing population decentralisation as a long-term housing policy objective, territorial expansion assumes an additional role in price optimisation. Geographically, the development of public housing estates over time shows the history of the city's urban expansion. Since housing price is a function of housing supply, excessive housing production within the older urban area can impose a downward pressure on housing price while exhausting the urban infrastructure. The production of housing in the periphery of the city by public housing-led New Town developments thus facilitates the preservation of housing prices within the urban core whereas newer areas are opened for future housing speculation. This approach not only optimises land use economy, but also optimises the potential of housing price appreciation by the strategic classification of the city's property market into several distinct areas.[‡2.12] Consequently, the geographical distribution of housing contingent upon income is reinforced.

‡2.12 *As explained in a later subsection, private home owners are also placed within the geographical hierarchy of housing prices as determined by urban distances.*

7·5 The relentless and predictable behaviour of housing development in Hong Kong is representative of the various unwritten rules of 50:50, which appear to govern both the city's urban planning and housing developments. As housing production is increasingly commodified, fluctuations in housing prices have become a recurring phenomenon, which, over time, have entrenched a pattern of social tension between the two housing groups, centred upon their ability to benefit from housing price appreciation. Aided both by housing and development policy, the cyclical interaction is maintained by a developmental pattern which links spatial production to the prevailing market conditions. As such, production of space in the city continues to be a manifestation of non-spatial principles tied to the intrinsic mechanism of the price-based development model.

*There appears to be an offset of approximately 5 years between the land supply disposal cycle and the property market cycle. It also appears to be the case that progress in land reclamation is typically aligned with the property market cycle.*




***Key:***

*(i) Production lag;*

***Fills and patterns:***
*Property market cycle expansionary period [plus sign pattern];*
*Property market cycle contractionary period [minus sign pattern];*
*Peak periods for each of the metrics presented [light grey fill]; and*
*Years with annual positive growth rate in (c)(d)(e) [coloured hatch fill].*

***(3)(4):*** *Periods of rapid growth in land production or reclamation [dark grey hatch].*

**d2·13** 1980-2010: Data series comparing private housing market indicators with various land production metrics as proxies for territorial expansion.
***Data:*** (1) Real private housing price index; Annual percentage change in (2) Private housing price, and (3) Land disposal; and (4) Cumulative reclamation of land from harbour.

# 3

## Morphologies of density:
*price-production calibration in the urban form*

# 3.1

## **Artificial supply inelasticity:** *inflated developmental intensity*



*49 "Kowloon Walled City," photography, *8thingstodo.com*, http://www.8thing-stodo.com/kowloon-walled-city-hong-kong.

**p3·01** Photograph of the Kowloon Walled City before it was demolished.



# 3.1.1

## **Flexible density control:** *calibration and equalisation of density*

### 3111 *Spatial standard as a flexible economic condition*

> *Overcrowding arises almost entirely from poverty which in Hong Kong is so dire that many families cannot afford any rent at all, and that, of the remainder, the majority can afford so little rent that a normal interest rate on capital outlay for housing cannot be obtained. Poverty itself is the result of the economic system over which the Government has little or no control. Any attempt to alleviate overcrowding and improve housing must abide by the conditions imposed by that system.*[3·01]
>
> — The 1935 *Report of the Housing Commission* attributes overcrowding to poverty, which is an economic condition that the government supposedly cannot control.

[3·01] Hong Kong, Legislative Council, Housing Commission, *Report of the Housing Commission 1935*, Hong Kong Legislative Council Sessional Paper, 257-287, 260.

1·1 Overcrowding, as the *1935 Housing Commission Report* indicates, is a problem that is 'as old as the hill.' Even eight decades later, the attitudes towards overcrowding expressed in the document still bear much resemblance to attitudes today.

1·2 Although poverty was accurately identified as one of the factors in overcrowding, the report reflects a long-standing tendency to consign the problem of density to the prevailing economic conditions, which the state supposedly had no ability to affect. It further explains that 'the return on capital normally expected by private enterprises can only be achieved by overcrowding in houses which are below acceptable standards.'[3·02] As such, spatial standard was officially recognised as a flexible condition defined by the economic equilibrium of construction cost and housing rent, whereas the underlying contribution of the *High Land Price Policy*-driven *Leasehold System* to capital cost remained unquestioned.

[3·02] Ibid., 261: 14, xi.

1·3 By declaring that the 'latest type of tenement is healthy enough'[3·03] if it was only used by the number of people that it was designed for, the government relieved itself from its duty to challenge the standard spatial unit that was in fact a product of the existing land system.‡3.1 Not surprisingly, the history of density regulation in Hong Kong shows the refinement of a flexible spatial standard that preserves the existing land system by permitting the constant calibration of land and housing production cost through density. This subchapter seeks to explain the policy instruments that have enabled developmental intensity.

[3·03] Ibid., 265: 3.

‡3.1 *Multiple scholars have noted that the government, both past and present, has generally taken a passive and reactive approach to the development of housing policies. It is claimed that the government only intervenes retroactively when the market has fails, with minimal polices that do not address the underlying problems within the housing system. The government views its role as complimentary to a market that is nonetheless regarded as functional and free.*

1·4 Since density is a required condition of land supply restriction, as the following subchapter explains, the ongoing pressures to resolve overcrowding have to be addressed with planning policies that do not drastically impede density. With Hong Kong maintaining an extremely high population density in spite of successive building regulation revisions ostensibly designed to address overcrowding, density regulations have appeared to be designed to achieve secondary objectives.

### 3112 *Density preservation: interior environmental regulation*

2·1 Historically, concerns around overcrowding had focused not on the pathology of density, but on its implications to public health and order. These concerns were particularly made worse by the recurring epidemics that plagued the

colony in its early years. In an investigation into an epidemic of meningitis, Peter K. Olitsky commented that, 'the streets are so narrow and the houses so high... that not only ventilation and light becomes deficient but the air is always damp.'[3-04] It was in this context that the city's first building ordinances were crafted [see f3·01]·1.

2·2 The 1903 *Public Health Ordinance* mandated the provisions of open space at the rear of the building to ensure ventilation to rooms at the back, while the 1935 *Building Ordinance* reduced the permissible depth of the building to **10.7m**.[3-05] A more recent 2003 *Practice Note* further developed a computational method for calculating minimum requirements of light and ventilation in high density residential building blocks.[3-06]

2·3 While it is undeniable that vital environmental standards were secured by the housing design regulations on selective interior and exterior spatial attributes, only the typical symptoms of overcrowding were addressed. In the absence of an enforced minimum standard of per capita spatial provision, the elimination of the primary environmental hazards of overcrowding prolonged politician's toleration of overcrowding and the development model contingent upon density was preserved.

### 3113 *Density preservation: urban formal regulation*

3·1 Other indirect mechanisms used to address overcrowding, such as the regulation of building forms, similarly fell short of defining a universal minimum spatial standard. Historical examples are found in: the 1903 *Public Health Ordinance* limiting permissible building height to the width of the street and the 1935 *Building Ordinance* maintaining a maximum building height of **three stories** unless fire-resistant materials were used.[3-07] In these cases the primary motivation for limiting developmental intensity was not so much a concern for overcrowding but a concern for construction safety.[3-08]

3·2 Apart from the adjustments to developmental scale and the interface of housing to the urban fabric, the effects of the ordinances on density were superficial as spatial provision remained a flexible concept. Density was tolerated on the condition that it did not conspicuously affect the environmental quality of the streets. So, it was not surprising that the 1956 *Building Ordinance* imposed a setback on the upper levels of buildings[3-09] while still permitting a generous developmental intensity of **20:1** in plot ratio—the ratio of the total permissible gross floor area over the actual site area [see f3·01]·2. [3-10][3-11]

3·3 The 1956 *Building Ordinance* led to the production of extremely massive housing blocks. Referred to as 'megablocks' or massive blocks by some architectural historian, these buildings blocked solar penetration into building interior spaces and to the street level. Thus, the building regulations were revised in 1962 to downscale the plot ratio. However, the fundamental premise of high density living was to remain unchanged. While still allowing permissible plot ratios from **8:1 to 10:1**, the new regulation instituted a sliding relationship between plot ratio, building height and ground cover [see f3·01]·3. [3-12] Thus, high-density residential construction was permitted as long as it materialised in a slender high-rise form. With sufficient light and ventilation returning to both the streets and buildings, the problems of excessive density were considered solved and high density was permitted to continue to exist.

3·4 It is evident that the development of building regulations in Hong Kong demonstrates a systematic pattern in which the potential problems of density are addressed by preventing them from appearing visibly. Historically, the government has

[3-04] P.K. Olitsky, "Report on the Investigations of the Outbreak of Epidemic Meningitis in Hong Kong by First Lieutenant Peter K. Olitsky, M.R.C., U.S.A., of the Rockefeller Institute for Medical Research, New York," *The Journal of Tropical Medicine and Hygiene* 22, no. 6 (1919): 44.

[3-05] Public Health and Building Ordinance No. 1 of 1903

[3-06] "APP-130: Lighting and Ventilation Requirements - Performance-based Approach." In *Practice Notes for Authorised Persons, Registered Structural Engineers and Registered Geotechnical Engineers.* (Hong Kong: Building Department, Government of Hong Kong, 2013).

[3-07] Public Health and Building Ordinance No. 18 of 1935

[3-08] Bharne Vinayak, *The Emerging Asian City: Concomitant Urbanities and Urbanism*, Illustrated ed. (New York City: Routledge, 2013), 215.

[3-09] Public Health and Building Ordinance No. 37 of 1956

[3-10] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 114.

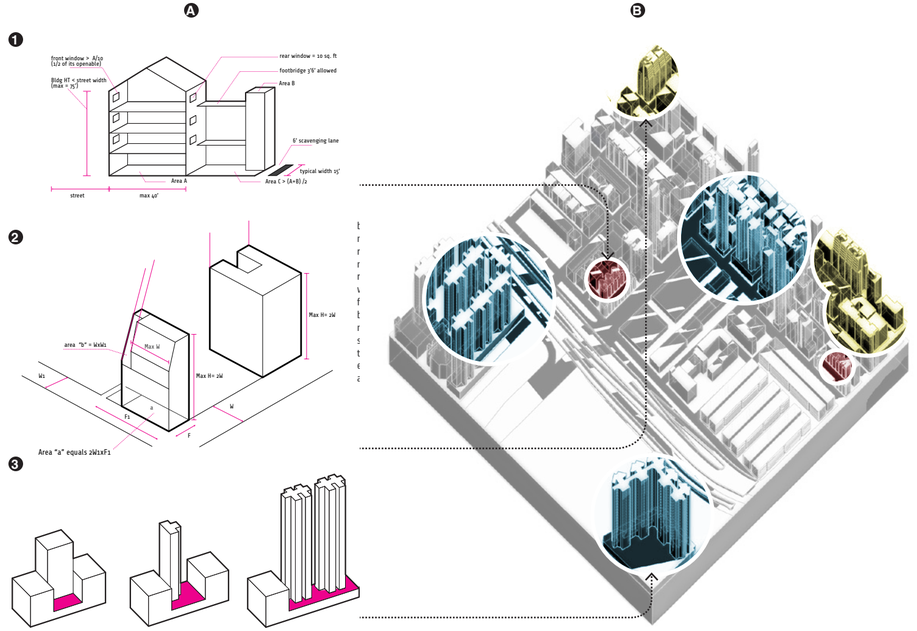
[3-11] E.C.Y. Yiu, "Buildings Ordinance 1955–Why and when [was the] plot ratio and Site Coverage [implemented]?" *Real Estate Development and Building Research and Information Centre*, last modified March 9, 2009, https://ecyyiu.wordpress.com/2009/03/09/buildings-ordinance-1955-why-and-when-plot-ratio-and-site-coverage/.

[3-12] Building (Planning) Regulations No. 97 of 1962 Cap 123 §21



*50 "Hong Kong Housing Typology," composite figure, *Density Atlas*, http://densityatlas.org/understanding/Hong-Kong_housing-typology.pdf

*51 Ibid.




**f3·01** Composite diagram showing major building code legislations, and their implications to urban forms.
***Drawings:*** (A) Diagrams highlighting major geometric regulations; and (B) Generalised axonometric representation of the city with housing blocks colour-coded according to the building regulations on which they are based.
***Laws:*** (1) 1903 Public Health Ordinance; (2) 1956 Building Regulation ; and (3) 1962 Building Regulation, which took effect after 1966.

consistently refrained from establishing a concrete, adequate and universal spatial standard to be applied to private housing. These shortcomings have their basis in the official conception of density adopted in the government's public policy.

### 3114 *Density definition: building area and population density*

4·1 Density can be conceived in a number of methods with vastly different implications. Referring to people, density describes the number of people presiding over a unit area. Within the context of developmental intensity in urban planning policy, density typically refers to the total building areas. Common expressions include plot ratio (PR) or floor area ratio (FAR) in North American countries,[3·13] which refer to the ratio of the total gross floor area over the site area on which the building development stands.

4·2 In regulating density in Hong Kong, urban planners mainly pursued the definition based on building areas. Although there is undeniably some correlation between density by population and density by total building area, the latter conception of density permits a flexible interpretation of internal spatial standard that is applied differently in each housing development [see f3·02]. In this interpretation, the population density of a given development constitutes an equilibrium at a point in time in the interaction of business objectives and market requirements.

4·3 Population density has become the primary medium for the calibration of housing production cost in private housing developments. In contrast to public housing development, there is no legal minimum requirement on the per capita spatial standard of private dwellings,[3·14] nor is there a maximum limit to population density per geographical area.[3·15] Consequently, there is little to no legal impediments at all to the continual provision of miniature apartments in the private sector [see f3·03]. Statistically, the spatial trajectory of residential building area density and average unit areas appears to be led more so by market fluctuations than by their intrinsic propensity towards long-term improvement—a phenomenon that will be discussed in the following subchapter.

4·4 The absence of regulation in per capita spatial standard permits flexible adjustments of population capacity across different developments to produce overall population density that may contradict zoning intentions which regulate density by plot ratio. This flexibility has allowed population densities across Hong Kong's diversely-zoned territory to maintain population densities that are uniformly high. As a matter of fact, many of the New Town areas have achieved official density figures far surpassing older neighbourhoods constructed according to density regulations that allowed a much higher plot ratio. Of the **20 Constituency Areas** with the highest density—all of which retained population density above **150'000 persons per km²**—**17 areas** were located in New Town developments.

4·5 These findings contradict the widely-held view that permissible densities in the New Towns are much lower than the inner city area in order to produce better living quality. In Hong Kong, variations of building density across the territory can be roughly approximated by the *Hong Kong Planning Standards and Guidelines*, which classifies the city into Metro and Non-Metro areas. Metro areas include the inner core in addition to Tseun Wan and Kwai Tsing with plot ratio allowances varying from **3:1 to 10:1**, whereas the Non-Metro areas encompass the New Towns and the countryside with plot ratio allowances from **0.4:1 to 8:1** [see f3·04].

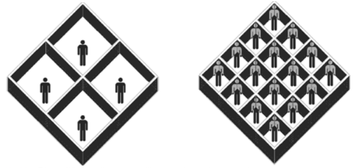
4·6 Similarly, although the plot ratio allowed in land lease conditions and statutory control provisions is often much

[3·13] "Floor Area Ratio – FAR," Investopedia.com, accessed January 1, 2015, http://www.investopedia.com/terms/f/floor-area-ratio.asp.

[3·14] Hong Kong. Research and Library Services Division. *Housing Standards of Private Dwellings*. By Joseph Lee, Eva Liu, and Jackie Wu. RP10/98-99, 22.

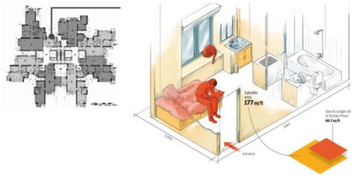
[3·15] J. van Rijs,"Far East. Hong Kong Tower Typology," in Farmax Excursions on Density (MVRDV)," ed. R. Koek, W. Maas, and J. van Rijs (Rotterdam: 010 Publishers, 1998), 177.





f3·02 Simplified diagram illustrating that various population density is possible for a given plot ratio.

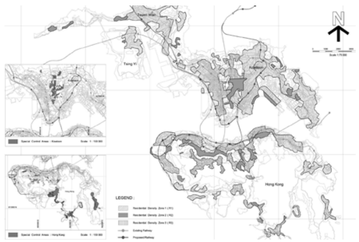
*52 SCMP Graphic, "Mont Vert studio flat in Tai Po," drawing, *South China Morning Post*, http://www.scmp.com/property/hong-kong-china/article/1555917/mont-vert-studio-flat-tai-po-sets-record-cheapest-new-home.



f3·03 Example of legally permissible miniature unit sold in Mont Vert, Tai Po.

*53 "Density Guidelines," map, *Planning Department*, http://www.pland.gov.hk/pland_en/p_study/comp_s/metroplan/metro_finalreport/ch6.htm.

*Hong Kong is zoned primarily into three density groups. Examining population density at a finer scale, however, would show that housing forms have largely maintained consistently high density.*



f3·04 Regional zoning classification for the Metropolitan Area.

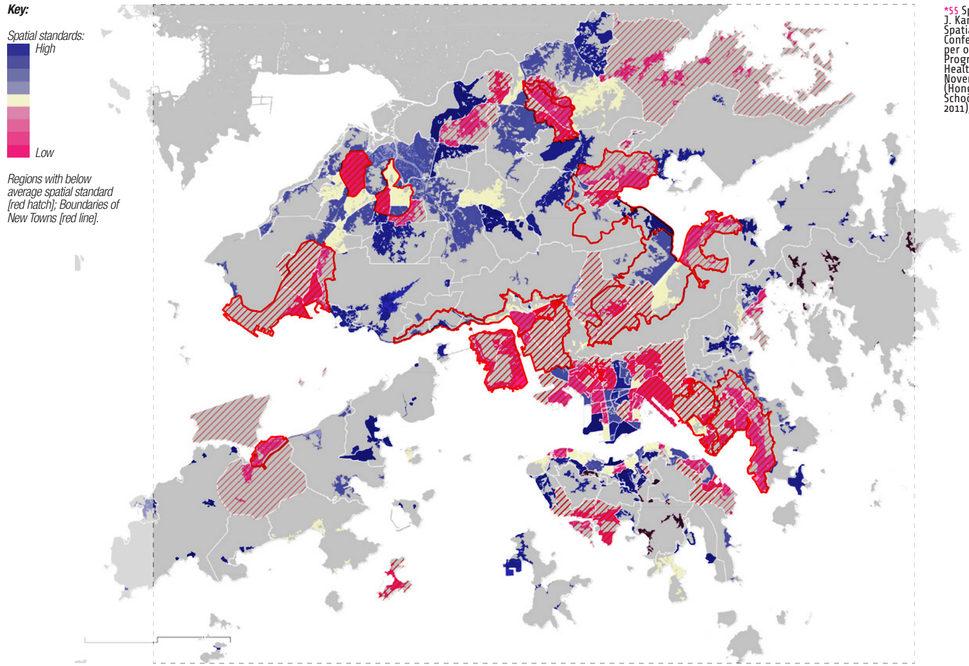
lower in the New Town, population densities of New Towns Major Housing Estates are often comparable to or higher than developments in the older urban areas. The discrepancy suggests a practice of reducing internal unit areas and other non-saleable areas in order to compensate for a lower plot ratio. This interpretation is corroborated by the Planning Department's own estimate for initial flat sizes in New Town areas, which is **10%** smaller than apartments in the core metro areas.[3·16] Thus, what New Town residents gain in the reduction of neighbourhood building intensity they appeared to have lost in internal spatial comfort, so that the reduction of one aspect of density is compensated by the gain in another. As such, the seemingly conflicting long-term urban and land policy objectives, which require respectively the reduction and maintenance of urban population density, are resolved effectively by the adjustment of internal spatial provisions.

### 3115 *Density recalibration: hidden intensity in geography*

5·1 Continuing the analysis of the discrepancies in density readings by scale exposes the extent to which the planning framework has facilitated high population density in spite of the long-term policy commitment to relieve urban congestion. In a city like Hong Kong where only **20%** of the city is built-up, conventional density measurements by administrative divisions that incorporate large swaths of uninhabited areas often produce grossly underestimated population density figures—a problem which is particularly exaggerated when dealing with the New Towns.

5·2 For example, calculations at the level of the Districts and Tertiary Planning Units would suggest that half of Hong Kong's population reside in areas with population density of over **15'000 persons per km²** and **38'000 persons per km²** respectively. Examining density at the finer scale of

[3·16] Planning Department, "Table 8 : Initial Flat size Assumptions: Subdivision of a Flat," *GovHK*, http://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/ch2/ch2_tbl_8.htm.




f3·05 Map showing generally low internal spatial standard across Hong Kong and particularly within the New Towns.

*55 Spatial data source: J. Kandt, "Hong Kong's Spatial DNA," in the Conference Newspaper of the Urban Age Programme: Cities, Health and Well-being, November 16-17, 2011 (Hong Kong: London School of Economist, 2011), 30.



‡3.2 *Per capita spatial standards, as measured as room per person, are generally low across Hong Kong, which has an average of 1.2 rooms per person. Surprisingly, housing developments in New Towns, which are supposed to be less congested, are in fact at the lower end of Hong Kong's spatial spectrum; it is a phenomenon that corroborates with the model of flexible density control identified in this subchapter. The core of Hong Kong Island and Kowloon, and various luxurious suburbs across the territory maintain some of the city's most spaciously housing developments.*

[3-17] E.C.Y., Yiu, "[Why was] One Island East [allowed to]... achieve a plot ratio of 28[?]" *Real Estate Development and Building Research and Information Centre*, last modified July 11, 2012, https://ecyyiu.wordpress.com/2012/07/11/tdr-why-one-island-east-can-achieve-a-plot-ratio-of-28/.

Constituency Areas, however, would reveal that more than **65%** of the population reside in areas with a density of over **38'000 persons per km²**, where **50%** of this group live in areas of over **61'000 persons per km²** and **28%** in areas of over **100'000 persons per km²**. When incorporating analysis at the scale of the Major Housing Estate, the phenomenon of ubiquitous density becomes truly apparent as **62%, 53% and 25%** of Hong Kong's population were found to reside in environments with respective population densities of over **100'000, 200'000, and 300'000 persons per km²** [see f3·06].‡3.2

### 3116 *Density transfer: residual infrastructural capacity*

6-1 Given the various ambiguities embedded in the planning framework, it is not difficult to see how Hong Kong has universally maintained such an astonishing level of density. This has been facilitated in practice by the flexibility embedded in the enforcement of plot ratio regulations which can in fact allow the developmental intensity of certain projects to exceed the plot ratio requirements prescribed in the *Outline Zoning Plan*, which are statutory plans prepared and published by the Town Planning Board under the *Town Planning Ordinance* that show the proposed land-uses and major road systems of individual planning scheme areas.

6-2 The transfer of residual developmental intensity from adjacent projects, which had been underdeveloped, to newer developments is one mechanism used to maintain high density. Examples include the commercial project of One Island East, which increased its plot ratio to **28:1** from the allowable maximum of **15:1**, by transferring residual developmental potential from a nearby golf course.[3-17]

6-3 Localised density is tolerated on the condition that the overall density of the neighbourhood is maintained at a level supported by the predetermined population capacity of its urban infrastructure. The acceptance of the practice alludes to a planning attitude that regulates density not necessarily to encourage urban de-congestion, but to prevent the urban infrastructure from being over capacity.

### 3117 *Density: economic and spatial solution to over-density*

7-1 In recent years, the government appears to have renounced its objectives in controlling density altogether. While the *2012-13 Budget* proposed 'to maximise public housing supply by relaxing restrictions on plot ratio and building height' for public housing development,[3-18] the *2014-15 Policy Address* of the Planning Department aimed to 'increase the maximum domestic plot ratios allowed in different density zones as appropriate.' [3-19]

7-2 The idea that developmental intensity could be increased to alleviate the overcrowding caused by housing shortage was in fact the logic behind the *1956 Building Ordinance*, which allowed plot ratios as high as **18:1 to 20:1** to be constructed during its short enforcement between 1956 and 1965. The rationale then was that developers would be sufficiently motivated by the drastic improvement to their profit margins, that they would redevelop older districts thereby alleviating the housing shortages.[3-20] With the maximisation of building density established as the solution to the over-population density, the underlying causes of intensified density would remain concealed. As such, the development model contingent on land supply control and developmental intensity would continue to be preserved.

### 3118 *Densities dissociation: densities calibration in space*

[3-18] J. Tsang, "Budget Speech by the Financial Secretary" (speech, Legislative Council motion to move the Appropriation Bill 2012 to a Second Reading, Central, Hong Kong, February 1, 2012), para 76.

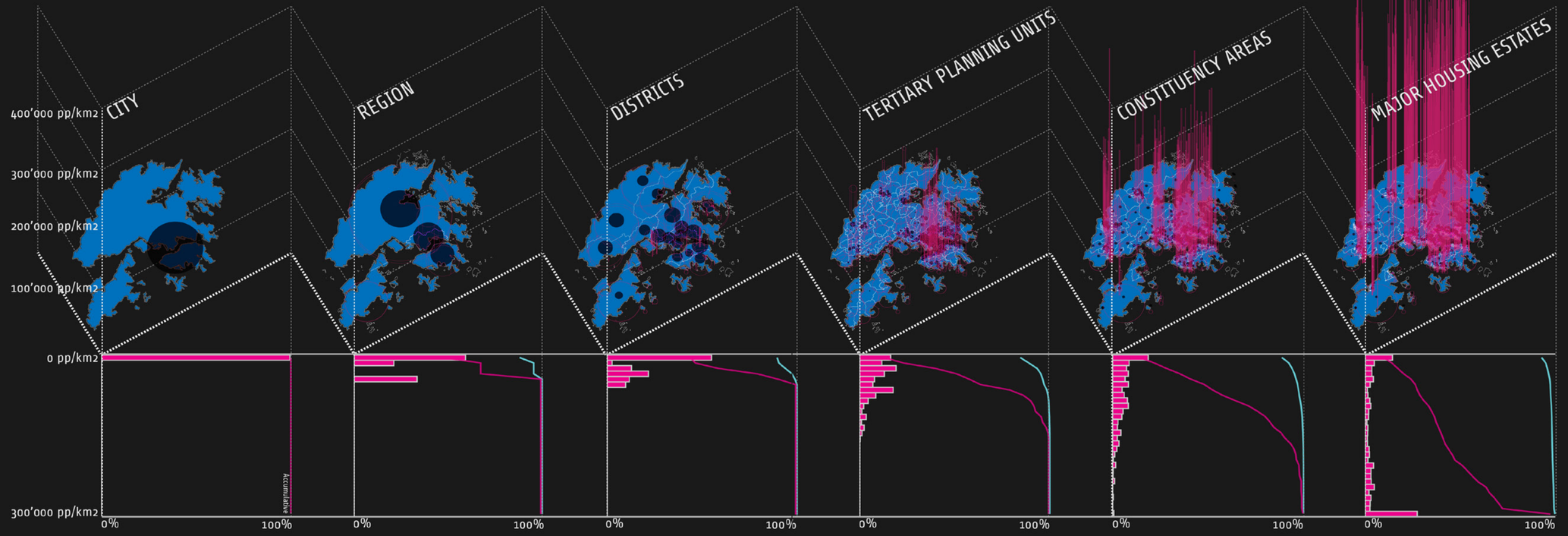
[3-19] P. Chan, "Opening Remarks by Secretary for Development" (speech, Press Conference on Development Bureau Initiatives in 2014 Policy Address, Central, Hong Kong, January 17, 2014), para 2.

[3-20] Feng, *A Century of Hong Kong Real Estate Development*, 71.

## DENSITY DISTRIBUTION

*The study seeks to provide a more accurate measurement of population density at the human scale of the major housing estates. Density measurements using population and geographical data of the larger planning areas typically includes large swatch of undeveloped areas, thus vastly underestimating the actual population density.*

*The histogram reveals the hidden population distribution living at much greater population density, which is only revealed when examining the scale of the major housing estates.*




*Density analyses at the scale of the Major Housing Estates, which is the scale that the average Hong Konger interact with on a daily basis, show a much higher population density exceeding 500'000 person / sq km in some projects. Moreover, it is also revealed at this scale that uniformly high population density exists across Hong Kong's geography, including in the New Towns.*

3.1.1 3.1.06 Composite mapping and data visualisation showing the geographical distribution of density across Hong Kong.

8-1 It is undeniable that the government of Hong Kong has a challenging task in balancing the conflicting interests arising from its dual-role as the city's monopolist landlord and as an administrator that determines the development agenda of the territory. Fiscally, the government has a long-term incentive to maintain developmental intensity in order to optimise land value and, by extension, government revenue from land disposal. But with the planning framework consistently facilitating density, rather than its meaningful restrainment, the government has not achieved a balanced role in density regulation, nor has it demonstrated that it is truly committed to balanced urban growth.

8-2 This subchapter has revealed a planning framework that is embedded with flexible mechanisms allowing the complex transfer of different forms of density. In the absence of a clear legal articulation of domestic spatial standard, the unit remains the primary site for the calibration between production cost and zoning density requirements. As the distribution of spaces are flexibly adjusted in different housing developments, high population density has been maintained across Hong Kong's diversely-zoned territory such that actual geographical population densities have often contradicted the zoning intentions expressed in the plot ratio.

8-3 As population density freely dissociates from building area density, zoning policies intended to reduce urban congestion by plot ratio are rendered futile. Today, high-density developments have expanded throughout Hong Kong regardless of time, geography and development types. Understanding the operations of the flexible density controls, housing forms emerging in Hong Kong are conceived not only as the spatial materialisations of housing price, production, and land supply, but also as the calibration of various forms of density to maintain the high population density required to optimise housing prices and profit.



p3·02 1984 Sino-British Joint Declaration



# 3.1.2

## Price maximisation, supply restriction and developmental intensification: *political-economy as the invisible determinant of density*

### 3122 *Sovereignty transfer: significance of land system re-entrenched*

1·1 In the late 1970s, there was an 'increasing realisation of the problem posed by individual land leases granted in the New Territories.' Since the New Territories were leased to Britain through the *Second Convention of Peking* for a period of **99 years**, all of the individual land leases granted in the New Territories were previously set to expire three days before the general expiry of the New Territories lease in 1997. As explained in the white paper published by the British government on September 26, 1984, 'it was clear that the steadily shortening span of these leases and the inability of the Hong Kong government to grant new ones extending beyond 1997 would likely deter investment and damage confidence.'[3·21] Thus, negotiations with China became simply unavoidable [see p3·02].

[3·21] Hong Kong, *Draft agreement between the United Kingdom of Great Britain and Northern Ireland and the Government of the People's Republic of China on the Future of Hong Kong*, White paper, September 26, 1984, no. 1366 of 1984.

1·2 Nonetheless, China remained apprehensive and distrustful of the British in spite of the inevitability of Hong Kong's return. There was an acute anxiety that the British administration would deplete the land supply, and leave the future administration of Hong Kong with no ability to raise revenues through the disposal of land. Deng Xiao Peng's statement during the negotiation of the Joint Declaration, as reported by Tsing Dao Daily, aptly captured this sentiment:

> *[We] must prevent the selling out of the land stock, spending them on administrative expenses, [and] leaving liabilities to the [Hong Kong] Special Administration Region Government after 1997.* [3·22]

[3·22] "The Land Fund," Sing Tao Daily, October 19, 1996, A14.

1·3 A series of negotiations beginning in the early 1980s culminated in the 1984 *Sino-British Joint Declaration* [see p3·02]. In the end, the legal reassurance sought by the Chinese government—that land supply would not be recklessly depleted by the outgoing colonial administration—materialised in Britain's agreement to impose a **50-hectare limit** to the amount of land that could be granted in one year. [3·23]¥3.3

[3·23] Joint Declaration of the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the People's Republic of China on the Question of Hong Kong (Instrument A301), Annex III para 4.

¥3.3 *Land granted to the Hong Kong Housing Authority for public rental housing is excluded from the 50-hectare limit.*

1·4 To monitor the observance of the limit among other issues related to land administration, a Land Commission comprised of both Chinese and British representatives was established. [3·24] It is clear that land administration would continue to play an important role in the management of the city as an entire annex was created to set out in detail how land leases were to be dealt with in the transitional period from British to Chinese rule. Although the conditions outlined in the declaration were temporary and applied only to the last decade of the colonial administration, it was at this moment that land supply restriction was explicitly entrenched.

[3·24] Nissim, *Land Administration and Practice in Hong Kong*, 30.

### 3122 *Short-term revenue optimisation: density prioritisation*

2·1 By limiting land disposal, the incoming Chinese government had effectively announced its intention to continue the existing developmental model inherited from the outgoing coloniser—a model in which the land system remained the primary tool for the state to implement change and optimise fiscal revenues through the control of land supply.

‡3.4 *Economists have calculated that the land disposal restriction quota insisted by the Chinese government in the negotiation of Hong Kong's handover was in fact below the optimal rate that would have allowed colonial government to maximise its revenue. As such, the government compensated the revenue losses by prioritizing the sales of land zoned for high-density developments.*

[3·25] K.C. Wong, K.W. Chau and S.M. Ma, "The disposal of the Hong Kong land stock under the Sino-British Joint Declaration|," *Journal of Property Research* 16, no. 4 (1999): 332.

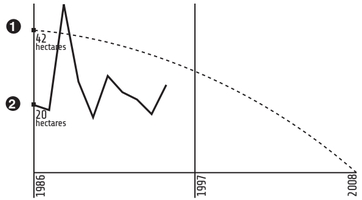
[3·26] Wong, Chau and Ma, "The Disposal of the Hong Kong Land Stock Under the Sino-British Joint Declaration," 334.

2·2 However, what was particular about the limit imposed was that it was set at a level below the disposal rate that would allow the government to optimise revenue.[3·25]‡3.4 In deliberately setting a limit that was insufficient to meet the typical development needs of the city, the policy harmed the city's public finances [see d3·02]—it suppressed land-related revenues by virtue of the reduction in land disposal—and it served a purpose that was entirely political. The arrangement allowed the Chinese government to exert control in the final decade of colonial administration since there would likely be requests made to the Land Commission each year for extra land disposal allowance.

2·3 Although land supply had been disposed of at a measured rate over a long term, in order to maximise land revenues, land disposal rates had been optimised according to short-run market dynamics. Because of this practice, the newly-imposed Chinese constraints complicated the outgoing colonial administration ability to flexibly adjust land disposal, depriving it of its capacity to both satisfy developmental demand, and maximise revenue, at a time when the government's income was in fact becoming increasingly reliant on land revenue.

2·4 Facing these new restrictions, the land sales policy was adjusted to maintain a high level of land sale income. This was achieved by reprioritizing the disposal of land with higher developmental intensity. Because allowable development density was different across different sites, land prices in Hong Kong were not normally quoted in terms of dollars per unit site area but in terms of 'Accommodation Value (AV)' which is dollars per unit of maximum allowable gross floor area.[3·26]

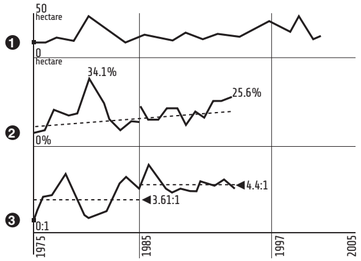
2·5 The sale of sites with lower developmental density (defined as plot ratio in land administration) therefore constituted an inefficient consumption of the land disposal quota as it yielded less land sale revenue in comparison to the sale of




d3·02 1986-2008: Optimal versus actual land disposal rate following 50-hectare rule restriction.
(1) Optimal path of land disposal; and (2) Actual land disposal with 50-hectare rule in effect following annual negotiations.

*Data on the plot ratio of land disposed by the government also shows that plot ratio is on average higher after the imposition of the 50-hectare land restriction quota, as government sought to maintain high revenue.*

*56 Wong, Chau and Ma, "The Disposal of the Hong Kong Land Stock Under the Sino-British Joint Declaration," 333.




d3·03 1975-2005: Data series graphing the effects of land supply restriction on housing density.
(1) Residential land supply disposed in hectares; (2) Land premiums as percentage of total government revenue; and (3) Average annual plot ratio of housing developments.

*57 Ibid.



[3·27] Nissim, *Land Administration and Practice in Hong Kong*, 31.

[3·28] Wong, Chau and Ma, "The Disposal of the Hong Kong Land Stock Under the Sino-British Joint Declaration," 333.

[3·29] Hong, "Myths and Realities of Public Land Leasing: Canberra and Hong Kong," Land Lines 11, no. 2 (March, 1999): 3.

[3·30] Brown and Loh, *The Political Economy of Land*, 1.

sites with higher density. And since only private developments contributed land premiums,[3·27] which made up the lion's share of land-related revenue, the preferred disposal of sites with higher development potential logically led to higher density development within private housing.

2·6 This preference towards higher density developments is statistically substantiated by the higher average plot ratios of new land supplied after the enforcement of the land supply restrictions. The average plot ratio from 1975 to 1985 and from 1985 to 1994 are **3.35:1 and 4.27:1** respectively [see d3·03].[3·28] Since the increase in average plot ratio occurred at the same time that zoning for several areas moved in the opposite direction, towards lower density, it is evident that the prioritisation of projects with higher developmental intensity was a deliberate policy decision. Thus, the attempt to maximise revenue in the face of additionally imposed land restriction had produced a direct impact on the scale of private developments.

### 3123 *Long-term revenue optimisation—motivation for density*

3·1 Having established that land price is a function of density, Hong Kong's high developmental intensity can now be understood as not only a consequence of ongoing land supply restriction, but as a preferred mode of development that maximised the revenue of land disposed.

3·2 It must be noted that plot ratio is ultimately governed by the statutory *Outline Zoning Plans*. As such, the tactic of reprioritizing the sale of higher density sites amounted at best to a short-term strategy that would eventually exhaust the available supply of all land with high plot ratios. In a city in which income from land sales produces up to **45%** of total government income,[3·29][3·30] optimizing revenue in the long-term logically leads the government to maintain a high overall plot ratio through its extensive system of planning and building regulations.

3·3 Both public and private sector development are consequently affected. The preservation of land values encourages high density development to be arranged in a close-knit pattern of lots requiring the shortest possible runs of services and roadways to maximise efficiency in their provisions.[3·31] Aside from the optimisation of land revenue and development cost, it is also by maintaining a high plot ratio that the government can prevent the reduction in spatial standards caused by land supply restriction—a topic discussed in the preceding chapter.

[3·31] Prescott, "Hong Kong: the Form and Significance of a High-Density Urban Development," 18.

3·4 Certainly, there is a limit to the extent in which permissible plot ratio can be raised before it produces undesirable effects on the urban fabric. For this reason the maximum plot ratio had remained steady in the decades leading to the present day. The conflicting objectives of spatial comfort amidst restrictive land supply in the long term can only be achieved by ongoing improvement in architectural efficiency. But as the research demonstrates in Part 4, spatial operations to optimise efficiency in Hong Kong's housing developments can also negatively affect the unit's spatial usability. As a result, there are no policy mechanisms or spatial strategies that could shield the public entirely from the negative spatial and economic consequences of long-term land supply restriction.

### 3124 *Result of long-term price-density relationship: spatial stagnation*

4·1 In the long-run, there is an inverse correlation between price and land supply. Reduction in overall land supply leads to the expectation of higher future housing rent which is then

capitalised into higher current housing prices.[3-32] Land price is then determined by housing price. A review of long-term statistical trends, which cover both the colonial and present time period, readily corroborate this economic relationship: an increase in the real unit area price of housing in Hong Kong in the last **30 years** was met with a concomitant decline in land supply amidst rising income revenues from land sales.

4-2 The impact has tangible spatial manifestations; higher housing and land prices encourage the substitution of capital for land thereby favouring high-density developments.[3-33]‡3.5 Examining the housing data collected for this research, average private housing unit areas have not substantially altered in spite of the variations in plot ratio of disposed land (as described earlier in the passage) and rising housing prices. This suggests that the areas gained in the increase in permissible building density were potentially diverted to the construction of a greater number of private housing units.

4-3 Further suggestion that the land system has encouraged high density is observed in the lack of population density reduction over time in all housing development types. The population density of private developments has fluctuated around a long-term average of **250'000 persons per km²**. In public housing developments, population density has consistently increased from an average of **230'000 persons per km²**[2] (for Major Housing Estates constructed before the 1980s) to over **350'000 persons per km²** (for Major Housing Estates constructed after the 1990s)—a change that approximately equals to an annual increase in density of **50'000 persons per km² per decade**. The unabated intensification of population density in public housing developments suggests that the public housing programme has largely absorbed the developmental pressure exerted by land supply restriction.

[3-32] W.C. Wheaton and R.J. Peng, "Effects of Restrictive Land Supply on Housing: An Econometric Analysis," *Journal of Housing Research* 5, no. 2 (1994): 263.

[3-33] Ibid., 264.

‡3.5 *It is a widely-held belief that older private residential units are generally more spacious and 'usable' — a quality that is explored in depth in the final chapter.*



### 3125 *Short-run price-density calibration: market-sensitive space*

5-1 In the short-run, the relationship between price, density, land supply and production becomes considerably more dynamic and variable. The long-term trajectories of these spatial attributes are composed of periodic fluctuations in the short-run that move according to their specific relationships with price. In the face of fluctuating economic cycles, private property developers have logically created short-run strategies for housing production to complement the overall long-term objective of revenue maximisation.

5-2 Since the government does not regulate the composition or spatial distribution of units in new housing developments, as described in the preceding subchapter on flexible density controls, such design questions are the prerogatives of private developers who decide according to their specific business strategies.[3-34] Naturally, the flexible mechanism permits the emergence of a relationship between spatial production and market conditions—a relationship that in essence renders the spatial quality of housing design a function of price.

5-3 With the city's economy highly linked to the property market, the movement in housing price is an indication of not only housing demand, but a reflection on the general health of the economy: households generally have higher incomes during periods of property growth, and developers in turn supply housing units of varying quality according to the perceived purchasing power of the aspiring home-owners, whose income determine its quantity of spatial consumption.[3-35] Behind this seemingly economically rational private development strategy, however, is an intimate correlation between price and housing development density that has significant socio-economic implications.

5-4 In practice, these processes produce a development phenomenon whereby spatial standards at both the scale of the unit and the scale of the estate in new housing developments, as indicated by internal unit area and the inverse of population density of the estate (or ground area distributed per person), are positively correlated with the prevailing market prices. In short, rising housing prices encourage the development of housing estates with lower developmental intensity and higher internal unit area—a correlation indicating that the public can only purchase units of higher spatial quality when housing price is most unaffordable.

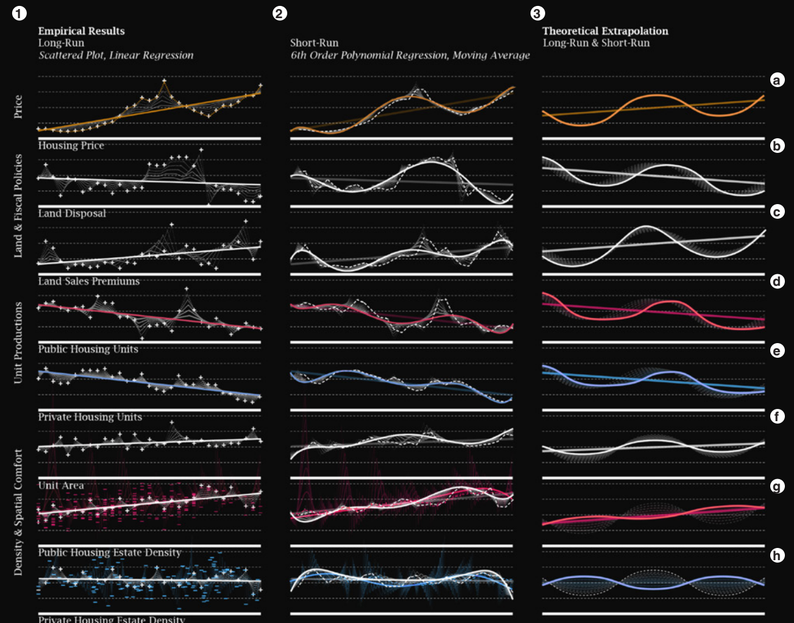
[3-34] Wheaton and Peng, "Effects of Restrictive Land Supply on Housing: An Econometric Analysis," 266.

[3-35] Jayantha and Hui, "Determinants of Housing Consumption and Residential Crowding in Hong Kong," 5.



5-5 Over time, the relationship ensures that housing units with higher spatial standards would perpetually remain out of reach to the large population of low and middle income households—a population who can barely afford housing even when prices are relatively lower during a market downturn. This re-entrenches a relationship between housing spatial standards and income. Polynomial regressions on various housing production attributes from 1980 to 2010 are reproduced here to illustrate the relationship between price and the production of space [see d3-04].

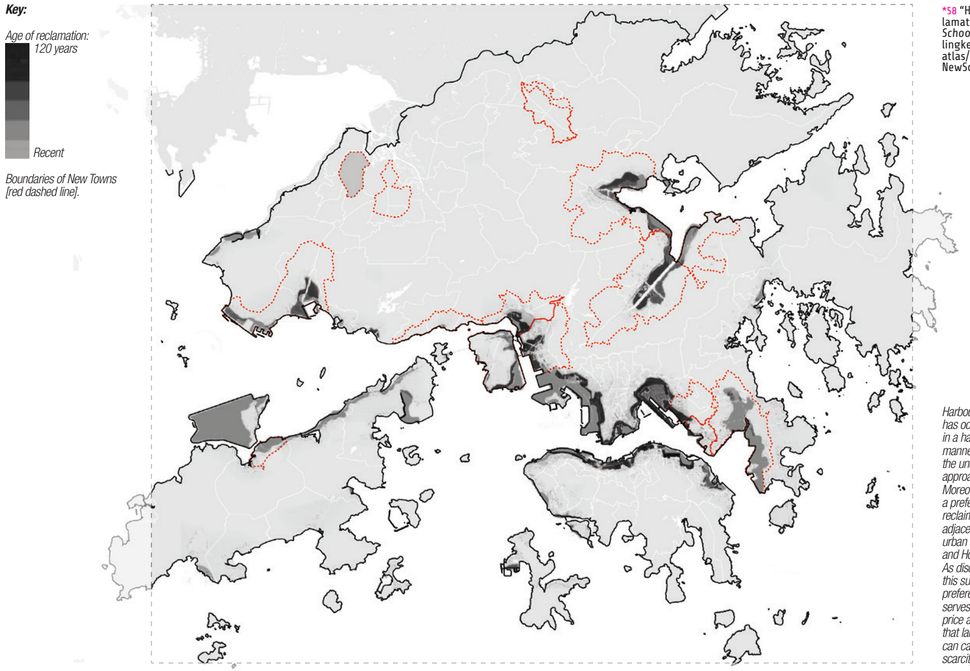
5-6 In examining the relationship between density, price, and land supply in the long-term urban and housing development of Hong Kong, one arrives at a salient finding that price appreciation actively requires the appreciation of developmental density. What is more, the spatial development of the city appears to be directly sensitive to market conditions. This reaffirms a familiar pattern of development which conceives space not as a manifestation of its domestic and urban functions, but as a secondary artefact produced by the interaction of the land administration and the housing market in the preservation of price: land continues to play an all-encompassing role in the development of the city that is both political and spatial.




d3•04 1980-2010: Data series showing the intimate relationship between price, land disposal, housing production, and housing density.

***Key:***
***(1)*** *Linear regression of data [straight thick lines]; Deviation of data points from linear regression [hatch fill];*
***(2)*** *3-year Moving average [dashed line]; 6th-order polynomial regression to fit the dynamics of three property cycles; and*
***(3)*** *Predicted long-run trends [straight thick lines]; Predicted short-run dynamics in accordance with long-run trends [thick curved lines]; Housing price (a) short-run movements projected onto the long-term trends to create a reference for pro-cyclical movement. [dashed thin lines, and hatch fill].*

***(a)*** *Long-run supply restriction leads to long-run price increase. Short-run fluctuations of price is related to the property cycle.* ***(b)*** *Government land disposal is generally aligned to housing prices , and with a slight delay, to capitalise prevailing market demand.* ***(c)*** *Income received from land sales is tied to housing price. The long-run increase in its share as a percentage of government's revenue indicates that the government is becoming more reliant on land.* ***(d)(e)*** *Housing productions in both public and private developments are tied to housing prices, and at a 2-5 year lag. The period of time when housing production rates are increasing is generally less than the period of time when housing prices are rising, thereby exacerbating housing shortage; along-run decreasing trend is also observed.* ***(f)(g)(h)*** *Density of new housing developments in both sectors are found to be negatively aligned with prices, such that density is highest when price is lowest. In fact, public housing density has increased noticeably over time — suggesting that it has absorbed the developmental pressure exerted by the land system.*




*58 "Hong Kong-Reclamation," map, *New School Atlas*, http://lingkee.com/geog/atlas/NewSchoolAtlas/NewSchoolAtlas.html.

*Harbour reclamation has occurred in a haphazard manner - indicating the uncoordinated approach to planning. Moreover, there is a preference for reclaiming land in areas adjacent to the main urban areas of Kowloon and Hong Kong Island. As discussed later in this subchapter, the preference for centrality serves to exacerbate price appreciation such that land expansion can cause further land scarcity.*

f3·08 Map showing the extent of land reclamation in Hong Kong over time.



# 3.1.3

## Flexible urban frontier I: *inflated land scarcity by constructed geographical constraints*

### 3131 *Uncoordinated and ongoing land formation*

1-1 Institutionalised planning was largely absent in the first century of Hong Kong's existence. It was not until after World War II that the Town Planning Board first convened through the legislation of the 1939 *Town Planning Ordinance*. The colonial administration consistently refrained from the implementation of a comprehensive planning strategy,[3-36] as the early development of the colony focused on immediate and pragmatic concerns in response to the rapid construction that occurred following the British acquisition of the territory rather than on comprehensive integrated planning. As a result, multiple massive urban interventions had occurred in of the absence of coherent planning strategies.

[3-36] Ng and Cook, "Reclamation: an Urban Development Strategy Under Fire," 6.

1-2 The lack of coordinated planning was evident in the treatment of the area of Victoria Harbour that separated the twin settlements. Within the span of a decade beginning in 1843, a series of reclamations extended the land area along the urban harbour front to produce some **7 acres** of new land. When the Land Commission was set up in 1885 to address the growing problem of overcrowding, the principal recommendation proposed to alleviate the congested living conditions simply reiterated the importance of land reclamation.[3-37] The emphasis on harbour reclamation alluded to the ongoing tendency in planning to manipulate the city's geographical boundaries to satisfy the developmental pressures produced by the *Leasehold System*.

[3-37] Ibid., 8.

1-3 By the turn of the twentieth century, land reclamation was firmly established as a method for urban expansion [see f3·08]. Thus the notion that the anticipated urban growth of the territory cannot simply be accommodated by the natural endowment of the territory was entrenched in the city's planning mentality. The alteration of natural topography was deemed necessary in order to address the scarcity of land exacerbated by intensified developmental pressure. However, this normative attitude failed to justify the necessity of land reclamation.

### 3132 *Land scarcity discrepancies: misrepresented constraints*

2-1 Although it might be argued that land reclamation is inevitable in a mountainous territory with limited flat land available, land reclamation had in fact occurred in the earliest stages of the city's development when the ratio of land availability to actual population would have allowed for alternative mechanisms for urban growth. While only a narrow band of land was available on the north coast of Hong Kong's island, subsequent treaty ratifications vastly extended the boundary of Hong Kong to include Kowloon, and finally the New Territories, where there is still a large amount of developable land.[3-38] Nonetheless, the principle raison d'être of Hong Kong's development had since the beginning rested on land reclamation in Victoria Harbour regardless of the actual land supply of the territory.

[3-38] Brown and Loh, *The Political Economy of Land*, 5

2-2 The discrepancy between actual and perceived land scarcity throughout Hong Kong's development history illustrates the necessity of distorting the perceptions of geographical constraint in order to support land supply restriction. As land-related income produces as much as **45%** of Hong

Kong's fiscal revenue, the government has a natural incentive to restrict the supply of land in order to optimise the revenue received.[3·39] However, the absence of actual extreme scarcity requires that existing land shortages be misrepresented. Had the government—both the colonial and present-day Special Administrative Region administration—acknowledged that land was in fact available, the rapid disposal of land when its value is low would impede the government's ability to recoup land value in the future.[3·40]

2·3 Conversely, the government is also aware that the unrelenting restriction of land supply creates physical distortions in the urban form that could readily generate social frustration. By exaggerating the scarcity of land, the government could justify its intervention in the provision of developable land as the equitable rationing of scarce land resource. The approach therefore relieves the government of its responsibility in exacerbating urban development intensity and helps preserve the government's extensive control over the distribution of land resource in its pursuit for the optimisation of land revenues.

2·4 Over time, an elaborate system of constructed geographical constraints was embedded in the city's planning policy. It is for this reason that the pattern of urban expansion in Hong Kong is conceived not only as a manifestation of land scarcity, but as a mechanism to produce further land scarcity such that the rationale of the *Leasehold System* and the feasibility of land revenue optimisation can be maintained.

### 3133 *Supply restriction: flexible spatial conservation*

3·1 One of the mechanisms in which geographical constraints can be made palpable to the general public is by the conflation of land shortage with the conservation of natural areas. The

[3·39] Prescott, "Hong Kong: the Form and Significance of a High-Density Urban Development," 18.

[3·40] Hong, "Myths and Realities of Public Land Leasing: Canberra and Hong Kong," 2.




f3·09 Map comparing Hong Kong's Country Park and Green Belt coverage.

*59 B.S. Tang, S.W. Wong and A.K.W. Lee, "Green Belt in a Compact City: A Zone for Conservation or Transition?" 362.



approach allows supply restriction to be perceived as beneficial to the public good. As of 2013, the built area occupies an area less than **22%** of the territory's extent, while **40%** of the land is designated for 'Country Parks,' and **13 %** for 'Green Belt.' [3·41] [see f3·09]

3·2 Country parks are land areas defined under the 1976 *Country Parks Ordinance* for the purpose of enhancing 'particular protection to the vegetation and wildlife' and 'recreational potential of the countryside' whereas the 1984 *Town Planning in Hong Kong* describes the Green Belt as 'designated zones usually along the fringes of the New Towns as a means to discourage urban development beyond the designated New town boundary.' [3·42] The concept of a green belt as 'a zone of land around the city where building development is severely restricted' is rooted in the planning ideas of Ebenezer Howard who suggested the development of *Garden Cities* around London to contain its sprawl at the early twentieth century. [3·43]

3·3 Applied to Hong Kong, however, the definition of Green Belt becomes more ambivalent. In the 1948 *Abercrombie Report* —a document widely regarded as the city's first strategic planning report—Sir Patrick Abercrombie described the 'Green Belt' as a type of catch-all open space which included 'mountain slopes and catchment areas' while explicitly cautioning that the restrictive and 'familiar concept of a Green Belt'—as implemented in the United Kingdom to control urban growth—'cannot be exactly applied to Hong Kong.' [3·44]

3·4 It was understood that the Green Belt in Hong Kong must be conceived with a degree of flexibility to satisfy developmental pressures.[3·45] In fact, when the Green Belt was initially classified as a separate land-use designation, it was simply defined as 'terrain where comprehensive urban development is [was] not desirable or possible.' While the rhetoric of describing the Green Belt as a land-use zone for conservation was established in the 1990s, its functions and enforcement remain loosely defined so that there is 'long-standing ambiguity of the green belt in achieving its purpose for conservation.' Today, the Green Belt encompass a multitude of land uses from residual areas such as 'steep hill slopes' with no development potential, to its more familiar role as a 'physical boundary to development areas', to 'recreational areas', to even areas with urban uses like 'schools, temples, village resites, forestry agricultural land, and areas of 'low residential development.'[3·46][3·47][3·48]

3·5 The lack of specification surrounding the implementation of the Green Belt's conservational function, and the ambiguities surrounding the application of the Green Belt suggest that the designation is not entirely serving the objective of natural conservation.[3·49] In practice, the provision of Green Belt areas has become an integral component to an extensive patchwork of constructed geographical constraints.

3·6 For the artificial constraints to benefit the existing development model there must be a mechanism available for the releasing of previously protected land for future development. Thus the requirement for future developable area transforms the constructed geographical constraints into a flexible frontier—a frontier delineating a 'holding zone' for future urban developments.‡3.6 This approach is evident in the administrative practices governing the Green Belt areas.

3·7 Unlike the management of Country Parks, which legally fix the developmental right of the area which it contains, the current planning policies emphasise that limited development 'considered on individual merit' may be allowed in the Green Belt areas.[3·51] This paves way for the possibility of land-use conversion by application. As such, the rhetoric of describing

[3·41] B.S. Tang, S.W. Wong and A.K.W. Lee, "Green Belt in a Compact City: A Zone for Conservation or Transition?" *Landscape and Urban Planning* 79, no. 3 (2007): 362.

[3·42] Town Planning Division, Lands Department. *Town Planning in Hong Kong.* (Hong Kong: Government Printer, 1984), 27.

[3·43] F.J. Osborn, *Green-Belt Cities* (New York City: Schocken Books, 1969), 182.

[3·44] Tang, Wong and Lee, "Green Belt in a Compact City: A Zone for Conservation or Transition?" 359.

[3·45] Ibid., 360.

[3·46] Town Planning Board, *Shau Kei Wan Outline Zoning Plan*, No. LH 9/32 (Hong Kong: Crown Lands and Survey, 1967), 4.

[3·47] Town Planning Board, *Castle Peak Outline Zoning Plan*, No. LCP/36 (Hong Kong: Crown Lands and Survey, 1967), 4.

[3·48] Town Planning Board, *Sha Tin Outline Zoning Plan*, No. LST/47 (Hong Kong: Crown Lands and Survey, 1967), 4.

[3·49] Tang, Wong and Lee, "Green Belt in a Compact City: A Zone for Conservation or Transition?" 360.

[3·50] M. Buxton and R. Goodman, "Protecting Melbourne's Green Belt," *Urban Policy and Research* 21, No. 2 (2003): 209.

‡3.6 *The concept of a flexible development-oriented Greenbelt has also been observed in cities like Melbourne.* [3·50]

[3·51] Town Planning Office, *Draft Tai Po Outline Zoning Plan*. No. LTP/47 (Hong Kong: Government Printer, 1980), 5.

the Green Belt areas as a land-use zone for environmental protection and conservation is inaccurate.

3·8 This was in fact the primary thesis of Tang, Wong and Lee's research analysing the land use in Green Belt zones, who argued that the Green Belt is a transition zone covering residual land 'waiting for timely and permanent 'urban development of some sorts.' Their quantitative analysis of planning applications shows that the planning authority was 'readily receptive' to the development of structures such as a 'small house,' 'open storage,' or the release of full development rights of a Green Belt area in some cases.[3·52]

[3·52] Tang, Wong and Lee, "Green Belt in a Compact City: A Zone for Conservation or Transition?" 372.

3·9 The management of the Green Belt areas continues a pattern in policy development that inaccurately frames policies intended to facilitate the expedient development model as policies designed for the public good. In this case, the ongoing problem of inadequate open space provision for public recreation is responded to with a policy that not only fails to address the problem, but might in fact be complicit in its ongoing exacerbation. With the contributing factor to the problem of spatial shortage established as its solution, the lack of spatial improvement over time is used to provide further justification for land supply restriction.

### 3134 *Supply restriction by differential entitlement*

4·1 The application of Green Belt policies has helped reveal the magnitude by which geographical constraints are misrepresented. In reality, there is much more developable land in the New Territories than the government would like to acknowledge. The problem, however, is that there are considerable inefficiencies in land use within the New Territories because developable land is usually zoned for low density development.[3·53]

[3·53] Brown and Loh, *The Political Economy of Land*, 6

4·2 The 1972 *Small House Policy* was the result of a colonial compromise between the traditional villages in rural New Territories and the administration. It was originally conceived as a temporary measure to address housing needs in the New Territories.[3·54] As a colonial compromise between the traditional villages in rural New Territories, the policy is one of the many special rights granted to the indigenous population of the New Territories—part of a system of differential privilege initially established to allow the early colonial administrators to maximise land control following the absorption of the New Territories into the colony.

[3·54] L. Hopkinson and M.L.M. Lao, *Rethinking the Small House Policy* (Hong Kong: Civic Exchange, 2003), 5, accessed January 1, 2015, http://www.civic-exchange.org/ Publish/LogicaldocContent/200309LAND_RethinkSmallHouse_en.pdf, 3.

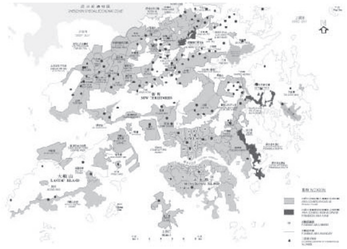
4·3 By entitling every indigenous male villager the right to build a small house on private land, or on government land (at a concessionary premium within their village by application), the *Small House Policy* had become a conspicuous symbol of 'inequitable preferential treatment' which placed the right of indigenous villagers over the rights to spatial comfort of non-indigenous Hong Kong residents.[3·55] Furthermore, the policy illustrates the government's practice of constructing geographical constraints to produce land required to service past commitments that were made due to poor governance, such that the price of the government's expedient attempt to establish control is ultimately borne by the housing population.

[3·55] Brown and Loh, *The Political Economy of Land*, 8.

4·4 Over time, the system of geographical constraints designed to serve a variety of conflicting objectives has grown into an unmanageably complex set of regulations that hampers the government's capacity to achieve new urban developments. The unsustainability of the *Small House Policy* is demonstrated by the simple calculation that the grant of small houses to the estimated **240'000 male villagers** with entitlements at present approximately amounts to an additional developable land commitment of **22 km²**—an area that equals **10%** of Hong Kong's current urbanised areas. Although not all Small House



*60 Hopkinson and Lao, Rethinking the *Small House Policy*, 20.



**f3·10** Map showing land-use inefficiency in the New Territories due to Small House entitlements.

applications would be approved, the entitlement nonetheless imposes tremendous pressure on the Town Planning Board to designate land areas for these future land commitments, thereby perpetuating a land scarcity that is politically induced, and misrepresenting the actual land supply of the city [see f3·10].[3·56]

[3·56] Hopkinson and Lao, *Rethinking the Small House Policy*, 17.

### 3135 *Price-induced scarcity paradox: shortage amidst ongoing production*

5·1 Understanding the full extent to which the geographical constraints have been distorted by the planning framework, one can appreciate the necessity of reclaiming the Victoria Harbour in order to satisfy the artificially constructed scarcity. Moreover, the reclamation illustrates the bias of the *Leasehold System* toward the development of new lands. Since the government derives the majority of its land revenue from initial leases, it has a natural incentive to produce 'new' lands so that new leases can be initiated and as such land revenues can be maximised. [3·57] In practice, this has produced a mode of urban expansion contingent upon the ongoing formation of new lands by land reclamation to the extent that **35%** of Hong Kong's developed land now exists on areas reclaimed from the sea.

[3·57] Ng and Cook, "Reclamation: an Urban Development Strategy Under Fire," 7.

5·2 As the government's primary revenue is derived from the initial land sales, it is incentivised to maximise the initial value of new land. These considerations affect both the geographical positioning and the land-use designations of land reclamation projects: new lands are typically reclaimed around the older urban core and appropriated for high-value private developments. This emphasis on land value, however, has rendered urban redevelopment in large sections of the old dilapidated core infeasible thereby producing a new form of scarcity that is market-induced.[3·58]

[3·58] Ibid., 18.

5·3 Since most land leases in Hong Kong have multiple leaseholders, the assembly of land rights required for redevelopment when land values are high is a prohibitively costly and time-consuming process that deters private developers from undertaking redevelopment. The lack of investment to improve the urban infrastructure in older areas, as a result of the government's prioritisation of newer areas, also decreases the attractiveness of redevelopment. As land value of the older urban areas continues to appreciate alongside the newly developed and reclaimed lands in their direct vicinity,[3·59] redevelopment in the older urban areas becomes increasingly infeasible. As a consequence, both land scarcity and land price appreciation are paradoxically intensified by continual territorial expansion.

[3·59] Ibid., 6.

### 3136 *Perpetually flexible frontier: Hong Kong's edgeless density*

6·1 Urban development by land optimisation in Hong Kong has produced visible distortions in the natural trajectory of urban growth. More precisely, the system of flexible frontiers that corresponding to the constructed geographical constraints has produced a type of 'edgeless' urbanism. In a city in which the primary purpose of its urban boundaries are to serve as a perpetually flexible frontier that delineates areas of future possible developmental potential, the urban edges such as the waterfront or the greenbelt areas have never resulted in an 'identifiable edge condition, either in use or in form.'[3·60] The permanent temporary status of the urban edge consequently 'mitigated against developments that can take advantage of the edge.' [3·61] In the absence of appropriate edge programming, the consistent edge condition that emerges is homogeneous density—a density which is in perpetual intensification and proliferation [see f3·11][see p3·03]. No city other than Hong Kong has consciously developed such high overall residential densities in the twentieth century.[3·62]

[3·60] E. Mossop, "Hong Kong's Urban Landscape," in *Hong Kong:Defining the Edge*, eds. R. Marshall and E. Mossop (Cambridge, MA: Harvard Design School, 2001), 47.

[3·61] Ibid.

[3·62] Prescott, "Hong Kong: the Form and Significance of a High-Density Urban Development," 18.




p3·03 Photograph series documenting abrupt edge conditions in the temporary northern shores of Hong Kong Island awaiting future reclamation.
(1) International Financial Centre; and (2) Shun Tak Centre.





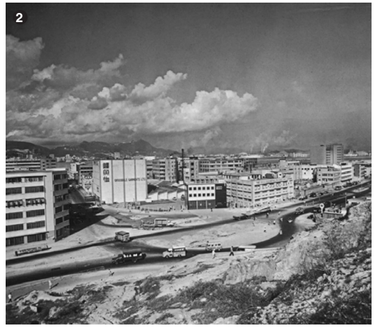

*The artistic rendering seeks to document the city's general lack of an edge condition—what exists instead is a homogeneous high density edge.*

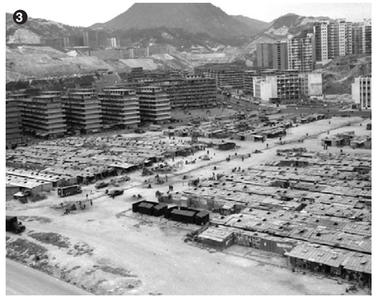
f3·11 Stylised elevation showing the two coasts along Hong Kong's Victoria Harbour.
***Coastline:*** (1) Kowloon side; and (2) Hong Kong Island side.

# 3.2

## The Hong Kong dream and New Towns development: *movement of density across geography and time*







*62 T.K. Ko, "Kwun Tong Industrial Area," photograph, *HKMemory.hk*, http://www.hkmemory.hk/collections/post-war_industries/all_items/images/201308/t20130827_64235.html

*61 T.K. Ko, "Licensed Area in Kwun Tong," photograph, *HKMemory.hk*, http://www.hkmemory.hk/collections/public_housing/all_items/images/201307/t20130702_61629.html

p3·04 Photograph series documenting the government-facilitated urban developments in Kwun Tong.
(1) Factories constructed in the 1960s and 1970s in Kwun Tong; and (2) Factories constructed on reclaimed lands in the 1960s; and (3) Licensed squatter area in Kwun Tong and resettlement housing developments.



# 3.2.1

## Flexible urban frontier II: *from contiguous to dislocated growth*

### 3211 *Geographical prescription: contiguous urban frontier*

1·1 Urban development in Hong Kong up until the 1960s was largely prescribed by geographical limits corresponding to the Lion Rock in the north and the Mid-Levels across the Victoria Harbour to the south.[3·63] Hong Kong's urban frontier was visibly confined within these boundaries, and the New Territories acted as a buffer zone insulating Hong Kong from China. The administrative and economic centre of this young burgeoning city was at the heart of Victoria City in today's Central. This was the first period of post-war urban development in Hong Kong: the period leading to the 1960s formed an era when the expansion of Hong Kong's flexible urban frontier was contiguous and within geographical containment.

1·2 Behind what appeared to be a set of well-obeyed geographical prescriptions, however, was a profound social and economic transformation taking place from the end of World War II. The large influx of refugees from China after the revolution of 1949 produced unprecedented population growth in Hong Kong,[3·64] mostly on the Kowloon side of the harbour.[3·65] The rapid growth of the colony intensified post-war demand for both housing and land.

1·3 It was clear by the 1950s that urban momentum was gaining in the Kowloon Peninsula. In fact, Hong Kong Island's population would level towards the 1960s and be surpassed by Kowloon's population.[3·66] The increase in both labour and financial capital provided the necessary inputs for rapid industrialisation, allowing the city to transition away from its dwindling entrepôt trade to an economy led by industrial exports.[3·67] By the early 1960s, Hong Kong's textile manufacturing industry was the most successful in Asia.[3·68] Much of this economic growth was accommodated by urban expansion occurring along the shoreline of the reclaimed bays on both the eastern and western sides of the Kowloon peninsula: eastward from Sun Po Kong to the western fringe of Kwun Tong, and westward from Yau Ma Tei to the eastern fringe of Tsuen Wan.[3·69]

### 3212 *Contiguous expansion I: peripheral local dynamism*

2·1 Kwun Tong's development pattern was emblematic of this type of urban expansion along the city's shoreline. As industry-led urban expansion crept into the eastern fringes of Kowloon, the government declared in the late 1950s its decision to establish Kwun Tong as an 'industrial satellite,' in anticipation that the city's industrial growth needed to be accommodated at a much larger scale. The development initiated a familiar pattern that saw the government actively identifying sites beyond the current urban frontier for pre-emptive New Town developments.

2·2 To facilitate industrialisation, the government actively conducted land reclamation to create new land projecting from the original shore on which to build factories. Stimulus to the local private economy was provided by the injection of squatter resettlement housing into the area [see p3·03].[3·70] With a large segment of the township sharing the 'experience of life in a squatter community', it is not surprising that Kwun Tong preserved an active urbanism that was not drastically

[3·63] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 90.

[3·64] Government Information Services, 'History: The Post-war Years.'

[3·65] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 89.

[3·66] Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, 6.

[3·67] Y.S. He, *Xianggang Zhi Zao, Zhi Zao Xianggang: Xianggang Gong Ye Guo Qu Xian Zai Wei Lai* (Hong Kong: Ming Pao Publications, 2009), 3.

[3·68] Ibid., 23.

[3·69] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 91.

[3·70] D.J. Dwyer, introduction to *Asian Urbanisation: A Hong Kong Casebook*, ed. D. J. Dwyer (Hong Kong: Hong Kong University Press, 1971), 5.

different in kind—at least in densities and in the proliferation of mixed-used typologies—from the older urban areas. The tradition of 'explicit tolerance of other people's nuisance'[3·71] characteristic of Chinese urbanism remained as the local community was readily 'pressing diversity' in land use to the point of chaos.[3·72] A general ambiguity is observed in the programmatic appropriation of space: housing blocks were readily adapted to commercial and industrial use and the upper floors in commercial centres were often residential in use.[3·73]

2·3 More remarkable still was the intensely local culture that emerged. Frank Leeming observed that residents in Kwun Tong would rarely travel to Kowloon as home and work commonly occurred in the same district.[3·74] The sense of locality embodied the concept of 'self-contained development' would become the primary planning objective in later New Town developments—an objective which often lacked materialisation in the urbanism produced in later New Towns in spite of the explicit intentions in planning. Ironically, the localism that developed in Kwun Tong was not the result of deliberate planning by the government. Kwun Tong was never intended to be self-sufficient; it was developed in an ad hoc and haphazard manner.[3·75] The government's involvement was limited to land formation and basic zoning regulations; it was barely able to keep up with the town's rapid growth. As government-led infrastructure and housing provisions were built 'pari passu' with ongoing industrialisation,[3·76] the vibrancy that emerged in Kwun Tong was, to a significant degree, led organically by its community.

### 3213 *Contiguous expansion II: emerging state activism*

3·1 Located **8 km** away from the western urban fringes of Kowloon at Cheung Sha Wan, it was in fact the Tseun Wan New Town that was conceived explicitly as the first 'self-contained' industrial satellite.[3·77] Tseun Wan was sparsely populated up until its designation as a New Town in 1959. When the area was first leased to the British as part of the New Territories, it had a population of about **3'000 persons**. The area supported a small market town with farming, fishing, pig-raising and grass cutting as means of livelihood.[3·78] Ongoing industrialisation was not experienced until a number of factories were established there in the early 1930s. With Kowloon located nearby and a pace of industrial development that consistently exceeded the local demand for employment, Tseun Wan was a logical site to establish the second prototypical New Town. An ambitious plan envisaging an ultimate population of about **1.2 million persons** for the area was approved in 1963.[3·79]

3·2 The emergence of Kwun Tong and Tseun Wan as the two prototypical New Towns illustrates both ongoing and divergent tendencies in New Town developments with regards to techniques of urban expansion. Continuing an age-old practice, geographical constraints were consistently manipulated: ongoing harbour reclamation rendered the shoreline a perpetually moving frontier.[3·80] Also familiar is the practice of locating public housing-led New Town developments in areas slightly beyond the existing urban frontier in order to free up spaces closer to the city for valuable private development [see p3·04].

3·3 As in the case of Tseun Wan and later Yuen Long, Tai Po and Fanling, the siting of New Town developments were based on the location of existing market towns. Their selections thus disrupted traditional communities, replaced vernacular urban forms with modern high-density development, and necessitated the uprooting and resettling of existing communities. As such, the growth of the state-managed housing system was again contingent upon the ongoing

[3·71] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 93.

[3·72] Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*,141.

[3·73] Ibid., 128.

[3·74] Ibid., 127.

[3·75] Yeh, "Public Housing and New Town Development," 86.

[3·76] Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, 122.

[3·77] Yeh,"Public Housing and New Town Development," 85.

[3·78] New Territories Development Department, *Hong Kong's New Towns : Tsuen Wan* (Hong Kong: Public Works Department, 1976), 8.

[3·79] Ibid.

[3·80] Ng and Cook, "Reclamation: an Urban Development Strategy Under Fire," 6.



*63 The University of Hong Kong Libraries, "San Tsuen, Tsuen Wan," photograph, *HKMemory.hk*, http://www.hkmemory.hk/collections/hkplaces/AllItems/images/201107/t20110722_42492.html





*66 T.K. Ko, A general view of Fuk Loi Estate and Tsuen Wan Satellite Town," photograph, *HKMemory.hk*, http://www.hkmemory.hk/collections/public_housing/all_items/images/201307/t20130702_61439.html

*65 Information Services Department Photographic Library, "An aerial view of Tsuen Wan Industrial Area," photograph, *HKMemory.hk*, http://www.hkmemory.hk/collections/postwar_industries/all_items/images/201308/t20130827_64239.html





*64 T.K. Ko, "A general view of Tsuen Wan in 1978," photograph, *HKMemory.hk*, http://www.hkmemory.hk/collections/public_housing/all_items/images/201307/t20130702_61446.html

**p3·05** Photograph series documenting various aspects of Tsuen Wan developments from the 1950s to the 1970s.
(1) San Tsuen, Tsuen Wan, showing a glimpse of village settlements that commonly existed in the area prior to intensive development; (2) Aerial view of Fuk Loi — one of the many public housing developments to populate Tseun Wan; (3) Aerial view of government-led reclamations for industrial development; and (4) A general view of Tseun Wan at the end of the 1970s.

mobilisation of the population. The promise for cooperating with displacement was the promise of modern living in an environment of greater spatial comfort[3·81]—albeit in a more remote location.

3·4 Though there were many similarities, there were also fundamental differences in the conception of the urban frontier that set the early prototypical New Towns apart from later developments. Kwun Tong and Tseun Wan were located in close proximity to the current frontier of urban expansion. They represented a type of organic urban expansion that moved in a continuous trajectory and was led by the intrinsic local economic growth of older urban districts directly adjacent to them. As such, the prototypical New Towns readily formed close social and formal integration with the older urban areas. Together, both the early new towns and older urban areas constituted a contiguous urban frontier that was clearly circumscribed by the dominant geographic order formed by the Lion Rock and Victoria peak ridges and the Victoria Harbour.[3·82]

### 3214 *Contiguous to discontiguous frontier—a transition induced by expedient housing production*

4·1 There were indications, however, that the continuous urban frontier of the Kowloon foothills was about to fracture, thereby setting the stage for dislocated urban expansion that would diffuse the 'momentum' of urban growth (described earlier in this subchapter) to the New Territories. As Kowloon was exhausting its holding capacity towards the late 1950s, the government commissioned a study to identify additional areas for future urban development that would leap beyond the geographic prescription of the Kowloon foothills.[3·83] Tuen Mun and Sha Tin were identified as potential sites for the next generation of New Towns development as early as 1965.

4·2 The implementation of the Sha Tin and Tuen Mun New Towns programmes were eventually initiated by the 1972 *Ten-Year Housing Programme*—a programme which sought to provide self-contained accommodations for **1.8 million persons** between 1973 and 1982.[3·84] It was understood that a programme of such scale and urgency would require the development of housing estates in greater density and in the more distant sites located in the New Territories.

4·3 Significantly, the execution of the programme required a recognition of the public housing programme's responsibility in leading urban developments that would be expediently executed and developmentally intensified. Consequently, the housing strategy prompted the amalgamation of various government housing agencies into the single institution of the Housing Authority whose functions then encompassed all aspects of estate production. By 1977, these responsibilities included land clearance, city planning, the development and management of public housing estates, and the execution of built-for-sale home-ownership programmes. The far-reaching responsibilities of the government in housing planning and execution meant that the public housing programme officially became a tool for territorial expansion.[3·85] The new housing objectives were to be satisfied by the development of self-contained New Towns in the city's remote hinterland.

### 3215 *Dislocated expansion I: local geography breached*

5·1 The Wah Fu Estate, located on a heavy slope by the Kellett Bay in the Southern District of Hong Kong, was the first experiment in dislocated growth embodying the notion of 'self-contained' planning [see f3·12].[3·86] Self-containment is a concept modelled on British New Town planning practices based on 'balanced development', designed to reduce the need for residents to commute to main urban areas by providing

[3·81] New Territories Development Department, *Hong Kong's New Towns : Tsuen Wan*, 18.

[3·82] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 98.

[3·83] Ibid, 190.

[3·84] Castells, Goh and Kwok, *The Shek Kip Mei Syndrome: Economic Development and public housing in Hong Kong and Singapore*, 24.

[3·85] Yeh,"Public Housing and New Town Development," 85.

[3·86] Ibid., 86.






f3·12 Composite documentation of Wah Fu Estate.
(A) Site plan; (B) Photograph series showing the estate's variegated site design.
3.2.1

adequate work opportunities, shopping recreational and community activities in the local area. Attempts at self-sufficiency materialised in comprehensive planning and the extensive provision of landscaping and social amenities. The estate included shopping malls, schools, bus terminals and other community facilities—components which have considerably augmented the diversity of spaces.[3·87]

[3·87] M. Glendinning, "Wah Fu Estate, Hong Kong," *Twentieth Century Society*, last modified July, 2011.

5·2 In reality, the increasing emphasis on spatial design—including the enhanced provision of landscaping and social amenities—was simply a response to the public housing programme's reaffirmed role as a producer of high-density miniature towns. As such, spatial diversity was conditioned in form and scope by the overarching objective of development intensification. An example of this is found in the Wah Fu Estates, which created a variegated site design by mingling medium-density slab typologies with 'Twin Towers',[3·88] a newer experimental high-density high-rise public housing typology[see p3·05]. In these developments, one of the government's ultimate design objective was to manipulate the distribution of built density to produce the spatial multiplicity necessary to mitigate and disguise the negative effects that are easily caused by mass-produced housing density.

[3·88] Ibid.

5·3 The quest to alleviate the perception of urban crowding logically led to the intensified production of constructed ground spaces in order to overcome the geographical barriers exacerbating the effects of urban confinement. In the Wah Fu Estate, this materialised in a multi-level town centre that provided an intricate system of connected spaces and pathways to reduce the distance incurred by the area's sloped site.[3·89] The approach sought to enhance the perception of spaciousness by supplying strategic urban connections that accelerated urban travel and expanded the radius of distances that could be travelled on foot by the local population.

[3·89] Ibid.




p3·08 Photographic series showing examples of multi-levels urban strategies experimented in Wah Fu Estate. (1) Building over, (2) Bridging over roadways, (3) Parallel passage, and (4) Breaching geography.



5·4 With the precedent established that constructed space intensification could supplant natural geography to diffuse population density, a fundamental shift in the relationship between the built environment and its natural surroundings had occurred. As the case of the Wah Fu Estate illustrates, the typical challenges that natural geography once imposed on urbanisation, such as augmented urban distances and physical barriers to expansion—impositions that exacerbate the perception of over-density—were then eliminated whenever logistically possible [see p3·05].

[3·90] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: From Vertical to Volumetric*, 98.

5·5 The increasing encroachment on natural geography by constructed spaces in pursuit of urban efficiency in both building and population density in Hong Kong, however, would perpetually diminish the capacity of the natural geography to shape the urban experience and to prescribe urban expansion.[3·90] In fact, it is the acknowledgement that the expedited proliferation of urban density required the active defiance of geography which fundamentally differentiated the processes of urban expansion between contiguous and dislocated urban growth.

### 3216 *Dislocated expansion II: urban geographical breached*

6·1 With the development of Sha Tin and Tuen Mun unfolding in full swing in the 1970s, the government would no longer take a passive role in New Town planning. Instead, New Town development would be actively directed by the government through the state-managed housing system. The new urban frontier would no longer be contiguous to the existing urban frontier, nor would it be prompted by organic developments led by the local population.

6·2 It was in this context that the two were built on reclaimed land with little existing urban momentum. Their only geographical significance was that they were on a natural line of communication between Kowloon and the northern plains of the New Territories.[3·91] With urban expansion determined not by intrinsic social propensities, the liberation of expedient urban expansion from all limiting factors—both social and natural—was complete. The emergence of dislocated urban expansion was the intensification of a top-down approach to planning driven by the need to achieve production efficiency in a context of intensifying developmental pressure.

[3·91] Wigglesworth, "The Development of New Town," 56.

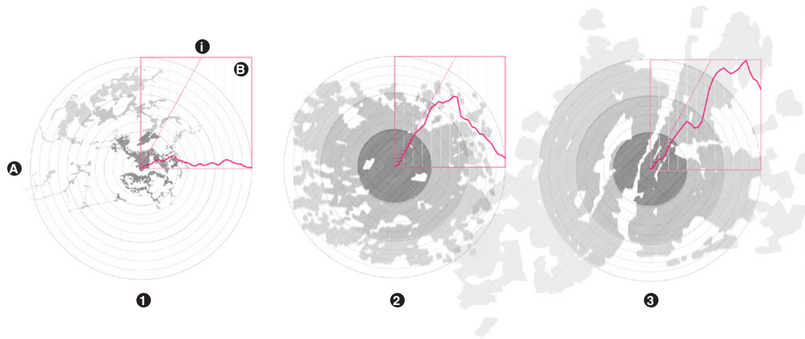
### 3217 *Contiguous frontier disruption: connected dislocations*

7·1 In later years, the expansion of transportation infrastructure further facilitated the rupture of the contiguous frontier and the reduction of natural geography's capacity to shape the urban experience. Within a span of less than a decade after Sha Tin's designation as a New Town, road tunnels were completed under both the Lion Rock Ridge and Victoria Harbour thereby providing internalised connections between Sha Tin and Kowloon, and Kowloon and Hong Kong Island. The inability of Tuen Mun and Sha Tin to achieve self-containment, because they lacked employment opportunities, further accelerated the urgency of building new transportation infrastructure including the ongoing expansion of the existing inter-city rail—Kowloon-Canton Railway (KCR)—and the construction of a new underground Mass Transit Rail (MTR). [3·92]

[3·92] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: From Vertical to Volumetric*, 96.

7·2 In the twenty-five years following the designation of Tuen Mun and Sha Tin as New Towns, the areas of Tai Po, Yuen Long, Fanling, Tseung Kwan O, Tin Shui Wai and Tung Chung were successively designated as New Towns such that a particular mode of high-density living defined by modern public and private housing estate typologies was reproduced across the territory irrespective of geography and history. The

*69 Source for methodology: A. Bertaud, "Measuring Constraints on Land Supply: The Case of Hong Kong," 9.




***Key:***
***(A)*** *Each concentric ring increasing in size and decreasing in opacity correspond to 10-kilometre increment in radial distance away from the centre of the cities.*
***(B)*** *(i) Maximum amount of built area that can correspond to the respective distance away from city centre.*

*In a city wherein land is utilised consistently throughout its spread, an increasing radius from the city centre would correspond to growing circular area that would in turn contain an increasing amount of built area. Hong Kong's flat profile indicate a large degree of dispersion. The degree of dislocated urban growth in Hong Kong is also evident in the profile of the city's built-up area, which is dispersed to a large distance with most area embedded within the city's overall spread remaining undeveloped*

**f3·13** Composite documentation and analysis of the urban built-up area profile of selected metropolitan areas.
***City:*** (1) Hong Kong; (2) Paris; and (3) New York City
***Content:*** (A) Maps showing built-up area only; and (B) Graphs showing built-up area [y-axis] by distance to the city centre [x-axis].



confined culture described by Leeming had largely disappeared as Hong Kong was at once functionally and rapidly connected, defined and dominated by its enormous network of built infrastructure. Today, it is possible to travel from Central to the Lo Wu Chinese Mainland border entirely through internalised passages within less than an hour, without any tangible experience of the geography through which one is travelling.

### 3218 *Dislocated expansion: production of inefficient urbanism*

8·1 The spatial and geographical outcome of expediently dislocated density is readily registered in statistics. Examination of the built-up areas by distance to the city centre in Hong Kong reveals a city profile that starkly contrasts with other cities of comparable scale, such as London, New York, and Paris. Theoretically, if a city is utilised consistently throughout its spread, an increasing radius from the city centre would correspond to a growth in total built-up area corresponding to the enlarging circular area. But this is not the case in Hong Kong; its relationship between distance and accumulative built-up area is consistently flat, which indicates that Hong Kong's built area is highly dispersed [see f3·13]. As a point of comparison: Hong Kong, which has dispersed its built area at a radius from its centre roughly equivalent to that of Paris, only has **13%** of the built-up area of Paris.[3·93]

[3·93] Alain Bertaud, "Measuring Constraints on Land Supply: The Case of Hong Kong," Working Paper, (World Bank, 1997), 9.

8·2 Built area dispersion is a natural consequence of dislocated expansion. But in abandoning contiguous expansion, the government ironically produced a territory-scale urban inefficiency, which has become an additional constructed geographical constraint that serves to intensify density at the level of the New Towns.

8·3 Since efficiency in communication and travel require the city to be linked by a comprehensive infrastructure, a highly dispersed profile renders the city more costly to operate.[3·94] As such, the loss in territory-scale urban efficiency requires a compensation in urban efficiency that is achieved by intensifying the density at the New Towns-scale, so that what is gained in cost because of increased distance from the city's centre to the New Towns is off-set by the reduction in cost generated by compacting the New Towns. It is for this reason that the flexible system of density control described in an earlier subchapter is necessary to allow the overall maintenance of urban efficiency through density. Similarly, dislocated expansion necessitates that Hong Kong's urban experience will increasingly be defined by its complexly constructed infrastructure, as opposed to its geography, in order to produce the additional urban efficiency required to sustain its inefficient mode of dislocated expansion.

[3·94] Ibid., 10.

8·4 The most important reason for adopting dislocated expansion, however, is its capacity to preserve the land system. Although Hong Kong's long-term housing shortage requires an active development of the New Territories, top-down dislocated expansion permits the government to pre-emptively select New Town sites at distances from the existing urban frontier that are greater than necessary. This ensures that the '(dislocated) islands of built-up areas... will not contribute much to reducing pressure on land demand' by virtue of their 'isolation and reduced accessibility.'[3·95] With high developmental pressure remaining in the central areas, the land system that is contingent on perpetual spatial shortages may continue to function indefinitely as scarcity continues to exist, paradoxically, amidst ongoing urban expansion.

[3·95] Ibid., 5.

### 3219 *Limitless, flexible, and disjunct urban frontier*

9·1 That the Hong Kong government was able to implement a



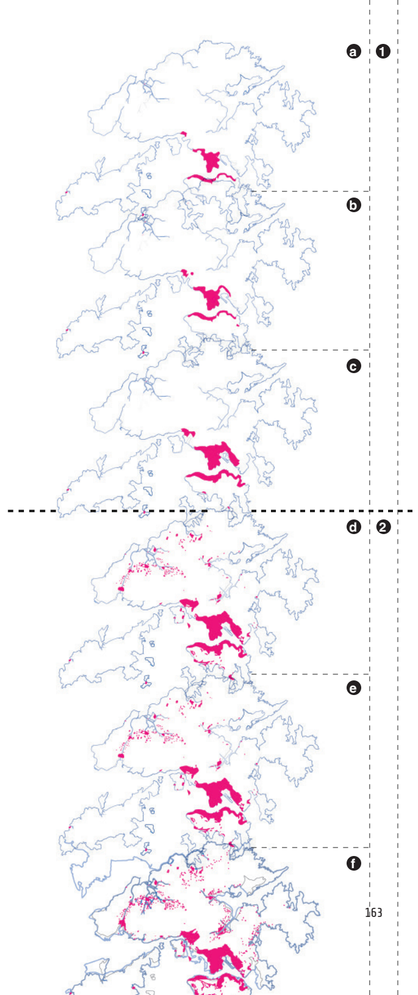
p3·07 Photograph looking into the disjunct urban density frontier in front of the Kowloon foothills from Mong Kok.



New Town programme that now housed approximately half its population in barely less than **50 years** is an accomplishment that cannot be understated. Behind what appears to be a disciplined, efficient and ambitious effort on the government's part to produce a new type of urban environment to satisfy the demands of its population, however, is the emergence of a new territory-wide scale urban configuration that is designed to preserve a land system contingent on prices—an urbanism characterised by dislocated and discontiguous expansion [see f3·14]·2.

9·2 As explained throughout the following chapter, this new configuration is not only inefficient, but embedded with many unknown consequences. The following subchapters, 3.2.2 and 3.2.3, discuss the respective effects of socio-economic segregation and urban spatial isolation, this subchapter has revealed the evolving social perception of geographic space allowing the dislocation of the frontier.

9·3 As the intensification of built density increasingly supplanted geography both phenomenologically and functionally, the transformation of the urban frontier altered the perception of urban space as the limitations imposed by geographical factors to the construction of a limitless flexible urban frontier were progressively eliminated. It was in this context that the efficient and expedient development of New Towns led to the ubiquitous proliferation of homogeneous density beyond the previously continuous urban frontier, thereby producing the disjunct urban frontier that was required to preserve the land system [see p3·06].




f3·14 Map series illustrating the conceptualisation framework for Hong Kong's urban development described in this subchapter.
***Phases:*** (1) Contiguous frontier; and (2) Discontinuous frontier.
***Year:*** (a) 1950; (b) 1960; (c) 1970; (d); 1980; (e) 1990; and (f) 2000.

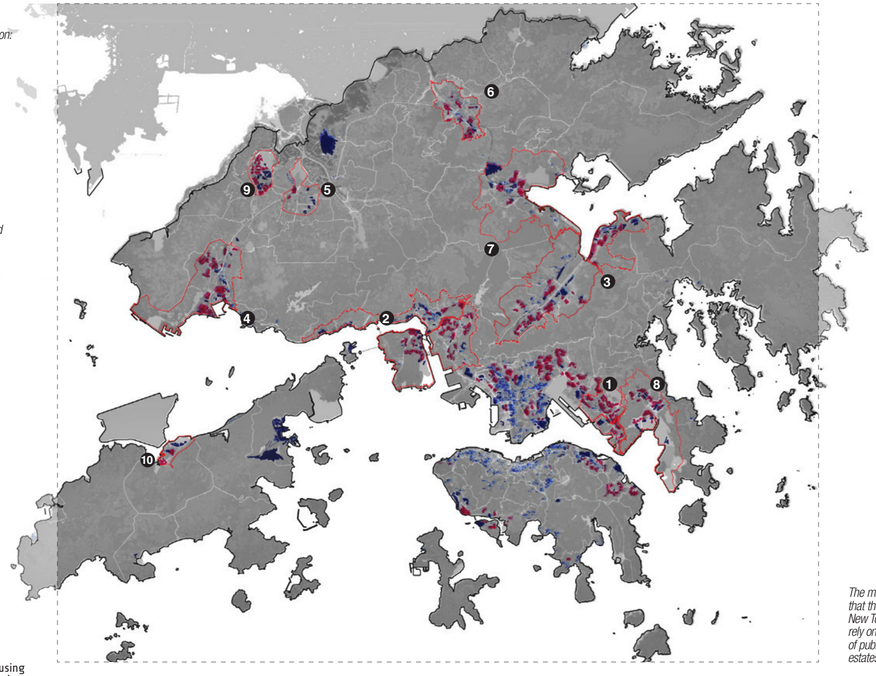
***Town centres:***

*Prototypical generation:*
*(1) Kwun Tong;*
*(2) Tsuen Wan;*

*First generation:*
*(3) Sha Tin;*
*(4) Tuen Mun;*

*Second generation:*
*(5) Yuen Long;*
*(6) Fanling;*
*(7) Tai Po;*

*Third generation:*
*(8) Tseung Kwan O;*
*(9) Tin Shui Wai; and*
*(10) Tung Chung.*




*The mapping suggests that the development of New Towns appear to rely on a large number of public major housing estates.*

f3·15 Map showing New Towns development locations and major housing estates.

*70 Yeh,"Public Housing and New Town Development," 89.



# 3.2.2

## Spatialised socio-economical distribution in geography: *concentrated deprivations in the satellite city*

3221 *Price-induced public housing decentralisation*

1·1 Between 1961 and 2014, the population of Hong Kong Island rose by **1.2 times** while that of Kowloon and the New Territories rose by more than **1.6 and 8.2 times** respectively. Today, approximately half of Hong Kong's population live in the New Territories. These statistics confirm the stability of the older parts of Hong Kong whereas the New Territories and the peripheral portion of Kowloon have experienced growth which was considerably more dynamic in comparison.

1·2 As suggested in the previous subchapter, it was clear in the development context following the rupture of the contiguous urban frontier of older Hong Kong that urban expansion, the development of New Towns, and the public housing programme would largely become interchangeable processes. Whereas the previous subchapter reviewed the critical transition of the urban frontier through the shifting conception of urban geography, this subchapter seeks to explain and outline the programmatic and demographic processes that accompanied decentralisation to reveal the social-economic consequences of this large-scale urban exercise.

1·3 The 1972 *Ten-Year Housing Programme* required a large amount of developable land to execute. Developable land, however, was becoming increasingly expensive and difficult to obtain within the urban areas.[3·96] Although it is customary to explain decentralisation as the inevitable consequence of land shortages and the optimisation of land sales revenue, the reason is more complex. Population decentralisation was not simply a mode of urban expansion designed to facilitate the land system, but it was the only method of urbanisation possible in a developmental context of exaggerated housing prices.

1·4 With the main urban areas largely utilised, any housing in the urban area could only be produced either through land reclamation or land resumption. Land resumption (also called eminent domain or expropriation, respectively in the United States of America and Canada) is typically conducted as part of a wider urban redevelopment project; for these projects to proceed, the developer must first assemble the land ownerships from the individual home-owners in the affected blocks. With the city's derelict housing blocks largely located in the city's expensive central areas, this method of land formation is prohibitively costly—a situation compounded by the fragmented pattern of land holdings and the sporadic pattern of redevelopment already taking place.[3·97] Similarly, new lands produced by land reclamation adjacent to the urban area were often regarded as too high in land value to be expended on public housing projects, which do not contribute any land premiums to the government.

1·5 Logically, the government was incentivised to maximise the revenue obtained from the disposal of these costly and valuable new lands. For this reason, the endless expansion of the flexible urban frontier by the reclamation of Victoria Harbour rarely produced land that was allocated for affordable or subsidised housing,[3·98] such that the availability and affordability of housing in the main urban areas became detached from factors of land supply. This is one manifestation of the paradoxical phenomenon of land scarcity amidst continual territorial expansion particular to Hong Kong's land system.

[3·96] Yeh,"Public Housing and New Town Development," 85.

[3·97] Hong, "Myths and Realities of Public Land Leasing: Canberra and Hong Kong," 2.

[3·98] Ng and Cook, "Reclamation: an Urban Development Strategy Under Fire," 8.

[3·99] Yeh, "Public Housing and New Town Development," 91.

1·6 With the increase in land supply in the main urban areas having no effect on the production of mass affordable housing, there was no doubt that the ambitious housing target would be satisfied through the development of New Territories. In 1971, **81.1%** of the total population of Hong Kong lived in the main urban areas.[3·99] The challenge of implementing the housing programme was to achieve decentralisation at minimal cost and disruption, while attracting people to new settlements.

### 3222 *New Towns populated by public housing programme*

2·1 Since decentralisation would clearly amount to an undesirable inconvenience, New Town relocation could only be rendered attractive to households who would otherwise have no reasonable alternatives for affordable accommodation. In practice, this was achieved by targeting the neediest class through a process of voluntary migration within the public housing programme.[3·100]

[3·100] Ibid., 90.

2·2 With a large demand for public housing and a shortage of housing supply in main urban areas, the average waiting time for allocation of a public housing unit in main urban areas was **2 to 3 times** longer than for units in the remote New Town.[3·101] As such, the government was able to leverage the promise of shorter wait time to generate the initial New Towns population by simply continuing the practice of chronically under-supplying urban public housing units and prioritizing the developments of New Towns over the redevelopments of older urban areas: the constructed condition of an urban housing shortage would render New Town relocation a comparatively attractive option for needy households.

[3·101] Ibid., 93.

2·3 It was by this mechanism that the public housing-led New Town developments eventually absorbed half of the total population increase during the period of 1976 to 1981. The contribution of the public housing programme to New Town development is readily corroborated in statistics. At the peak of public housing production in each of the New Towns during their respective initial developmental stage, the proportion of public housing residents to the general population was at **71.2%** in Sha Tin, **86.4%** in Tuen Mun, **68.9%** in Tai Po, **90.1%** in Tseung Kwan O, **77.4%** in Tin Shui Wai and the list goes on [see d3·06].

2·4 New Town developments have become the primary planning tool for absorbing the intense population growth experienced by Hong Kong from the 1970s and onwards, to the extent that they have experienced a **445%** population growth in the four-decade period since 1970. This contrasts with the urban areas in Hong Kong Island and Kowloon, whose populations have largely stabilised. Today, New Towns constitute **46%** of the total population of Hong Kong, and the percentage of the population living in public housing in the main urban areas has declined consistently. Only **40.9%** of residents in main urban areas now live in public housing—a percentage lower than the total for Hong Kong (**48.7%**), and that of the New Towns (**62.8%**) [see d3·05].[3·102]

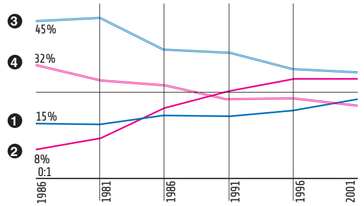
[3·102] Ibid., 92.

2·5 Clearly, the impressive exercise of population decentralisation in Hong Kong's New Town developments was contingent on the geographical redistribution of housing development types: New Town urbanism was defined predominately by pblic housing typologies. With housing development types closely aligned with income level, decentralisation amounted to the geographical redistribution of population by income —relegating a significant proportion of the city's low income families to the city's periphery, and causing the phenomenon of social and spatial differentiation by geography to visibly emerge.



*72 Yeh,"Public Housing and New Town Development," 94.

*Income based population relocation: regional percentage population living in public housing has been increasing in New Territories, whereas the reverse is true for the main urban areas.*




d3·05 Graph tracking the distribution of public and private housing in the New Territories and the main urban areas over time.
New Territories (1) Private housing; and (2) public housing.
Main urban areas (3) Private housing; and (4) public housing.

*The data here suggest a typical development sequence for New Towns development: (1) New Town developments begin; (2) New Towns are initially populated through building public housing developments; (3) There is a gradual urban development reprioritisation from public housing to private housing constructions.*

| | 1976 | 1981 | 1986 | 1991 | 1996 | 2001 |
|---|---|---|---|---|---|---|
| **New towns**[2] | 55.9 | 58.8 | 69.9 | 65.4 | 66.3 | 62.8 |
| First-generation | 65.3 | 67.1 | 73.4 | 65.6 | 65.1 | 61.2 |
| Tsuen Wan | 71.2 | 67.7 | 67.5 | 58.6 | 58.8 | 57.2 |
| Sha Tin | 23.0 | 60.1 | 74.4 | 69.2 | 68.1 | 62.7 |
| Tuen Mun | 27.4 | 71.4 | 86.4 | 74.4 | 71.8 | 65.7 |
| Second-generation | 10.7 | 12.1 | 54.2 | 59.7 | 62.9 | 55.6 |
| Tai Po | — | 16.5 | 64.2 | 64.2 | 68.9 | 59.8 |
| Yuen Long | 28.7 | 20.5 | 25.7 | 38.3 | 36.2 | 28.9 |
| Fanling | — | — | 65.2 | 73.0 | 72.5 | 65.5 |
| Third-generation | — | — | — | 89.7 | 83.9 | 79.9 |
| Tseung Kwan O | — | — | — | 89.7 | 90.1 | 82.0 |
| Tin Shui Wai | — | — | — | — | 74.7 | 77.4 |
| Tung Chung | — | — | — | — | — | 74.4 |
| **Other areas** | 37.0 | 34.5 | 36.5 | 35.8 | 38.0 | 37.3 |
| Main urban areas[3] | 41.4 | 37.9 | 41.7 | 38.7 | 41.4 | 40.9 |
| Other areas | — | 0.2 | 3.3 | 2.5 | 2.6 | 4.2 |
| **Hong Kong total** | 39.6 | 39.1 | 45.8 | 46.7 | 49.9 | 48.7 |

*71 Yeh,"Public Housing and New Town Development," 92.

d3·06 Table showing the percentage of population residing in public housing for each New Town over time.

### 3223 *Development cost socialisation by the public housing programme*

3·1 Even as New Towns continued to grow, people's reluctance to relocate mostly remained. This was reflected in surveys conducted with New Town residents: **80%** of New Town residents indicated that the easier access to public housing was the primary reason for relocating to the remote new town in spite of clear locational inconvenience and poorer job prospects.[3·103][3·104]

[3·103] Ibid., 94.

[3·104] Monkkonen, Wong and Begley, "Economic Restructuring, Urban Growth, and Short-Term Trading: The Spatial Dynamics of the Hong Kong Housing Market, 1992-2008," 404.

3·2 That this inconvenience was to be borne primarily by the public housing programme reaffirms the ongoing pattern in public policy to use the state-managed housing system as a tool to absorb the developmental pressures produced by the city's developmental model. The public housing programme continues to largely socialise the cost of urban expansion in order to prepare new land for future private development. Although no official public statement can confirm such policy, there is evidence in the execution of New Towns developments suggesting that the public housing programme has disproportionally carried the costs required to facilitate expedient urban expansion through the years—costs which have materialised in urban disadvantages incurred by the delayed provision of critical infrastructure and amenities.

### 3224 *Infrastructural deficit: urban isolation in the New Towns*

4·1 In practice, the problems observed were largely caused by developmental expediency. Since the public housing-led New Town had to be constructed urgently, the emphasis on housing production rendered the fulfilment of the annual production target the primary concern. Thus, the planning of New Towns had appeared to conform to the government's long-standing approach to housing policy, which was always

centred on the fulfilment of arbitrarily defined numeric targets that might not necessarily correspond to macro-economical indicators.[3·105] Additionally, the implementation of New Towns developments was further compounded by the lack of coordination in the government's bureaucracy as other departments accorded a low priority to the provision of facilities in the New Town.[3·106] Consequently, the provision of public amenities and both internal and external transport in the New Towns has consistently lagged behind population growth. This was the case in both Tuen Mun and Sha Tin New Town, where transport infrastructure was poorly developed in the early stages of their implementation. In the case of Tuen Mun, public housing residents moved into the New Town before the only highway to the Hong Kong's city centre was completed.[3·107]

4·2 Since both internal and external transportation infrastructure remained undeveloped, the objective of 'self-containment' in New Towns was not attained as New Town public housing residents could neither establish connections with their new environment nor commute to the main urban areas. This produced a new type of urban environment characterised by the paradoxical condition of isolation amidst density. It was perhaps the prevalence of this phenomenon in Hong Kong's New Town developments that 'self-containment' in later years would disappear from official literature as the main objective in town planning.[3·108] In any case, the urban condition greatly diminished the urban experience of its predominately public housing population.

4·3 The perception of isolation corresponded to the low urban efficiencies in the New Town areas as they failed to derive benefits from their high-density due to lack of urban integration and connections—a condition that is investigated in the following subchapter. As such, it is not surprising to see that private housing developments in the New Town areas often achieve only limited success,[3·109] and not until after a period of time has passed since the New Towns were initially populated by public housing programme.

4·4 The typical developmental sequence of New Towns follows a predictable process wherein development would be initiated by the public housing programme, rendering its public housing residents pioneers of the new urban frontier. Only once the New Town was rendered marketable by the gradual completion of amenities and infrastructure did large scale middle-income private housing developments follow. This is corroborated statistically by the percentage of New Town populations residing in public housing, which typically peaked in the beginning of New Town developments, and then declined consistently afterward such that the public housing population was readily displaced by private housing development once its original function to foster initial urban development was served [see d3·06].

### 3225 *Employment deficit: the economic isolation of New Towns*

5·1 The greatest cost of New Town developments to all relocating families, however, was the possibility that their socio-economic status would be adversely affected by relocation due to differences in employment availability. It was in the provision of employment that the New Town developments saw their primary shortcomings. Although the government has played an active role in the implementation and execution of the New Towns development, planning policy—following the minimalist framework described in an earlier subchapter—has remained reactive, rather than proactive. Particularly, the policy towards employment was considerably more laissez-faire such that New Town developments often only functioned as dormitory towns.[3·110]

[3·105] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 10.

[3·106] Yeh, "Public Housing and New Town Development," 96.

[3·107] Ibid., 98.

[3·108] E.C.M. Hui and M.C.M. Lam, "A Study of Commuting Patterns of New Town Residents in Hong Kong," *Habitat International* 29, No. 3 (2005): 436.

[3·109] S.R. Staley. *Planning Rules and Urban Economic Performance: The Case of Hong Kong* (Hong Kong: The Chinese University Press, 1992), 92.

[3·110] Yeh, "Public Housing and New Town Development," 96.



5·2 As the government relied primarily on a set of passive strategies such as the designation of land for commercial and industrial uses, there were no direct policies to encourage companies to relocate employment to New Towns. Even when industrial estates were made viable as in the case of Tai Po and Yuen Long, they frequently produced little effect to the local employment structure due to a mismatch in skills between the local labour force and the labour required.[3·111] Whereas the prototypical generation of New Towns, Kwun Tong and Tseun Wan, retained extensive employment opportunities as housing production was largely dictated by existing local industrialisation, the subsequent New Towns were ironically devoid of employment in spite of extensive planning.

5·3 In the absence of 'large-scale relocation of job opportunities from urban areas to new towns',[3·112] New Town population decentralisation occurred in the absence of a concomitant relocation of employment opportunities, many New Town households found themselves seeking employment in the main urban area, requiring an extensive commute. With the transport system undeveloped, this was often not easily achievable. As such, the condition of urban isolation reified into a condition of social deprivation, as the savings gained from affordable housing were lost to both inconvenience and unemployment [see f3·16].

### 3226 *Hong Kong's monocentric employment distribution*

6·1 Combined with sectoral transformation in the same time period , as the city faced deindustrialisation towards the 1980s, the conditions of social deprivation became a self-perpetuating social-economic disparity. Economic reforms in China had ushered in a period of increasing integration between Hong Kong and Mainland China, which resulted in the majority of manufacturing employment relocating to factories north of the border.[3·113] As such, the city's economy shifted to a largely supportive role as manufacturing as a proportion of the city's economy dropped from its peak of **42%** in 1941 to **10%** in 2001.[3·114]

6·2 It was clear that the next stage of Hong Kong's development would be led by the rise of the service and financial sector. But with retail and office activities remaining firmly centralised in main urban areas, the declining manufacturing industry had in effect intensified the consolidation of the city's centralised employment structure. The number of jobs in Hong Kong Island—in spite of its stagnant population growth—grew by more than the number of jobs in both Kowloon and the New Territories between 1991 and 2001.[3·115] To the residents of the New Towns, these geographical processes translated to increasing commute time for them as social and economic life was consolidated in the core urban areas.

6·3 As the inability for New Town developments to attract employment deteriorated into a reverse flow of employment into the main urban area, a pair of opposing trends emerged. Whereas the New Town programme brought a typically marginalised population into the New Territories, social advantages that corresponded both to urban accessibility and employment became more concentrated in the main urban areas, to the detriment of the New Town populations.

### 3227 *50:50—An income disparity induced by monocentric urbanism*

7·1 It was in this context that the city confirmed its monocentric development model led by the ongoing intensification of social-economic disparity between New Towns and the main urban areas. Consequently, a new realm of 50:50 emerged as the differential privilege of Hong Kong's housing composition

[3·111] Ibid., 98.

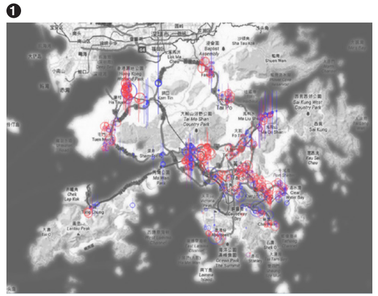
[3·112] Hui and Lam, "A Study of Commuting Patterns of New town residents in Hong Kong," 423.

[3·113] Poon, *Land and the Ruling Class in Hong Kong*, 64.

[3·114] Monkkonen, Wong, and Begley, "Economic Restructuring, Urban Growth, and Short-Term Trading: The Spatial Dynamics of the Hong Kong Housing Market, 1992–2008," 398.

[3·115] Ibid.

*The employment advantage that residents in the main urban areas have over residents living in Tseun Wan and the later generations of New Towns are readily visible. A large percentage of New Town population works out of district.*







***Key: (1)** Relative indication of percentage employed population commuting out of districts to work daily [length of line segment], Housing type, from public rental housing (PRH) [red], to subsidised built-for-sale housing [purple], to private sector housing [blue].*

*73 R. Forrest, A. La Grange, and N.M. Yip, "Hong Kong as a Global City? Social Distance and Spatial Differentiation," Urban Studies 41, no. 1 (2004), 219.

**f3·16** Map series documenting the distribution of various social, economical and urban problems across Hong Kong
(1) Percentage of employed population who are out-of-district commuters by Major Housing Estates; and (2) Concentration of elderly, lone parents, unemployment and poor housing in Hong Kong by Large Tertiary Planning Units (LTPU).



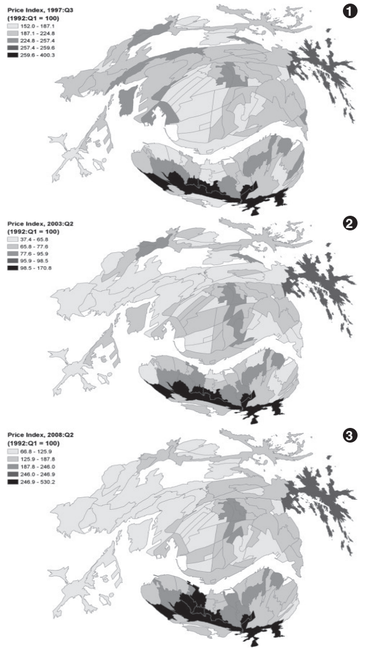
was compounded by a classification based on the geographical divide between urban and New Town areas—a classification that also divided the housing population into two equally populous classes. Both the public and private housing population were affected by the entrenched relationship between social disadvantages and urban distance integral to the monocentric urban development model.

[3·116] Ibid., 403.

7·2 To the private housing population, the negative effects of urban monocentricity are to be felt in the housing price of their purchased properties in the New Towns. The opposing geographical flows of population and wealth produce tangible social disadvantages, which are logically captured in the reduced appreciation potential of housing price.[3·116] A vicious cycle is produced whereby social disadvantages in the New Town constrain the appreciative potential of housing price in New Towns which further reinforces the monocentric flow of wealth and intensifies the social disparity between the urban and New Town areas.

7·3 The capacity for monocentric advantages to influence housing price has been verified by statistical models produced by Monkkonen, which demonstrates that the job accessibility of a particular neighbourhood, as measured in its distance to the urban core, is directly tied to its capacity to resist downward adjustment in housing price during periods of economic downturn.[3·117] In short, neighbourhoods tend to suffer greater loss in housing price when they are more removed from the city's centre. [see f3·17] With the appreciative potential of a property during housing market growth correlated to the initial price of a property, housing in the main urban areas is conferred double advantages since its capacity to resist market downturns allows the preservation of higher initial price which in turn allows housing appreciation at greater rates. As a consequence, the socio-economic disparity between the central urban and New Town areas is multiplied by increasing

[3·117] Ibid., 404.




*74 Monkkonen, Wong, and Begley, "Economic Restructuring, Urban Growth, and Short-Term Trading: The Spatial Dynamics of the Hong Kong Housing Market, 1992-2008," 401-402.

*The neighbourhood price index map series is evidence of a urban geographically based income order that has the capacity to preserve itself over time. Whereas housing prices have largely rebounded in the main urban areas and the early generation of New Towns, the second and third generations of New Towns ranging from Tuen Mun to Yuen long to Tin Shui Wei have remained trapped in lower housing prices. Monkkonen's research has partially attributed the price stagnancy seen in these areas to their urban disadvantages.*

**f3·17** Neighbourhood price indexes by Tertiary Planning Unit boundaries in various time periods.
Time: (1) 1997 Housing prices peak; (2) 2003 Housing prices at their nadir; and (3) 2010 Housing price peak.

housing price disparity.

3228 *Public housing as concentrator of social deprivations*

8-1 Although private housing in New Town areas suffers from lost potential in housing price appreciation, the greatest impact of socio-economic disparity is felt by the public housing population. In fact, the private housing population in New Towns are often in an advantageous position relative to their public sector counterparts as they are frequently placed near the New Town centres,[3-118][3-119] such that they have superior access to major modes of transport and urban amenities. This contrasts with public housing residents who are typically in greater isolation both from the city's downtown and New Town centres.

8-2 It is not difficult to see how public housing developments in New Towns have concentrated socio-economic deprivation as housing price processes and public housing administration interact to geographically consolidate the marginalised class. The high concentration of high-density public housing in New Town developments have become synonymous with a host of social issues including domestic violence, mental illness and suicides, as the relationship of socio-economic ills and social disadvantages induced by urban distance gain widespread publicity. Recently, a number of high-profile incidents and personal tragedies in Tin Shui Wai have earned it the label of 'City of Misery.'[3-120] Analyses conducted in this thesis has also appeared to corroborate with the characterisation of public housing-led New Towns developments as areas of concentrated socio-economical deprivations [see f3-19].

8-3 More than half a century after its initial implementation, the public housing programme has dramatically altered the landscape of Hong Kong through New Towns developments. Not only have the combined public housing and New Towns programmes led to an extensive proliferation of expedient public housing density in previously uninhabited territories, but their development has produced a substantial recalibration of the geographical distribution of the city's population such that Hong Kong's differential socio-economic characteristics are visually spatialised across its geography.

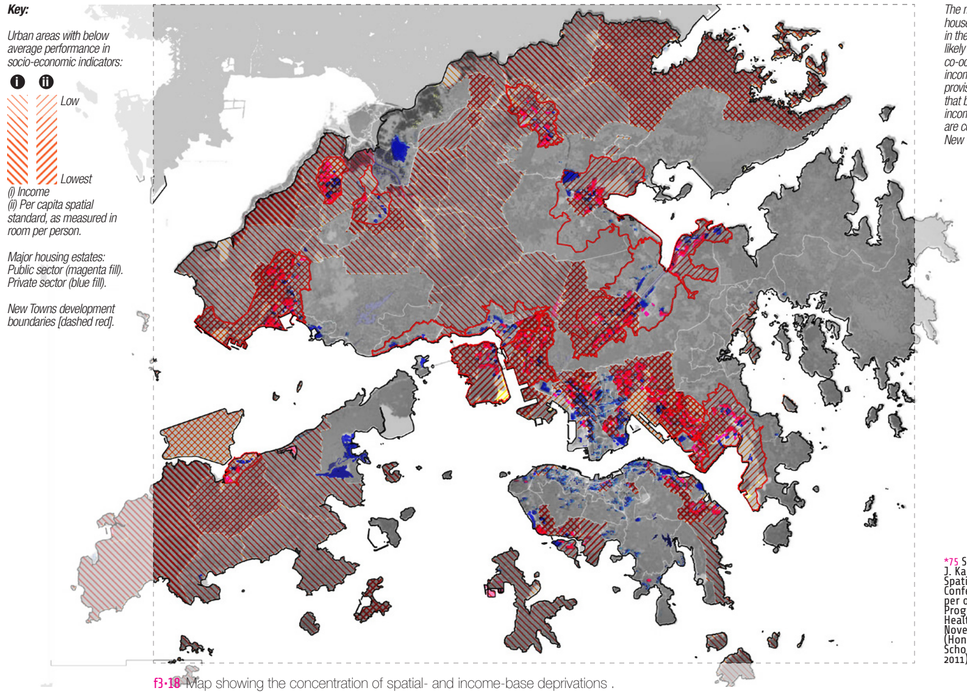
8-4 It is noteworthy that this redistribution is produced by the process of the ongoing intensification of the socio-economic disparity between the main urban and New Town areas as socio-economic advantages are geographically consolidated within the main urban areas whereas social deprivations are decentralised into the city's peripheries in the New Towns. A vicious cycle is produced whereby the intensification of the relationship between the centrality of residences and housing price leads to the intensification of geographical social disparity [see f3-18].

[3-118] Wigglesworth, "The Development of New Town," 42-65.

[3-119] Drakakis-Smith, *High Society: Housing Provision in Metropolitan Hong Kong, 1954 to 1979, a Jubilee Critique*, 34.

[3-120] "Tin Shui Wei vs 'Bei Shang Cheng Shi,'" Wen Wei Po, July 18, 2006.

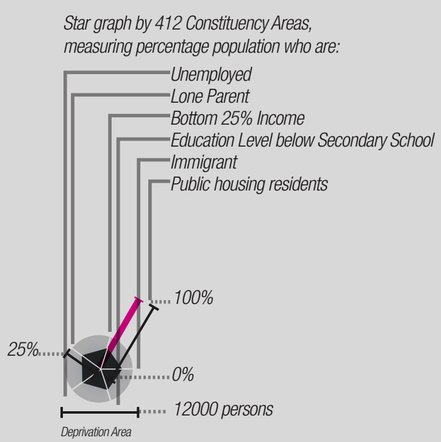





*The map shows that households residing in the New Towns are likely to experience a co-occurrence of low income and low spatial provision. Thus, it appears that both spatial- and income-based deprivations are concentrated in the New Towns.*

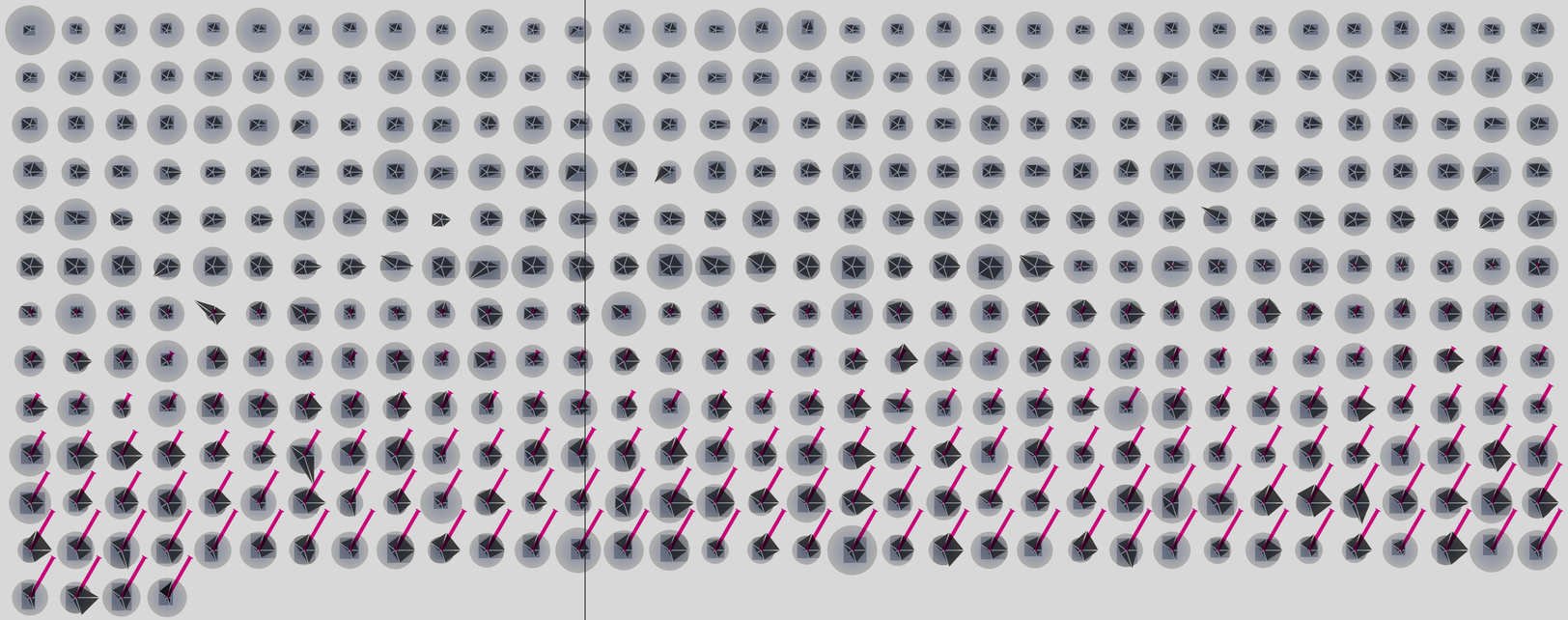
f3-18 Map showing the concentration of spatial- and income-base deprivations .

*75 Spatial data source: J. Kandt, "Hong Kong's Spatial DNA," in the Conference Newspaper of the Urban Age Programme: Cities, Health and Well-being, November 16-17, 2011 (Hong Kong: London School of Economist, 2011), 37.




**f3·19** Star graph series charting socio-economic data from 412 Constituency Areas (CA) to examine the simultaneous occurrences of multiple deprivations.





*Examining statistics from 412 Constituency Areas taken from the 2011 Census, this star chart series seeks to demonstrate the degree in which the public housing programme has concentrated social-economic deprivations. Various indicators of socio-economic problems in each Constituency Area are visualised together with along with the overall percentage of the population living in public housing. The study shows that some of Hong Kong's most socially-deprived and under-represented areas are in areas with greatest percentage of public housing.*




p3·08 Photograph showing the older urbanism of Mong Kok characterised by continuous street wall.



# 3.2.3

## The morphology of ubiquitous urban density: *an internalized city emerges with the transition from distributed to discontinuous urbanism*

### 3231 *Early post-war urbanism: laissez-faire planning*

1·1 A discussion on modern post-war housing architecture, urbanism and economic development would be impossible without discussing the New Territories. The geographical shift in the movement of the urban frontier from contiguous growth to dislocated growth was met with a concomitant transformation in urban design methodologies—a shift that produced a new type of urbanism differing in form and in scale from older precedents.

1·2 As the shift in urban frontier corresponded to the emergence of New Town developments, the transformation of urban form was in part caused by the government's shifting scope in urban planning. Early post-war urban expansion mostly resulted from the aggregated decisions of individual factory owners, developers and households who had incrementally taken advantage of the opportunities offered in areas at the urban frontier like Tai Kok Tsui, Shum Shui Po and Cheung Sha Wan.[3·121] The government's involvement in urban expansion was considerably more minimalist—confined to the provision of infrastructure and developable land by the building of roads and by land reclamation.

[3·121] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 55.

1·3 Since the government had no explicit objectives in the planning or building of new areas, there was a certain utilitarianism in the infrastructure provided as it was expected to serve a multitude of functions. This was evident in the grid plan layout of the streets of the new areas.[3·122] Driven largely by the intrinsic economic processes occurring at the urban frontier, the emerging growth resembled a seamless extension of the older fabric in both scale and form.

[3·122] Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, 186.

1·4 The monotony of the street layout did not preclude the development of an intensely diverse urbanism. Tai Kok Tsui is representative of the private sector-led urbanism common in the early post-war era where formerly isolated, undesirable and industrially residual lands at the urban frontier were gradually absorbed into the urban area in the absence of governmental interference. Its status as a 'bad land' that was mostly used for industrial waste had made the area cheaper, enabling its use at minimal costs.[3·123] Buildings were typically mixed-use with industrial or commercial use on the ground floor and a mixture of residential and non-residential uses on the upper floors.

[3·123] Ibid., 119.

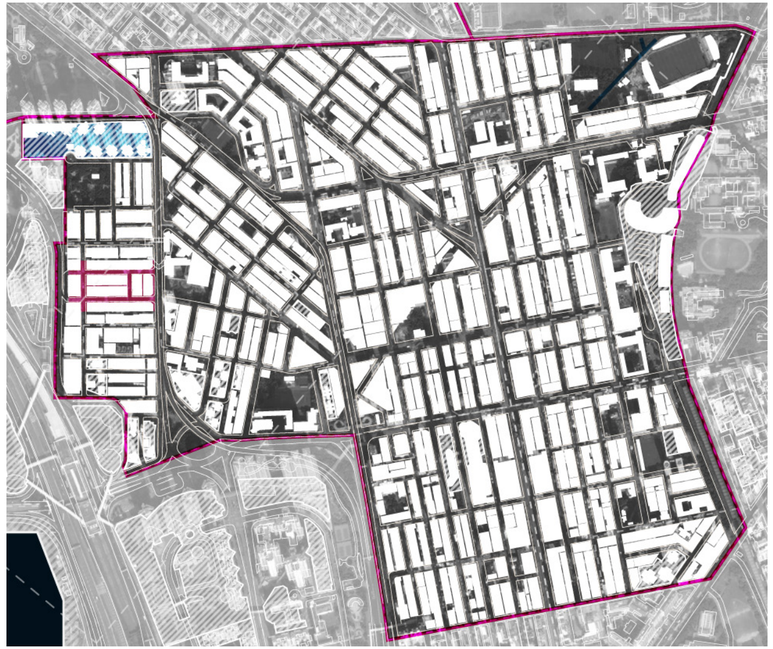
1·5 Compared to developments today, the scale of buildings then was modest as developable sites were rigidly constricted by the existing grid layout. The buildings that emerged were simply the result of the maximisation of developable floor area allowed by the extant 1956 *Building Ordinance* that had then tolerated full site coverage.[3·124] As such, the building fabric produced a continuous wall frontage that rendered the street a tangible spatial volume awaiting appropriation by spill-over activities from adjacent buildings. These factors combined to produce an urbanism comprised of similarly scaled buildings. Density and functions were evenly distributed across the entire urban area [see p3·07].

[3·124] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 44.

### 3232 *Prototypical-generation New Towns: land-use separation as a mechanism to institute urban order*

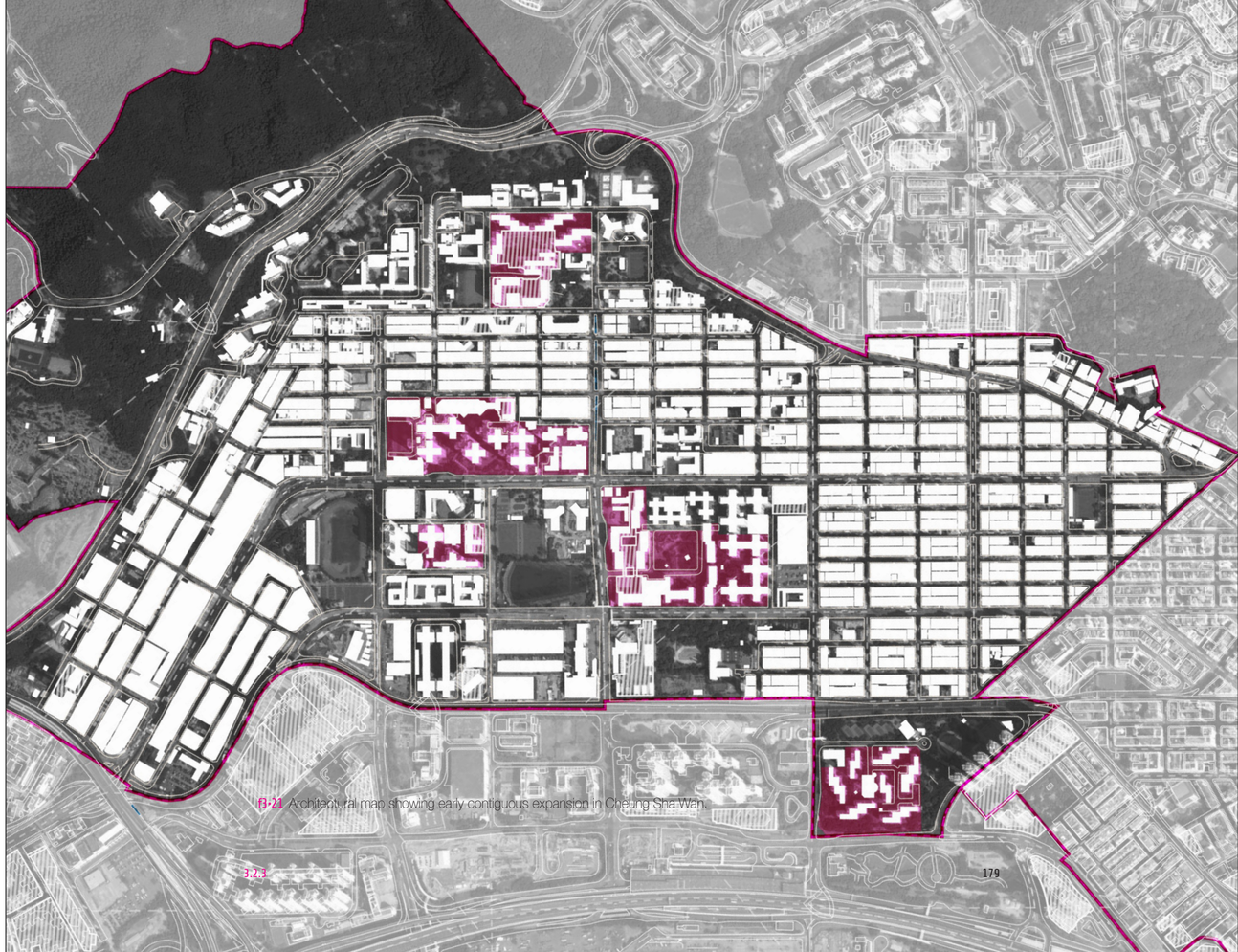
***Key:***

*Podium structure*
*Subsidised housing*
*Non-subsidised housing*



f3•20 Architectural map showing early contiguous expansion in Tai Kok Tsui and Mong Kok.





f3•21 Architectural map showing early contiguous expansion in Cheung Sha Wan.

2·1 While the minimalist planning framework in early post-war Hong Kong, which covers a time period leading to the late 1950s, facilitated the production of distributed intensity, the initiation of New Town developments, beginning with Kwun Tong [see f3·23], and Tsuen Wan by 1959 [see f3·24], fostered a new approach to urbanism that perpetually sought to impose the separation of uses. This constituted a departure from the earlier post-war private sector-led urban development, where the former was developmentally intense, programmatically-mixed and laissez-faire, and the latter was based on a more restrictive and extensive application of zoning.[3·125] In rigorously delineating land-use, the government was paving the way for the comprehensive planning practices that would come to define contemporary planning in Hong Kong. However, these initial planning policy implementations were limited by various factors including the need to construct the prototypical new towns of Kwun Tong and Tsuen Wan quickly and inexpensively.

2·2 Comprehensive planning was furthermore restricted by the land reclamation process. Typically, the openings of prototypical New Towns were led by progressive reclamation of the harbour using fill material excavated from adjacent hillsides. It was an optimised process: each execution created two developable parcels of land—one reclaimed from the waters and one on the flat platform excavated from the slopes.[3·126] In practice, the need to obtain the maximum 'fill' material from the hillside often dictated the location of the formed platforms—locations that complicated the configurations of the New Towns such that the planners were often 'severely limited in their endeavours to combine existing and proposed developments into a viable community.'[3·127] As land production and utilisation were maximised by sacrifices made in planning, the New Town development process reiterated an ongoing pattern in Hong Kong's policy development that substituted social objectives for expedient developmental aims.

2·3 Similarly utilitarian was the production of the road infrastructure that occurred in tandem with land formation. The process typically began with the extension of a trunk road originating from the main urban area that corresponded in location to the original shoreline. These arterial roads included Kwun Tong Road in Kwun Tong and Castle Peak road in Tseun Wan. They framed within themselves a gridded street pattern characteristic of older urban areas, and they served a clear programmatic function that determined the location of New Town centres for mixed residential and commercial uses. Industrial activities would be placed along the main road or on the seaward side of the designated civic centre of the New Town to provide harbour access to the industries, whereas residential areas were distributed in the residual spaces and the periphery of the New Towns [see p3·08][see f3·22].[3·128]

2·4 By introducing rigidity to the ordering of spaces, the new policy noticeably contradicted the organically diffused mix-use urbanism characteristic of earlier development. The zoning concept came 'into conflict… with the habits of the people'—a people that historically preferred to appropriate urban spaces with great autonomy and fluidity.[3·129] As such, the implementation of the separation of uses was limited by the difficulty in its enforcement.

2·5 As explained throughout this thesis, however, urban informality was a condition that would perpetually be reduced in the evolution of the city's urban and housing morphologies. The government had a natural incentive to support the new planning strategies contingent on programmatic separation because they had the potential to facilitate its programme of land administration and to enforce order in the built environment.

[3·125] Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, 62.

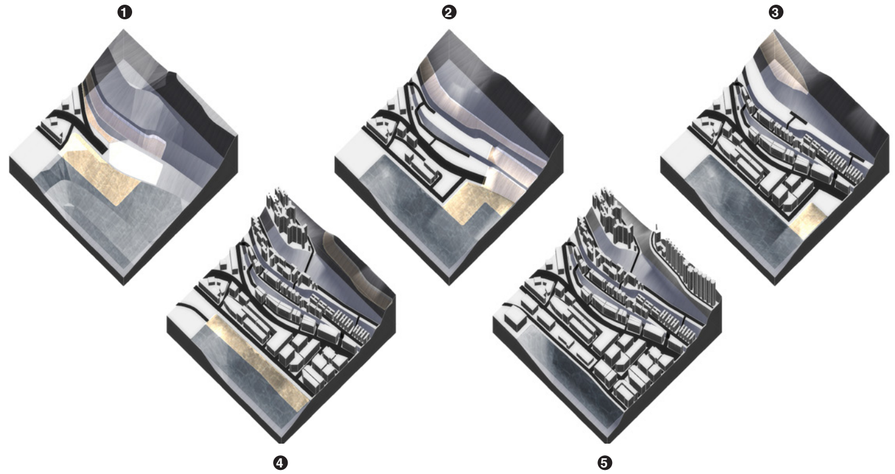
[3·126] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 92.

[3·127] New Territories Development Department, *Hong Kong's New Towns : Tsuen Wan*, 19.

[3·128] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 92.

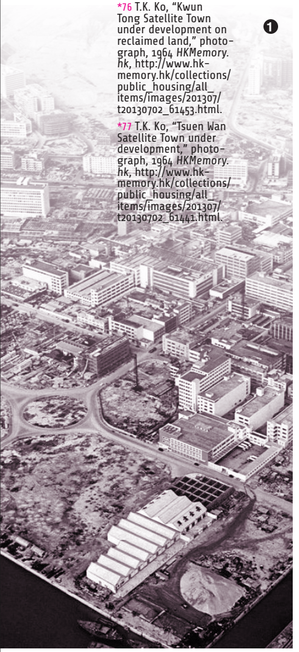
[3·129] Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, 186.






***Prototypical New Towns expansion pattern:***
*(1) Trunk road extends from main urban area along existing shore line, with reclamation projects projecting the shore outward to create industrial-use land.*
*(2) Initial industrial developments follow, and new areas are selected for excavation, which produces fill materials for use in reclamation and creates flat hill platforms that can be developed. Selection seeks to optimise the fill material that can be obtained.*
*(3) Private mixed-residential and commercial centre develops near industrial areas along initial trunk road with public housing in the periphery.*
*(4) More excavations to create additional developable hill platforms are new land to be reclaimed.*
*(5) A urban order is consolidated: Luxurious private housing are placed near the top, meandering strings of public housing along the town's periphery, middle-income private housing near centre; more land is reclaimed from sea.*

**f3·22** Diagram series showing the typical expansion sequence in the early prototypical New Towns.



*76 T.K. Ko, "Kwun Tong Satellite Town under development on reclaimed land," photograph, 1964 *HKMemory.hk*, http://www.hk-memory.hk/collections/public_housing/all_items/images/20130702_61453.html.

*77 T.K. Ko, "Tsuen Wan Satellite Town under development," photograph, 1964 *HKMemory.hk*, http://www.hk-memory.hk/collections/public_housing/all_items/images/20130702_61461.html.



p3·09 Photograph series showing reclamation in progress as the prototypical New Towns expanded.

2·6 The separation of land use improves the organisation of land administration by allowing better coordination between land production and disposal.[3·130] Enacted spatially, it can facilitate the organisation of housing developments to maximise the land price achievable within developments. This is evident in the early New Towns of Kwun Tong and Tseun Wan: whereas public housing and resettlement estates were placed in the New Town's periphery, the more central areas in both Kwun Tong and Tsuen Wan, or areas closer to the city's core were typically reserved for high-value property developments.[3·131] Since only private developments pay land premiums to the government, their placement in the most valuable areas of the New Towns maximised land sales revenue.

2·7 With the land-use appropriation of New Towns determined by price considerations, a process, which related the distance of a development from the urban centre to its land uses and income, became entrenched at all scales of the city. Combined with the enlargement of zoning clusters, the inequalities in programmes, densities and prices between various zones were rendered spatially visible in the urban experience.

2·8 The emerging emphasis on spatial separation was also captured in public housing developments in the 1960s. Their peripheralisation into newly-urbanised lands rendered their typological differences from vernacular private housing forms readily visible. The period saw the gradual suburbanisation of high-density forms with housing blocks that were characterised by the increasing elimination of traffic from residential developments by the creation of transportation interchanges that expanded the vehicular distance between adjacent developments. Combined with the enhanced provision of open spaces, public housing blocks were increasingly stand-alone architectural ensembles, which initiated a breakdown of the homogeneous and continuous built fabric typical of older private developments.

[3·130] Wigglesworth, "The Development of New Town," 56.

[3·131] Ibid., 58.







f3·23 Architectural map showing the urbanism in the prototypical New Town of Kwun Tong.



F3·24 Prototypical New Town: Tsuen Wan

F3·25 Architectural map showing the urbanism in the prototypical New Town of Tsuen Wan.

3.2.3

2·9 It is evident that the transitional period of prototypical New Town urbanism characteristic of the 1960s saw the emergence of divergent practices in planning. However, the resultant urban forms still shared many similarities with earlier private sector-led developments. A quality of urban continuity was maintained: the prototypical new towns of Kwun Tong and Tseun Wan were largely contiguous with the older urban areas and the built fabric that emerged was partially contributed by developments that retained the existing built typologies from the older areas.[3·132] [see p3·09]

[3·132] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 98.

3233 *First-generation New Towns: traffic separation and the dissolution of urban continuity*

3·1 These vestiges of urban continuity would dissolve with the opening of the first generation of New Towns in the New Territories beyond the geographical frontier of the Kowloon foothills. Geographically, the New Town developments of Tuen Mun [see f3·27], and Sha Tin [see f3·26] were on land reclaimed from the head of the shallow waters of Castle Peak Bay and an inlet corresponding to today's Shing Mun River.

3·2 As the New Towns beyond the Kowloon frontier were constructed largely in isolation from the existing urban frontier,[3·133] they were largely liberated from pre-existing urban constraints. The intentions of the emerging 'modern' town planning principles of the 1970s are readily apparent as planning was conducted in tabula rasa. In this context, the separation of land uses was extended to the circulation system with the purpose of separating major vehicular traffic from both buildings and pedestrians.

[3·133] Ibid.

3·3 Although the separation of land uses introduced order within the wider zoning areas, organisation was lacking in the movement between programmes. In the city's early post-war urban developments, all pedestrian and vehicular traffic coexisted in an infrastructural network with few functional distinctions, causing travel inefficiency, unwanted traffic exposure to buildings, and even hazards to pedestrians. The hierarchy of separated pathways established by the new zoning concepts and the circulation armature enforced order both in space and travel such that the new urbanism achieved efficiency by limiting the possibilities of urban path-making.

3·4 The application of the circulation system began similarly with a trunk road from the main urban area that entered the edge of the New Town closest to the older city. The arterial road was linked to a district distribution system at several discrete points. This district tributary road, which delineated the core of the New Town and acted as a separator of major zoning groups, was then linked to a system of local roads serving low traffic needs.[3·134] The circulation system divided the New Town into a number of large programme sectors and the New Town centre was located at the intersection of these [see p3·11].

[3·134] Wigglesworth, "The Development of New Town," 56.

3·5 In the absence of a pre-existing urban road configuration, there was a noticeable shift in the scale of the street pattern as the old tight-knit grid layout was abandoned in favour of a system built on the enlarged scale of major housing developments.

3·6 Implicit in the schematic trajectory of the circulation system is the assumption that major roads should allow unencumbered traffic flow whereas pedestrian travel should occur primarily within an extensive system of enclosed circulation.[3·135] This reflects an ongoing tendency in planning to relegate the function of the streets to mere conduits for vehicles by their hierarchisation and by urban internalisation [see p3·10]. It is a planning trajectory in which the experiential relevance of the street continually diminished as its hostility to

[3·135] Ibid., 62.



p3·10 Photograph showing Tsuen Wan's urbanism as characterized by mixed typologies.




the pedestrian experience intensified in response to the increase in scale, the reduction of its exposure to building programmes, and the increase in its traffic capacity.

3·7 Architecturally, the process of urban internalisation was facilitated by the growing popularity of the podium—a typology that typically manifested as a massive base structure serving non-residential functions on which housing blocks sit atop, and multiple ground levels that efficiently maximised the developable areas allowed by the building regulations. [3·136] As explained in the following chapter, ground plane multiplication pre-emptively addressed the potential problems of congestion at the estate scale by providing additional ground area which was used as a common platform for social amenities—an important feature that became appropriate in an era when Major Housing Estates were increasingly conceived as comprehensive communities. It was in this context that the podium form was increasingly implemented in the earlier generations of New Towns and in Sha Tin and Tuen Mun [see p3·10].

[3·136] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 82.

### 3234 *Second-generation New Towns: modernisation of traditional market town and accidental typological diversity*

4·1 Towards the 1980s, dislocated urban expansion was produced in the city's northern region as New Towns were constructed in the areas of the traditional market towns of Tai Po [see f3·32], Fanling [see f3·31], and Yuen Long [see f3·30]. Their implementation as New Towns and the subsequent production of large-scale public Major Housing Estates in these New Towns continued the process of the hierarchisation of town layout and the enlargement of the street pattern.

4·2 There were also some emerging trajectories within the development of housing typologies. Particularly evident









p3·11 Photograph series showing various forms of elevated ground plane.
Early elevated pedestrian infrastructure with integrated commercial spaces and amenities in (1) Tai Po and (2) Sha Tin; and (3) Exclusive, separate, and completely internalised elevated domain in private housing developments today.

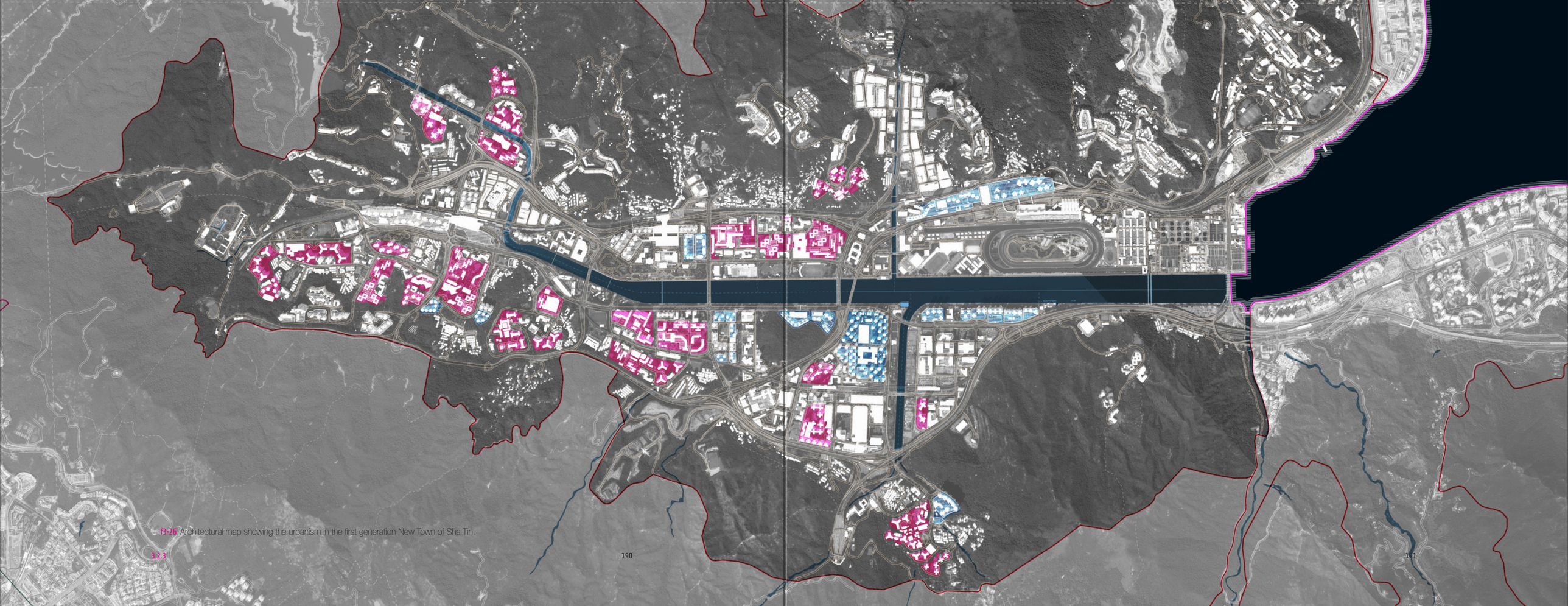
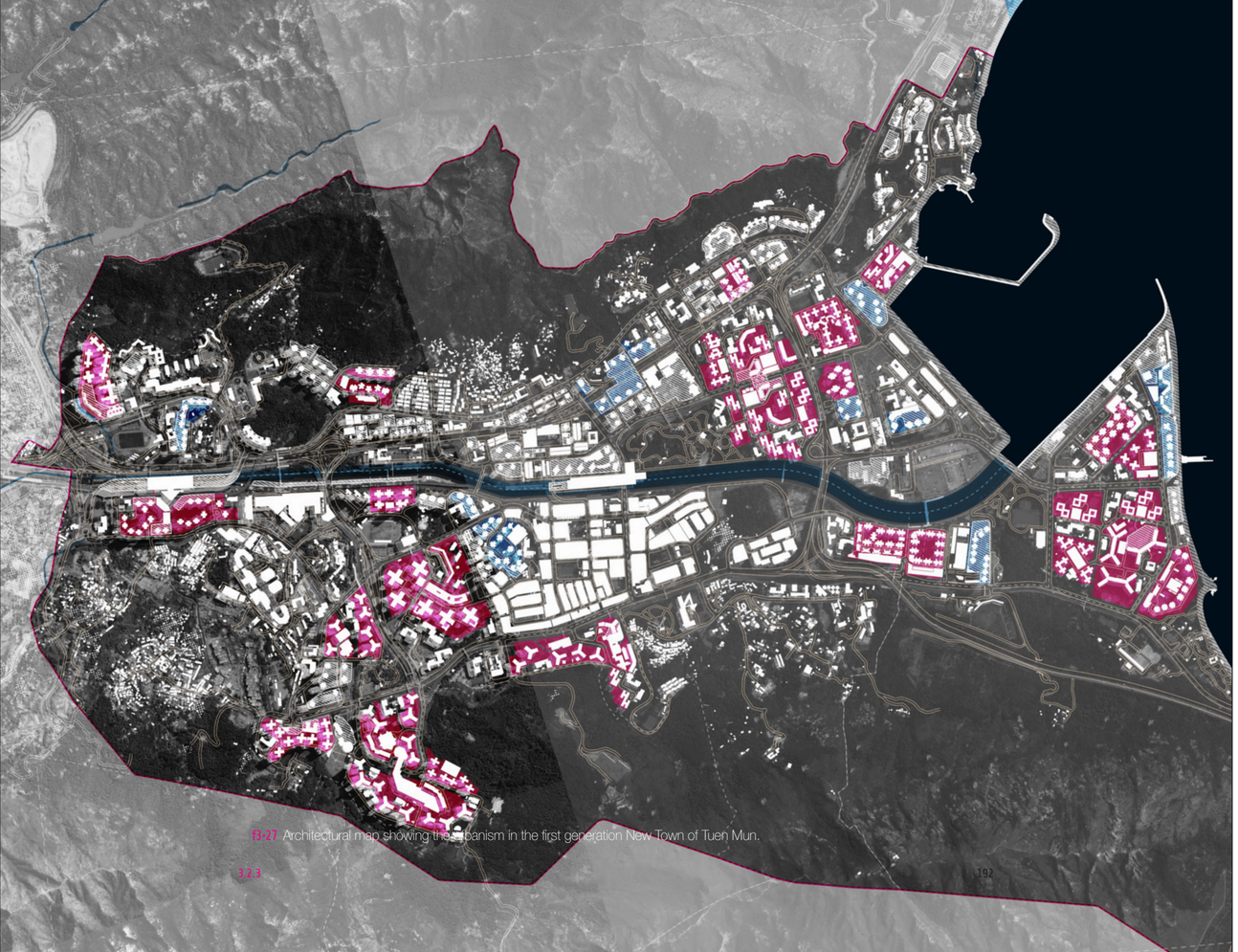


Fig.26 Architectural map showing the urbanism in the first generation New Town of Sha Tin.



p3•11 Architectural map showing the urbanism in the first generation New Town of Tuen Mun.





p3•12 Photograph looking through the Tuen Mun River near the New Town centre.

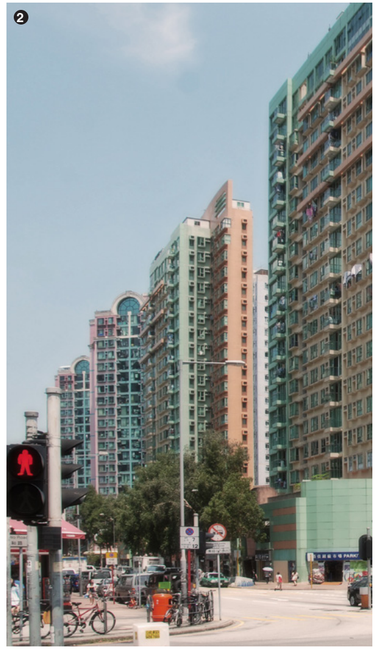


in the public housing programme, the period saw the experimentation of increasingly compact high-rise typologies such as the Trident, Old cruciform and H-Block. Recently introduced, subsidised private housing options such as the Home Ownership Scheme and Private Sector Participation Scheme also produced typologies unique to their administrative constraints. These provoked the development of more efficient housing typologies such that any new typological diversity was merely a consequence of efficiency optimisation. Similar developments were observed in newer estates constructed in the earlier New Towns. The combination of newer high-rise and older slab-based typologies produced diversity within public housing developments and resulted in a more varied constructed landscape.

4·3 The phenomenon of urban housing diversity, however, was short-lived [see f3·28]·1. The 1980s saw the widespread popularisation of increasingly slender and disconnected high-rise blocks within the public housing programme—a trend that was dissolving the spatial volume of the street. The gradual reduction of slab and linear typologies in the public housing-led urban frontier continued a practice that had already been commonplace in private development since the implementation of the 1962 *Building (Planning) Regulations* after 1966—a regulation that restricted the maximum allowable site coverage for housing development,[3·137] and in the process encouraged the development of housing topologies that rendered the street wall fragmented and discontinuous [see p3·13]. The disappearance of the street wall is also plainly visible in an examination of late New Towns development [see p3·15]. The diversity of typologies that previously existed within public housing was now entirely replaced by the optimised configuration of cruciform-shaped point tower typologies [see f3·28]·2.

[3·137] Building (Planning) Regulations No. 97 of 1962 Cap 123 §21



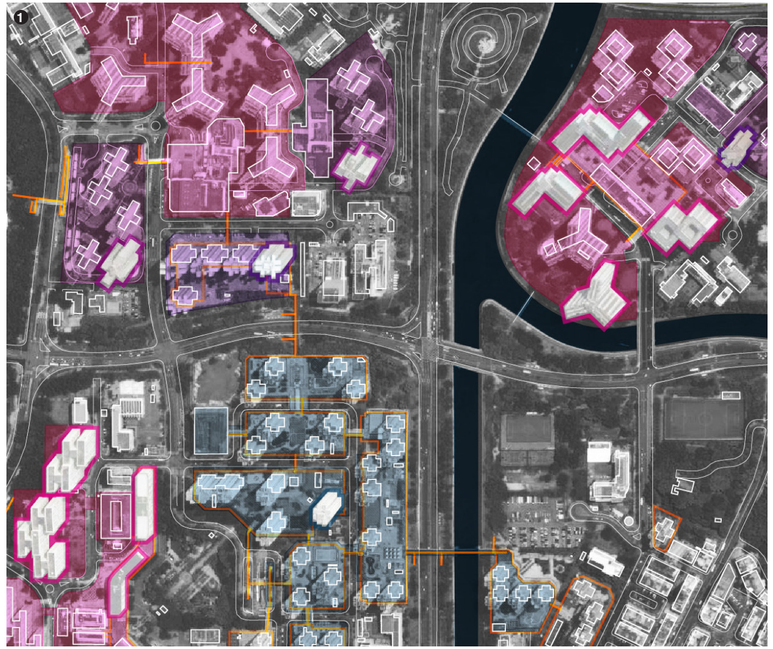




p3·13 Photograph series documenting three primary types of urbanism in the second-generation New Town of Tai Po.
(1) Area near the Tai Po Old Market; (2) Private developments along the New Town's periphery; and (3) Typical public housing areas.

***Key:***

*Major housing estates [colour fill]:*
*Public rental housing (PRH) [red]*
*[Purple] Subsidised built-for-sale housing [Blue]*
*Private housing*
*[Orange] Elevated passages and podium structure*
*[Highlighted white blocks] Unique housing block type*





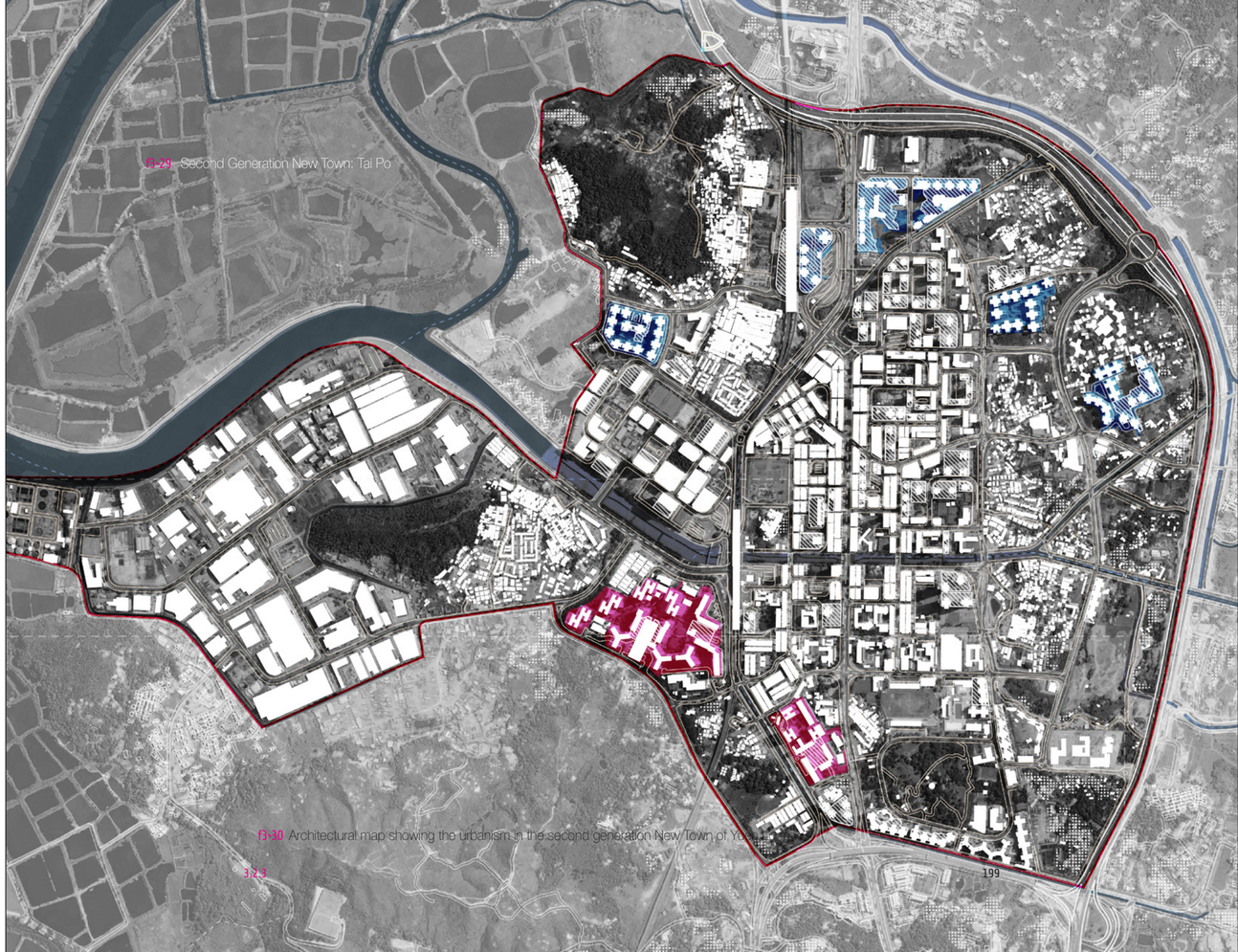


**f3·28** Annotated plan series documenting the urban morphology across different generations of New Towns.
Typological (1) diversity in the second-generation New Town of Tai Po, and (2) monotony in the third-generation New Town of Tin Shui Wei.



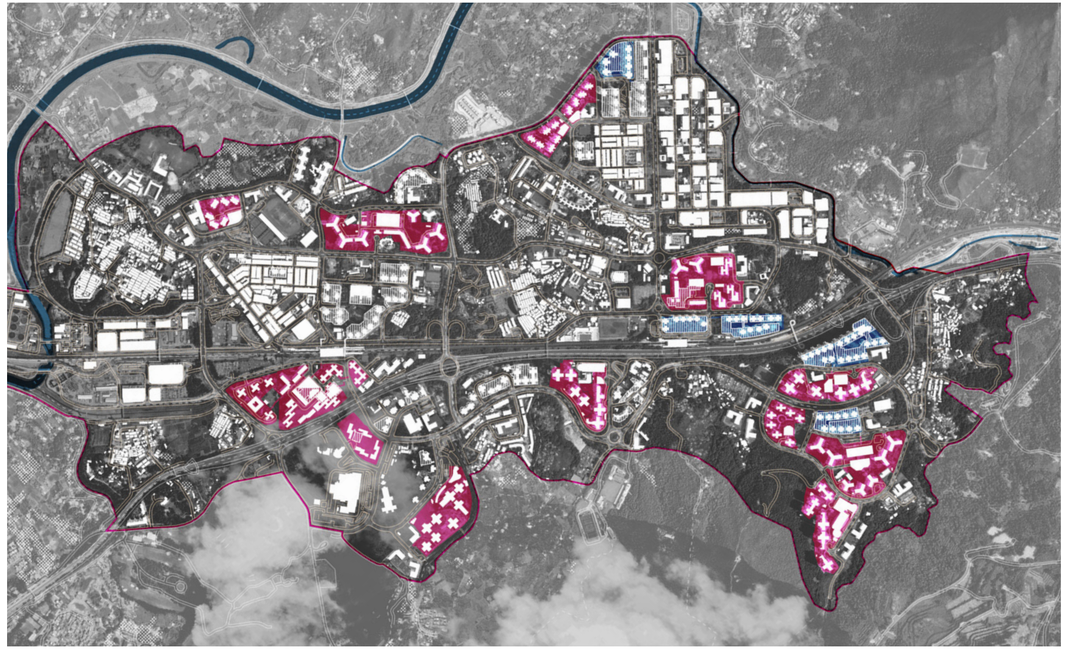
p3•14 Photograph of a public housing development in Tai Po illustrating the disappearing street wall.





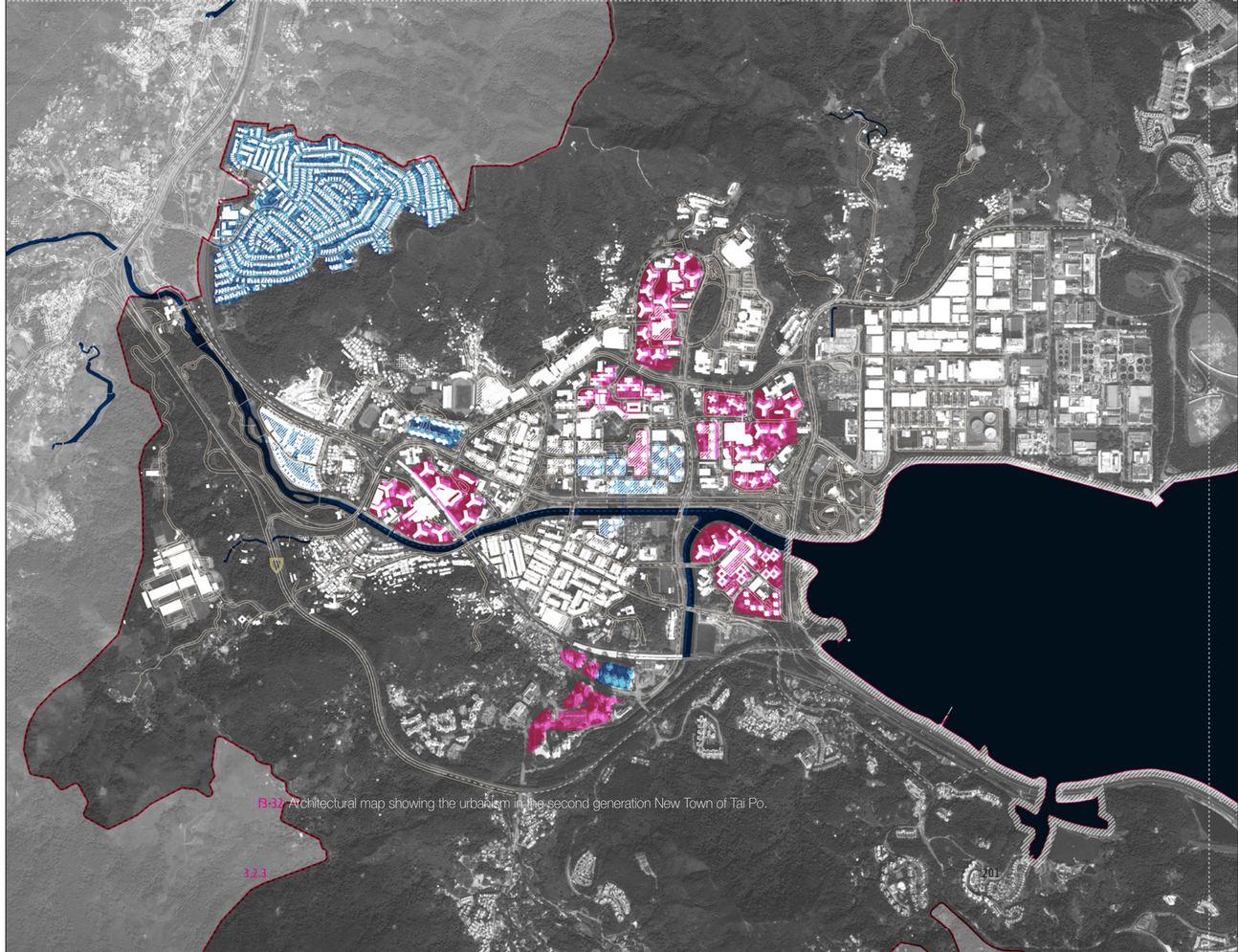
f3•13 Second Generation New Town: Tai Po

f3•10 Architectural map showing the urbanism in the second generation New Town of Yuen Long



f3·31 Architectural map showing the urbanism in the second generation New Town of Fanling.





f3·32 Architectural map showing the urbanism in the second generation New Town of Tai Po.

3235 *Third-generation New Towns: Dormitory urbanism by Major Housing Estate clusters*

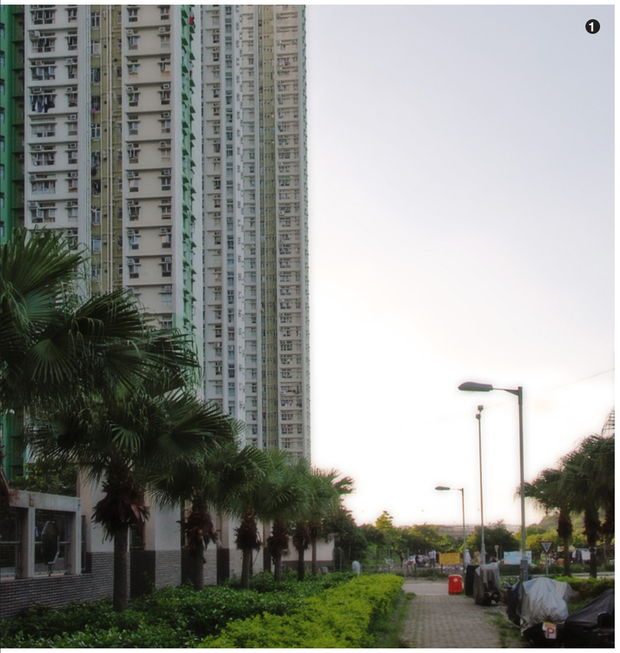
5·1 As the expansion of mass rapid transportation permitted the monocentric flow of employment to the main urban areas, New Towns today have become largely singular in function: providing housing and limited retail programmes. The third, and latest generation of New Towns are in Tin Shui Wai [see f3·35], Tseung Kwan O [see f3·34], and Tung Chung [see f3·37]. They are mostly comprised of large-scale Major Housing Estates [see p3·15]. This land use condition combined with the stability of the estate configuration to produce an incredibly homogenised urban fabric that manifests consistently in all recently developed areas in Hong Kong.

5·2 While both earlier New Town developments and early post-war developments featured a variety of land-uses that visibly diversified the street infrastructure and the urban experiences that the streets supported, the recent generation of New Towns has reached a homogeneous street pattern based on the dimensions of the moderate capacity Major Housing Estate. This street pattern serves as a high-traffic network that diffuses into a secondary layer of roads that are generally broken and unconnected. It is a fundamentally inward-looking layout that derives its organisational efficiency from the separation of its constituent elements [see p3·15]. The layout framed homogeneous, high-density and developmentally-efficient Major Housing Estates—estates with little incentives to establish connections with each other by virtue of their enforced separations, self-sufficiency and internalisation [see f3·25].

3236 *Spectralisation and hyper-densification of the Garden City*

6·1 In building New Town urbanism with Major Housing

f3·33 Composite mapping illustrating the difference in urban scales between older and newer urban developments by superimposition of their respective traffic infrastructure.

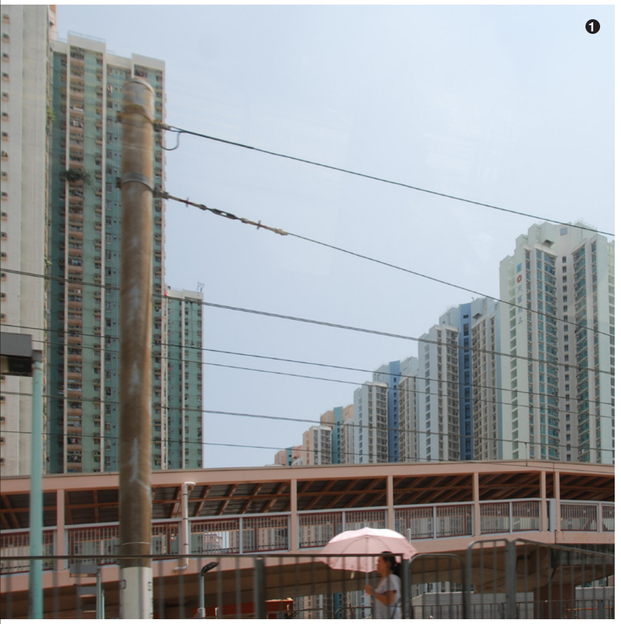








p3•15 Photograph series showing examples of urban fabric commonly surrounding the urban edge of later New Towns.
(1) Abrupt edge to unconstructed space in Tung Chung; and (2) Residual infrastructural space.




p3·16 Photograph series showing notable aspects of the third-generation New Towns urbanism in Tin Shui Wei. (1) Homogeneous housing typologies based on the cruciform-shaped blocks; and (2) Urbanism composed of disconnected and clustered major housing estates.

Estates that largely function autonomously as internalised miniature-cities detached from their adjacent urban fabric, Hong Kong has created a typology of 'vertical cul-de-sac.' The podium form, which is the default typology for Major Housing Estates, has become a condensed version of Ebenezer Howard's *Garden City*. Many similarities are found in the schematic organisation of both types: both feature a centre providing commercial and public amenities, a 'green-belt' that fills the interstitial spaces between the housing blocks and the centre, and a system of highly-articulated single-strand circulations that connect these various programmes together.[3·138] [see f3·36]·1 Whereas these programmes are low-density and distributed horizontally in the original model of *Garden City*, Hong Kong's interpretation has distributed these elements vertically such that the podium assumes the role of the centre, the podium's roof-top the green-belt, and the centralised vertical circulation systems connecting the blocks, the podium and the site have filled the role of the singular strand-like connections.[3·139] [see f3·36]·2

6·2 There is also one significant implication in Hong Kong's interpretation: whereas the components in the original *Garden City* are directly in contact with the ground, Hong Kong's podiums are then placed on top of the urban fabric in a similar configuration to each of the individual programme elements in the original *Garden City*. As such, Hong Kong has created a layered *Garden City* that has effectively multiplied the degree of separation provided in the original model. Thus, the latest urban forms drastically contrast with the early post-war urbanism that was based on the constant and unpredictable interaction of elements attached to the common infrastructure —elements which are conceived as programmatically dependent on their wider urban area [see f3·36]·3.

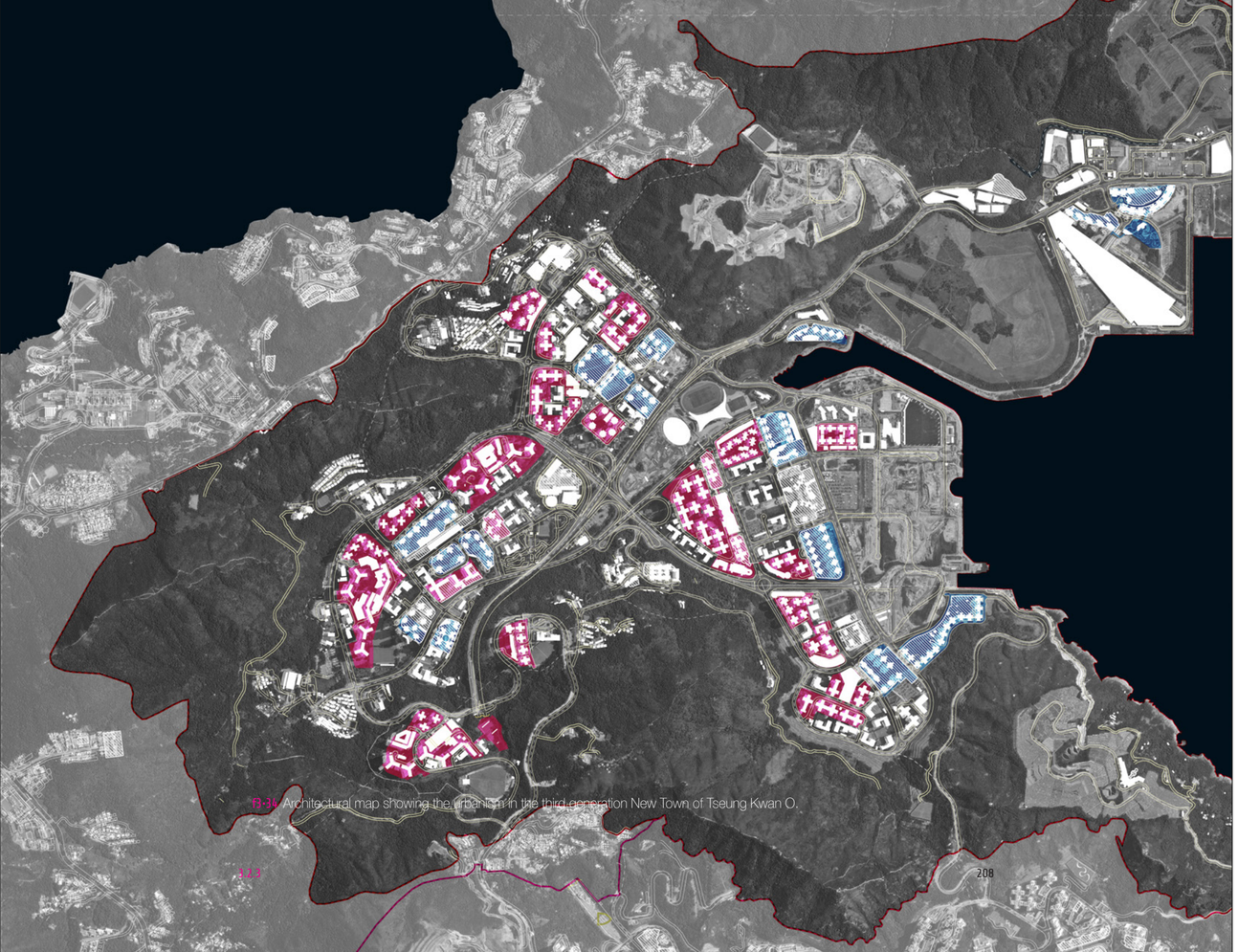
6·3 The evolution of the hierarchical schematic organisation in the New Towns reflects the monocentric organisation of Hong

[3·138] H. Ebenezer, *Garden Cities of tomorrow* (London: Swan Sonnenschein and Co., 1902).

[3·139] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 125.







f3-36 Architectural map showing the urbanism in the third generation New Town of Tseung Kwan O.





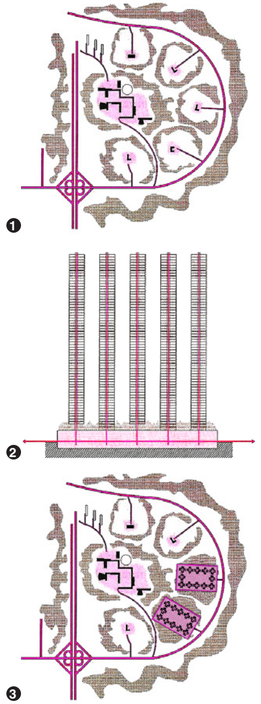
f3-35 Architectural map showing the urbanism in the third generation New Town of Tin Shui Wai.

Kong, which establishes the main urban areas as the superior programmatic centre and the New Towns as a secondary tier of dormitory towns. As the New Towns depend on the urban core both economically and programmatically, it is not surprising to see the various spatial trajectories described earlier in the passage converging into a steady-state equilibrium in the latest generation of New Town developments of the 1980s and beyond.

6·4 Initially implemented in the prototypical New Town of Kwun Tong, these planning trajectories continually seek to sanitise the built environment by the intensified distillation of urban spaces into separated, organisable and standardised components, which are placed in a hierarchy that restricts both the travel and appropriation of space. It is an urbanism that seeks to achieve urban efficiency, harmony and order by reducing the built environment into a curated series of 'lines, nodes and abstractions.'[3·140] All dissident elements and informal connections in space are to be eliminated.

[3·140] Ibid., 9.

6·5 In spite of the reductive qualities to New Towns urbanism, it was within the New Towns that the last stage of Hong Kong's urbanism was developed and imported back into newer developments across the city. Hong Kong's present day urbanism is characterised by dispersed and isolated housing density as the distributed urbanism that existed in older urban areas has dissolved into an urbanism of discontinuously clustered large-scale Major Housing Estates comprised of scattered high-rises blocks [see f3·38][see f3·39]·D. It is within this context that the last Chapter of this research will explore the morphologies of Major Housing Estates.

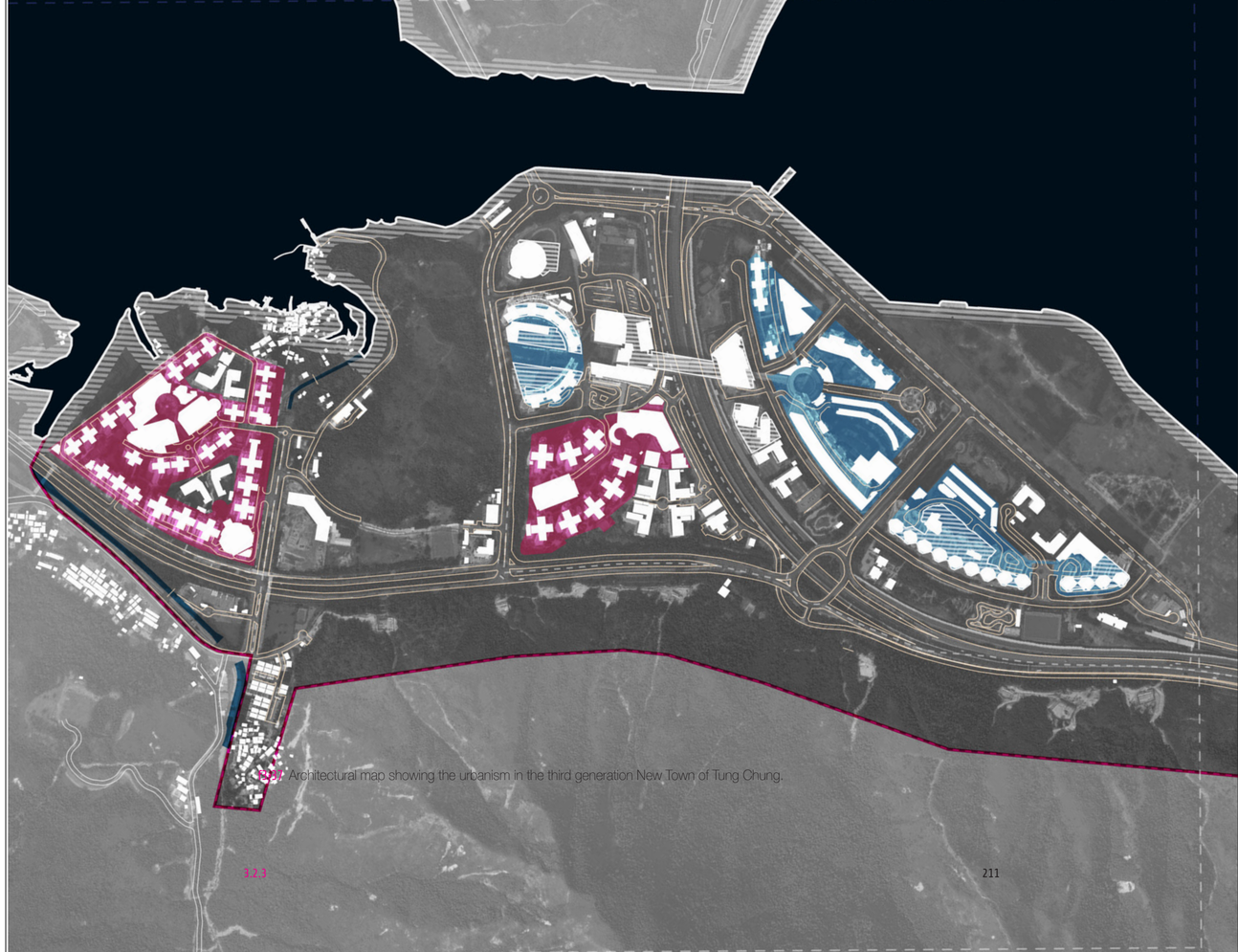


f3·36 Schematic diagram series showing *Garden City*-inspired spatial organisation methods at different urban scales.
(1) Walter Bunning's model for a small *Garden City*; (2) Hong Kong's podium-based housing developments; and (3) Hong Kong's New Towns.

*79 Image source for (1) and (2): Shelton, Karakiewicz and Kvan, The Making of Hong Kong: from Vertical to Volumetric, 158.

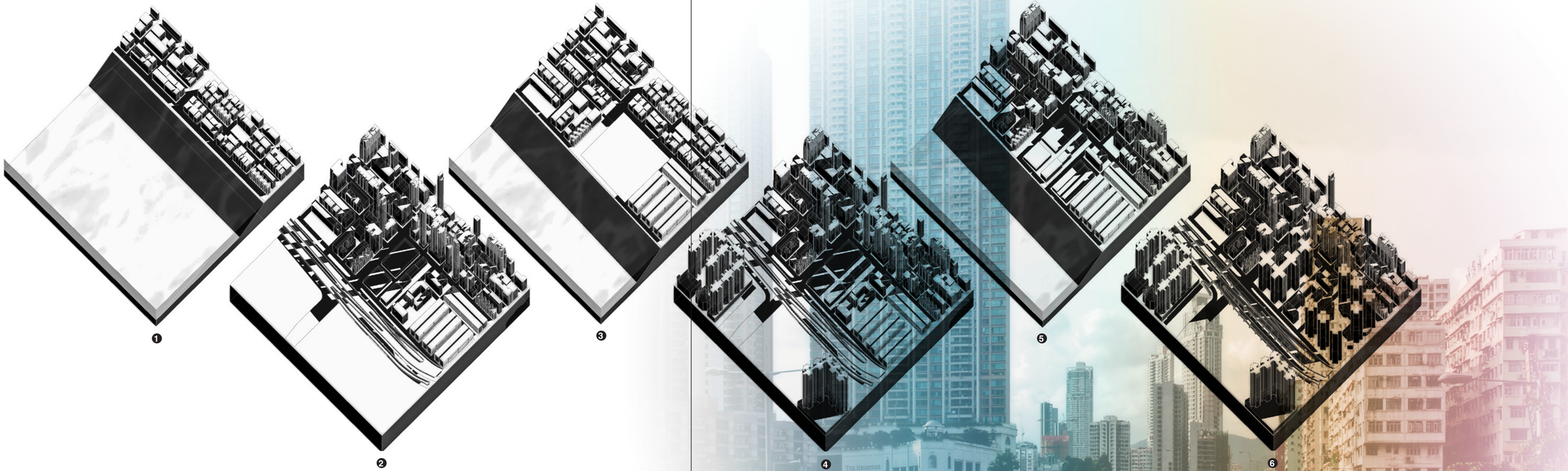
*These diagrams seek to show the he cross-pollination of garden-city-like ideas across multiple scale of Hong Kong's development. Whereas podium-based housing developments are argued in Shelton, Karakiewicz and Kvan as a new type of vertical Garden City, this thesis argues that the New Towns are themselves a second-order Garden City—a Garden City on Garden City—effectively multiplying the degree of separation and hierarchisation of spaces.*





f3·37 Architectural map showing the urbanism in the third generation New Town of Tung Chung.

***Town centres:***
***(1)*** *1940s: Distributed and even urbanism consisting of mostly 4- to 5-storey tall buildings.*
***(2)*** *1950s: Introduction of early post-war large housing development in both the public and private sectors.*
***(3)*** *1960s: Massive housing projects were constructed under the 1956 Building Ordinance, which allowed full-site construction and a plot ratio of up to 20:1.*
***(4)*** *1970s: The building code revision through the 1962 Building Regulation, which took effect after 1966, encouraged the emergence of high-rise point-tower housing forms. New Towns developments further lead to a proliferation of large-scale traffic infrastructure.*
***(5)*** *1980s: Emergence of mega-scale, internalised and wall-like modern major housing estates in the periphery of the city.*
***(6)*** *1990s: Sporadic urban renewal replace existing urban fabric with large-scale internalised podium-type major housing estates.*




f3·38 Diagram series simulating Hong Kong's post-war urban development for a 60-year period.

***Town centres:***
***(1)*** *Mong Kok;*
***(2)*** *Cheung Sha Wan;*
***(3)*** *Kwun Tong;*
***(4)*** *Tsuen Wan;*
***(5)*** *Sha Tin;*
***(6)*** *Yuen Mun;*
***(7)*** *Yuen Long;*
***(8)*** *Fanling;*
***(9)*** *Tai Po;*
***(10)*** *Tseung Kwan O;*
***(11)*** *Tin Shui Wai; and*
***(12)*** *Tung Chung.*

***Key:***
***(1)*** *Mong Kok;*
***(2)*** *Cheung Sha Wan;*
***(3)*** *Kwun Tong;*
***(4)*** *Tsuen Wan;*

**fi-38** Composite map series showing the town centres in the older urban areas corresponding to early post-war urban expansion and in various generations of New Towns.
***Content:*** (A) Geometric profile of the urban areas or New Towns studied, along with the mapping of (B) Street patterns; (C) Elevated paths and podiums; and (D) Major housing estates.



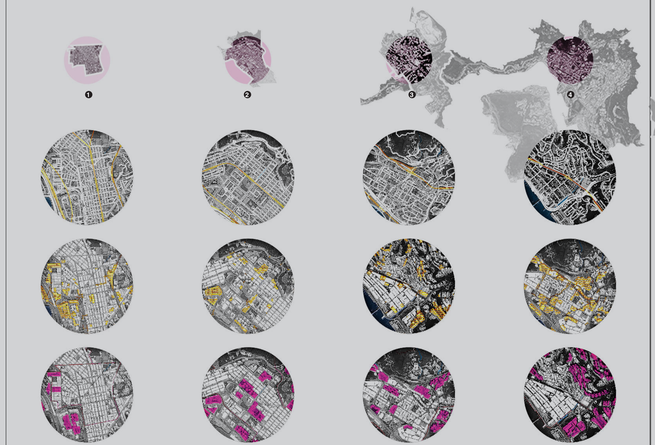
*The urban areas are ordered approximately from the oldest to newest from left to right.* **A**

*The scale of the street pattern and traffic infrastructure has generally been increasing over time, as the streets are no longer expect to contribute to urban life. All programmes are expected to be relocated to the internalised housing estates.* **B**

*Similarly the proliferation of internalised structures in the New Towns and in the peripheries of older areas is visible from the mapping of urban elevated structures.* **C**

*It is increasingly the case that New Towns is exclusively comprised of internalised major housing estates.* **D**

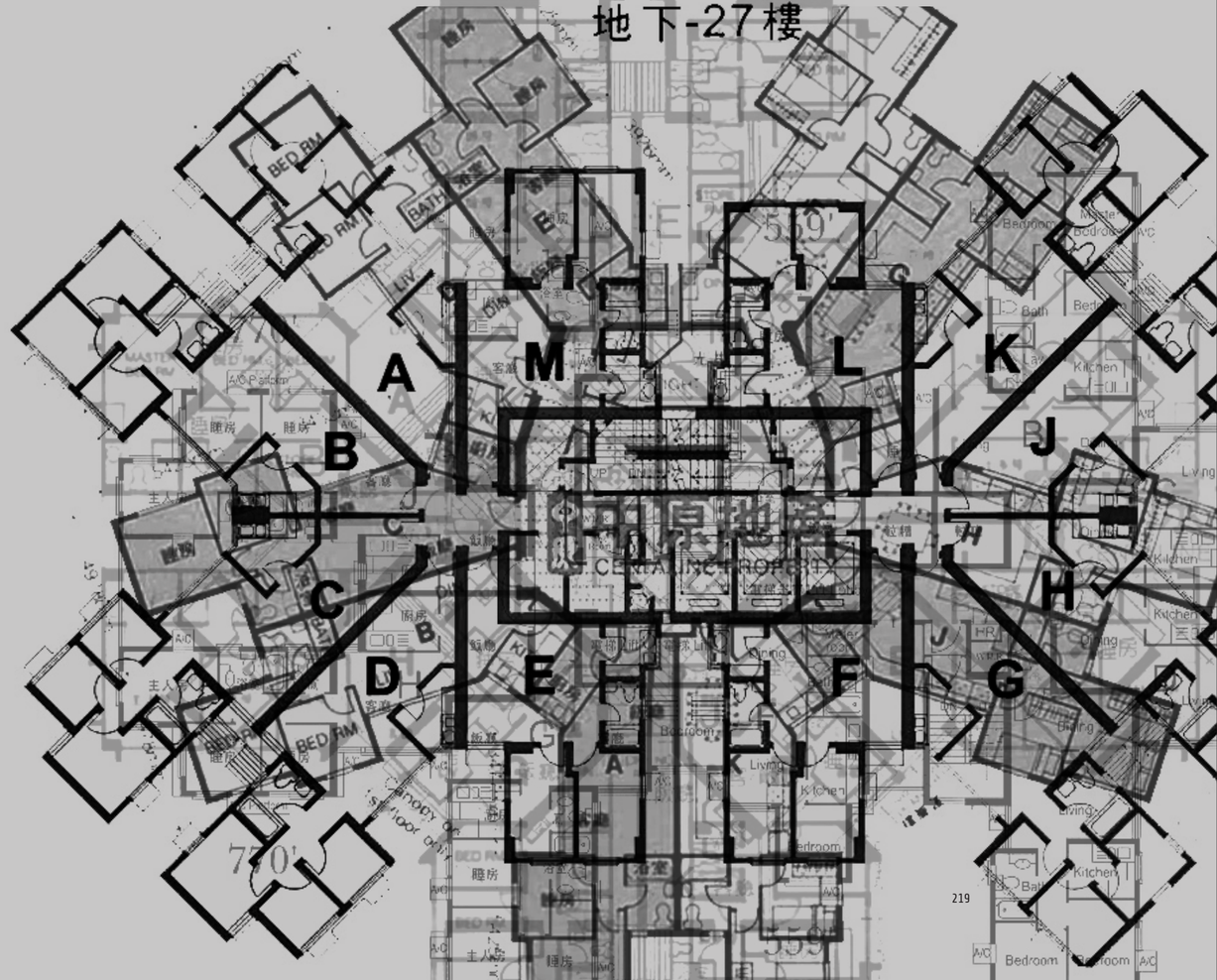




# 4

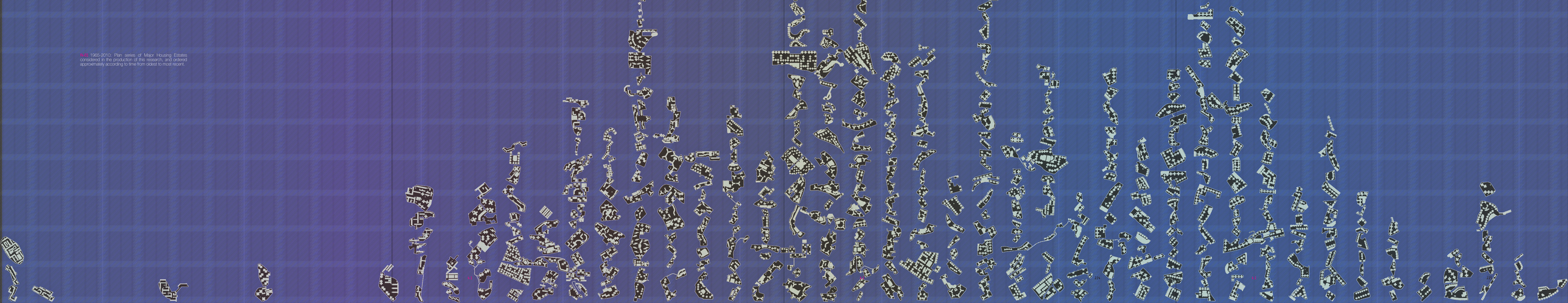
## Architecture by efficiency optimisation:
*convergence of the multiple scales of Major Housing Estate design*





# 4.1

## **On estate and site planning:** *Segregation of density by housing–urban ground interface consolidation*


1905-2010. Plan series of Major Housing Estates
considered in the production of this research, and ordered
approximately according to time from oldest to most recent.



[p5.01] Photograph of a Hong Kong public housing's common space showing the noticeable collective spaciousness.





# 4.1.1

## Title title title title title title title title:
*Title title title title title title title title:*

### ¶131 *Responsibility of the public housing-led urban expansion*

1-1 The movement of Hong Kong's flexible frontier towards dislocated urban growth across the New Territories was initiated by the urgent housing production requirements of the *Long Term Housing Strategy*. As the housing policy was achieved largely through public housing production, the examination of housing architecture within Hong Kong's developmental model of housing-led urban expansion logically begins at the study of public Major Housing Estates. It is by tracing the morphology of public housing estates that the evolution of Hong Kong's urbanism can be revealed.

1-2 The study of the public housing estates' morphology requires the recognition of several basic principles that differentiate public housing from private housing developments. Since the public housing programme neither contributes land premiums,[4-01] nor is subjected to the same plot ratio limitation imposed on private developments,[4-02] the public housing programme is operating under privileges that exempt it from a number of the land system's most strenuous planning impositions.¶4.1

1-3 With land granted to the public housing programme amounting to forgone public revenue, it is not difficult to imagine how the programme has perpetually been rendered subservient to objectives outside of housing. Whereas the politico-socio-economical functions of the public housing programme were explored in Chapter 1, the examination of public housing programme at the estate scale in this chapter reveals that the programme appears to assume an additional urban objective: the sites on which the public housing developments are built are considered public.

1-4 This public emphasis influences site design. Since public Major Housing Estates function as the primary building block of the expanding dislocated urban frontier, their grounds are regarded as an extension of the urban fabric whereby conflicting spatial and abstract objectives imposed by various social, planning, architectural and geographical considerations are negotiated and resolved. As such, the development of the public housing estate simultaneously evolves the urban public space typologies. As a matter of fact, public housing developments have consistently maintained publicly accessible open spaces on their ground planes; a collective spaciousness pervades across these developments [see p4-01].

1-5 The generous provision of open space in public housing, past and present, contrasts with private housing developments, which are generally inconsistent in the provision of open spaces.¶4.2 Additionally, the observation that generous exterior spatial provision in public housing estates had occurred consistently alongside inadequate internal spatial provision¶4.3 suggests that the shared spaces in public housing were conceived as an extension of the internal unit. Thus what public housing tenants appeared to have lost in internal spatial comfort they were supposedly compensated for in the form of exterior spaces.[4-03]

1-6 Evidently, the strategy of spatial transfer pertaining to New Town planning with regards to the calibration of built area and population density is similarly applied in the site planning

[4-01] E.C.M. Hui and F. Wong, "Financial Arrangement," in *Fifty Years of public housing in Hong Kong: A Golden Jubilee Review and Appraisal*, ed. Y.M. Yeung and T.K.Y. Wong (Hong Kong: The Chinese University of Hong Kong, 2003), 8.

[4-02] Chan, So, Tang and Wong, "Private Space, Shared Space and Private Housing Prices in Hong Kong: An Exploratory Study," 338.

¶4.1 *Since 1991, the density in public housing developments have been controlled through the Development Ratio (DR). Past experience has confirmed that many public housing developments exceeded the density threshold established, since the Planning Department permits upward adjustments on a case-by-case basis provided that there is adequate infrastructure to support the developments.*

¶4.2 *This thesis has identified that many early private major housing estates constructed during and before the 1970s had no open space provisions for their residents.*

¶4.3 *For the same type of unit, public housing units are generally smaller than their private housing counterparts.*

[4-03] Will, "Housing Design and Construction Methods," 95.

of Major Housing Estates. Since open space in public housing is accessible to all, its generous allocation of outdoor public space alleviates the shortage of open space provision in the surrounding neighbourhood—a problem that is especially pronounced in the older urban areas. As such, over-density within public housing units is partially alleviated by the collective open ground plane of public housing developments. This is corroborated by the general observation that the provision of common space in public housing developments is more generous than that of private housing developments, as the former is not subjected to the statutory floor area control mechanism.[4-04]

[4-04] Chan, So, Tang, and Wong, "Density Control and the Quality of Living Space: A Case Study of Private Housing Development in Hong Kong," 163.

### 4132 *Formalised ground plane order*

2-1 As public housing developments function as the de facto urban spatial relief for both public and private housing developments and the wider neighbourhood, their implementation creates an opportunity for the enforcement of order in the built environment by the government. It is in this context that the particular methods for appropriating the ground plane—regarding the construction and articulation of urban programmes — have shifted over time: the site of public housing has been used to articulate and promote a particular vision of public space acceptable to the public agency. This subchapter seeks to identify some of these key trajectories and examine their effects on the treatment of the urban public space contained within public housing estates.

2-2 The idea that public housing is designed to act simultaneously as an extension of the internal unit and the surrounding urban fabric, is rooted in the first resettlement housing. The first resettlement housing estates were austere but lively complexes. Arrayed in rows on the street blocks like the industrial housing of early nineteenth-century England, the block design featured an H-shaped plan with room units placed back to back on the long arms. The units were encircled by an external corridor which was frequently appropriated for use by families of adjacent units [see f4-02].

2-3 Intended as an emergency shelter, the block plan contained no differentiation for alternative programmes or unit types as it was repeated relentlessly across the site. Repetition notwithstanding, these estates functioned as a mega-structure from which emerged a vibrant and dynamic urban ecology that flexibly appropriated the spaces it both contained and framed. Ground level units housed shops and home-based light industry, schools were constructed on rooftops, and hawkers swelled trader ranks in all available space surrounding the blocks.[4-05]

[4-05] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 74.

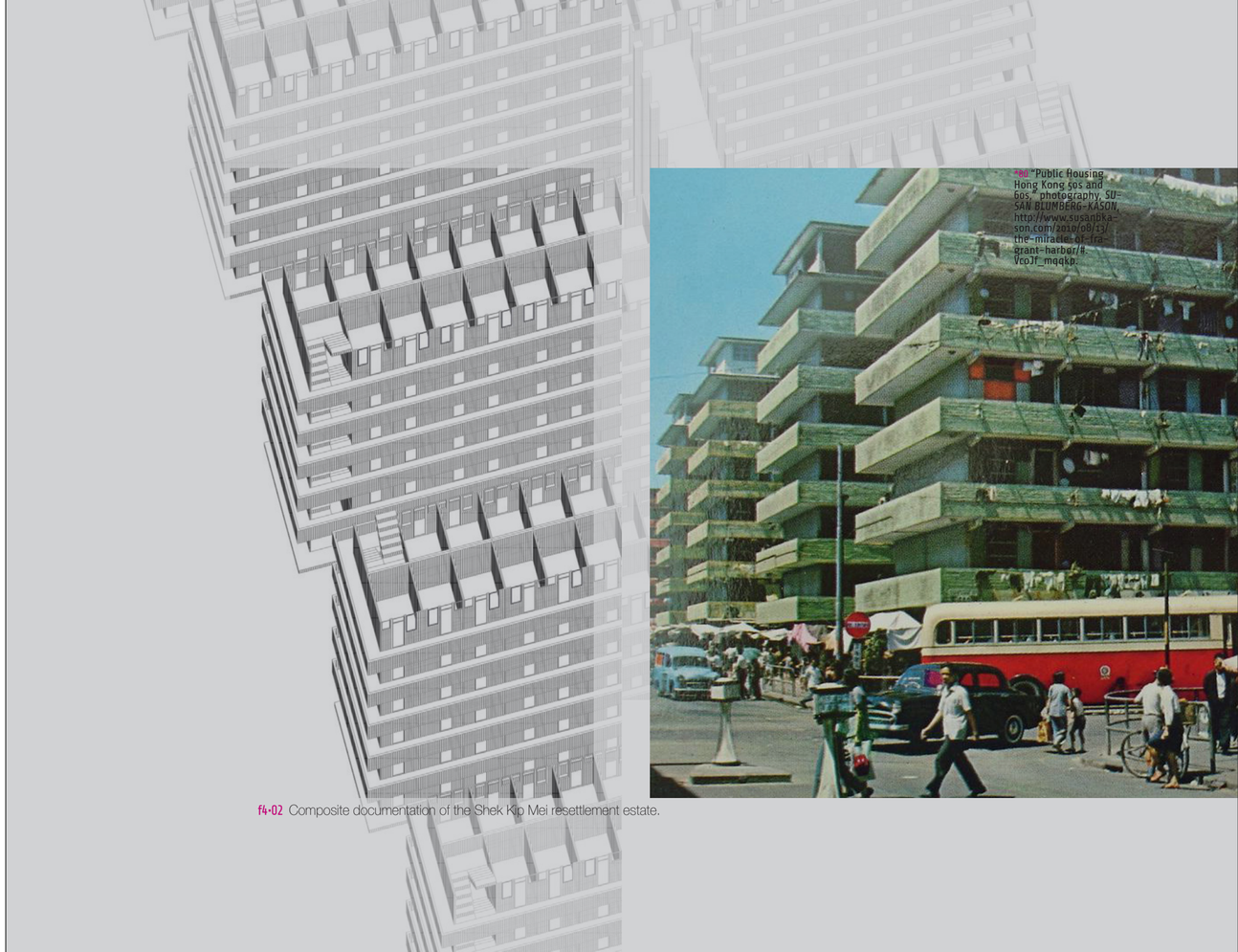
2-4 Although the mix-use appropriations were initially tolerated, the problem was that they operated in defiance of the designed functions of the planned infrastructure. As such, they were viewed as potentially problematic with regards to tenant security, public nuisance and building safety.[4-06] In response, the government initiated a familiar process that would typify the development of public housing estate planning: unintended informal and popularly-demanded programmes developed through organic public initiatives would be tolerated on the conditions that they were discreetly compartmentalised into designated and formalised spaces on the ground plane, such that a clear delineation of the residential and non-residential programmes were maintained.

[4-06] Ibid., 75.

2-5 Order was preserved through programmatic separation as a strategy that functioned across all scales of planning in Hong Kong from the large scope of the New Towns to the schematic of individual public housing estates. By the construction of Mark III, the public housing blocks would officially renounce their mixed-use programme as the floors above ground levels

[4-07] Ibid., 76.





f4-02 "Public Housing Hong Kong 50s and 60s," photography, SU-SAN BLUMBERG-KASON, http://www.susanbka-son.com/2010/08/13/the-mirage-hi-rise-grant-harbor/#.VcoJf_mqakp.

f4-02 Composite documentation of the Shek Kip Mei resettlement estate.

were to be used only for residential purposes.[4·07] Whereas the ground levels of older public housing blocks still provided some limited accommodation for light commercial activities and social amenities, separate **multi-storey** buildings were built in newer estates as independent blocks to accommodate needed urban programmes while a portion of the ground area was designated for the construction of extensive market shelters to accommodate the hawkers.

### 4133 *Articulation and differentiation of open spaces*

3·1 The evolution of the ground plane characteristic in the early resettlement housing programme is indicative of a design tendency in schematic planning to partition and articulate space wherever there was a perception of programmatic difference. This continued a historical planning bias against the natural instinct of Hong Kong's inhabitants towards informal spatial appropriation—a practice that is seen as not only as an affront to public order, but an inefficient use of scarce land contradicting the premise, maintenance and optimisation of the land system.

3·2 By controlling the articulation and programming of spaces, all spaces were organised and programmed to improve both order and the land utilisation. Isolated and articulated programmes not only contained newly differentiated spaces but acted as compositional components that could collaborate with existing built elements to frame and produce additional spaces. Public housing estates like Lower Ngau Tau Kok and the Wah Fu Estates constructed in the 1960s show that a labyrinthian distribution of slab typologies can be used to create a rich and meandering sequence of connected and enclosed exterior spaces: these are spaces that are then punctured, differentiated and partitioned by a combination of institutional, education, recreational and landscaping elements

[4·08] B. Lim and T. Nutt, "Planning and Locational Aspects," in *Fifty Years of public housing in Hong Kong: A Golden Jubilee Review and Appraisal*, ed. Y.M. Yeung and T.K.Y. Wong (Hong Kong: The Chinese University of Hong Kong, 2003), 60.




**f4·03** Photographic series showing common spatial configuration in early public housing estates characterized by linear blocks framing multiple courtyard sequences.
(1) Wah Fu Estate; (2) Lek Yuen Estate; (3) Shek Kip Mei Estate; (4) Tai Wo Hau Estate; (5) Wo Che Estate; (6) Choi Hung Estate; (7) Nam Shan Estate; (8) Pak Tin Estate

to achieve additional spatial multiplicity. [4·08] [see p4·02]

4134 *Detached estates at the urban frontier*

4·1 In tolerating the inclusion of non-residential programmes and explicitly managing their spatial manifestation, the public housing programme accepted a spatial responsibility that transcended housing. This official acknowledgment that the programmatic contribution of public housing necessarily be urban lent the programme widespread application as a tool for frontier urban expansion beginning in late 1960s in Tsuen Wan and Kwun Tong and throughout the 1970s in the implementation of the New Town programmes across the New Territories.[4·09]

[4·09] Yeh, "Public Housing and New Town Development," 86.

4·2 However, the geographical prioritisation of public housing developments in remote areas of the city had spatial and logistical implications demanding a renewed approach to site planning. Removed from the core of the city, the new public housing estates were no longer guaranteed accessibility to a functioning urban fabric. So, the new public housing developments in the New Towns needed to create comprehensive urban functions within the housing estate itself.

4·3 The reduction of actual accessibility is inevitable in the context of housing suburbanisation. The disappearance of an extensive, tight, redundant and pre-existing circulation and infrastructure system, which had previously provided convenient urban connections to blocks within public housing in older urban areas, logically compelled a schematic layout that was increasingly internally-oriented as urban accessibility was now planned to flow from a designated arrival point within the public housing estate. New Town public housing estates characteristic of this trend such as the Mei Lam Estate and the Oi Man Estate have barricaded themselves with landscaping and free-standing elements that were then surrounded by high-traffic roads—an arrangement that effectively insulated the housing blocks from their adjacent urban fabric [see p4·02].

4·4 This consolidated a hierarchical programmatic order and circulation sequence that relegated the residential building block as a destination point at the edge of the estate with few urban connections and programmes to sustain its role as a contributor to the urban fabric. As the periphery of housing estates was perpetually designated as residual recreational space, the aggregation of housing estates at the frontier of the city continued the expansion of discontinuous and dislocated urbanism.

4·5 Programmatically, the objective of urban self-sufficiency within the context of New Towns' public housing developments materialised in a consolidated programme type that functioned as the central commercial and transportation access hub. As such, a dominant spatial centre emerged from the collection of multiple interconnected spaces.[4·10] The massive centralised complex is the public housing programme's interpretation of the strategy of ground plane multiplication —an increasingly prevalent strategy that seeks to provide additional ground area for diffusing the intensified population capacity of housing developments and their enlarging programmatic requirements [see p4·03]. These emerging design characteristics are also highlighted in the documentation of Lek Yuen Estate. [see f4·04]

[4·10] Lim and Nutt, "Planning and Locational Aspects," 58.

4135 *Typological evolution induced by systemic site constraints*

5·1 What is becoming exceedingly clear is that the constraints introduced by expediently dislocated unban growth has the effect of consolidating both spatial separation and monocentric





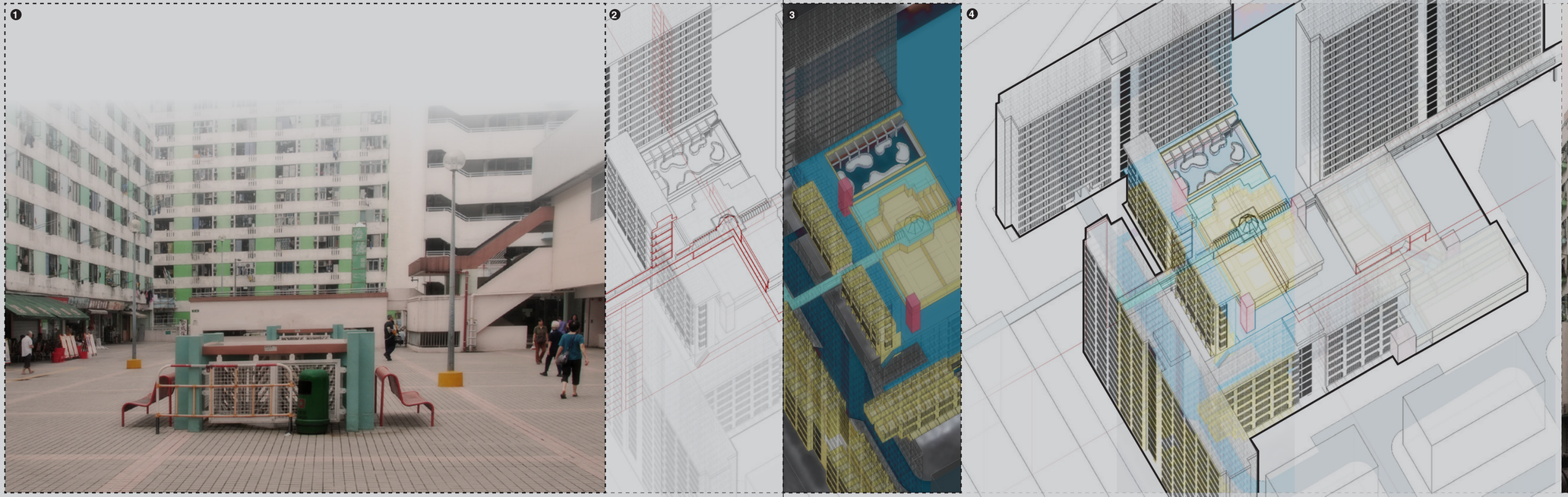


p5·03 Photograph showing early spatial consolidation and centralised amenities.



p5·02 Photograph showing the increasingly common planning practice of enforcing street-estate separation by landscaping.

*Lek Yuen Estate is an estate typology representative of early First Generation New Town public developments in the early 1970s. Here, one can begin to see emerging design practices of internalisation and spatial consolidation with the development of a centralised and integrated commercial/social centre. The centre, slab type blocks and a variety of landscaping elements create a rich sequence of outdoor enclosed spaces. Unlike later developments such as Mei Lam and Tai Hing, the early attempts on internalisations do not consciously try to impose a separation with the urban fabric.*




**f4.04** Composite documentation of the Lek Yuen Estate's public space.
(1) Photograph of central public square; (2) Axonometric section of selected public passage; (3) Axonometric plan of main public level; (4) Exterior axonometric view.

planning. The massive exercise of population decentralisation is only one of many tangible phenomena related to the preservation of the existing development model. As illustrated statistically by the consistent decline in the site areas of public housing estates, the continuous depletion of land supply produced ongoing pressures affecting all public housing developments and required evolving spatial optimisation strategies [see d4·01].

5·2 The reduction of site area logically encouraged the adoption of efficient housing block typologies in order to maintain comparable population capacity at lower constructed ground areas. And it was in this perpetual context of intensifying site constraints, as described in later subchapters, that the public housing programme embarked on a period of tremendous typological experimentation as the most efficient block plan was being determined.[4-11]‡4.4

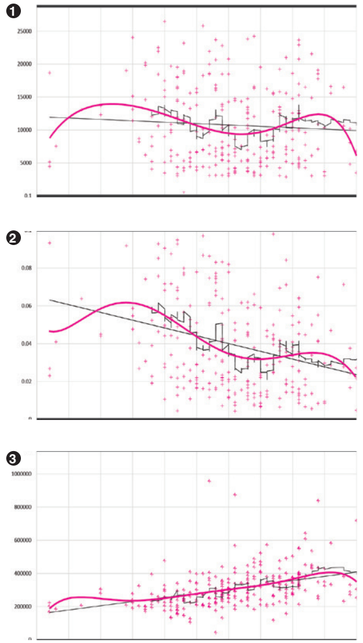
5·3 In reality, what outwardly appeared to be design diversity was simply a symptom of the ongoing optimisation of the housing block's efficiency. This design exercise would inevitably end in the resounding affirmation of cruciform-shaped point tower blocks as the most efficient block design. And with the efficient block plan determined, further population density was achieved by vertical extrusion, such that the building height of housing blocks have consistently increased throughout the evolution of building block typologies. However, this approach is limited both by construction costs‡4.5 and planning restrictions on building height. Thus, the spatial appropriation of the public housing ground plane was also affected to improve the efficiency of the public housing estate.

5·4 Since open space provision constitutes the largest proportion of non-residential space use in public housing, adjustments to its articulation are indispensable in the optimisation of an estate's spatial efficiency. With ground space

‡4.4 *Since the introduction of 'H-shape and older Slab typologies by the Resettlement Programme, a number of housing block types including, but not limited to, the Twin Tower, Trident, newer Slab, L-shape, I-shape, have emerged in the 20-year period since the 1970s. As the previous chapter has established, this was a time period in which the public housing programme has contributed to the construction of a varied building landscape.*

[4-11] Ibid., 49

‡4.5 *The building height for public housing developments is constrained by the significant cost increase associated to the provision of 'fire 'Refuge Floors.' The requirements are found in the Building Department's 'Provision of Means of Escape in Case of Fire 1996,' which are applied to all domestic constructions exceeding 40 storeys.*




d4·01 1960-2010: Data series showing various public housing estate production attributes.
(1) Population[y] and year[x]; (2) estate site area[y] and year[x]; and (3) population density[y] and year[x].

*Spatial attributes of public housing estates completed over time confirms that estate site areas have consistently declined. However, population capacity per estate has largely stabilised. These two trends produce developmental pressure that is satisfied in practice by increasing spatial efficiency, which requires the strategy of spatial consolidation (as discussed in this subchapter), and by intensifying block density, which has led to the prevalence of high-rise point-tower block typologies (as discussed in the following chapter).*



[4-12] Ibid., 60.

becoming scarce, the practice of creating multiple open spaces within a single estate is considered an inefficient allocation of scarce space. Consequently, the framing strategy of communal spaces by housing blocks has undergone a consistent consolidation focused on the centralised commercial hub.[4-12]

5·5 As housing blocks are increasingly arranged to frame a decreasing number of spaces, the total spatial requirement to sustain functional open spaces is logically reduced such that more land area can be allocated for housing construction. The areas gained from the reduction of multiple framed spaces can then be transferred back to the centralised open space, allowing its enlargement. As such, a perception of overall improvement in spatial provision is constructed, when population density within the public housing programme have in fact increased over time.

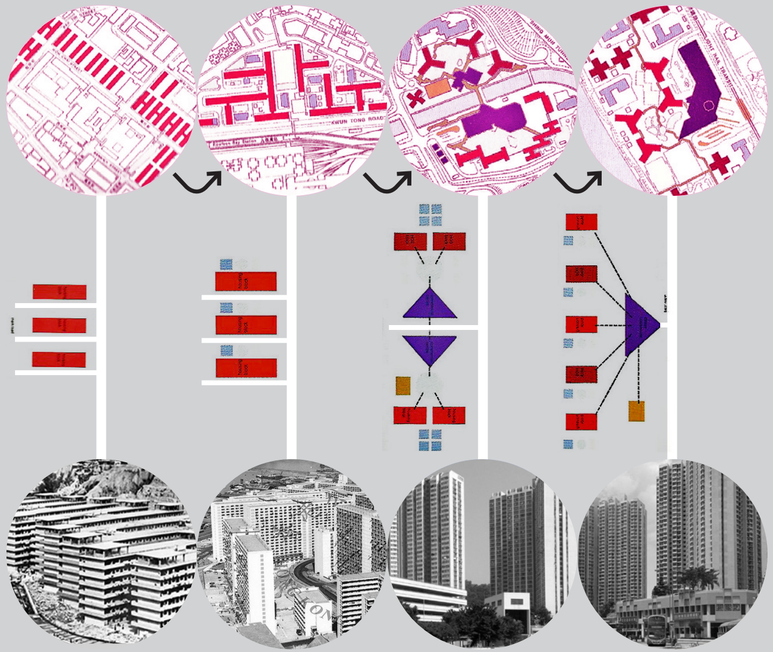
5·6 The practice of centralizing the composition of the public housing estate not only reduces the overall area of functional open space, but also produces tangible consequences that affect the quality of open space provision. Over time, a convergence in spatial configuration is inevitable as the consolidation of building blocks in order to maximise the framed open space, logically leads to the emergence of a configuration favouring the placement of housing blocks along the frontier of the site to create a maximum singular courtyard enclosure similar to practices common in Private Housing developments. [see p4·04] The singularisation of open space consequently leads to the reduction of programmable open spaces and, by extension, a reduction in differentiable spatial experience within the housing development.

### 4136 *Park as the social pacifier*

6·1 With the multitude of programmable spaces reduced




p5·04 Examples: consolidated parks and landscaping
(2)Tsui Lam Estate



*The public housing estate has become increasingly centralised, internalised and hierarchised over time such that access to the estate can only be achieved through carefully sequenced arrival point. As such, the public housing estate is becoming increasingly isolated from the urban fabric.*

f4·05 Composite figure tracing the evolution of the public housing estate spatial configuration over time.

*[3] B. Lim and T. Nutt, "Planning and Locational Aspects," 56-62.



[4·13] Ibid., 61.

6·2 It is in this context that the park form emerges as the defining open space programme in public housing estates. [4·13] The perception of spatial shortage is to be mitigated by the intensification of spatial differentiation through landscape elements which act as distractions, concealing the full extent of open space confinement [see p4·04]·2. Indeed, the spatial components used to construct park space such as extensive vegetation and foliage, artificial topography, and articulated pathways, are readily transferable to the site design of public housing to the extent that unprogrammed and unencumbered open space is extremely rare in contemporary Hong Kong public housing developments. By inflating travel distance through the elongation and contortion of articulated passages and fabricating spatial multiplicity by the relentless introduction and manipulation of spatial barriers and landscaping elements, an overall perception of spaciousness is created as the time both to comprehend and traverse the limited site is multiplied.

[4·14] New Territories Development Department, *Hong Kong's New Towns : Tsuen Wan* (Hong Kong: Public Works Department, 1976), 21.

6·3 It is a strategy of perceptual manipulation then complimented by the peripheralised estates' capacity to borrow their surrounding visual spaciousness, which is comprised of unconstructed and inaccessible geographic space. This 'compensatory' function that unusable exterior space assumes in the absence of adequate provisions of acessible open space was acknowledged in the Planning Department's amidst the persisting requirement to create differentiated spaces to accommodate various non-housing amenities, all outstanding social, recreational and commercial programmes are placed either within the consolidated building complex or in the centralised open space that remains. As a consequence, the savings in area that was gained by spatial consolidation is readily consumed for various defined recreational uses. In the absence of space, spaciousness is a quality that has to be constructed through designed distractions.



p5·05 Photograph showing an example of the spatial amplification strategy of borrowing natural sceneries from surrounding environs.

plan for Tseun Wan.[4·14] As the visibly lower building density combines with the surrounding scenery to obscure the actual population density of the estate, public housing tenants would not suspect that the New Town public housing estates have maintained some of the highest densities in Hong Kong [see p4·05].

[4·15] Lim and Nutt, "Planning and Locational Aspects," 58.

6·4 The park is also used to create identity; with housing blocks increasingly homogenised and standardised, the semblance of differentiation between estates is created not by architecture, but by the specific composition of landscaping elements and public amenities within the estate.[4·15]

6·5 Most important of all, however, is the conceptual significance of the park. As the park is regarded as a symbol of resolution to the problem of spatial deprivation, the extensive co-optation of its components to construct the quality of spaciousness is a powerful strategy that masks the intensifying problems generated by the land system with what is perceived as the spatial evidence of its corrections. With the tangible effects of land shortage effectively disguised, the development model which uses the public housing programme as a tool to absorb developmental pressure is preserved as, immersed in seeming collective spaciousness, no public housing tenants would be able to discern its dysfunctionality [see p4·06].





p5·06 Photographs of various views from a typical modern public housing courtyard to illustrate the juxtaposition of immense density and collective spaciousness that is commonly experienced.



[02] "Ping Feng Lou Examples," wikipedia.org, " https://zh.wikipedia.org/wiki/%E5%B1%8F%E9%A2%A8%E6%A8%93

p5·07 Photographic series showing 12 contemporary examples of wall-effect private housing estates.



# 4.1.2

## **Private housing estates as exclusive domains:** *the spatial configuration of extruded optimisation*

t18 屏风楼

4111 *The disappearance and reappearance of wall-effect forms*

1·1 An architectural phenomenon known as 'wall-effect' buildings has recently generated much controversy in the discourse on Private Housing Estate design. As suggested by the name, the term refers to a spatial configuration characterised by the arrangement of uniform high-rise housing blocks in a wall-like formation. It is well-established that this configuration blocks air circulation, aggravates the heat island effect and traps air pollution.[4·16] But regardless of its negative externalities, the typology has nonetheless become the default spatial configuration in Hong Kong's private housing estate to the extent that a recent survey by environmental group GreenSense has found **104 of 155** housing estates in the city feature wall-effect-like configurations [see p4·07].[4·17]

1·2 Although there is no question that the 'wall-effect' configuration can adversely impact urban environmental quality, the problematic significance of the typology should not be isolated to its environmental impact alone. The emergence of this typology must be conceived as the logical outcome of a wider exercise of extruded optimisation—an exercise which has generated a set of interrelated spatial manipulations of equal morphological significance that must be examined together. Additionally, the configuration should be put into the historical context of Hong Kong's private housing developments. Variations of 'wall-effect' building have

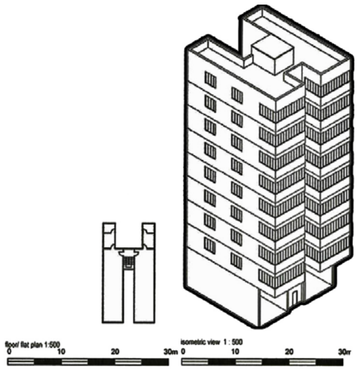
[4·16] C. Yung, "'Asia's Walled City' Leaves – Residents Longing for Air," The Standard, December 21, 2006

[4·17] Hong Kong, Legislative Council, *Legislative Council's Panel on Development. Walled-Buildings in Hong Kong Overview*, by GreenSense CB(1)983/06-07(03).




p5·08 Photograph showing an early post-war wall-effect housing estate against a contemporary wall-effect estate.

*83 Shelton, Karakiewicz and Kwan, *The Making of Hong Kong: from Vertical to Volumetric*, 78.




f4·06 Revised shop-house buildings common in the 1950s

persisted throughout each significant stage of the Building Regulations revisions. Whereas the current interpretation of 'wall-effect' configuration as an arrangement of high-rise housing blocks within a Major Housing Estate has only recently generated negative publicity, the cheek-by-jowl arrangement of housing blocks is an age-old configuration tied to the continuous and distributed urban form observed in early urban development in Hong Kong.

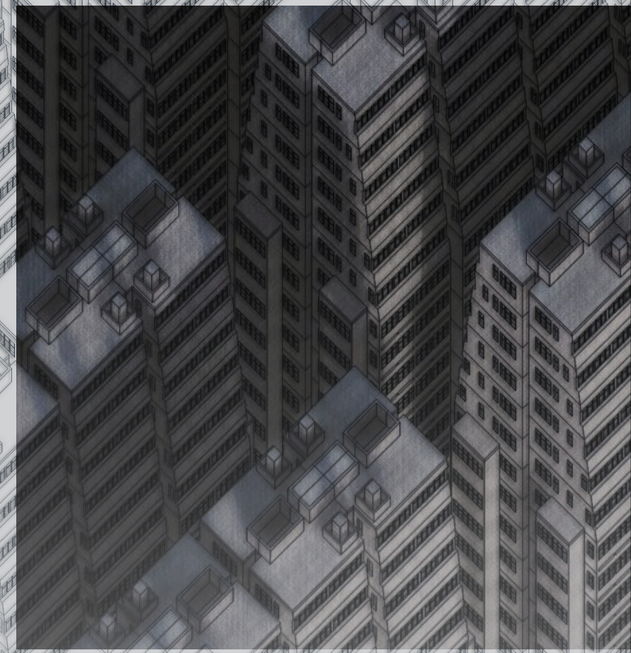
1-3 The negative properties of the wall-effect configuration in the early post-war development context were widely-known and provoked changes to the building regulations. That the configuration has re-emerged in spite of official attempts to arrest its development, attests not only to its perceived efficiency, but also to the government's complicity in facilitating this configuration through its system of flexible building controls. This subchapter seeks to trace the disappearance and re-emergence of the wall-effect configuration and place the configuration in context with the wider exercise of private housing estate optimisation in order to uncover the emergent spatial trajectory within the development of private housing estates.

### 4.1.1.2 *History of tangential building regulations*

2-1 The first wall-effect housing developments were rooted in the early large-scale mass housing projects in the 1950s that initially transcended the scale of the individual lot, to function at the scale of the street block. These projects include the Man Wah Building [see f4·07], Nam Cheong Street, and Ka Shin Street. From their exterior massing, these developments appeared as singular and linear whereas each slab was in reality composed of individual prototypical point towers, inspired by the vernacular Shophouse typology, that operated independently both in circulation and administration. As







f4·07 Composite documentation of 'wall-effect-like' block formation permitted by early post-war legislation. (1) Photograph of facade; and (2) Exterior axonometric view from top.

such, these types were functionally similar to contemporary point towers [see f4·06].

2·2 Constructed in an era when the building regulations permitted generous plot ratios of up to 20:1, these housing blocks—like the contemporary wall-effect blocks—dominated the street and adversely impacted natural lighting and ventilation at street level. These buildings provoked the 1962 revision of the 1956 *Building Ordinance* that reduced the permissible plot ratio and prescribed an inverse relationship between plot ratio and constructed site coverage, and between site coverage and building height. [4·18] As maximum plot ratio could only be attain by minimizing site coverage and maximizing building height it was assumed that as developers optimised density the continuous urban wall would dissolve to allow light and air penetration [see d4·02].

2·3 However, in practice the new regulation followed a pattern in planning policy of addressing spatial problems not through precise measures, but with flexible prescriptions that addressed the issue tangentially by targeting its correlated spatial attributes. Through this process, new spatial symptoms were generated by these policies, while the possibility of reproducing the problematic condition remained. In this case, the production of massive wall-effect buildings was addressed by reductions in site coverage, instead of the actual built construction density of housing blocks. It was an approach that temporarily produced some limited changes within the early post-war development context that was characterised by smaller urban block-scale inner-city housing developments. But in refraining from defining the maximum permissible housing block length, the government had allowed the problem to reappear in the contemporary large-scale development context of the Major Housing Estate, such that massive buildings have continued to exist under the new revised code in a different form.

[4·18] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 74.

| Height of building in metres | Maximum site coverage (%) | | | Maximum domestic plot ratio | | |
|---|---|---|---|---|---|---|
| | Class A Site | Class B Site | Class C Site | Class A Site | Class B Site | Class C Site |
| up to 15 | 66.6 | 75 | 80 | 3.3 | 3.75 | 4.0 |
| up to 18 | 60 | 67 | 72 | 3.6 | 4.0 | 4.3 |
| up to 21 | 56 | 62 | 67 | 3.9 | 4.3 | 4.7 |
| up to 24 | 52 | 58 | 63 | 4.2 | 4.6 | 5.0 |
| up to 27 | 49 | 55 | 59 | 4.4 | 4.9 | 5.3 |
| up to 30 | 46 | 52 | 55 | 4.6 | 5.2 | 5.5 |
| up to 36 | 42 | 47.5 | 50 | 5.0 | 5.7 | 6.0 |
| up to 43 | 39 | 44 | 47 | 5.4 | 6.1 | 6.5 |
| up to 49 | 37 | 41 | 44 | 5.9 | 6.5 | 7.0 |
| up to 55 | 35 | 39 | 42 | 6.3 | 7.0 | 7.5 |
| up to 61 | 34 | 38 | 41 | 6.8 | 7.6 | 8.0 |
| over 61 | 33.33 | 37.5 | 40 | 8.0 | 9.0 | 10.0 |

d4·02 Table showing key development attributes regulated by the 1962 Building Regulation: plot ratio, site cover, and height according to site classification.

*§4 "Table 4: Maximum Permitted Site Coverage and plot ratio in Relation to Building Height for Domestic Buildings under First Schedule of B(P)R," Planning Department, http://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/ch2/ch2_tbl_4.htm




p5·09 Photograph series showing Major Housing Estates representative of the early typologies under the 1962 Building Regulation: Cosmopolitan Estate.
(1) Cosmopolitan Estate; and (2) Whampoa Estate.



§113 *Configuration optimisation to minimize ground spread*

3·1 As a consequence, the policy's achievement was not a reduction in the production of wall-like housing blocks, but the imposition of abstract formal regulations on the housing block's massing that encouraged an increase in the scale of housing development. Whereas earlier developments on smaller lots were economically feasible when the full developmental potential of a site was utilised at full site coverage, the new regulations placed spatial constraints on the development of smaller lots, since the construction of the efficient housing blocks typically required a minimum footprint to cover essential building services in addition to the residential programme. As such, the emergence of large-scale Major Housing Estate development covering an enlarged site area was encouraged by this new development context as developers sought to benefit from the economy of scale in construction, optimise the provision of unconstructed open spaces, and produce unit sizes comparable to spatial standards achievable under the previous regulation.

3·2 While the scale of development was increased, the most noticeable formal consequence of the new regulation was the introduction of building setbacks to the housing blocks as private development maximised permissible plot ratios by reducing site coverage. Since the policy tolerated full site coverage on the ground level for non-residential use, the combined effect was the emergence of a two-part massing type for private housing developments: a relatively slender housing block on top of a flat multi-level fully-extruded ground plane. The high-rise housing block on a podium was born.[4·19] Examples of these early block-on-podium and tower forms include the Whampoa Estate and the Cosmopolitan Estate [see p4·09].

3·3 Similar to the early post-war blocks inspired by the Shophouse typology described earlier, these early high-rise blocks were generally rectilinear in plan. Early in design, they would be considered inefficient by today's standards as the simplicity of their profiles meant low wall surface exposure, resulting in internal unit configurations which were larger, but deeper, and as such less usable due to their lower amounts of air and light penetration. A variety of strategies calibrating building heights, the various block geometric attributes and the internal programmatic distribution of the block—discussed in the next subchapter—were tested on this rectilinear block. These strategies included the indentation or depression of block footprints to increase wall surface area exposure,[4·20]§4.6 and a gradual consolidation and slenderising of the block so a larger portion of the estate site area would remain unoccupied for use as open space. These optimisation exercises consistently dissolved the housing block footprint, leading to the ascendancy of the cruciform point tower typology [see f4·08]. With the efficient housing block footprint determined, reductions in constructed site area could generate savings in plot ratios that could then be transferred to increases in building height to produce greater numbers of floors and units.

3·4 Having optimised building footprint and tower height,§4.7 the spatial configuration of housing blocks was refined to eliminate any remaining inefficiencies that reduced the usability of the unconstructed spaces framed by the housing blocks—an objective further motivated by the increasing planning policy emphasis on the improved and expanded provision of open space within the housing estate in the 1960s.§4.8 Since the residual spaces separating the housing blocks, and framing in the quadrants by the extensions of the cruciform-shaped blocks, were typically considered undesirable and unusable due to their limited scale and unpleasant environmental qualities,[4·21] efficiency in unconstructed space was improved by minimizing the extent of the site area covered

[4·19] E. Christ and C. Gantenbein, *Typology: Hong Kong, Rome, New York, Buenos Aires* (Zurich: Park Books, 2012), 16.

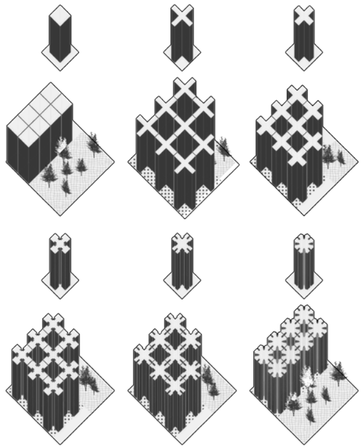
§4.6 *As explained in the subsequent subchapter, indentation or depression in the block footprint can increases the usability of the internal area by increasing the length of the block perimeter, which is one proxy for the block's exposed wall surface area.*

[4·20] J. van Rijs, "Far East. Hong Kong Tower Typology," 176.

§4.7 *It should be noted, that there is a limit to the degree in which the housing block can be slenderised and extruded in height, as a results of construction cost considerations, and the overall height restrictions contained in the Outline Zoning Plan respectively.*

§4.8 *The provision of 'open space' within domestic building was an implicit objective of the 1966 Building Ordinance's restriction on site coverage allowed for construction. The emphasis on Open Space provision was also reiterated by the Planning Department in the non-legally binding 1981 'Hong Kong Planning Standards and Guidelines'.*

[4·21] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 117.



f4•08 Diagram series highlighting the implications of block footprint optimisation to the total block spread over the site.



p5•10 Photograph showing two marginally spaced cruciform-shaped blocks forming a wall-like sequence.

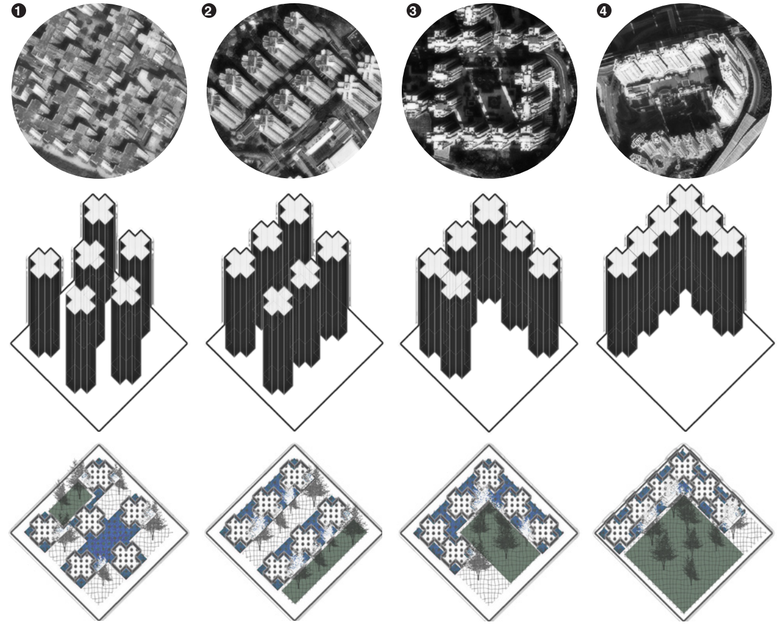
by these residual spaces.

3•5 Consequently, a process similar to the evolution of public housing estate typologies, characterised by the clustering of tower blocks and the centralisation of open spaces, occurred in the private sector as well. These trajectories are noticeable in the study of Private Housing Estates. Early private housing estates in the 1970s such as the Cosmopolitan Estate, On Wo Gardens, and Wyler Gardens distributed the housing blocks much more evenly across their sites. These estates were less efficient as the configuration produced multiple poorly-functional residual spaces that were environmentally undesirable and spatially limited in scale. This type of configuration disappeared from private housing developments in the 1980s as housing blocks were increasingly pushed toward the frontier of the site to allow maximisation of the singular and centralised courtyard enclosure. It was this ongoing process of spatial consolidation that resulted in the re-emergence of the wall-effect, as the consolidation of the housing blocks led to the elimination of all residual spaces separating the point towers. The cruciform-shaped point tower blocks were connected in a linear, highly-indented, slab-like, wall-effect sequence—a typology that also optimised structural efficiency [see p4•10] [see f4•09].

### 4114 *Podium and block: emergence of double wall-effect forms*

4•1 The wall-effect configuration was especially problematic in the development of larger sites with generous building height limits, since consolidation of housing block area readily allowed code-compliant wall-effect configurations to emerge. It was an estate configuration characterised by concentrated high-rise density over a massive low-rise podium form—an uneven volumetric form that reproduced itself readily in Hong Kong's dislocated urban frontier, and intensified the disintegration of the distributed urban built form that one






f4•09 Diagram series outlining selected examples of configuration optimisation by open space consolidation in private housing estates.
***Type:*** (1) Multiple; (2) Consolidated multiple; (3) Consolidated centralised; and (4) Wall-effect, consolidated and centralised
***Site:*** (1) Mei Foo Sun Chuen; (2) Belvedere Garden; (3) Whampoa Garden; and (4) Ocean Shore







p5•11 Photograph series documenting the typical courtyard view of various estates with different spatial configurations.
***Type:*** (1) Multiple; (2) Consolidated multiple; (3) Consolidated centralised; and (4) wall-effect, consolidated and centralised
***Site:*** (1) Mei Foo Sun Chuen; (2) Belvedere Garden; (3) Whampoa Garden; (4) Laguna Verde








characterised Hong Kong's urbanism. GreenSense has also consistently pointed out the prevalence of the problematic configuration in the city's New Towns.[4-22]

[4-22] GreenSense, *Walled-Buildings in Hong Kong Overview*, 1

4-2 In restricting the revision of the building regulations to the control of site coverage, the government reiterated its laissez-faire attitude on spatial regulations—an attitude that perpetually seeks to sustain a flexible system of planning and building regulations to permit the construction of developmentally-efficient and high-density housing forms. Even today, building regulations do not specify the relationship between the block massing and the urban space it frames. As such, the distribution of both constructed and unconstructed spaces is left entirely to the discretion of efficiency optimisation—a situation that is in stark contrast with cities of comparable scale such as New York where there are extensive regulations on building massing based on street view and sky exposure.[4-23] As a consequence, the building regulation ostensibly intended to dissolve domineering urban massing inadvertently allowed the re-emergence of new wall-effect housing developments whose immensity readily exceeds the mid-rise wall-effect blocks of older housing developments.

[4-23] Hong Kong, Legislative Council, Legislative Council's Panel on Development, *Addressing the 'wall-effect' in Developments*, by Hong Kong Institute of Architects CB(1)1033/06-07(05), 2.

4-3 Unfortunately, the scope of development of the wall-effect is not confined within the spatial configuration of housing blocks. On the street level, a secondary wall-effect has also emerged following the popularisation of the podium typology as the default interface between the urban fabric and housing block.

### 4.1.1.5 *Podium as the housing-ground interface*

5-1 As mentioned earlier, the rise of the podium-form was encouraged by the 1962 *Building (Planning) Regulation*s that continued the practice of allowing lower floors of buildings to be set aside for non-residential use. The two-part formal response was intended to provide the necessary urban amenities on the urban ground level, while site coverage regulations would protect the environmental quality of urban spaces above the podium. In practice, the distinction provided the justification that allowed the housing block, the podium base and the connecting streets to be conceived increasingly as separate and detached entities with distinct social programmes.

5-2 As the podium form was intensified along with the separation of programmes, a circulation system contingent on access control consequently emerged as a result of the entire private housing estate being organised by a strict hierarchical programmatic sequence. Primary residential access was located on the rooftop of the extruded podium level whereas the access to the rooftop podium level was controlled and provided through strategic thresholds at grade. Public accessibility was to be confined to the programmes contained within the podium. It was a programmatic order based on the city's conception of housing utility whereby the preservation of housing value was tied to the correction of problems that were in fact intensified by the development model. The podium was interpreted as an intermediary that protected its residents from the over-congested urban ground plane and provided urban amenities perceived to be missing from a city experiencing expedient high-density urban expansion.

5-3 Conceived in these terms, it is not difficult to understand popularity of the podium typology. This revised conception of the urban ground plane was initially used experimentally by Mei Foo Sun Chuen [see f4-10]. The project is widely regarded as the first modern private housing development.[4-24] Built in **8 stages**, from 1965 to 1978, on the reclamation of land formerly used for petroleum storage by Mobil, the estate features a continuous **2-story** podium platform that acts as a raised second ground to provide a mixture of communal

[4-24] E. Christ and C. Gantenbein, *Typology: Hong Kong, Rome, New York, Buenos Aires*, 17.





**f4-10** Composite documentation of Mei Foo Sun Chuen: first podium-based major housing estate.
(1) Exterior axonometric view and (2) Photograph of internal private road.

public space, services and shops separated from traffic. The housing blocks stand on top of this podium. Controlled access to the housing blocks is available on the various levels of this multiplied ground plane.

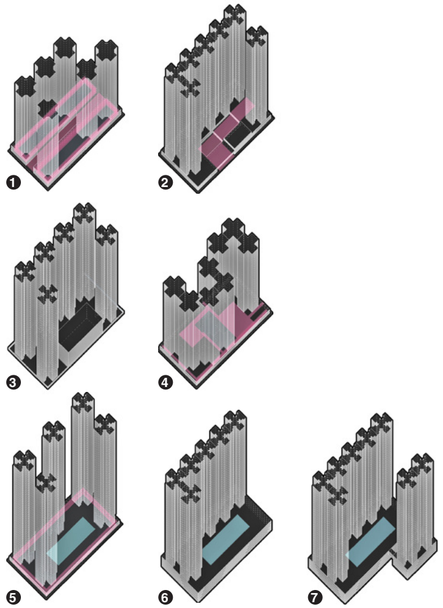
5·4 The experience of the Mei Foo Sun Chuen project demonstrated to developers that the provision of a protected and multiplied ground plane with urban amenities in an environment removed from the urban ground plane could in fact be immensely popular to the growing market of aspiring middle-class home-owners seeking to buy into the Major Housing Estate.[4·25] To developers, however, the most direct benefit of the podium model was its ability to diffuse the risks and problems associated with large-scale high-density housing developments.

[4·25] Ibid., 18.

### 4116 *Developmental resilience of the podium form*

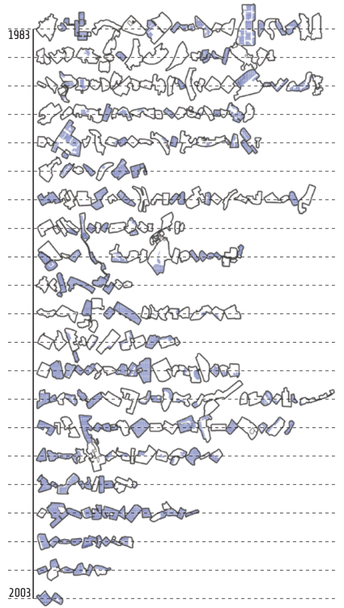
6·1 By relocating programmes that previously occurred at the street level and diffusing them across multiplied ground planes, the podium form reduces ground level congestion caused by high density. As such, public acceptance of the high-density housing development is maintained as the increase in built density through podium ground multiplication serves to reduce the perception of increased developmental intensity. The potential of the podium form to relieve congestion is further amplified by its capacity as a flexible armature to stitch together urban components separated by the city's variable geography such that urban connections are simultaneously built, facilitated and accelerated by its construction [see f4·11].

6·2 The greatest contribution to property developers, however, was the capacity of the commercially-oriented podium form to become a revenue generator by its concentration of urban activities. Since most developers retain ownership




f4·11 Diagram series showing key private housing estate-ground interface types.
(1) Pedestrian street arcade; (2) Mixed courtyards (on grade or raised on podium); (3) *Garden City* (with consolidated centralised amenity complex); (4) Complexly interwoven multiple spaces; (5) podium with arcade; (6) Internalised mega-podium; and (7) Linked podiums.






f4·12 1983-2003: Diagram series showing emerging podium adoption over time..

and management of their commercial properties on the premises, the expanding provision of commercial components effectively spread the development risk between residential and commercial components.[4·26] As such, the spatial-programmatic strategy of the mixed-use podium represented another innovation in private housing development that reduced the amount of capitalisation required in its production.

[4·26] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 117.

6·3 It is clear that the podium form became a potent and multi-faceted programme type that not only maximised spatial efficiency but preserved the objective of density and facilitated the private production of housing. Perhaps it is its adaptability in accommodating developmental pressures intensified by the land system that made it a key design feature of major private housing estates. As site areas declined and became progressively challenged topographically, the increasing spatial requirement demanded by the expanding provision of non-residential amenities could be achieved by direct ground plane extrusion through podium construction. The prevalence of the podium form in private housing development is evident in statistics, and its adoption appears is even more common in developments with smaller sites, which suggests the versatility of the podium type in dealing with the intensifying constraints of the evolving development model. [see f4·12]

### 4117 *Podium as an introverted urban form*

7·1 It is important to remember that the consolidation of space in the current private housing configuration of wall-effect housing blocks on a podium is based on the separation of social spaces. Since the podium transfers urban programmes to its privatised domain, it is a fundamentally anti-social space that internalises urban life, subjects public life to private supervision, and marginalises the relevance of the exterior

urban fabric in supporting public life

7·2 As the increasing popularisation of the program-type reinforces its disproportional monopolisation of the urban form, the dependency of the wider urban area on the program-type reduces the incentive to achieve balanced and diffused urban growth. Dependency on the private podium to satisfy urban functions is particularly evident in the context of New Town programmes as housing estates are constructed in areas with low levels of urbanisation characterised by the inadequate provision of urban and social infrastructure. In the absence of a pre-existing urbanism, the privatised podium constitutes the de facto and only urban form—an urban form based on a reductionist view of urban life that limits social exchanges and mandates the hierarchisation of urban programmes to be ranked in various classes of exclusivity. The programmes are furthermore reduced in diversity and scope since they are selected by the singular podium landlords to optimise the value of the housing developments and their only venue for operation is within the internalised shopping centre programme commonly hosted by the podium [see p4·12].

7·3 With the connections between the podium and the city's urban fabric increasingly severed, the podium form is rendered introverted, impermeable and monolithic. Over time, the massiveness of the podium structure has intensified as the government has frequently granted concessions to developers that exempt the podium from the calculation of plot ratio.[4·27] As a consequence, podium forms that readily generate a dominating street presence and sharply contrast with adjacent built fabric have become quite common [see p4·13]. These contemporary podium estates differ significantly from those constructed in the 1970s and 1980s such as Mei Foo Sun Choon and Tai Po Garden—estates that retain greater public accessibility, a complex system of internal circulation allowing multiple means of passage and programmatic connections,

[4·27] GreenSense, *Walled-Buildings in Hong Kong Overview*, 1.




p5·12 Photograph series of notable podium and centralised amenities implementation in private housing developments to show the trend of increasing massiveness.
(1) 1974-1976 Cosmopolitan Estate; (2) 1965-1978 Mei Foo Sun Chuen; 1985 Tai Po Centre; 1981-1988 City One Shatin; 1991-1994 Laguna City; 2001 Villa Esplanada; 2003 Sorrento

*Podium forms have become more extruded, insular and monolithic over time. Originally beginning as a 1-2 story platform that largely opens out to the streets, particularly in the older urban areas, the podium has gone through several significant evolutions. In the 1970s (in examples such as Mei Foo and Tai Po Centre, the podium form contained a mixture of internalised air-conditioned commercial programmes along with externally oriented amenities such as street retail and upper levels arcades. The process of internalisation has intensified towards the 1990s as the podium is becoming increasingly singular in programme - typically hosting a mega shopping complex. In newer projects today, the podium is often completely internalised, such that it does not provide any contribution to the surrounding urban fabric.*




p5•13 Photographs juxtaposing the two primary functions of the The Belcher's podium.
***Function:*** (1) Retaining wall and commercial complex; and (2) Privatised amenities in the form of a rooftop courtyard.

and an extensive variety of both interior and exterior spaces encompassing commercial, recreational, and landscape amenities. The combined spatial fluidity and heterogeneity of these earlier podium estates commonly contributed to greater urban vibrancy and diversity at their interface with the urban ground

4118 *Podium Type and Urban Fabric Disintegrated*

8-1 The trend toward total centralised exclusive space is epitomised in the late 1990s housing developments of Tierra Verde and Villa Esplanada in Tsing Yi's north-eastern corner at the frontier of the main urban areas. Built by the once state-owned rapid transit railway company MTR Corporation Limited, Tierra Verde is a large housing development sitting on a **4-storey** shopping centre podium that is integrated with the subway station Tsing Yi. Located **400 m** away is the Villa Esplanada, a private housing estate developed by Sun Hung Kai Properties, China Resources and Cheung Kong on a former oil depot which also retains its own podium and shopping facility.

8-2 In both projects the podium is simultaneously an urban programme and a container for housing amenities exclusive to the residents. Framed by major vehicular and rail infrastructures, and surrounded by parking lots, a major bus stop, and a patchwork of parks encompassing residual spaces and the waterfront, the two estates virtually constitute the only urban programme of the extended site area. The two massive podium-based housing developments fragment and disconnect the urban ground plane to the extent that passage across the sites or between the two estates would be inefficient, unsafe and undesirable without the use of the highly structured systems of pedestrian overpasses [see p4·12].

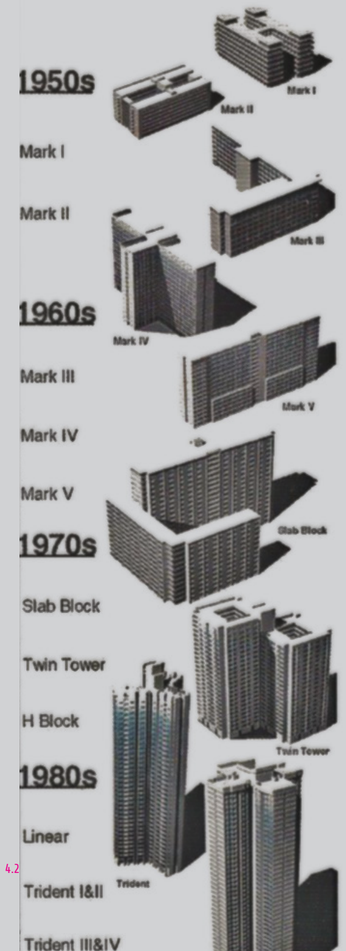
8-3 These developments are indicative of the emergence of connected podium estate typologies which are especially common in the newer dislocated urban frontier of the city as major housing developments are occurring on newly formed areas with little existing urban infrastructure. The consolidation of urban amenities within the collection of connected estates replaces the traditional exterior urbanism of older urban areas. Since functions are provided from within the podium, the desolate urban landscape, which is exacerbated by the separation imposed by the monolithic scale of the podium, is permitted to exist, but it is no longer expected to contribute to urban life. Thus, the internalisation of urban life render the urban fabric increasingly hostile such that the internalisation of massive podium forms is portrayed as the inevitable solution to the fragmented urbanism that these forms have in fact produced.

p5·14 Photograph series showing various views from the surrounding of Villa Esplanada and Tierra Verde.

# 4.2

## **On block design:** *convergence of housing typologies guided by block perimeter-area efficiency optimisation*

*86 B. Lim and T. Nutt, "Planning and Locational Aspects," 47.




*Typical decade-based historicisation of public housing block morphology.*

**f4·14** An example of a decade-based historicisation of the public housing programme entitled 'Five Decades of public housing in Hong Kong' featured in the Hong Kong Housing Authority's golden jubilee review.



# 4.2.1

## Public housing block as default urban building blocks: *design selection as the manifestation of shifting efficiency conceptualisation*

### 4211 *Rehistoricisation of public housing block designs: developing a efficiency-led taxonomy*

[4·28] Will, "Housing Design and Construction Methods," 105.

1·1 The response to the Shek Kip Mei Fire was highly calculated: the government chose a **multi-storey** construction because it required substantially less land, and the decision to provide housing directly was based on the calculations that it would have cost an equal amount to provide food for the squatters instead.[4·28]‡4.9 Economic constraints have clearly governed both the policy and form of the public housing programme since its inception.

‡4.9 *The 1954–1955 Annual report of the Resettlement Department reasoned that 'a permanent six-storey building capable of housing well over 2000 persons could be built for the amount which was being spent every fortnight during the spring of 1954'*

1·2 Cost considerations are of course important in developments of all sectors. But in contrast to private housing block typologies, ‡4.10 the considerations that guided the development of public housing appeared substantially more nuanced, such that the **60-year-old** programme that today houses approximately half the population, has instead produced a diverse array of block typologies.

‡4.10 *Private housing typological development has predominately centred on the cruciform-shaped block.*

1·3 In spite of this diversity, there does not appear to be an official historical account that can establish a coherent narrative on the morphology of public housing block. Official block taxonomy used by the Hong Kong Housing Authority (HKHA) is typically centred on administrative considerations. As such, spatial and formal attributes are often not represented consistently by its nomenclature.[4·29]‡4.11

‡4.11 *For example, the Harmony series contains both the 'Y'-shaped and Cruciform-shaped Point-Towers.*

[4·29] Lim and Nutt, "Planning and Locational Aspects," 58.

Similarly, conventional historicisation of the programme is typically segmented into decade intervals, thereby generating an arbitrarily divided narrative that does not address the overarching processes of efficiency optimisation [see f4·14].

1·4 With the assessment of the programme relegated to the cataloguing of its piecemeal improvements in construction technology and spatial standards over time, the individual public housing block typologies are rarely examined in relation to each other and to the overall spatial trajectories across the various scales of all types of housing designs.‡4.12 The study of block morphology requires a concurrent examination of the developmental pressures exerted on the estate scale in order to understand the architectural impact of the land system.

‡4.12 *For instance, the reduction of units per floor and floor area per block, which had alleviated congestion within a singular floor, may have occurred due to pressures exerted from the estate scale as site areas decreased.*

1·5 Two distinct approaches to efficiency are identified in this research as they relate to the public housing block morphology. Firstly, unit output optimisation constituted a major consideration in early public housing developments between the 1950s and early 1960s, whereas block area reduction would later take precedence in guiding the evolution of public housing blocks. It was the transition between the two approaches that generated the diversity observed in public housing block typologies, as demonstrated both statistically and formally. Thus, the design diversity of the public housing block is interpreted as the spatial consequence of a protracted process of efficiency optimisation in a context of intensifying site constraints.

### 4212 *Stage I: optimised unit production and production cost*

2·1 Public housing development differs from private housing in several significant ways. Whereas developmental intensity and provision of social amenities in private housing developments are affected by plot ratio requirements and high

land costs, the public housing programme receives its land from the government at little to no land premium.[4·30] Since the public housing programme earns no profit,[4·31] the costs and production targets specified in policy plays a large role in shaping public housing designs. By contrast, this thesis has identified that spatial efficiency constitutes the primary design consideration in private developments as inefficient land-use amounts to the foregoing of revenue needed to recoup their high land costs.‡4.13

2·2 The distinction between the two sectors in their requirement to cover land costs is particularly visible in the early history of the public housing programme. Since the success of the programme was dependant on its ability to a produce noticeable impact on homelessness, the objective of early typological experimentation was to house an increasing population capacity per block while decreasing construction time required.[4·32] This was evident in the resettlement housing programme: each housing iteration, from Mark I to Mark V, approximately corresponded to an increase in constructed ground area per block, floors per block, and units per floor. [see f4·15]

2·3 Once a socially-optimal unit output per block was determined, ongoing project development—in a fiscally-conservative city with low social spending—would be sustained by a design selection process governed by the minimisation of construction costs. An example of this practice is seen in the early history of the public housing programmes, where construction costs in the earlier resettlement blocks were maintained at approximately **$20'000 to $30'000** per unit, irrespective of variations in spatial standards. In contrast, newer block typologies that were more expensive, but of high quality, were promptly abandoned.[4·33] Thus, the longevity of a block typology is determined by its preservation of public finances rather than its improvement to tenants' utility.

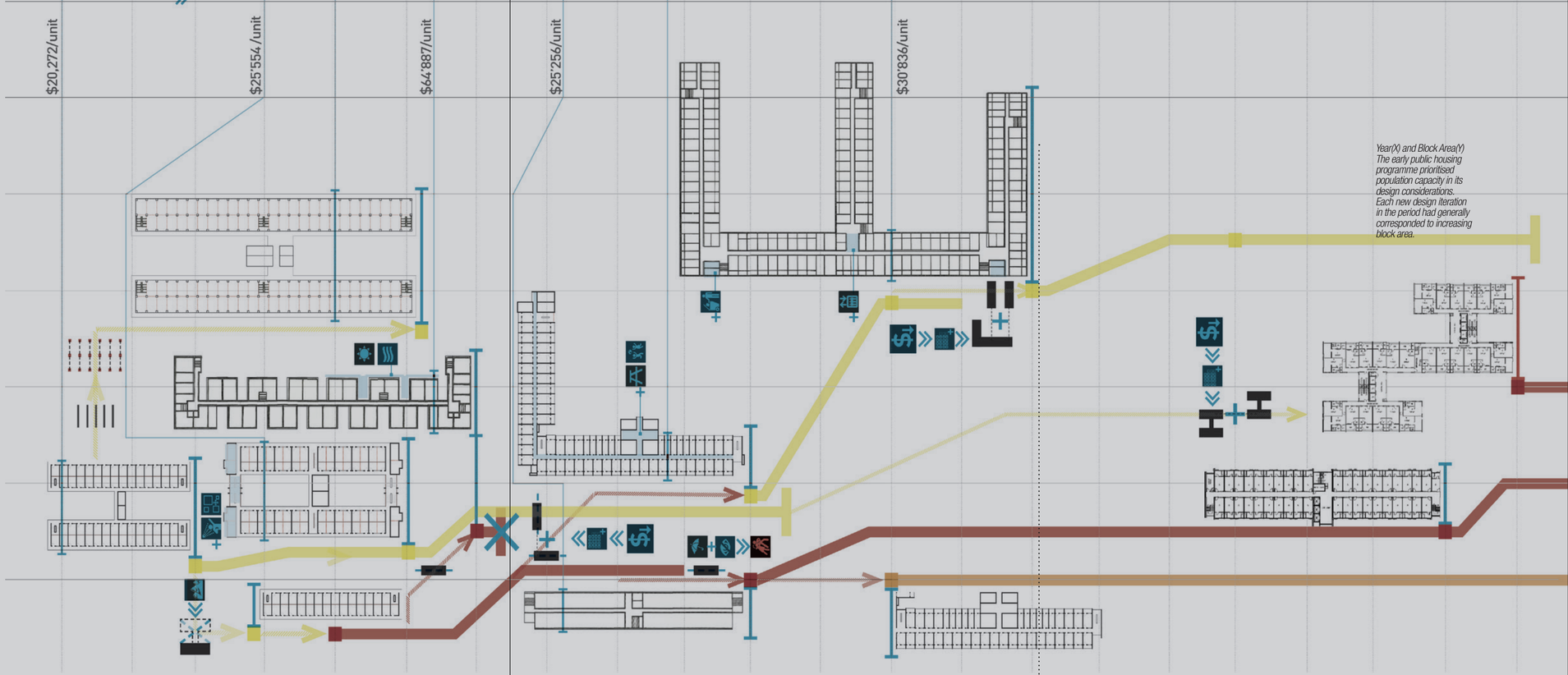
[4·30] Hui and Wong, "Financial Arrangement," 155.

[4·31] Wong, *Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy*, 9.

‡4.13 *The thesis shows that spatial efficiency in private developments are largely concerned with the maximisation of percentage block area dedicated to individual private use, and the manipulation of block profile to enhance its usability. These concepts are discussed in the next subchapter.*

[4·32] Will, "Housing Design and Construction Methods," 102.

[4·33] Ibid., 106.




**f4·15** Evolution of early public housing block typologies

### 4213 *Experimental block area expansion strategies*

3·1 With design determined by unit output and costs optimisation, the public housing programme constructed a mode of living guided not necessarily by a specific ideology of domestic life, but by the calibration of space and economics. Consequently, spatial production was largely a secondary effect of logistical considerations that had little spatial premeditation. In the long-term, the pre-emptive suppression of construction cost limited typological experimentation to number of spatial operations compatible to costs reduction.

3·2 As densification by floor extrusion was limited by existing construction technology,[4·34]ǂ4.14 early public housing typologies relied on direct block area expansion to achieve increases in unit outputs and internal per capita spatial standards. However, area expansion was conditioned by the requirement to reduce building inefficiency. With the population capacity per block a major efficiency criteria, spaces allocated to the internal circulation armature and other shared non-residential facilities were logically regarded as inefficient. As such, development intensification by area expansion had to avoid the concomitant expansion of inefficient programmatic and circulation spaces.

ǂ4.14 *Existing concrete production and lift technologies did not allow affordable high-rise housing block construction at the time.*

[4·34] Lim and Nutt, "Planning and Locational Aspects," 106.

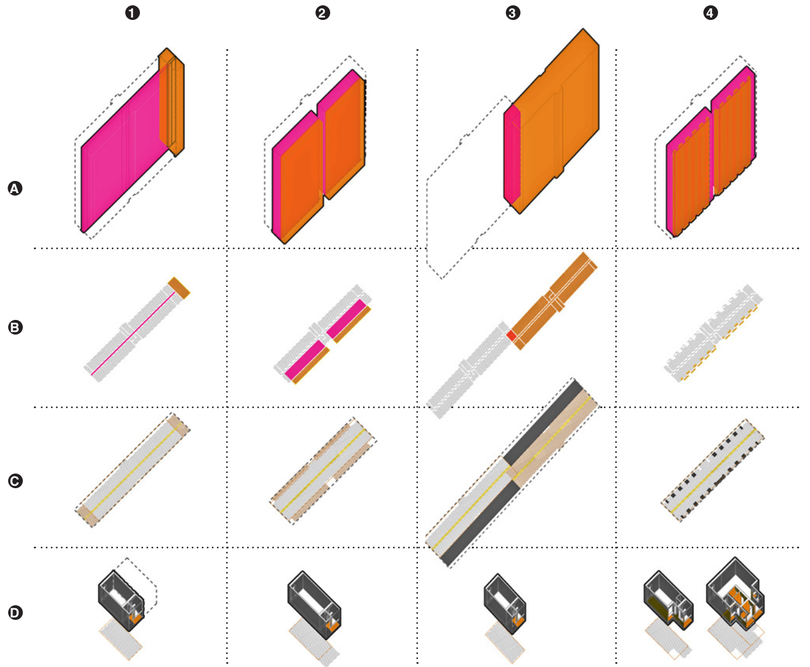
3·3 In practice, common expansion methods included circulation extension and volumetric duplication [see f4·16]. These methods essentially reduced construction cost by increasing units per shared non-residential area. Circulation extension, as the name suggests, increased units output per corridor by the extension of the length of the building. It was an intuitive method of area expansion that could be applied to any block typologies with open-ended linear circulation. The method had produced various sizes of slab blocks. Combined with the rotation of the circulation at various junctures, a new class of linear Slab blocks including the L-shape blocks had emerged.

3·4 Whereas circulation extension directly increased unit output per circulation area, volumetric duplication achieved a reduction in shared non-residential space per block by the consolidation of non-residential elements at the volumetric intersection of duplicated housing blocks. Notable housing types produced by this strategy included the Double Tube, Double H blocks, Mark III and Mark IV. Socially, the cost-cutting measure of intensified common facilities sharing could also produce a secondary effect of increased social contact within the block.

3·5 However, there is a limit to the application of area expansion strategies, as they readily produced experiential strains at the urban and unit scale. On the urban scale, area expansion resulted in an enlarged block footprint that could contradict the existing street infrastructure. Thus, the strategy was untenable in the long-term in a city facing land supply restriction. Internally, these strategies could also produce unpleasantly elongated circulation armatures and the over-crowding of shared facilities.

3·6 The extension of internal circulation armature was likely conditioned by the long-term pressure to improve the spatial standards and quality of internal units. With the walls of internal block circulation corridors typically formed of the lengths of a series of adjoined units walls—walls corresponding to the rectilinear units' width—the only efficient method of unit area expansion was by increasing the units' depth. It was a method that avoided a concomitant decline in the unit output per corridor. The spatial consequence of unit area expansion by depth, however, was both functional and phenomenological as dark and deep unit spaces are produced, thereby negatively affecting the usable configuration of the unit area.






f4·16 Diagram series explaining early public housing block area expansion strategies.
***Description:*** (A) Manipulated areas in plan; (B) Results of area manipulation; and (C) Geometric implication to units' interior.
***Strategy:*** (1) Extension; (2) Extrusion; (3) Duplication; and (4) Indentation or depression.

[4•35] Yeung and Wu, introduction to *Fifty Years of public housing in Hong Kong: a Golden Jubilee Review and Appraisal*, 10.

3•7 The short-comings of these earlier massing strategies were acknowledged by public housing designers. In HKHA's golden jubilee retrospective on the morphology of public housing blocks, the authors noted that the early block typologies produced 'unfriendly' shared and internal unit spaces.[4•35]

3•8 More important still was the realisation that these area expansion methods did not reduce programmatic inefficiency. Although the intensified sharing of non-residential facilities reduced the cost of their provision per household, these methods—though largely retaining the block's geometry—did not fundamentally alter the shape of internal spaces. Consequently, they improved neither internal programmatic efficiency nor internal unit environmental quality as measured respectively by the prcentage private area to gross floor area (GFA) and wall surface area per GFA. As a matter of fact, the cruciform-shaped point tower block prevalent in the public housing programme today, as epitomised by the Concord and Harmony series, vastly outperform the earlier public housing block typologies in these measures.

### 4214 *Stage II: typological diversity as the effect of transitional optimisation*

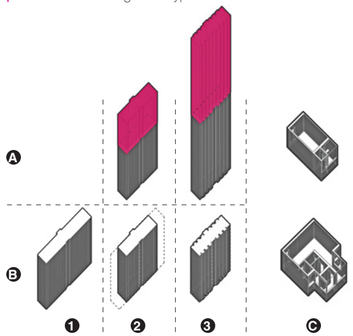
[4•36] Lim and Nutt, 'Planning and Locational Aspects,' 60.

4•1 Both technological and deliberate policy transformations would begin to address these concerns. The greatest developmental milestone was perhaps the technological advances in the design of lifts that made their widespread provision across public housing developments affordable.[4•36] As the elongation of vertical circulation is rendered feasible, the block can simply extrude vertically in height by the stacking of floors to increase unit output per block.

4•2 The greatest opportunity offered by vertical extrusion, however, is its capacity to resolve the contradicting

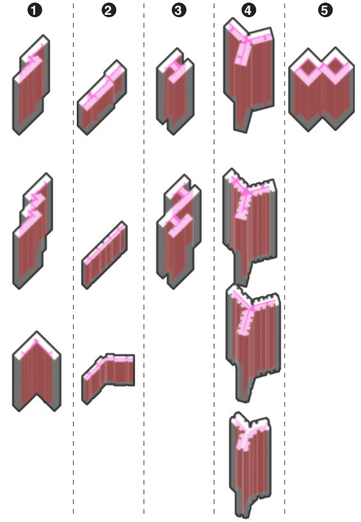


p5•15 Diverse housing block types.




f4•17 Diagram series explaining the trade-offs between block height and geometric profile in plan.
***Operation:*** (1) Starting; (2) Block area reduction; (3) Internal unit area expansion and increase wall surface area.
***Description:*** (A) Block plan geometric operation, which causes floor area reduction; (B) Height increase to achieve equivalent total building area; and (C) Corresponding unit.






f4•18 Diagrams showing examples of typologies that are associated with the 1970s-1980s time period of block design experimentation.
***Official designation:*** (1) Linear; (2) New Slab; (3) H-block (4) Trident; and (5) Twin Tower.

requirements of internal unit area, spatial quality improvement and block area containment. In precise terms, the strategy can maintain, or even increase the developmental intensity of the block by compensating the unit output reduction per floor (as a consequence of internal unit area expansion, and estate site area reduction over time) with the introduction of additional floors. Thus, the conflicting long-term pressures exerted by the land system are resolved by the adoption of high-rise, high-density block typologies.

4•3 It was perhaps because of the block area-height compensatory mechanism provided by vertical extrusion that the public housing programme was able to experiment with block typologies that did not necessarily improve the geometric efficiency of the block. This is observed in the reintroduction of the single-loaded corridor system in newer H-shaped and Linear blocks of the 1970s [see d4•03]•1,3.[4•37] These types drastically improved the environmental quality of the block's internal unit area at the expense of the block's programmatic efficiency, as measured by percentage block area dedicated to shared non-residential programmes.

[4•37] Ibid., 50.

4•4 In fact, the period leading to the 1980s was a very experimental phase in the block morphology of the public housing programme: the various area and volumetric expansion strategies discussed up until this point were used indifferent combinations to create a rich diversity of block typologies. These housing block typologies ranged from the Double Tube, to the Double H and Triple H blocks, and to emergent point tower typologies like the Trident and the Old Cruciform. As mentioned in Part 3 and in the preceding subchapter, it generated a brief period of typological diversity that manifested in a varied constructed landscape [see f4•18][see p4•13] — a diversity which was in reality a symptom of a public housing programme searching for the optimal block type [see d4•03].

4·5 At the urban scale, vertical extrusion within the public housing programme significantly altered Hong Kong's urban landscape as high-rise block typologies were inserted into Hong Kong's public-housing-led urban frontiers. As such, the Hong Kong that emerged in the 1970s would be characterised by ubiquitous high-rise density. Socially, the gradual reduction of unit output and shared non-residential facilities per floor, which was implicit in the concurrent processes of block area reduction and vertical extrusion, reversed the phenomenon of unintended social contacts seen in earlier public housing block typologies—early types that minimised costs by intensified sharing of common facilities. As such, the popularisation of high-rise typologies within the public housing programme marked a convergence with private developments as spatial exclusivity was increasingly encouraged within the block.

## 4215 *Stage III: emergence of the point tower*

5·1 The latest developmental stage in the morphology of public housing blocks in Hong Kong is characterised by the convergence of the public housing programme with private housing developments, both in administration[‡4.15] and form. In fact, the introduction of subsidised built-for-sale housing schemes like the Home Ownership Scheme (HOS) exerted pressure on public housing designers to produce blocks that conformed to the standards of private housing.[4·38] Furthermore, the transformation of the HKHA from a government-subsidised entity to a self-supporting agency towards the early 1990s provided the context that motivated designers to improve the programmatic and construction efficiency of public housing blocks to minimise the programme's construction costs.

5·2 As the public housing programme fully financed its own construction, it is not difficult to understand how the earlier, inefficient, non-point tower typologies[‡4.16] would disappear entirely from newer housing developments by the late 1980s.[4·39] It was in the 1980s that the cruciform-shaped point tower block was increasingly adopted within the public housing programme—a type borrowed from the private sector that was perceived to be highly developmentally efficient [see d4·03]·III. In a context of increasing site constraints, consequently, the imported cruciform-shaped block would also continue to improve on its efficiency over time: footprints of newer blocks would become more compact to enhance their versatile application in diverse site conditions.

5·3 Spatial strategies optimizing the usability of the block's internal areas were also important. As mentioned earlier, the strategies explored in Stage 1 and 2 did not necessarily manipulated the geometry of the block. An efficient spatial strategy for improving light and air penetration required geometric manipulation of the block to allow for the simultaneous improvement of internal unit environmental quality with block programmatic efficiency. Consequently, the techniques employed in private housing developments' predominately point tower cruciform-shaped block designs would also be introduced to the public housing programme, such that the last stage of public housing development was characterised by ongoing geometric fragmentation of the block footprint and further reduction of non-residential programmes—design trajectories that similarly define the typological experimentation in private housing development [see f4·19]. While geometric fragmentation of the block footprint improved the environmental quality of internal unit areas, the reduction of non-residential programmes increased the percentage of block area dedicated to internal units.[‡4.17] A detailed documentation of these techniques can be read in the following subchapter.

5·4 The need to bring fragmentation to the block profile was

‡4.15 *(1) The 1987 Long-term Housing Strategy proposed privatisation as the final objective of the public housing Programme; (2) The Housing Authority was required to be self-supporting by 1988/1989, thereby partially contributing to the rise of privatised built-for-sale housing options.*

[4·38] Lau, "The state-managed housing system in Hong Kong," 50.

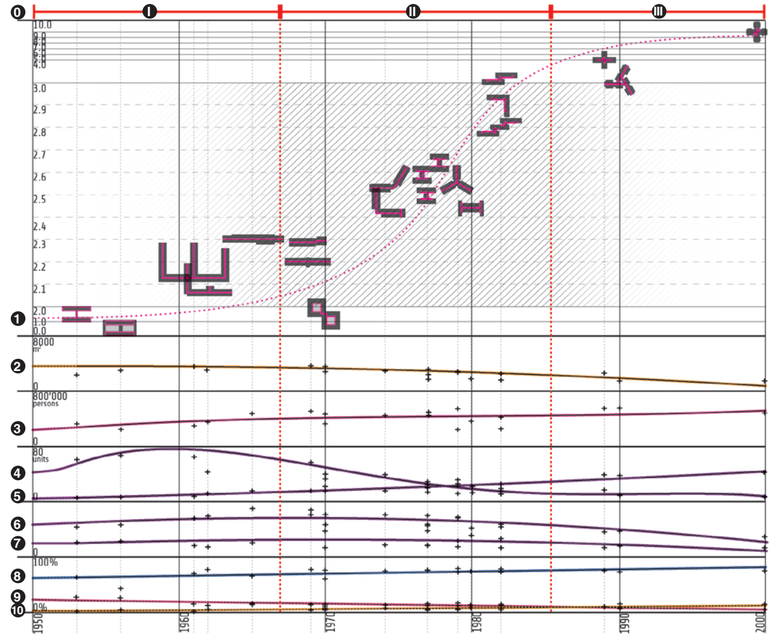
‡4.16 *Examples of earlier non-Point Tower typologies that disappeared include the H-shape and Linear block, which improved environmental quality by the use of inefficient single-loaded corridors.*

[4·39] Lim and Nutt, 'Planning and Locational Aspects,' 60.

‡4.17 *As explained in the following subchapter: 1) Circulation reduction was achieved by the minimisation of non-mechanical and non-residential shared spaces, and the consolidation of vertical circulation elements 2) Internal environmental quality was improved by intensifying the folding of the unit's geometric profile by techniques of wall indentation/depression to maximise exposure of wall surface area to the unit. These spatial trajectories are reflected in the Trident, Harmony and Concord series.*

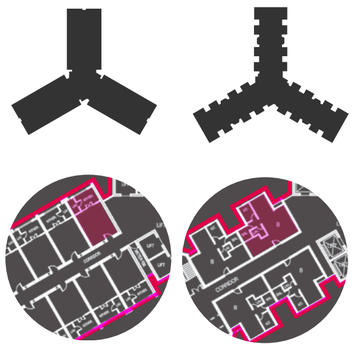


***Note:***
***(0)(1)*** *Examination of the (1) Ratio of the block profile's perimeter to circulation length over time–used here to estimate the block's wall surface area exposure, and by extension its holding capacity– shows two distinctive stages of efficiency conceptualisation (I)(II). As this section explains, the two stages were characterised by (I) Unit output maximisation, and the (II) Point tower convergence. The transition between the two stages, or (II), is what appears to have generated the typological diversity within the public housing programme: the steep rise in efficiency in that period corresponds to the proliferation of new public housing block typologies.*
***(2)*** *Supply restriction and the diminishing sizes of site areas available for developments may have contributed to a decline in the average block footprint area over time. Housing development is under pressure to become more compact–maintaining comparably high density in new slenderer typologies*




d4·03 1960-2005: Composite data series documenting and tracing the evolution of block typologies over time through various geometric and developmental efficiency criteria.
(0) Stages of the proposed efficiency-based typological historicisation; (1) Hypothesized key efficiency metric and diagrams corresponding to block plan; (2) Decline in site area over time; (3) Density intensification over time; (4)(5)(6)(7) Measuring geometric attributes over time; and (8)(9)(10) Programmatic distribution over time.

***(3)*** *In fact, the measurements of units per block footprint area also suggests that plot ratio has been increasing over time, thus contributing to higher densification in the city.*
***(4)(5)*** *The reduction in (4) number of units per floor due to decline in block footprint area is compensated in block height–by increasing the (5) number of floors per block.*
***(6)(7)*** *Various geometrical strategies incorporated over time has further increased the exposed surface area of the block, which improves light and ventilation penetration, as indicated by the decline in (6) block enclosed area per perimeter length. Additionally, the spread of the block is becoming more squared, and compacted, as indicated by the (7) Aspect ratio of the block's rectilinear bounding area, which is approaching one over time.*
***(8)(9)(10)*** *A reprioritisation of spatial allocation is observed: areas designated for (8) private use have increased relative to areas for (9) common uses. The decrease in the share of common areas is exacerbated by increasing (10) mechanical space requirements.*



f4•19 Annotated call-outs of Trident block plans showing the application of indentation for blocks containing larger units.

also necessitated by the transformation of the public housing unit from single unit-rooms to multi-room residential units as sufficient ventilation and daylight was required to reach every newly partitioned room in the newer blocks containing multi-room units.[‡4.18] However helpful, these strategies also created negative spatial consequences in the configuration of the unit. In any case, their popularisation within the public housing programme is an indication of further public and private housing convergence.

‡4.18 *As discussed in the following chapter, previous blocks containing single unit-rooms generally conceived the unit as one singular space, which led to deep units with low limited light and ventilation exposure.*

4216 *Internal point-tower convergence*

6•1 The convergence of public and private housing block typologies was accelerated by additional technological and administrative changes towards the 1990s. Whereas the administrative differences between the Public Rental Housing (PRH) and HOS had previously corresponded to different housing block typologies, housing policies in anticipation of future privatisation had led to a unification of designs: the cruciform-shaped was adopted as the universal housing type in the entire public housing programme [see f4•20].[4•40]

[4•40] Lau, "The state-managed housing system in Hong Kong," 55.

6•2 Technologically, the standardisation of public housing construction through pre-cast modular components allowed the production of genuinely repetitive forms centred on the cruciform-shaped typology across the urban landscape. The Harmony and Concord series represent this trend: these blocks were constructed by aggregating modularly-produced residential units.[4•41] Although the strategy of block massing by unit aggregation can theoretically generate an infinite permutation of massing types, these modular units are in practice combined in schemes similar to the cruciform-shaped block.

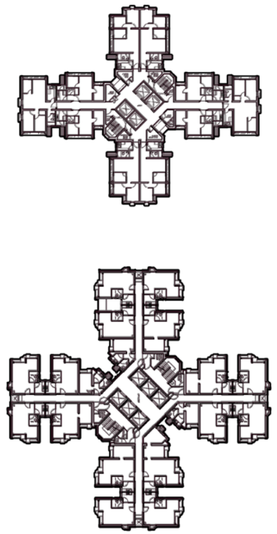
[4•41] Sullivan and Chen, "A Critical Review of public housing Flat Design in Hong Kong,"302.



4217 *Global point tower convergence*

7•1 This overview of public housing block morphology reveals the transformation between two attitudes of efficiency optimisation. Whereas the first stage focused on the production of quantity at the expense of spatial quality, the final stage seeks to achieve a dual optimisation—by the adoption of point tower typologies—that reduces the block footprint and improves the block's internal environmental quality. Thus, the overarching narrative of the programme to this point is one of a protracted development of ongoing self-corrections, as the public housing programme addresses the inherent deficiencies in each stage of its experimentation —deficiencies that were caused by design processes that prioritised logistical considerations over spatial ones. It is significant to note that the transformation of the programme's conceptualisation of efficiency was the result of intensifying site constraints produced by the land system over time.

7•2 Evident in the morphology of the public housing block in Hong Kong is the fact that any static and singular conceptualisation of efficiency would tend to result in monotonous and repetitive forms. As such, it was only in the public housing programme's attempts at self-correction that design diversity was accidentally produced. But the search for the optimal spatial strategy to enhance both programmatic efficiency and internal environmental quality ultimately led to the co-optation of strategies employed in private housing, as the programme became increasingly private-oriented. As a secondary effect of these logistically and administratively-motivated trends, Hong Kong's urbanism has witnessed a noticeable reduction in its housing diversity.



f4•20 Plan series showing the floor plan of cruciform-shaped blocks now currently used in multiple public housing programmes.



p5·16 Satellite image showing the repetition of cruciform-shaped blocks over Tai Koo Shing.



# 4.2.2

## Private Housing Block as compacted forms: *ongoing fragmentation of the block geometric profile in plan*

4221 *Cruciform-shaped block as end of housing design*

1·1 Urban commentators have often remarked on the pervasive sea of star-shaped residential housing blocks that relentlessly and indiscriminately infiltrate Hong Kong's urban landscape [see p4·14]. To be exact, this star-shaped typology refers to the cruciform-shaped block [see p4·15]—a typology that emerged as the de facto post-war residential block in private Major Housing Estates.[4·42]

[4·42] J. Kandt, "Hong Kong's Spatial DNA," in the *Conference Newspaper of the Urban Age Programme: Cities, Health and Well-being*, November 16–17, 2011 (Hong Kong: London School of Economist, 2011), 34.

1·2 Although it is tempting to conclude from this casual observation that the Hong Kong private housing block has reached the peak of its architectural efficiency, a review of the repertoire of blocks in private Major Housing Estates reveals that the point tower type has been consistently reiterated at a much finer scale since its inaugural large-scale implementation in the Mei Foo Sun Chuen. As such, the morphology of the Private Housing Block in Hong Kong is not a process of typological experimentation, but a defined, disciplined and meticulous refinement of the modern point tower type, centred on the cruciform-shaped block, in pursuit greater spatial efficiencies.

1·3 With the private housing block morphology exhibiting little typological experimentation, the identification of design variations for spatial analysis is particularly challenging. When viewed from generalized and abstract spatial metrics such as



p5·17 Photograph of cruciform-shaped blocks in Kingswood, Park Central .

[4·43] L. Gutierrez, and Vale Portefaix. *Mapping Hong Kong* (Hong Kong: Map Book, 2000), 81.

unit output per block, gross floor area (GFA) per block floor, etc., the resultant statistical summary reveals a seemingly monotonous landscape of housing forms. An analysis by the Hong Kong-based Map Office estimated that the average floor in a Hong Kong housing block has **40 persons** in **8 units**—totaling a GFA of **5000 m² per block floor**.[4·43]

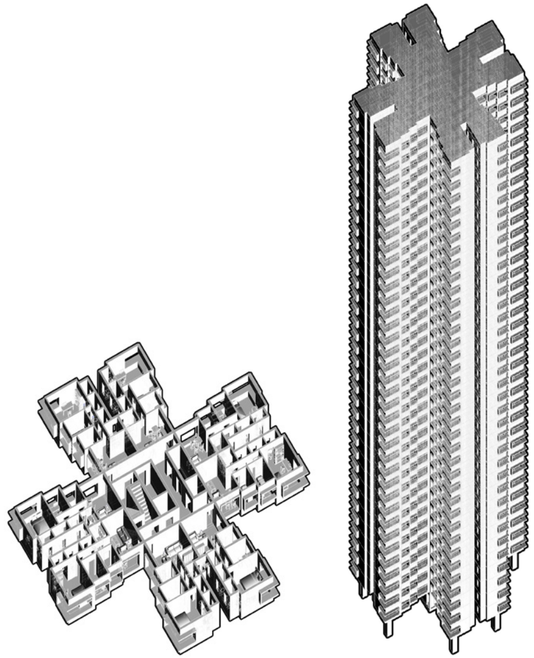
1·4 In a typical plan, eight interlocking strand-like units are attached onto a H- or C- shaped circulation armature wrapped around the central vertical core. Entrances to the units are positioned at the vertices of the armature. Organised along the centre of the armature are a pair of elevators, mechanical and refuse facilities, and an interweaving set of scissor stairs: together, these components constitute the square-shaped central core [see f4·21].

1·5 Further design efficiency is achieved by various instances of repetitions. The units are mirrored in pairs of two on each of the four sides of the central core. Unit differentiation is achieved either by introducing a different unit-pair on any of the four sides of the central core, or in compartmentalizing the specific variations at the end of the targeted unit-strands. The final repetition occurs in the stacking of the block plan to achieve vertical extrusion along the block's building height.

### 4222 *Shophouse–prototypical optimised extrusion*

2·1 The consistency in the schematic layout of the private housing block is a testament to its perceived capacity in maximizing spatial efficiency. The extruded scheme is rooted in the prototypical modern residential block inspired by the vernacular Shophouse typology—a near-universal housing construction type in Hong Kong until shortly after the Second World War. The contemporary cruciform-shaped block follows a long design tradition of extruded optimisation.[4·44]

[4·44] Van Rijs, 'Far East. Hong Kong Tower Typology,' 176.



f4·21 Composite architectural documentation showing the average private housing development block.



[4·45] Gutierrez, and Portefaix. *Mapping Hong Kong*, 31.

‡4.19 *The 1962 Building Ordinance established a relationship between street width, height, and setback.*

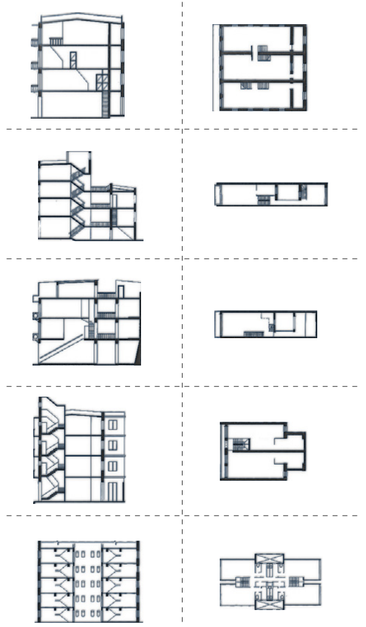
[4·46] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 47.

[4·47] Feng, *A Century of Hong Kong Real Estate Development*, 60.

2·2 Using Nam Cheong Street as a representative example of the variation of the Shophouse typology commonly constructed in the 1950s: a typical floor has **2 units** flanking on both sides of a primary stairwell that is positioned at the midpoint of the block's width. A secondary volume containing an additional stairwell and both kitchen and latrine facilities is attached to the main volume at its rear. The Shophouse precedent fully exploits the narrow building lot in the older urban area and extrudes the floor plan to the maximum permissible height as defined by the extant building ordinance [see f4·23].[4·45]‡4.19

2·3 Although the Shophouse typology achieved optimal massing and schematic efficiency within the early post-war developmental context,[4·46] its practical relevance waned towards the 1960s due to a number of changes. Financial innovations had vastly expanded the methods of capitalisation for development firms beginning in the late 1950s—a process that allowed the scale of private housing production to intensify dramatically in order to satisfy the emerging home-ownership aspirations of a growing professional and managerial class.[4·47] Furthermore, the 1962 revision of the 1956 *Building Ordinance* deterred massive constructions — a change which rendered the optimised Shophouse typology no longer legal.

2·4 Even though they had some merit, the organisation of Shophouse-inspired typologies, which featured deep units spanning across the length of the site at **2 to 4 units per 2 vertical cores**, were neither highly efficient nor usable by today's standards. Whereas its inefficiency was less noticeable in the early post-war context when the building regulations permitted full site coverage, the new 1962 *Building (Planning) Regulation*, which took effect instituted an inverse relationship between plot ratio and site coverage—a change that prevented the simultaneous maximisation of both plot ratio and site



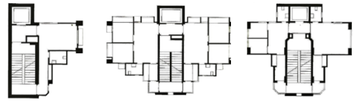
f4·22 Architectural plan and section series showing shophouse-based typologies and variants representative of Hong Kong housing developments between 1900-1950s.

*98 C.E. Chen, and CH.X. Cai, *Xiang Gang Jian Zhu Bai Nian* (Hong Kong: Joint Publishing, 2000), 56.

p5•18 Photograph showing the proliferation of pencil towers in the city's older neighbourhoods.





*89 Christ and Gantenbein, *Typology: Hong Kong, Rome, New York, Buenos Aires*, 47.

f4•24 Architectural plan and axonometric drawing series showing various pencil tower case studies.
(1) Fullic Court building; (2) Sun Ho Court Building; and (3) Swanhill Mansion.

coverage [see f4•47].[4•48] Sub-optimal spatial forms in this new context would be an inefficient use of site coverage quota that readily translated to loss in development profits. As such, developers had to determine an alternative in optimised volumetric expression.

[4•48] Ibid., 114.

### 4223 *The 1962 Building (Planning) Regulations revision and emergence of the pencil tower form*

3•1 As maximum plot ratio can only be achieved by maximizing building height and minimizing site coverage, the 1962 *Building (Planning) Regulations* ensured that all future housing types materialise in high-rise forms. The change in legislation also produced various implications to the scale of housing developments in different parts of the city.

3•2 Since a developmentally-efficient housing block generally requires a minimum footprint area to cover various essential building services in addition to the residential programme, the newer site coverage regulation would cause a reduction in block area for newer housing developments within the narrower lots of the older urban areas—a process which also reduced the quantity and sizes of units available per floor. The policy ultimately affected housing consumers as it led to the proliferation of 'Pencil Towers' across the older urban areas of the city—blocks composed largely of miniature units featuring diminished spatial usability [see f4•24]. It is a model that 'allows investors fast returns without risking long and complicated negotiations with multiple owners for land resumptions.' This advantage is particularly important in the older urban areas where land ownerships are considerably more complex and numerous, and where land prices are astronomical for land resumption.[4•49]

[4•49] Christ and Gantenbein, *Typology: Hong Kong, Rome, New York, Buenos Aires*, 16.

3•3 In housing developments constructed in the newly formed urban frontiers, however, the new regulation—as described in the previous chapter—encouraged an increase in the scale of housing developments. As the site of housing developments enlarged, the newer estates were hosting an increasing number of blocks such that the block was no longer the estate, but a constituent component of it. Consequently, housing developments attained the status of infrastructure with the emergence of the high-rise, high-density block within the high-capacity modern Major Housing Estate.

3•4 Mei Foo Sun Chuen is the first notable attempt to create the modern point tower cruciform-shaped block. Similar to the quintessential block described earlier in the passage, the typical plan in the estate featured **8 similarly schemed units** divided into **4 approximately mirrored pairs of unit-strands** on each of the **4 sides** of the central core. The Mei Foo block is notable in its simplicity—a plan with little formal manipulations to corrupt its geometric integrity. This simplicity, however, is an indication of design inefficiencies that would continually be addressed in the private housing block's evolution.[4•50]‡4.20 The following study identifies these design attributes and contrasts them with developments selected from **127 private Major Housing Estates** to demonstrate key spatial operations employed to achieve greater developmental efficiency.

[4•50] Ibid., 17.

‡4.20 *The Cruciform-shaped block's efficiency can be further improved by complexifying its geometry. This subchapter identifies a few such operations.*

### 4224 *Block geometrical fragmentation I: area consolidation*

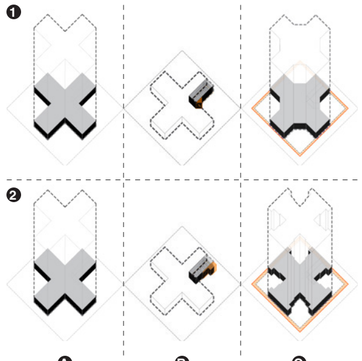
4•1 With the permissible constructed site coverage reduced, the cruciform-shaped block was by definition inferior to the Shophouse type in terms of percentage site area utilisation: residual spaces are produced in the **4 quadrants** partitioned by the cruciform-shaped block's **4 extensions**. These spaces retain little usability beyond limited landscaping because of their constrained sizes and undesirable lighting and ventilation conditions at the base of the block. As such, due to the new building regulations the residual spaces produced in the cruciform-shaped block amounted to an increase in the spread of the block footprint, as approximated by the ratio of its rectilinear bounding area over its constructed site area.

4•2 In a developmental context subjected to increasing site constraints and intensifying requirements to improve open space provision, the unconfined area spread of the housing block is inefficient because it limits the configuration of the estates with regards to the quality of its open space provision and its maximum holding capacity of blocks per estate. As such, the geometric profile of the block footprint is optimised by the consolidation of its area in order to minimise the spread of the block's footprint and to maximise the usability of external unconstructed spaces.[4•51]

[4•51] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 117.

4•3 Basic strategies that manipulate the block profile include the elongation and widening of its extensions. Their implementations, however, are carefully controlled due to their implications at the unit scale. The elongation of the cruciform extension along its cardinal axis, for example, is generally infeasible because it does not improve the block's inefficient area spread. In fact, it increases the overall spread of the entire collection of housing blocks thereby minimizing the usability and scale of the unconstructed open spaces of the entire estate. Furthermore, the narrowing of the cruciform's extension produces unusable units that are long and narrow.

4•4 Alternatively, the widening of the cruciform's extensions simultaneously shorten them, thereby causing deeper interior spaces with reduced wall surface area exposure, which leads to a reduction in light and ventilation penetration. This is problematic for the living room) spaces that are typically located at the intersection of the cruciform's extensions—a problem evident in the early Mei Foo Sun Chuen blocks as




***Key:*** *(A) Removed and extruded volume [in light grey and orange]; (B) Reduction to overall block area spread gained from the consolidation; (C) Floor volume [shaded], and profile of overall massing [dashed lines].*

f4•25 Diagramming block-scale geometric operations (I).
***Technique:*** (1) Chamfering; and (2) Selective extrusion.



p5•19 Floor plans of housing blocks with profile resembling block-scale geometric techniques described in 4.2.2 (1).
***Technique:*** (1) Chamfering and selective extrusions; and (2) Rotation to generate X-shaped cruciform-like block.
***Estate:*** (1) Whampoa Garden; and (2) Mountain Shore.

*90 Floor plans, *CENTADATA*, http://www1.centadata.com/

*91 Floor plans, *Ricacorp Properties Limited*, http://www.ricacorp.com.hk/cms/template.aspx?series=42

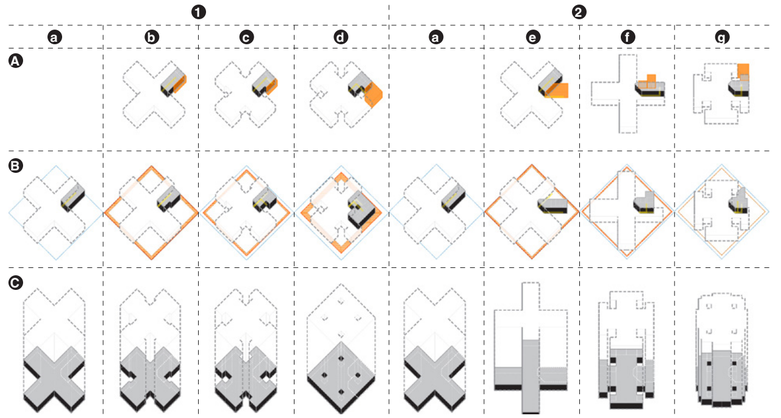
they feature deep living rooms with limited wall openings. It is evident that the block footprint cannot be optimised by the gross adjustment of any singular geometric attributes.

4•5 In practice, the consolidation of the block's area spread is achieved by manipulation of the cruciform-shaped footprint at strategic locations. As such, the geometric simplicity described in the prototypical cruciform-shaped block is corrupted continuously by geometric fragmentation in subsequent iterations. Selective footprint manipulation seeks to maintain adequate lighting and ventilation for crucial internal unit programmes while reducing the overall block area spread. Examples of such operations include widening by selective wall indentation (as in the case of Tai Koo Shing) or by the chamfering of the cruciform's intersection (as in the case of Whampoa Garden [see f4•18]•1). [see f4•25]By expanding the internal area within the existing bounding area of the block, unusable residual spaces framed by the cruciform's extensions are gradually converted into usable constructed spaces—at the same time reducing the overall spread of the block.

4•6 When used in combination with block-wide spatial operations, the cruciform-shaped block achieved new geometries that noticeably differed from the original. For instance, a related class of square-shaped and capped cruciform-shaped blocks were created as the legs of the cruciform-shaped block were extended along its internal unit circulation to the perimeter of the block's bounding area, bent, and then extended along the bounds [see p4•18][see f4•26]•2. Alternatively, some designers exploited basic trigonometric principles by the rotation of the cruciform extension along the footprint's centroid at **45 degrees** to create a planimetric organisation capitalizing on the longer diagonal axis of the block's bounding area—in the process creating a generation of X-shaped, capped X-shaped and diamond-shaped housing blocks (as in case of Mountain Shore [see f4•18]•2).



***Key:*** *(A) Extruded volume [in orange]; (B) Reduction to overall block area spread gained from the consolidation; (C) Floor volume [shaded], and profile of overall massing [dashed lines].*




f4•26 Diagramming block-scale geometric consolidation operations (I).
***Techniques:*** (1) Operations on the (a) basic cruciform-shaped block, which includes; (b) Extending; (b) Bending; and (c) Wrapping. (2) Operations producing, and on the X-shaped cruciform-like block, which includes (e) Initial rotation and extending; (f) Bending, and (f) Warping.




p5•20 Floor plans of housing blocks with profile resembling block-scale geometric techniques described in 4.2.2 (1).
***Technique:*** (1) Chamfering and selective extrusions; and (2) Rotation to generate X-shaped cruciform-like block.
***Estate:*** (1) Grand Gateway; (2) Park Central; (3) The Merton; and (4) Symphony Bay

*92 Floor plans, *CENTADATA*, http://www1.centadata.com/

*93 Floor plans, *Ricacorp Properties Limited*, http://www.ricacorp.com.hk/cms/template.aspx?series=42

*94 Floor plans, *Midland Realty*, http://en.midland.com.hk/wp/?cat=6







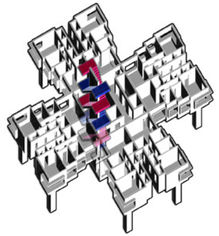
p5•21 Photograph series showing common private housing block-ground or -podium interface.
***Estate:*** (1) Laguna City; (2) The Belcher's; (3) Whampoa Garden

4•7 All of these strategies or increase the ratio of the constructed area over the total spread area of the block footprint: the block area is consolidated by its ongoing fragmentation, and the elimination of embedded residual spaces. But with the remaining residual spaces marginalised by the block's ongoing compression and absorption, their spatial quality becomes even more vestigial as their use is relegated strictly to service shafts at the minimum legally permissible depth (as in the case of Symphony Bay [see p4•18]•4). It is evident that the strategy of area consolidation relies on the polarisation of the spatial differences of unconstructed spaces: unconstructed spaces are either categorised into usable spaces that are completely external to the block area or unusable spaces that are embedded- or incidentally-framed by the cruciform-shaped block [see p4•21]. These 'unusable spaces' are continually concealed and consumed by the block in subsequent iterations, as in the case of Park Central's light wells [see p4•18]•2. Collectively, the various strategies described in this subchapter have reinterpreted the housing block as an independent object with a limited role in shaping and interacting directly with the unconstructed spaces with which it interfaces [see p4•19][see p4•20]. Thus, the ground floors of private housing blocks serve a strictly circulative function, with accesses only available at discrete points and walls throughout the rest of the perimeter.

### 4225 *Block geometrical fragmentation II: usability optimisation*

5•1 With the block optimised to minimise the overall area occupied by the collection of blocks on the estate, remaining optimisation strategies operate on the internal distribution of spaces and programmes within the block. Internal spatial efficiency is a broad criteria encompassing a number of measures concerning both developmental profitability and internal spatial usability.





f4•27 Schematic drawing of space-saving scissor stairs.



p5•22 Photograph showing a static block-ground interfaces in a luxurious private housing estate.



p5•23 Photographs showing view through a residualised shaft space.

5•2 Logically, developers are incentivised to maximise the percentage block area dedicated to privatised units since it directly correspond to profit. This leads to a process in which the internal shared areas within the central core—including both the circulation armature and mechanical services—are continuously streamlined in the evolution of the block morphology. One strategy that has emerged, for example, is the interlocking scissor stair — a pair of stairways that revolve around each other, but are separated within enclosures by fire-rated construction [see f4•27]. The device satisfies the regulatory requirement of providing two separate paths of egress without the need of duplicating the stair tower, thereby maximizing the use of scarce plot area.

5•3 The spatial usability of internal unit area to the housing occupant, as mentioned in the previous subchapter, is determined by its exposure to natural lighting and ventilation penetration as approximated by the ratio of wall surface area to the larger block area. Establishing the geometric attributes of spatial usability by environmental quality, the inefficiency of the prototypical cruciform-shaped block of the Mei Foo Sun Chuen can be understood fully. Geometric purity indicates an incomplete manipulation of the block footprint to maximise its surface area exposure. This is developmentally inefficient since all programmes inside the unit would have to compete for the sub-optimal, limited and valuable outward-facing surface area regardless of the amount of environmental exposure they actually need to serve their minimal respective functions [see f4•29].[4•52]‡4.21

5•4 With the goal of maximizing the surface area exposure of the block, a new spatial operation inverting wall indentation technique has emerged; block area is subtracted selectively to create new inward-facing surface area. As such, the optimisation of internal environmental quality is achieved by further fragmentation of the block. Typically, the strategy

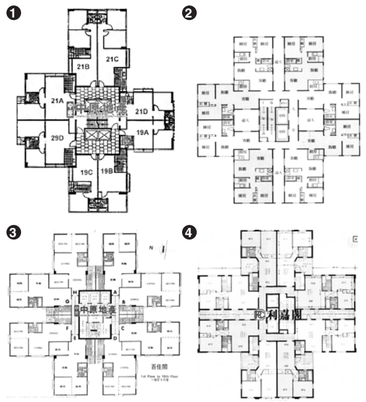
[4•52] Ibid., 114.

‡4.21 *The Building (Planning) Ordinance specifies the permissible minimum window requirements for different types of domestic programmes. In general, no programmes are exempted from the requirement of windows provision to achieve light and ventilation penetration.*

*95 Floor plans, *CENTADATA*, http://www1.centadata.com/

*96 Floor plans, *Ricacorp Properties Limited*, http://www.ricacorp.com.hk/cms/template.aspx?series=42

*97 Floor plans, *Midland Realty*, http://en.midland.com.hk/wp/?cat=6




**f4•28** Floor plans showing examples of early inefficient cruciform-shaped blocks.
***Estate:*** 1) Healthy Garden; (2) Bedford Garden; (3) Mei Foo Sun Chuen; and (4) Allway Garden.

of wall depression is introduced along the centre-lines of the cruciform's extensions to create shaft spaces at the minimum permissible depth to provide light and ventilation penetration to deeper regions of the internal block area. The strategy produces shaft spaces where wet services programmes can be placed along its inward-facing walls. With wall depression firmly established as a standard block design practice, the contemporary class of cruciform-shaped housing blocks with four extensions—each of which is additionally incised midway to construct a shaft space—has emerged. These designs bear some resemblance to the high-rise blocks envisioned by modernists like Le Corbusier that are also highly articulated and indented [see f4•30].[4•53]

5•5 The realignment of internal unit programmes corresponds with an overall consolidation of the internal programmatic distribution of the entire housing block footprint. Programmatic sectors are grouped according to distance from the central core. As such, a patterned programmatic sequence has emerged both planimetrically and elevationally. In plan, the kaleidoscope-like pattern materialises in concentric programmatic layers radiating from the central core—moving from mechanical services, to the circulation armature, and to the private-private-common spaces that are capped and punctured respectively by private-private-individual spaces (bedrooms) along the outward-facing wall and private-private-private spaces (wet services) along the depressed centre-lines of the cruciform's extensions [see f4•31] [see f4•32].

### 4226 *Polarisation of spatial differences*

6•1 The consolidation of the programmatic and experiential organisation of the block in such a systematic and hierarchical order has in effect completed a monocentric trend of spatialisation beginning at the organisational level of the city.

[4•53] Ibid., 157.





**f4•29** Composite documentation comparing and juxtaposing fragmented housing block in historical precedents and in Hong Kong's implementation.
***Media:*** (A) Block floor plans; and (B) Photographs of the blocks' elevation view.
***Projects:*** (1) Las Cocheras; (2) Mont Vert in Tai Po; and (3) the Le Corbusier tower for Plan Voisin 1922.




*98 J.A. Coderch, "Typical Floor Plan," drawing, *Housing Prototype.org*, http://www.housingprototypes.org/project?File_No=E005.

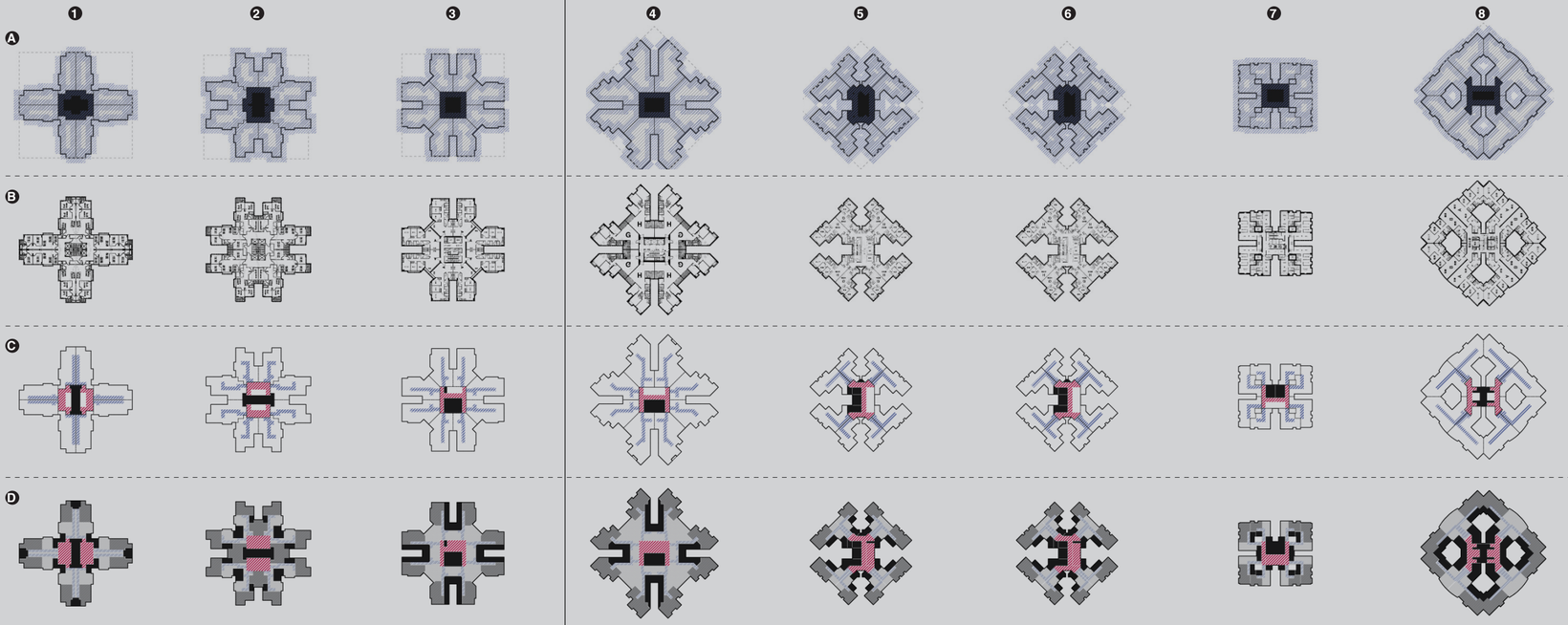
*100 "Mont Vert Floor Plan," drawing, *Go-Home.com.hk*, http://www.gohome.com.hk/new-property/Mont-Vert/ad-10654/floor-plan/en/.

*99 "Mont Vert Floor Plan," drawing, *Go-Home.com.hk*, http://www.gohome.com.hk/new-property/Mont-Vert/ad-10654/floor-plan/en/.

What is more, the study of private housing block morphology reveals a science to efficiency optimisation that—in spite of its overt manipulation of space—stems from anti-spatial considerations evaluated according to the maximisation of land-use efficiency, as necessitated by the developmental pressures exerted by the land system and the existing building regulations.

6-2 This calculated consideration of space renders attempts to optimise spatial quality a process contingent on the polarisation of external spaces according to a pre-determined classification of programmatic desirability. Unconstructed spaces embedded in and adjacent to the housing block are mechanically differentiated according into primary and secondary spaces deserving of different environmental qualities, so that the improvement of the former is derived directly from the subjugation and marginalisation of the latter. Even when 'usable' unconstructed spaces are produced by the efficiency optimisation of the block, the block is not expected to actively shape the experiences of the resultant open areas. Instead, it is to stay aloof—conceived as a separated object on the wider field of the estate. As such, the study of private housing block design reveals an additional spatial analogue to 50:50—an analogue reiterating the tendencies of spatial separation.

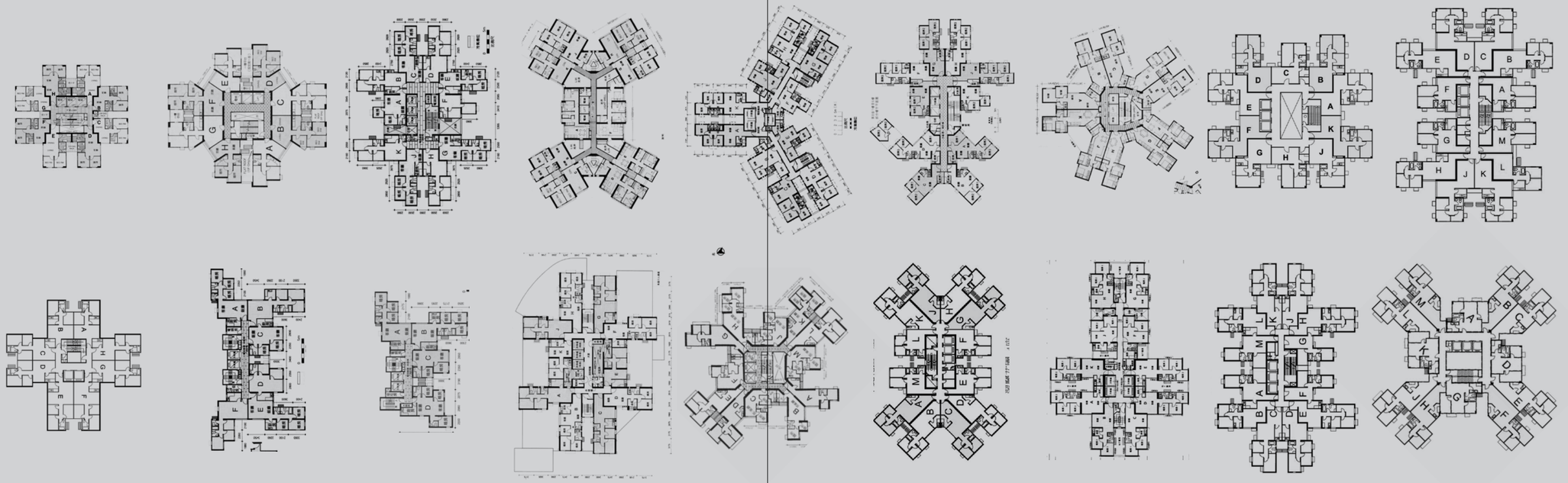
f4-31 Composite documentation containing diagrams analysing housing blocks that are representative of common private housing blocks typologies in Hong Kong.
***Diagram:*** (A) Block profile; (B) Floor plan; (C) Circulation; and (D) Programmatic distribution.
***Estate:*** (1) Mei Foo Sun Chuen I; Mei Foo Sun Chuen II; (3) Whampoa Garden; (4) Tai Koo Shing; (5) Ocean Shore; (6) Mountain Shore; (7) Park Central; (8) Symphony Bay.



*Block designs in the newer subsidized built-for-sale housing, which are developed by private developers, have often achieved efficiencies that are even greater than the typical private-sector cruciform-shaped block.*

*The increased efficiencies are indicated by measures such as unit output per floor and the ratio of wall surface area to block area. As the selection of block plans provided here illustrates, a considerably greater degree of geometric manipulation is present in these blocks, which corresponds to a heightened application of the techniques of wall indentation and depression to further fragment the block profile. Thus a new generation of point towers that feature kaleidoscope shapes have emerged.*

*It is important to note that new class of buildings do not necessarily contribute to meaningful architectural diversity: the change is strictly superficial–affecting the geoemtric profile of the block–as the primary programmatic schema centred on the consolidated core is unaltered, such that the overall experiential sequence they enable remains identical to that of the cruciform-shaped block.*



f4•32 Plan series of unique block designs selected from estates developed through the Private Sector Participation Scheme to highlight additional geometric manipulation on the point tower profile that produces increased developmental efficiency.

*101 "Private Sector Participation Scheme housing," Floor plans, *Hong Kong Housing Authority*, http://www.housingauthority.gov.hk/

*102 Floor plans, *Century 21 Hong Kong*, http://century21.hk/en/index.php

*103 Floor plans, *GoHome.com.hk*, http://www.gohome.com.hk

*104 Floor plans, *notcomment.com/*, http://notcomment.com/wp/?cat=6

# 4.3

## **On unit design:** *the intimate developmental pressure calibrator*

*105 M. Wolf, "100 Photos of 100 Rooms of 100sq ft," photographs, *Hong Wrong*, http://hong-wrong.com/michael-wolf-hong-kong/.

*106 B. Lam, "Society for Community Organisation's 'Cubicle Dweller' Series", photographs, *adsoftheworld.com*, http://adsoftheworld.com/media/print/society_for_community_organisation_cubicle_dwellers_1.




***Key:*** *Public sector housing units [shaded in pink]*

**f4·33** Composite documentation juxtaposing similar forms of subdivision-based unit designs–in the past and present, and within both public and private sector housing.
(1) Photographs (2) Axonometric drawing of typical early public housing single-household unit-room.



# 4.3.1

## Public housing unit as subdivided space: *disappearing flexibility and emerging prescription*

4311 *Public housing unit precedent: the subdivision model*

1·1 Public housing unit morphology cannot be understood without referencing early post-war provisions of low-cost rental housing—a class of housing provided predominately by the private sector that continues even to this day. Commonly referred to as 'private tenements' in academic literature, the term refers to the practice of subdividing the deep and narrow units of the vernacular Shophouse block described in the preceding subchapter into cubicles that were sublet to various households. It is simultaneously a unit type, a spatial practice and an administrative model [see f4·33].

1·2 In a general setup, partial-height wooden partitions were used to provide the semblance of cross ventilation and light penetration across the deep and crowded space. Basic cooking and latrine facilities were found in the back of the building and shared by the numerous households occupying the same floor. With a per capita spatial standard commonly ranging from **12 to 15 ft²**, an incredible quantity of furniture and possessions were packed into tiny cubicles that could cost over **300 USD per month** today.[4·54] Evidently, the model was not the product of domestic spatial consideration, but simply an optimised design that provided landlords with a high financial return on low initial investment. [4·55]

1·3 Legally, these types of low cost rental accommodations are called *cubicle apartments*.[4·56] Borrowed from a Cantonese colloquialism, the term Tong denotes 'to butcher,' which conveys the action of the splitting of a flat. The public perception surrounding the model is ambivalent and complex; it conjures a range of cultural biases, including notions of flexibility, informality and housing insecurity.

1·4 Certainly, it is a housing model that is associated to the ruthless financially-motivated practice of overcharging tenants in poorly-maintained and overly-subdivided units.[4·57] But just as the model of subdivided spaces is regarded as an unrefined and uncivilised mode of housing, it is also the housing form occupying the first step of the home-ownership ladder—the step immediately preceding entrance to the Public Rental Housing (PRH) programme. For many new immigrants, residency in a cubicle apartment has historically constituted a rite of passage in Hong Kong citizenship.

1·5 The model also has important spatial significance; the practice of subdivision is understood to be a pragmatic strategy that optimises spatial usability by permitting the flexible compartmentalisation of space to respond to shifting spatial requirements. And to the home-owner, the capacity for a unit to be subdivided indicates a pre-existing spaciousness. Thus, subdivision is at once an undesirable practice, a functional volumetric strategy of spatial appropriation, and even a desirable metric to assess the spatial standards of a housing accommodation.

1·6 But most importantly, it is deemed an indispensable practice in a development context characterised by perpetual spatial shortage. Understanding the model's capacity to adapt to the city's spatial constraints, it is not surprising that the concept of subdivision has influenced the design considerations of the public housing unit. The review of public housing unit morphology illustrates an evolving

[4·54] Christ and Gantenbein, *Typology: Hong Kong, Rome, New York, Buenos Aires*, 31.

[4·55] Feng, *A Century of Hong Kong Real Estate Development*, 63.

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[4·56] Buildings Department, "Frequently Asked Questions: Subdivision of a Flat," *GovHK*, last modified February 17, 2015, http://www.bd.gov.hk/english/services/index_faq1.html.

[4·57] Will, "Housing Design and Construction Methods," 125.

relationship between the unit and the enclosure of its internal programmes—an evolution with significant implications in how space is appropriated.

4312 *Stage I: the existence minimum cubicle unit-room*

2-1 Official provision of public housing units came as a response to the Shek Kip Mei Fire that displaced **50'000 persons** overnight in 1953. The prototypical public housing unit of Mark I referenced the subdivision model of the private tenement: the unit was simultaneously a cubicle and a room. Each unit-room was a bay framed by **2 load-bearing walls**, the perimeter balcony that provided access to the unit-room, and a centre non-structural spine wall constructed from hollow blocks that separated **2 back-to-back unit-rooms**.[4·58]

[4·58] Ibid., 99.

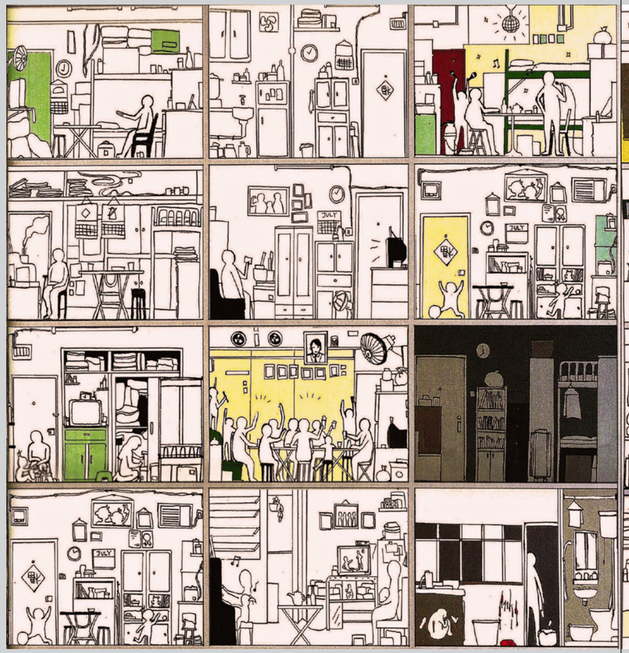
2-2 By the development of Mark II, the practice of flexible subdivision was clearly adopted as the size of structural bays were increased to allow within them the flexible placement of non-structural partitions to create various unit-room sizes for different households.[¶4.22] However, these unit-rooms were still small and austere [see f4·34].[4·59] They served the bare essential programmes requiring personalisation—programmes likes storage and rest. Similar to the subdivided tenement, cooking and latrine facilities were located in a centralised common area. As such, a large proportion of the day was to be spent outside of the household's unit-room. It is evident that, the scheme inspired by the subdivision model was contingent on an undefined spatial organisation where public and private boundaries were perpetually porous and fluid.[4·60] Thus, the early public housing estates retained a social atmosphere that was incredibly activated in spite of the severe industrial overtone of their designs.

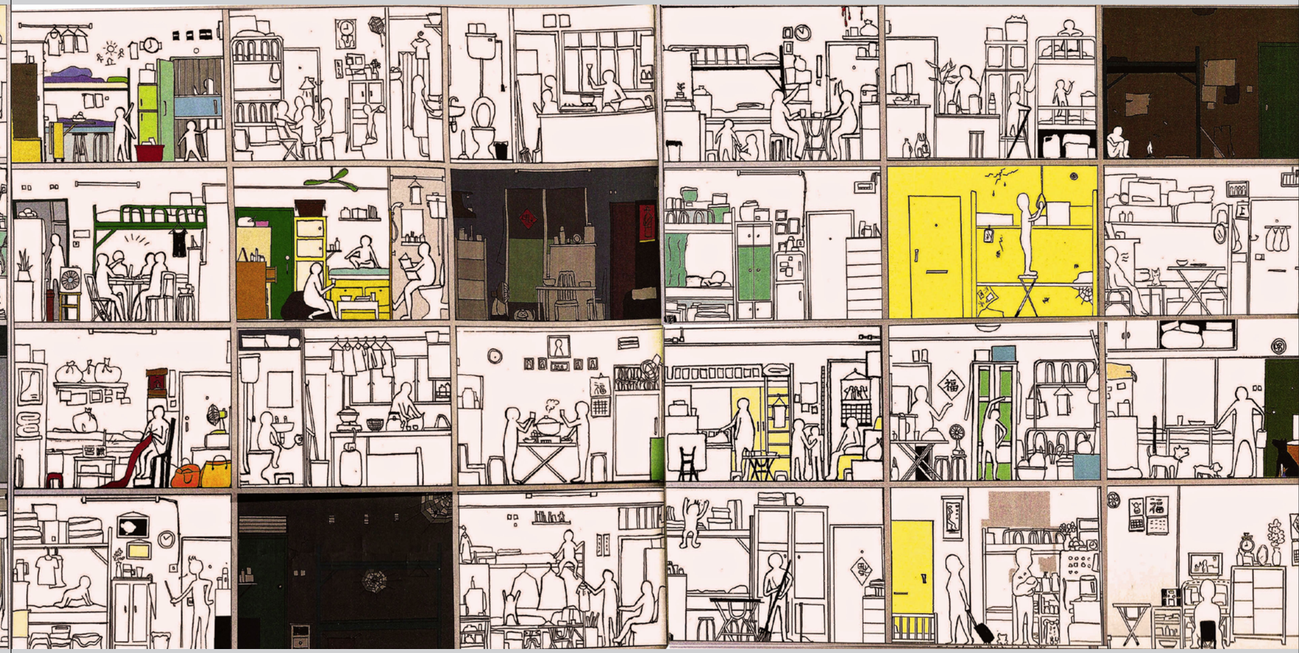
¶4.22 *Resettlement housing units were not distributed according to individual households until the introduction of Mark II. Previously, units assignment was based on individual applications in order to maximise the occupancy per unit. As such, it was possible to have 5 unrelated adults cohabiting in the same unit.*

[4·59] Ibid., 102.

[4·60] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 72.

2-3 The socialisation of a large portion of daily ritual in





f4·34 Artist's Documentation of domestic life within the units of Lower Ngau Tau Gok Estate.

*107 J. Choy, *Lower Ngau Tau Kok Estate* (Hong Kong: Asia One Books, 2010).

shared areas follows a general pattern in public and vernacular low-income private housing rental housing design that has commonly conceived shared external areas as an extension of the individual's internal unit area. Implications of the approach at the scale of the public housing estate and block were discussed in the previous chapter.[4·61] At the scale of the unit and the floor, it operates similarly to increase its population capacity. By reducing the living unit to the essential functions requiring privacy and by broadening the extent of the domestic programme that can be socialised into shared spaces, the required gross floor area per household is effectively reduced. The strategy not only minimises construction costs, but permits the enlargement of strategically selected spaces of socialised domestic functions by their consolidation. As such, the actual degree of spatial shortage is perpetually disguised by the optimised provision of ambiguously-owned shared areas.

[4·61] Ibid. 115.

2·4 With the public housing programme enhancing the provision of socialised domestic spaces in the early public housing types, the necessary contrast required to portray the public housing unit as superior to the private tenement housing was created even though individual unit spatial allocation did not vastly improve.[4·62] Thus, internal unit area continued to be suppressed to absorb the large population displaced by the land system's inherent housing unaffordability at the lowest amount of land required. It was an approach that would continue into the 1970s.[¤4.23] From this examination, it is evident that the public housing unit was and will continue to be the primary and most intimate site where the constructed dilemma between spatial standard and the city's intensified developmental pressure are implicitly resolved by the state-managed housing system.

[4·62] Sullivan and Chen, "A Critical Review of public housing Flat Design in Hong Kong," 300.

¤4.23 *It is hypothesised here that the strategy of selecting certain domestic programmes to collectivise, such as lavatories in earlier housing block designs, capitalises on economy of scale, thereby lowering the total spatial demand for programmes that would otherwise be inefficiently provided individually and internally in each unit.*

### 4313 *Stage II: towards the self-sufficient, single-household and subdivided unit-room*

3·1 The public housing programme's socialisation of domestic functions was only justifiable under the pretext of emergency housing within the policy framework of the Resettlement Programme. In the long-term, the approach encountered notions of modern living—notions demanding the unit's equipment with all living essentials. Thus, the design of newer unit-rooms would centre on the single self-sufficient household as the early programme transformed into a permanent developer. This was the second stage of public housing unit development, where each subsequent design iteration of the unit-room amounted to a modest milestone towards unit self-sufficiency and area enlargement.

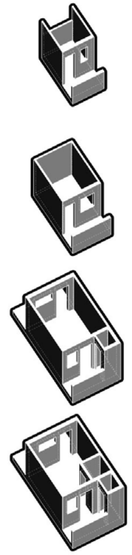
3·2 With the new design attitude, private balconies were included by Mark III, toilets by Mark V and kitchens by the implementation of the Twin Tower and H-Block typologies in the 1970s. In the span of two decades, all essential daily domestic functions were privatised within the confines of the individual unit [see f4·35], such that the only remaining spatial attributes to improve upon were the unit's environmental qualities, the unit's geometrical configuration and the primordial concern of unit area.[4·63]

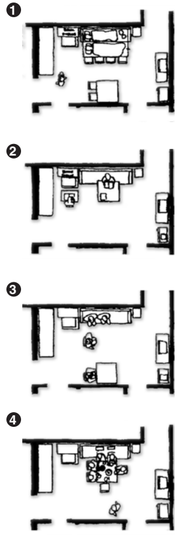
[4·63] Lim and Nutt, "Planning and Locational Aspects," 50.

3·3 In the context of Hong Kong's land supply restriction direct expansion of internal unit area was a challenging objective that is minimised, where possible, by spatial strategies augmenting the perception of spaciousness. Thus, the unit continued to be designed as a unit-room such that additional spatial provision was consolidated in a singular space, as opposed to distributed to multiple differentiated rooms. Similar to the strategy of open space consolidation on the estate scale, it was an optimised method of unit area expansion that simultaneously amplified the effect of spatial improvement and minimised the concomitant increase in land requirements.

3·4 The open-plan unit-rooms were then offered as empty unit








*108 Drawing of Time-Budget method: Sullivan and Chen, "A Critical Review of public housing Flat Design in Hong Kong," 296.

f4·35 Axonometric drawing series showing the gradual development of self-sufficiency in the evolution of early public housing unit design.

f4·36 Plan series showing flexible unit configuration by Time-Budget Method. (1) 09:00; (2) 12:00 (3): 16:00; (4); 21:00.

shells -including only the bare kitchens and toilets facilities -to tenants who would renovate, or 'fit', the unit-rooms by the building of interior walls and the installation of finishes and cabinetry. In delegating interior design to tenants, the practice enhanced the spatial usability of the unit-room by permitting its complete personalisation to serve individual needs [see f4·37][see f4·38][see f4·39][see f4·40].[4·64] The open-plan also maximised the possibilities of internal unit configurations so that tenants could experiment with a variety of strategies to incorporate flexibility in their renovations. It was an approach that capitalised on spatial flexibility to enhance the perception of spaciousness in the absence of dramatic unit area enlargement.

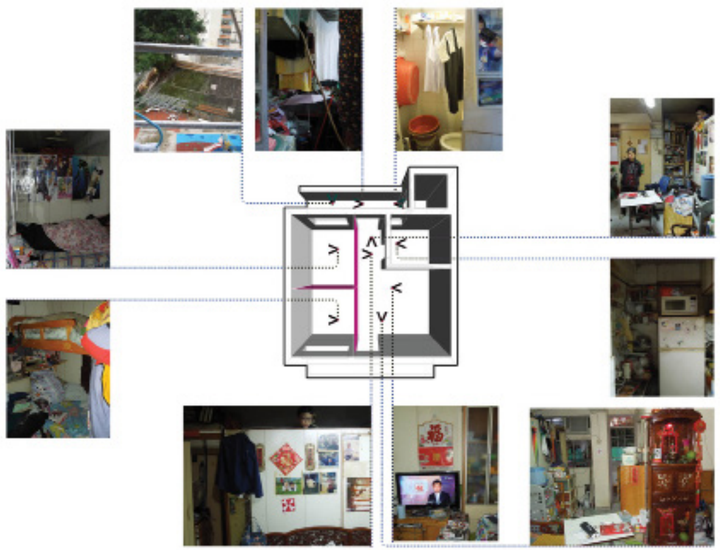
[4·64] Sullivan and Chen, "A Critical Review of public housing Flat Design in Hong Kong," 296.

3·5 As the tenants were expected to create usable spaces themselves, the practice of subdivision was officially introduced within the individual public housing unit in a process known as *Tenant Fit-Out*.[4·65] Under the system, tenants devised a number of remarkable spatial strategies—flexible strategies that were at once programmatic, temporal, functional and social. The intensive use of three-dimensional space by the vertical stacking of furnishings for storage and the adoption of movable furnishing with multiple functions were among the volumetric techniques devised. Generally, rooms were conceived to have multiple uses at different times of the day—amethod of spatial appropriation known as the *Time-Budget Method*.[4·66] [see f4·36]

[4·65] Ibid., 295.
[4·66] Ibid., 298.

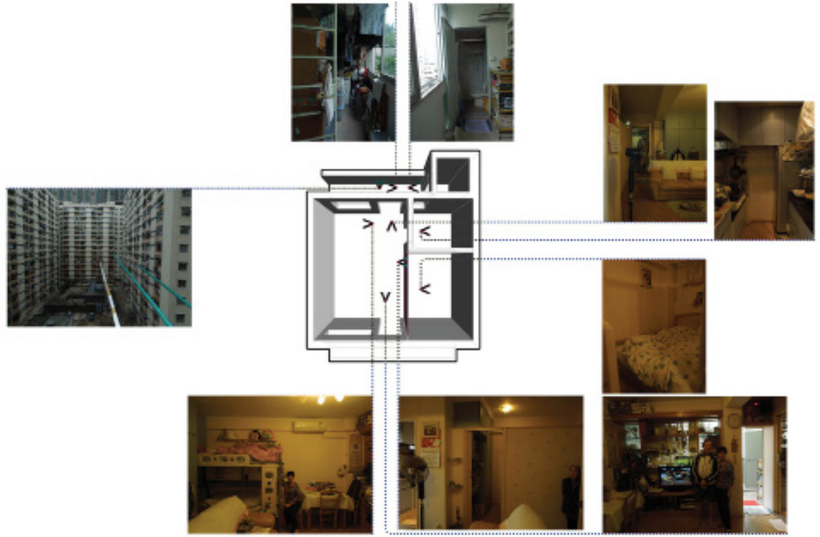
3·6 And with the entrenchment of the *Tenant Fit-Out* process in the design of public housing beginning in the late 1960s,, the programme started to measure the progress of its own improvement by the capacity for unit-rooms in newer block typologies to be subdivided. Concurrently, spatial standards per person in the public housing sector improved by **40%** in the two decades between 1950s and 1970s, from a unit size of about **14 to 27 m²** in the Mark V block to **40 m² per**

*This study documents units from the Lok Man Sun Chuen, which is a Hong Kong Housing Society (HKHS) estate. Although the design of this estate does not conform to standard Hong Kong Housing Authority (HKHA) estate modules, the units documented here nonetheless have similar configuration as many units found in the block designs of the HKHA's Linear and Slab series.*

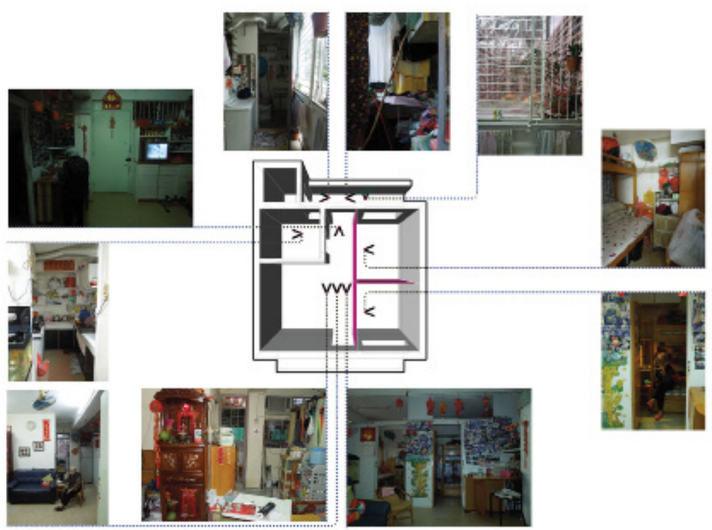


f4•37 Public housing unit-room subdivision case study #1.



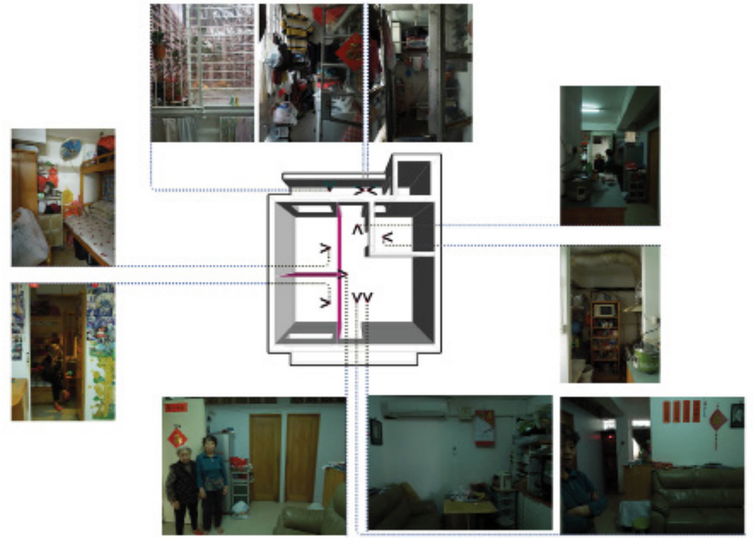


f4•38 Public housing unit-room subdivision case study #2.



f4•39 Public housing unit-room subdivision case study #3.





f4•40 Public housing unit-room subdivision case study #4.

**household of 4** by the implementation of the H block.[4-67]

3-7 The democratisation of the design of the unit-room, however, was only a secondary consequence to cost-minimisation. The *Tenant Fit-Out* model minimised both initial construction and future maintenance costs. Furthermore, the offloading of renovation responsibilities sped up construction time, thus optimizing the supply rate of new units. It was a model that conveniently limited construction requirements while maximizing spatial usability—a process that also improved tenants' satisfaction by granting them design freedoms.

3-8 These apparent benefits were not without negative consequences, however. With the public housing provider exempted from the responsibility to provide interior finishes, a new realm of differential privilege was created within the programme as the qualities between unit-rooms differed greatly due to variations in households' income levels.[4-68] Thus, the model followed an ongoing pattern in the city's public policy to eschew universality in welfare provision.

3-9 Spatially, the suppressed improvement of internal unit area rendered internal unit subdivision an exercise that polarised domestic programmes unit-rooms typically retained only enough area to be partitioned into one common room and a couple of smaller bedrooms.[4-69] As such, the spatial optimisation strategy within the unit-room was a reinterpretation of the practice in private tenement: in order to maximise the space hosting the socialised domestic functions, the scope of functions requiring privacy was reduced and compartmentalised into highly compact 'rooms' of vestigial quality that served singular functions. It is a process that set the spatial quality improvement of one space in opposition to another.

[4-67] Lim and Nutt, "Planning and Locational Aspects," 50.

[4-68] Sullivan and Chen, "A Critical Review of public housing Flat Design in Hong Kong," 300.

[4-69] Ibid., 299.

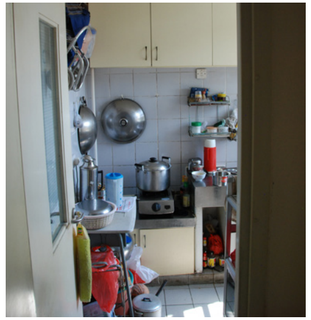


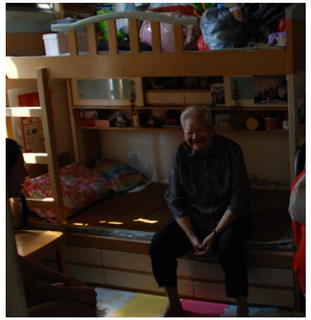
f4-41 Photograph showing the appropriation of living spaces inside a large rectilinear unit-room.

*In this case study examining subdivision practice common in the highly rectilinear unit type of the H-shaped block, the tenant had allocated the wall surface area with lighting and ventilation penetration exclusively to the bedrooms. Consequently, the living room's quality is negatively affected.*









p5-24 Photograph showing the appropriation of spaces inside a self-sufficient unit-room.

3-10 The greatest developmental benefit of the model, however, was likely its capacity to preserve the deep rectilinear profile of public housing unit-rooms common in the public housing programme up until the 1970s, even as unit area expanded. With unit subdivision a tenant's responsibility, the open-plan unit-room was essentially conceived as one space. Since each household was expected to appropriate their unit differently, designers only needed to ensure that the unit retained some capacity for subdivision with regard to its ventilation and light exposure. As such, the inherent flexibility of the subdivision model liberated designers from the exhaustive need to ensure that surface area was provided to a predetermined number of rooms within the unit. In prolonging the feasibility of dividing the block floor area into deep rectilinear units, the strategy helped maintain an optimised unit output per floor.

3-11 In practice, the rectilinear unit-room encouraged a typical internal spatial configuration that subdivided itself into a series of horizontal-programme bands parallel to the unit-room's width. The subdivided spaces hosted compartmentalised activities that were connected by the internal unit circulation running perpendicularly.[4-70] A hierarchical ordering of programmes by lighting and ventilation requirements were produced inside unit-room, which were generally poorly lit and ventilated. An example of this method of programmatic appropriation is the placement of bedrooms in the darker areas as they required less lighting and ventilation [see f4-37].

[4-70] Lim and Nutt, "Planning and Locational Aspects," 53.

## 4.3.1.4 *Stage II: Compartmentalisation and the emergence of the modern multi-room unit*

4-1 Subdivision, as an official design criteria, continued into the early public housing block point tower typologies. With the introduction of the modern point tower, the technqiues of wall indentation and depression was increasingly applied to

the block footprint to bring light and ventilation penetration into deeper regions of the housing block. Consequently, the geometric profile of the unit was transformed from an undefined simple rectilinear unit-room into a highly geometrically-fragmented and articulated shape—a shape with increased total wall surface area that readily lent itself to adoption as a multi-room unit.[4·71] The new modern multi-room unit was designed for a defined and preferred internal spatial configuration. But just as geometric manipulation could improve lighting and ventilation penetration, so too could it reduce the spatial usability attainable by internal unit subdivision.

[4·71] Ibid. 61

4·2 The implications of intensifying geometric complexities to spatial usability were indirectly documented in Sullivan's analysis that compared internal unit spatial configuration between the Trident series‡4.25 and the newer Harmony series. Whereas the Trident shell allowed some flexibility in the subdivision of its internal area and produced a variety of internal unit spatial configurations that were evenly adopted by different households, the newer Harmony series—which contained internal structural elements that further limited its flexibility—retained far fewer internal spatial configuration possibilities. In fact, the study shows that **19/20** of households residing in the Harmony series used the same internal spatial configuration. Therefore, what the households gained in construction quality and interior environmental quality improvement, they lost in design possibility.[4·72]

‡4.25 *The Trident blocks are transitional typologies conceptually situated in between the double-loaded slab and Point-Tower that extensively implemented the strategies of indentation/depression to their block footprint. The increased geometric articulation of the unit, while improving lighting and ventilation penetration, reduced the total number of internal configurations attainable by internal unit subdivision.*

[4·72] Sullivan and Chen, "A Critical Review of public housing Flat Design in Hong Kong," 300.

4·3 With the introduction of the Concord series, the Housing Authority had officially renounced the concept of the flexible *Tenant Fit-Out* model as all interior walls and finishes were fully provided.[4·73] As such, the design freedom previously induced by administrative expediency had disappeared altogether as design control reverted back to the housing developer. In the absence of dramatic unit area increase, the changes temporarily augmented the perception of spatial improvement by the superficial addition of interior finishing.

[4·73] Ibid., 302.

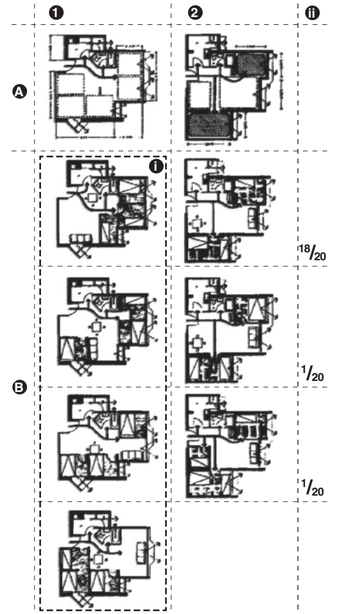
4·4 But in reversing the optimised practice of consolidating spatial improvement to a singular space, the Hong Kong Housing Authority pursued a unit configuration that minimised the impact of future unit expansion: the threshold at which additional spatial provision could produce tangible improvement was increased, since each additional unit of space would be distributed to multiple defined rooms. Also paradoxical is the multi-room model's capacity to reduce the usable area to tenants even as the overall area of unit expands. For instance, the Harmony unit includes one **8 m² bedroom** for the diverse range of households it is designed for. Whereas the configuration might be appropriate for a household with 3 persons, a household with 4 persons might prefer **2 smaller bedrooms at 5 m²** each instead. Thus, the conversion of the unit-room to a rigidly-defined multi-room unit not only deprived the tenants the full capacity to optimise spaciousness by the flexible transfer and appropriation of space, but inefficiently produced unwanted space that cannot be appropriated [see f4·42].

4·5 Certainly, benefits of the system cannot be ignored. The *Tenant Fit-Out* model was known for wide discrepancies in interior qualities among households and the ongoing nuisance generated by constant renovation activities. As such, the new system provided the government the opportunity to institute public order at the most intimate scale at which the built environment can be controlled. A particular modality of domestic life was thus encouraged; the units produced began to be conceived as commodified products, finished at a predictable quality, curated to a specific lifestyle, and designed for an ideal public housing household.

4·6 As the internal unit configuration became increasingly



*109 Sullivan and Chen, "A Critical Review of public housing Flat Design in Hong Kong," 300.




f4·42 Diagrams comparing possible internal unit configuration permutations as revealed through occupants survey.
***Type:*** (1) Trident—1980s; and (2) Harmony—1990s.
***Drawing:*** (A) Original plan; and (B) Configuration possibilities.
***Data:*** (i) Individual configuration probability; and (ii) Probability of configurations are evenly distributed.

rigid, the tenants had no choice but to follow the pre-determined use of the unit. As such, the final stage of the public housing unit morphology presented itself as a revolt against the practice of spatial subdivision—a practice contingent on undefined spatial fluidity and porosity that is historically associated with disorder, over-crowding, and poverty. There is no question that the newer unit types of the Harmony and Concord series have completed the critical convergence between public and private housing morphology encompassing both the scale of the estate, the block and the unit.

4·7 Convergence would not be problematic if the object of emulation was vastly superior to its current standard, but in a context in which the standards of private housing are similar to public housing both in unit area and usability (as discussed in the following subchapter), the latest typological iteration of public housing is less of a symbol of substantive spatial improvement than an indication of the programme's increasing conformity to the practices of private market housing—practices that frequently produce declining spatial usability.

4·8 The study of public housing unit typology has demonstrated the transformation of two methods of unit production entailing two conception of space. In the first instance, the unit was centred on the self-sufficient single household unit-room. It was a unit type designed for its capacity to moderate the land requirements needed to achieve unit spatial improvement. The model encouraged households to adopt methods of spatial appropriation such as flexible spatial subdivision and the polarisation of domestic programmes—methods that gave designers the ability to resist drastic improvement to the internal environmental quality of the unit. Recently, the intensifying private-orientation of the Hong Kong's housing system within a context of spatial shortage, however, has led

to the emergence of the multi-room unit. The new unit type produced the semblance of improved environmental quality, and promoted a private-oriented notion of domestic living by the ongoing compartmentalisation of programmes at the loss of internal spatial flexibility. As such, the morphology of the public housing unit reaffirms a spatial design process that is guided primarily by the logistical considerations important in the various instances of the public housing programme's history. Significantly, the process has constructed an artificial dilemma between flexibility and quality.



4.3.1



# 4.3.2

## Private housing unit as optimised the site for inefficiency devolution: *the competition between developmental and occupant-oriented efficiency*

### 4321 *Historical consciousness for an occupant-oriented efficiency*

t21 實用率

1-1 Consumer discourse on the design and layout of private housing units has historically centred on the measure known as Sat Jung Leot. Frequently translated as 'efficiency' or 'saleable area ratio' in English market literature, the Chinese word corresponds to 'practicality' and 'functionality.' The concept is complex: it is an implicit criticism on the dubious business practices of the property development industry—tied both to notions of marketing honesty and unit functionality.[4-74]

[4-74] K.T. Tu, Qu Chu Lai De Shi Yong Luu (blog), *Yahoo! Finance (Hong Kong)*, last modified December 31, 2012, https://hk.finance.yahoo.com/blogs/%E8%B6%A3%Eg%81%8A%E6%A8%g3%E5%BB%82/%E5%81%88-%E5%87%BA%E4%BE%86%E7%gA%84%Ec%AF%A5%E7%94%A8%E7%8E%87-03360022.html.

t22 實用

1-2 Technically, the ratio was calculated by the division of internal unit's saleable area by the marketing architectural area, which was historically larger, and contained various types of 'shared spaces' outside of the unit. Whereas this formulation may begin to explain the appropriateness of the term 'efficiency' in translating Sat Jung Leot, the metric constitutes a symbol of trust in the property developer to accurately portray the internal unit in their marketing literature. The term furthermore conjures certain geometric connotations. A unit that is described as Sat Jung is implied to be highly versatile and functional in its geometry.[4-75]

[4-75] Y. Liu, "Industry seeks new size rules," *South China Morning Post*, April 18, 2007

1-3 The abstraction of these seemingly distant concepts in one term aptly captures the historical trajectory of private housing unit morphology. Although the evolution of private housing unit typology is the result of extensive efficiency optimisation, the actual considerations of these various processes are frequently led by both spatial and abstract priorities operating on different scales such that the optimised outcome generated by the exercises can be dissociated from spatial considerations at the unit scale for the home-owners. With such a high degree of spatial complication and entanglement, it is not difficult to imagine how the formal, social, and marketing phenomena described above have reified around this one term over time.

### 4322 *Standard private housing unit scheme*

2-1 The quintessential Hong Kong unit follows a formulaic programmatic sequence that is hierarchically structured from private-private-common congregation spaces to private-private-individual exclusive space. As explained in the preceding subchapter, these units are attached to a C-shaped or H-shaped circulation armature which functions strictly as a conduit. Exiting the elevator, a brief walk through a narrow corridor brings the resident to the unit's entrance usually positioned at the vertex of the central core.

2-2 Opening the unit's entrance door, a hybrid living and dining room greets the visitor. Typically located within several steps from the entrance door is the kitchen space. Depending on the designed household income class of the unit, the kitchen may contain an approximately **4 m² dimly-lit room** peculiarly equipped with toilet plumbing and a small window opening to a narrow inward-facing ventilation shaft. Euphemistically termed as storage or utility room, the minute space is in practice designated for live-in maids.

2-3 Across the living room is another double-loaded corridor leading to one to two bedrooms at approximately **4 to 8 m²** each which line the block's outward-facing perimeter and **1 to 2 bathrooms** at the inward-facing perimeter towards

the centre. The bathrooms share the **2.5 m wide** light and ventilation shaft with the kitchen and maid's room.

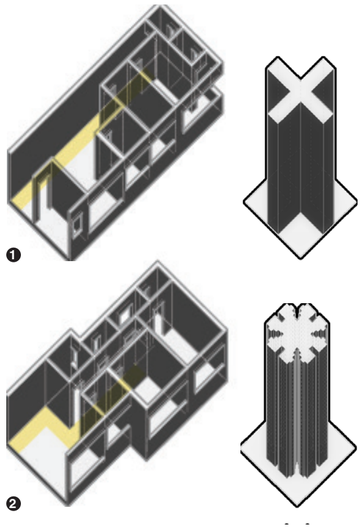
2·4 Walking to the end of the corridor some **6 to 8 m** from the unit entrance brings the visitor to the Master Bedroom that is approximately **10 m²** in area. Located at the furthest-most point away from the housing block's centroid, it is in this exclusive enclave that the home-owner is rewarded with the ultimate indication of middle-class comfort: a bedroom which features its own private bathroom with windows flanking at least one to two distinct cardinal directions [see f4·43]·2.[4·76]

[4·76] L. Gutierrez and V. Portéfaix, "Homes for China," *Architectural Design* 75, no.1 (2004):81.

2·5 These spatial features described above exist by no mere coincidence and their enduring permanence is a testament of the capacity of the configuration to optimise developmental efficiency. What is more, the highly structured programmatic and spatial model in effect represents the completion at the unit scale of the hierarchical and monocentric order of space prominent in urban planning. Indeed, the layout remains staggeringly consistent across all Major Housing Estates.

2·6 Differentiations between units are largely superficial and quantitative as they typically refer to the differences in the number of bedrooms and the overall unit size. Variation in unit sizes generally manifest only in the extension of internal unit corridors alongside additional bedroom provision. While these programmatic variations appear minimal, a historical review of unit morphologies in Hong Kong nevertheless shows a modest level of formal experimentation. Studied in isolation, however, these adjustments may appear incongruous, as they fail to produce perceivable diversity in the schematic layout. As a result, an alternative approach must be employed in order to identify the rationale compelling these spatial permutations.

2·7 A parallel account of the evolution in private hosing typologies at the scale of the housing block is indispensable to




f4·43 Axonometric drawing series highlighting two key stages in the optimisation-led evolution of the private housing unit. (1) Geometrically simple early rectilinear unit; and the (2) Indented and fragmented unit profile representative of today's most common private housing unit in the cruciform-shaped private housing block.



the analysis of unit morphology. In fact, an overview of major unit typologies produced over time indicates a process that is largely governed by optimisation of the block footprint, where design priorities are manifested in the intensified manipulation in the overall geometric profile of the unit and consolidation of programmatic distribution—all of which produce noticeable impact to the usability of the interior space. Following the methodology described in the preceding chapter, key private housing typologies indicative of new iterative strategies were selected from the Major Housing Estates and analysed across the five decades of Private Housing development beginning from the 1960s.

### 4323 *Hierarchical, geometric, and programmatic consolidation*

3·1 Geometrically, the profile of the unit is consistent to the intensified geometric fragmentation occurring planimetrically in the block footprint, which experienced an increase in overall wall surface area exposure available to each unit.[4·77] As explained in the preceding chapter, these are adjustments that allow programmes contained in the deeper regions of the unit to receive some degree of ventilation and lighting from the newly created wall surface area exposure such that their spatial usability is improved. Indeed, surface area to volume ratio has steadily increased over time in successive iterations of the unit plan.

[4·77] Shelton, Karakiewicz and Kvan, *The Making of Hong Kong: from Vertical to Volumetric*, 74.

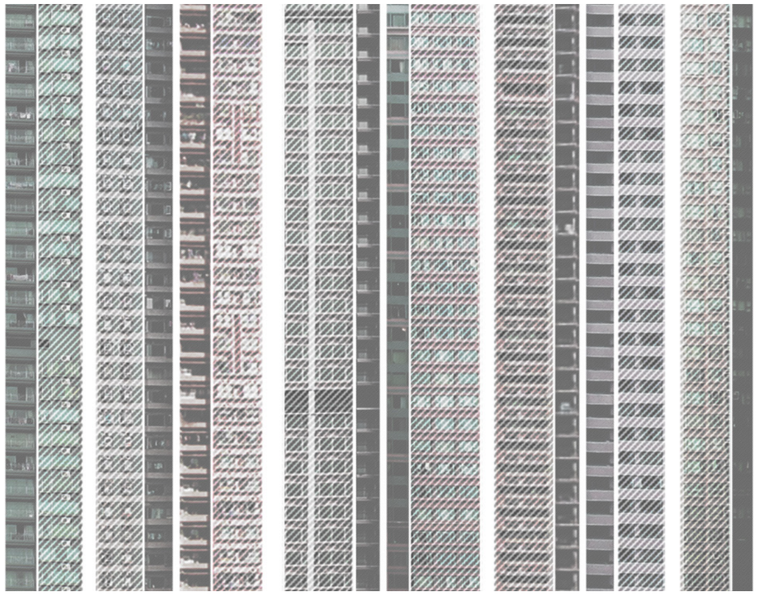
3·2 The improvement is nominal, however: the techniques of wall indentation and depression increased wall frontage by producing inward-facing wall surface areas typically resulting in shafts with inadequate lighting and ventilation capacity [see f4·23]. Their function is thus limited to certain programmes. In practice, the efficient allocation of wall surface area exposure incentivised the classification of the block perimeter into wall intervals of differing degrees of lighting



p5·25 Photograph showing a typical window view from a kitchen or toilet inside a private housing unit.



p5·26 Photograph showing typical view from the streets looking up into the shaft space used to provide lighting and ventilation to the kitchen and bathroom programmes.



f4·44 Photographic collage curating the façade elevation collected from multiple private housing apartments to show the repetitive rhythm produced by the typical unit organisation.



along the building height. The rhythm [see f4·44]— which by virtue of its consistent reproduction across Hong Kong's housing developments and by its direct reflection of the programmes enclosed behind the block's façade—has attained the status of programmatic transparency in the collective public consciousness on housing.

### 4324 *Slenderisation and fragmentation of unit geometry*

4·1 At the same time that the geometric and programmatic optimisation of the unit typology has refined and entrenched a hierarchic spatial order, the same set of developmental efficiency processes has produced a concomitant decline in internal unit efficiencies in regards to spatial usability.

4·2 To the home buyer, the qualitative differentiation of private housing units is determined by the assessment of the units' internal areas, the number of usable and differentiated programmes contained within the unit, and the profile of the unit—attributes indicating respectively spaciousness, functionality and flexibility. Since these qualities, which can be described by conventional housing attributes such as the unit size and the number of bedrooms, are also relevant determinant of its price, [4·78] it follows that the typological evolution of the private unit—when guided by developmental optimisation—would over time encourage the maximisation of the unit's holding capacity per space provided. Thus, developmental optimisation is achieved by maximizing the total number of rooms contained within the unit, while minimizing the concomitant increase in constructed site area.

[4·78] H. Mok, P. Chan, and Y. Cho, "A Hedonic Price Model for Private Properties in Hong Kong," *Journal of Real Estate Finance and Economic* 10, no.1 (1995):43.

4·3 Although strategies of geometric fragmentation—such as wall-indentation or depression—can enhance the functionality of the unit by increasing its environmental exposure, these strategies only produce local deformations to a unit profile and ventilation conditions, to be allocated precisely to the internal programme requiring the respective environmental conditions.

3·3 Following a pattern of spatial appropriation in Hong Kong's context of spatial shortage, domestic programmes are polarised into spaces whose qualities are either preserved or suppressed—spaces that are intended respectively to be experienced as comfort or spaces that are strictly functional. With the living spaces and bedrooms considered the most valuable domestic programmes, an optimal configuration maximises their outward-facing surface area exposure whereas programmes deemed undesirable to merit outer-facing wall exposure are placed along the newly created inward-facing shaft spaces. These programmes typically include the maid rooms, toilets, kitchens and dining rooms and the shared private-public circulation armature at the vertical core.

3·4 It is evident that the combined optimisations consolidated programmatic distribution within the block and had the effect of purifying a spatial order hierarchically ranked and organised according to programmatic privacy, environmental quality, and the pre-determined importance of the programmes. As such, private unit design is contingent on the perpetual articulation of programmatic differences. In this highly articulated unit, architectural thresholds demarcate literal changes in privacy, thereby producing a physical distinction between internal unit programmes and the internal unit circulation that is relegated singularly as a conduit and a separator of spaces.

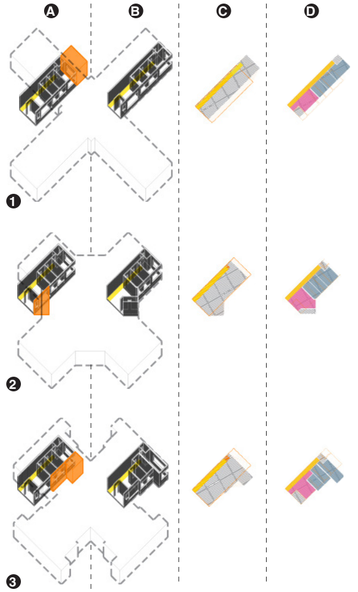
3·5 Viewed from the exterior, the façade similarly catalogues a registrable programmatic sequence alternating between degrees of privacy at various spatial dimensions: from private-private-common (living room), to private-private-individual (bedrooms), and to the deep recess of the private-private-service shaft. It is a rhythm that is then extruded vertically

without fundamentally altering the unit's shape and internal configuration. As such, they do not adequately explain the morphology of private housing units, nor are they sufficient strategies alone to facilitate the compartmentalisation of the unit to improve the unit's programmatic holding capacity.

4·4 As deep unexposed spaces are less functional, the long-term transformation of the unit has been identified in this research as the gradual slenderizing of the unit geometry as subjected to the confinement of the general spread of the block. Theoretically, the strategy manipulates the unit profile planimetrically by stretching its profile while holding unit area constant—increasing the perimeter length of the unit in plan, which when extruded creates additional wall surface area that can be appropriated into a greater number of differentiated programmes. Understanding the overarching process of unit slenderisation explains the specific spatial operations conducted for optimisation at the block scale to consolidate the block area.

4·5 Confronted with the overarching developmental objective to maintain a minium of **6 to 8 units per floo**r and the spatial constraint to maintain the block's efficiently consolidated core, the unit's path of slenderisation is necessarily linear via extension along the internal unit circulation [see f4·45]. As mentioned in the preceding chapter on the development of the private housing block design, however, the extension along the cruciform's axis cannot continue indefinitely as it increases the overall spread of the block thus reducing the block's efficiency. As such, the extension of unit area along its internal circulation path is bent at the general bound of the footprint such that a new generation of L-shape units with T-shape internal circulation have been created [see f4·46].

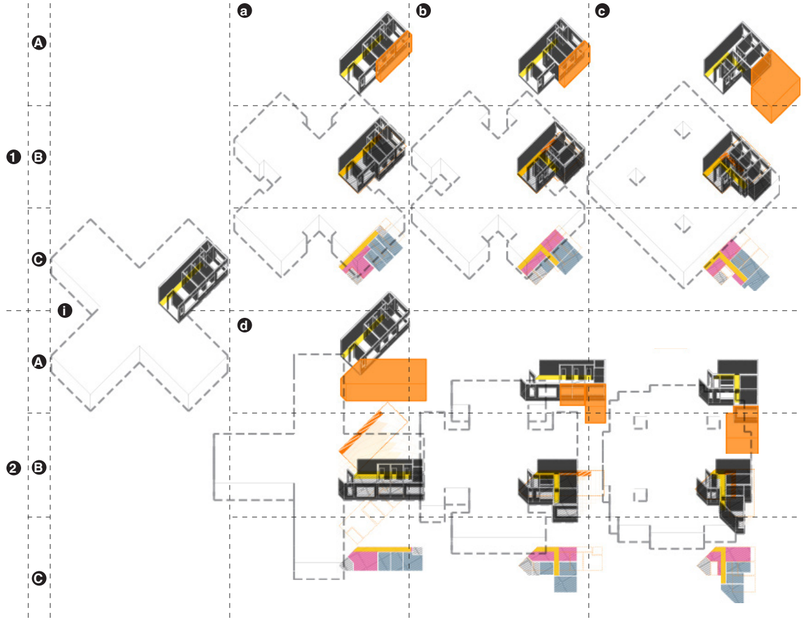
4·6 As the unit is extended along its internal circulation, the spatial manipulation eschewed in the optimisation of the




***Key:*** *(A) Extruded volume [orange fill]; (B) Axonometric of resultant unit; (C) Unit profile and internal circulation — before [dashed orange line], and after [grey and yellow fill] ; (D) Common and individual space distribution [red and blue fill], and corresponding internal partitioning in previous iteration [dashed orange].*

f4·45 Diagram series showing unit-scale geometric operations (I).
***Technique:*** (1) Extension; (2) Angular extension; and (3) Selective extrusion






***Key:*** *(A) Axonometric drawing of unit with extruded, or modified volume [orange fill] highlighted; (B) Unit profile and internal circulation — before [dashed orange line and orange fill], and after [grey and yellow fill] ; (D) Common and individual space distribution [red and blue fill], and corresponding internal partitioning in previous iteration [dashed orange].*

f4·46 Diagram series showing unit-scale geometric consolidation operations (I).
***Techniques:*** Operations that can be applied on the (i) basic cruciform-shaped block, or the (d) X-shaped block after unit rotation: (a) Selective extrusion; (b) Bending; and (c) Wrapping — leading to the two primary classes of block typologies of (1) Cruciform-based blocks, or (2) X-shaped based blocks.

housing block's geometry, as illustrated in the long-term declining popularity of slab typologies, has ironically become the primary mechanism for transforming the unit. The slenderizing of the unit inherently aligns the production of new wall surface area with production of new internal circulation such that a decreasing percentage of internal unit area is appropriated to functional non-circulatory programmes.

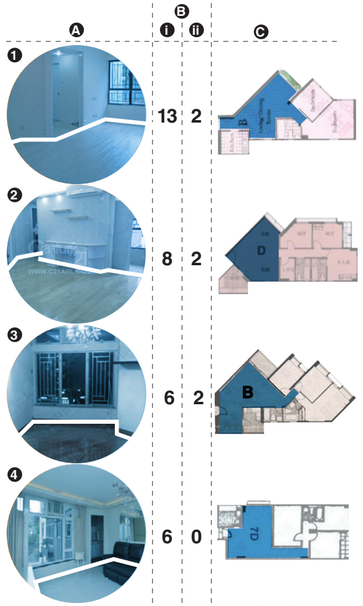
4·7 One method of measuring this emerging internal unit area spatial inefficiency is by tracking the ratio of internal circulation length—between the unit entrance and its most peripheral room—to the absolute distance of the two points. Not surprisingly, the measure has increased in newer unit iterations—an indication of the ongoing expansion of internal unit circulation in time and space.

4·8 Augmenting the strategy of slenderisation is the operation of rotation to allow unit extension along the diagonal axis of the block area. The interaction of angular geometries in an ostensibly rectilinear block schematic layout, however, has produced a new type of trapezoidal living space demanding new creative spatial appropriation. To the public consciousness, accustomed to the rectilinear organisation of spaces, the new diagonal spaces produced are deemed less useful [see f4·47].‡4.27

4·9 The greatest exacerbation of these spatial developments, however, is observed in the interaction of the general strategy of unit slenderisation with the systematic fragmentation encouraged by the existing building regulations. Since the *Building (Planning) Regulations* permits the omission of certain architectural spaces, such as window sills and air handling unit shelves, from the overall plot ratio calculation,[4·79] new inefficiencies have emerged as wall fragmentation has intensified in all three spatial dimensions to produce the appearance of added spaciousness [see f4·48]. Analyses of selected newer private unit typology shows a reduced ratio

‡4.27 *It is important to note that various optimisation strategies at the block scale such as the chamfering of the intersection of the cruciform have similarly produced new trapezoidal spaces.*

[4·79] "APP-2: Calculation of Gross Floor Area and Non-accountable Gross Floor Area Building (Planning) Regulation 23(3)(a) and (b)." In *Practice Notes for Authorised Persons, Registered Structural Engineers and Registered Geotechnical Engineers* (Hong Kong: Building Department, Government of Hong Kong, 2013).



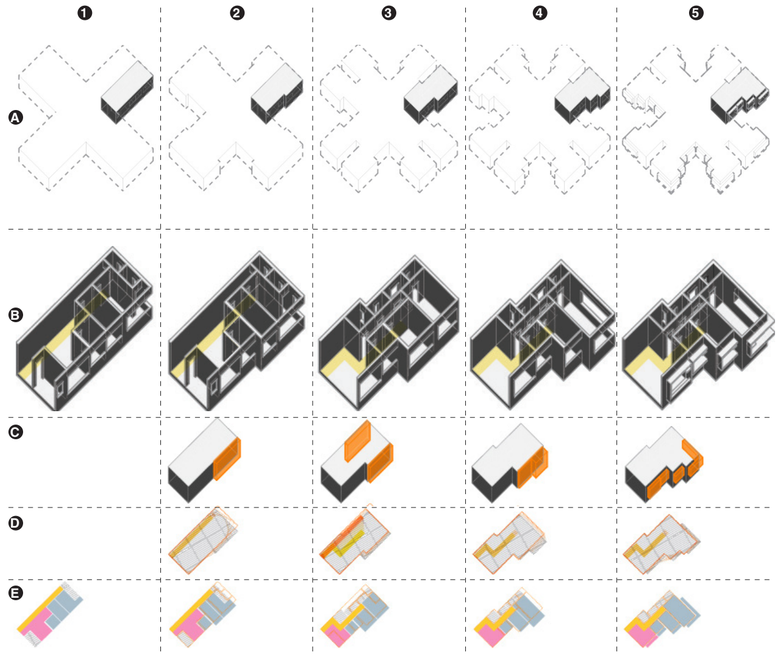

f4·47 Composite figure series documenting the effects of geometric manipulations to the interior unit profile.
***Note:*** (A) Annotated photographs;(B) Number of (i) Sides to the shape framing living room; and (ii) Number of non-perpendicular angle to shape; (C) Corresponding unit plan.
***Site:*** (1) Finery Park; (2) Tai Koo Shing;(3) Whampoa Garden; and (4) Mei Foo Sun Chuen.
***Year constructed:*** (1) 1994; (2) 1986; (3) 1991; and (4) 1965

*110 Properties photographs and plans, *Ricacorp Properties Limited*, http://www.ricacorp.com.hk/cms/template.aspx?series=42

*111 Properties photographs and plans, *Century 21 Hong Kong*, http://century21.hk/en/index.php

*112 Properties photographs and plans, *GoHome.com.hk*, http://www.gohome.com.hk






***Key:*** *(A) Corresponding block massing profile [dashed line], and unit massing [shaded volume]; (B) Axonometric drawing of unit; (C) Extruded, or modified volume [orange fill]; (B) Unit profile and internal circulation — before [dashed orange line and orange fill], and after [grey and yellow fill] ; (D) Common and individual space distribution [red and blue fill], and corresponding internal partitioning in previous iteration [dashed orange].*

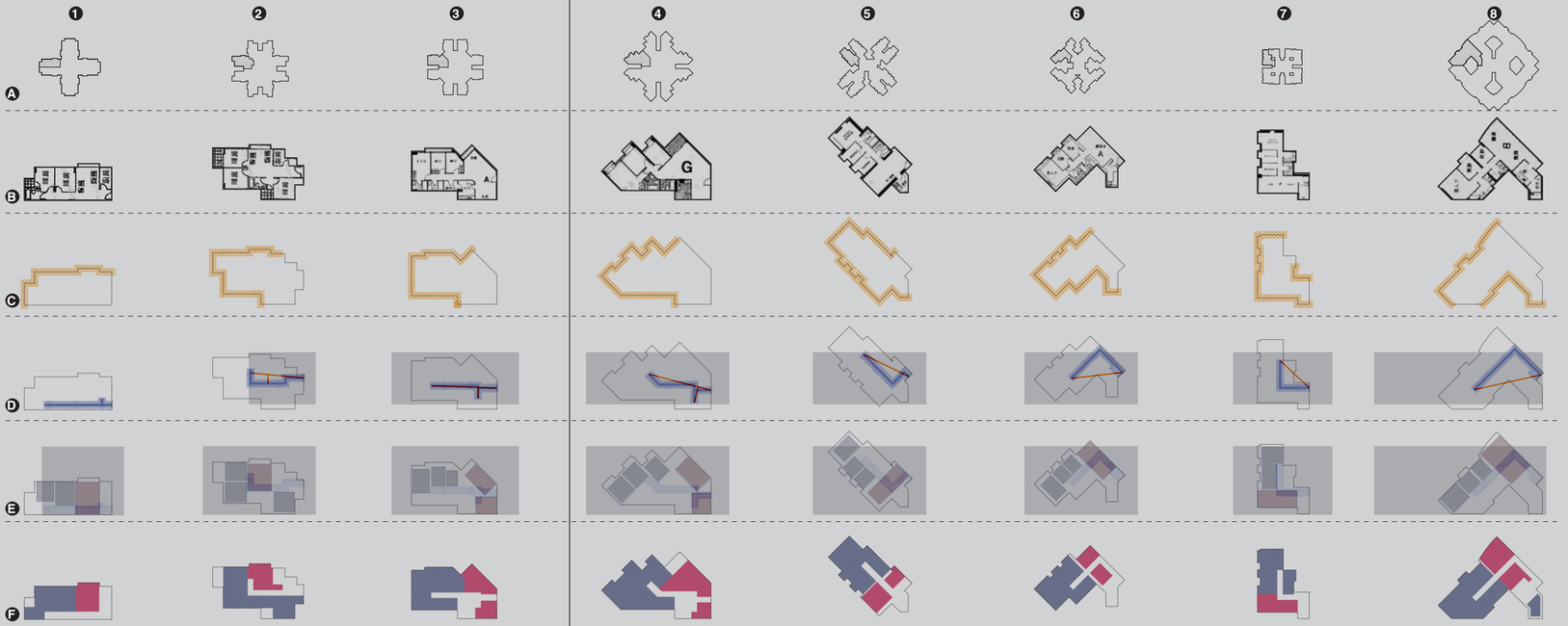
f4·48 Diagram series showing the overall unit-scale geometric trend of slenderisation and volumetric fragmentation.
***Technique:*** (1) Starting unit; (2) Selected extrusion; (3) Major depression to create new 'usable' space; (4) Further selective extrusion; and (5) Various strategies to increase enclosed unit volume within floor area constraint.

of usable rectilinear area contained within common and bedroom spaces relative to the overall enclosed area of the unit. Thus, the spatial optimisation of both the block and the unit by developers had occurred at the expense of internal spatial usability [see f4·49].

4325 *Inefficiencies Devolved: Developers to Occupants*

5·1 Spatial efficiency is governed by the culmination of pressures exerted by density and by price, and the history of unit morphologies in Hong Kong has illustrated that spatial efficiency is not a singular concept, but is rather part of a system of opposing spatial criteria dependent on the objectives and perspectives of various interested parties. Whereas inefficiencies are undeniably undesirable in all circumstances, inefficient space is nevertheless area that carries potential saleable value.

5·2 In optimizing the private unit, developers have appeared to focused on the attributes of unit area and functionality. As attributes that most directly affect prices are prioritised in the design of private units, the internal flexibility of a unit —a crucial efficiency consideration also important to home-owners with regards to the usability of their units—has been largely neglected. As a result, the quest for developmental efficiency amounted to a recalibration of efficiencies between the private-public to the private-private realm. The devolution of inefficiencies is a housing taxation that is both phenomenological and economical. Even within the supposedly comfortable domain of private housing typologies, a new division between the relatively public and private has emerged. The study of private unit morphologies constitutes a study of the intimate frontier of privatisation.




**f4·49** Composite documentation containing diagrams analysing housing units that are representative of common private housing unit typologies in Hong Kong.
***Diagram:*** (A) Corresponding block profile plan; (B) Unit Plan; (C) Exposed surface area; (D) Internal circulation; (E) Area usability; and (F) Programmable areas.
***Estate:*** (1) Mei Foo Sun Chuen I; Mei Foo Sun Chuen II; (3) Whampoa Garden; (4) Tai Koo Shing; (5) Ocean Shore; (6) Mountain Shore; (7) Park Central; (8) Symphony Bay.

# 5
# Concluding words



# 5.1

## Summarizing 50:50

> *The realisation of a hegemonic apparatus, in so far as it creates new ideological terrain, determine[s] a reform of consciousness and of methods of knowledge … when one succeeds in introducing a new morality in conformity with a new conception of the world, one finishes by introducing the conception as well; in other words, one determines a reform of the whole philosophy.*
>
> — Antonio Gramsci (1999,192)

### 5121 *Construction of abstract differences*

1-1 *Context*, *content*, and *conclusions* are three approaches Doling suggests for comparative housing policy analysis. [5-01] These approaches refer respectively to the background, current implementation, and the outcome of housing policy. Examining Hong Kong's housing system, one is tempted to characterise 50:50, the commonly referred to ratio of public to private housing populations, as an accidental 'conclusion' of the state-managed housing system. This interpretation is preferred by the city's government, who has persistently denied the significance of the ratio.[5-02] But in spite of its 'unimportance', this housing composition has nonetheless been stably maintained for the last 50 consecutive years, irrespective of the city's shifting economics. This consistency suggests that 50:50 has been a carefully-maintained participant in the housing system of Hong Kong.

1-2 The significance of 50:50 goes far beyond a simple perennial binary composition that divides Hong Kong's households into two classes: one receiving public subsidies in the construction of their housing, and one being entirely privately funded. In fact, as a model of hybrid public and private housing composition alone, 50:50 is neither conspicuous nor unique. From the social democratic regimes of Northern Europe such as Sweden, to illiberal democracies such as Singapore, a social housing coverage of 50% or more has frequently been maintained for the countries' respective population.

1-3 The issues pertinent in Hong Kong then, are not those of scale, but those of intention, execution, and form. Whereas social housing provision in Sweden is diverse in form and available to all residents, irrespective of tenure and income conditions, the provision of public housing in Hong Kong is means-tested, largely singular in form, and requires a high degree of internal stratification to ensure that the production cost of affordable housing is optimally minimised for each income group.[5-03] In contrast to the Nordic countries, there is little social and housing mobility for households in Hong Kong.

1-4 The exaggerated differences between the two systems highlight the basic characteristics indicative of the peculiar operations of Hong Kong's 50:50. In Hong Kong, 50:50 entails a method of spatial appropriation contingent on the separation of the population into classes largely defined by administrative abstractions including income class and social groups. More importantly, these abstractions do not necessarily correspond to qualitative differences in spatial provision: Hong Kong's public housing programme consists of spatially-similar options that are distributed according to carefully classified social and economic privilege. Interestingly, overlapping spatial typologies are similarly observed in a large

[5-01] J. Doling, "Comparative Housing Policy," in Comparative Social Policy: Concepts, Theories and Methods, ed. J. Clasen (Oxford: Blackwell, 1999), 59–79.

[5-02] Lau, "The state-managed housing system in Hong Kong," 69.

[5-03] K.P.Y. Lin, "Housing Policy in the Context of Globalisation: Case Studies of Hong Kong and Sweden," Working Paper, London School of Economics & Political Science, London, February 28, 2008,4.



p5·01 Photograph of a well-maintained Housing and Development Board (HDB) estate in Singapore's Chinatown.



segment of public and private home-ownership typologies. As qualitative difference is minimal in Hong Kong housing, the differentiation required to generate differences in price is sustained largely by amplification of these minimal differences or by the institution of abstract differences. This is the phenomenon of price-utility dissociation that was discussed in Chapter 2.2. Housing in Hong Kong has become an abstraction.

### 5122 *Power, value and space*

2·1 The perennial need to create value regardless of substance and consequence traces back to the context of urgency in Hong Kong's colonial history. As mentioned in Subchapter 1.1.3, the new British colony of the 1800's was vulnerable geopolitically and domestically insecure due to a lack of support received from the imperial power granting its legitimacy, and the commercial interests that the colony was originally designated to serve. Recognizing Hong Kong's eventual return to China, the administrators of the city were naturally compelled to accelerate and expedite the development of the colony in order to obtain a maximum return on the city during a limited tenure.

2·2 With little existing infrastructure and a general public indifference, however, expedient development required government directives and finances, both of which were yet to be generated. As a self-protective measure, the state chose to retain complete ownership of all land and power to control its distribution and use. Economic value was manufactured by creating scarcity through tight control of the primary factor of economic production: land itself. This mechanism not only tied the city's economic well-being to land value, but also assured landholders and developers that land value would be maintained, while enabling the government to both impose ongoing control and extract ongoing benefits. Demand for the development of the city was induced by privileges that would render Hong Kong a superior destination for investments. These privileges derived from the low taxation afforded by the land system and the developmental privileges that the state was able to offer as both the landowner and the legislator.

2·3 As the preservation of value for both landholders and the government is directly related to the amplification of scarcity, magnifying the differential privilege between the proprietor and the tenants, the system established in colonial history has ensured that value creation in Hong Kong is tied to an ongoing process of social subjugation: the operation of Hong Kong's land system requires a constant polarisation of power. Fundamentally, the Hong Kong's land tenure system was founded on the monopolisation of space. Spatial rights are deprived and consolidated away from the public domain and transformed into privileges that are then offered strategically to promote preferred forms of development, and to facilitate the rise of strong property development class who can afford the high land cost. The developers in turn are able to capitalise on the power differential between themselves and the housing user enabling them to dictate the form of the housing provided, based mostly on their considerations of development efficiency, in order to extract the maximised value required for the land payment to the government and for profit generation.

2·4 Hong Kong's current power structure was necessitated by the earlier British colonial land system. When the land was returned to China's rule in 1997, this power structure persisted. In the absence of the old-world order, the government had to expediently construct a hierarchy that would continue to motivate growth.[5·04] The framework encouraged the intensification of power differentiation and the inevitable promotion of sectors of privileges among a society that was otherwise largely homogeneous.

[5·04] Cuthbert and McKinnell, "Ambiguous Space, Ambiguous Rights – Corporate Power and Social Control in Hong Kong,," 300.

2-5 Of particular interest is the degree in which these operations, when explained in social-political terms, appear to find direct spatial analogue in the development of Hong Kong's built environment. These spatial operations revolve around the ideas of differentiation, polarisation, and privilege. Furthermore, there are ongoing themes in which space is often a secondary effect of an optimisation strategy operating in another dimension, or that space is used as a solution to enhance the existing land-based political-economic system. As such, the process of spatial design has become highly non-spatial.

### 5123 *Spatial operations of 50:50—articulation*

3-1 In a system in wherein the qualitative differences of space are generally lacking, the optimisation of spatial value requires the constant articulation of the abstract differences between spaces. These are then broadcasted to demonstrate the merit the various financial value differentials in seemingly similar spaces. All spaces are required to be assigned a certain function and be organised under a wider system. In the early post-war years, this was the rationale of the squatter clearance and resettlement of Hong Kong. To the colonial administrators, informal urbanism was by its flexible and unsanctioned appropriation of space an affront to the fundamental principles of the land system, because the preservation of land value required that citizens observe the principles of land supply restriction. It was by the articulation of land use and the clarification of its ownership that its organisation in time and space was permitted to achieve an optimisation of land value.

3-2 With the abstract articulation of land use identified as a value-optimised method of spatial appropriation, it is not surprising that the practice was readily materialised in constructed space, as the practice of programmatic articulation was widely adopted by planning across various disciplines and scales. Intrinsic in the operation of articulation is the separation of use—a principle which has become fundamental to the evolution of urban planning approaches. As explained in Subchapter 3.2.3, Hong Kong's planning trajectory is characterised by increasing restriction in the appropriation of and travel through space. This was first achieved by introducing modern zoning into the early New Town; then by the hierarchisation of the circulation distribution system; and then by the internalisation of the individual housing estates as Major Housing Estates came to be conceived as miniature and self-sufficient towns, each designated for a particular socio-economic class of households that were to be contained in the estate.

3-3 The separation of uses can also be seen in its application at the more intimate scale of architecture; it is a strategy that continually seeks to compartmentalise programmes into physically designated areas. The effects of this strategy can be observed in all three scales: the estate, the block, and the unit. Programmes that were differentiated flexibly and informally in the past have received official definition over time. While non-residential amenities are consolidated in newly-designated centralised complexes at the scale of the estate, block areas have become exclusively residential, and the interstitial spaces between the estate and the blocks are now largely articulated by a rigid sequence of landscaping. Similarly within the unit, the typical approach to enhancing its value and utility is by the compartmentalisation of domestic programmes such that the unit has an increased holding capacity that is clearly defined by partitions.

### 5124 *Spatial operations of 50:50—separation*



4-1 At the urban scale, the overarching desire for price maximisation has transformed the strategy of spatial articulation and separation into an ongoing force for population mobilisation, as the optimisation of the proximity of housing developments is enforced systematically by the developers of the various housing systems. In practice, this urban-scale operation, which can potentially cause social segregation and exclusivity, has led to an urban housing distribution that is largely organised by income. Since convenient propinquity to urban employment and amenities play a huge role in the determination of housing price, the geographical distribution of housing price in the city has largely become contingent on its proximity to the urban centre. In solidifying this new urban form, the city generated a new realm of 50:50 division defined by residency found either in the older urban areas or in the peripheral New Town developments.

4-2 Although the income-biased distribution of the population affects developments in both the public and private sectors at multiple scales of design, the overarching consequences are largely absorbed by the public housing sector. As mentioned in 3.2.2, the preservation of housing price and preparation of new areas for development motivate the government to induce urban separation at both the territory-wide and New Town scales such that public housing in New Towns typically suffer from double isolation: it is both far away from the urban town centre, and far away from the centre of the New Towns. In private developments, proximities are equally important, as the exposure of an estate to what is perceived as an undesirable urban environment may have negative effect on its price potential. Subsequently, the private housing population has also voluntarily reinforced the geographical distribution of population by price over time.

4-3 With housing prices high and urban configuration compact, proximities of urban built forms are unavoidable. Consequently, the perception of spatial improvement and insulation from an urban fabric that has been deemed as undesirable and unpleasant is constructed by enforcing the separation of collective spaces within the housing development from the urban fabric, so that the newly enclosed common space is perceived as protected, and as an indication of privilege. It is in this context that one sees a spatial analogue to the government's value-inflation strategy of land monopolisation and restriction, as the ground spaces of housing developments are gradually privatised, internalised or fortified to increase their housing value. The spatial strategy typically intensifies the hierarchy of the estates' schematic organisation and reduces the number of thresholds and connections available to travel a site, such that visitors to the developments are relegated to specific sequences of arrival. Its effect is most notable in private developments with the materialisation of a privatised full site-coverage constructed podium form that serves to separate the housing block from the rest of the urban fabric. Within public housing developments, a similar effect is achieved both by landscaping and by the street layout, these being used to create a buffer between the housing estate and the urban fabric.

### 5125 *Spatial operations of 50:50—polarisation*

5-1 Implicit in the strategy of spatial privatisation is the notion of a binary classification that polarises spaces into the categories of either desirable or undesirable. This is clear in the podium example mentioned above. Once spaces are identified as either usable or unusable, and once this becomes accepted as a design convention, the trajectory of spatial optimisation logically leads to the maximisation of what is considered usable space, and the minimisation of space that is dedicated to the unusable component. Thus, the intrinsic socio-economic operation of 50:50 to create differential privilege also finds a direct spatial analogue in the calibration of spaces. Within a

context of perpetual spatial shortage, the spatial improvement of a particular programme is to come at the subjugation of the standard of another programme.

5·2 Over time, the polarisation of spaces by a largely arbitrary conceptualisation of desirability has become the underlying principle that guided the spatial optimisation strategy at the scale of the estate, the block, and the unit. At the estate level, this has manifested in the consolidation of unconstructed open space that is framed by the housing block and the boundary of the estate. The objective is to minimise the spread of the housing blocks across the site such that the provision of open space can be maximised in a context of diminishing development site areas. Within the housing block, the block area is strategically compacted by classifying the surrounding unconstructed area as either usable space that is returned to the estate for appropriation by central amenities, or unusable and vestigial space that is to be minimised, concealed and relegated specifically to functional requirements such as light wells and ventilation shafts. Similarly, at the scale of the unit the spatial configuration allocates all the benefits of area optimisation to certain domestic programmes while other programmes are to experience few environmental improvements. The public housing programme, in turn, appears to have adopted these strategies, as demonstrated in the documentation on the various strategies developed by public housing tenants to optimally use the limited space of their units over the years.

### 5126 *Definition and consequences of efficiency*

6·1 There is no question that the practices described in this passage regarding the articulation, separation, and the polarisation of spaces are logical in response to a context of spatial shortage. As mentioned throughout this thesis, however, these methods of optimisation are not without consequences. While the practice of consolidating programmes at the estate level in the privatised podium enhances developmental efficiency—such as reducing management and construction costs—and achieves direct convenience for the estate's residents, the increasing reliance on this form makes Hong Kong's urban fabric increasingly hostile, vestigial and disconnected. Strategies at the estate scale similarly lead to a reduction in the diversity of spaces as they become increasingly homogeneous in quality, and singular in function and form. At the block level, efficiency optimisation comes at the expense of space between the entrances of the block and to the entrances of the unit as all non-private shared spaces are exhaustively minimised. Within the unit, spatial optimisation used to generate 'efficient' and legally 'usable' areas actually results in rigid, fragmented and inefficient spaces. Ultimately, it is the housing user who assumes the final cost of this 'efficient' mode of development by being deprived of both internal spatial flexibility and external spatial diversity.

6·2 Unfortunately, the arbitrary quality of this quest for 'efficiency' becomes clear upon analysing the manner in which the strategies of efficiency optimisation have produced spaces of increasingly undesirable qualities in terms of domestic and urban comfort. Evident in these emerging design phenomena is that the definition of efficiency varies according to the perspective of the interested parties, so that it is entirely possible that the optimisation objectives between various parties do not align. Since it is the housing developers who balance the various developmental constraints and execute the project, the design considerations have logically become focused on development efficiency. As such, the optimisation only takes into consideration factors that are directly affects price, like wall surface area exposure, proximities of housing developments, unit areas, etc., whereas, the spatial consequences of these operations and their impact upon experience and usability of space, which are more difficult to





quantify, have been categorically ignored. Consequently, the process of efficiency optimisation is one-sided: the benefits achieved by the housing developers often amounted to a transfer of inefficiency from the developer to the housing unit.

6·3 The unidirectional transfer of inefficiency highlights the paradoxical attribute of the flexible planning system that was described in both Subchapter 2.1 and 3.1. Whereas government and developers are largely autonomous in their ability to redistribute both space and population across different scales and geography to achieve the optimal development efficiency in each specific region, the housing occupants retain little flexibility in their capacity to affect the design of their domestic and urban spaces. Even more significantly, the flexible system of transfers reinforces the binary polarisation of spaces such that spatial improvement in one scale in Hong Kong would have to arise from the loss of quality in another scale, as subchapter 3.1.1 has described regarding the calibration of density across multiple urban scales. Consequently, it is not surprising to see that New Towns retain densities that readily exceeded the main urban area, in spite of contrary planning intentions, by the fact that flexibility allows unit sizes to be adjusted downward. The calibration of spatial improvement has similarly occurred the scale of the estate: the production of a singular, centralised and maximised courtyard has brought environmental problems not only into the surrounding urban form, but even to the housing users themselves.

## 5127 *Inefficiency and problem*

7·1 Although it is tempting to dismiss these findings as the simple operations of an economically rational system, the reality is that the development model has now grown to an unmanageable complexity whereby it is impossible to manage its outcome, even by the agents who are supposed to benefit from it. For the state, there is a clear irony in the fact that it has developed a system meant to enforce control, which has simultaneously rendered it subservient to its own property market. On a policy level, academic analyses abound on the unnecessary negative consequences of myopically constructed policies. This research has identified number of key spatial distortions including the creation of a public housing system that can neither increase nor decrease in scope, the paradoxical phenomenon of the exacerbation of scarcity amidst ongoing territorial expansion, and the impossibility of reducing the density of developments. For the property development industry, a combination of policies, including the high land price policy, the anti-market and non-competitive housing policies, and the ineffective building regulations framework, have rendered large-scale, privatised and internalised developments by concentrated capital the only economically feasible form of housing production, so that all housing estates in Hong Kong are perpetually 'above the socially-efficient scale.' [5·05]

7·2 In examining these consequences, it becomes clear that the preservation of Hong Kong's development model can now only be maintained by the perpetuation of distortions that are indisputably inefficient. As explained in Subchapter 1.2.1, the inefficiencies initially began 60 years ago with the creation of the resettlement housing programme, when there were passive housing policies that would have produced an optimal outcome with far lesser interventions. What followed this initial distortion was a pattern in public policy that would create additional distortions to correct the unintended consequences of the previous distortions—a process that continuously repeats itself. Since all distortions have to conform to the basic requirements of the land system, however, their capacity to address the initial problem that they are intended to fix is often quite limited. Similarly, the

[5·05] Fu and Ching, "Examining Competition in Land Market: An Application of Event Study to Land Auctions in Hong Kong," 16.



New Town programme has not only failed to achieve the objective of creating self-contained urban developments, but has succeeded in reinforcing the monocentric advantage of the urban core as reflected in price. As Chapter 3.2.1 suggests, this large-scale decentralisation ultimately amounted to a territory-wide urban inefficiency that the public housing now must compensate for in intensified New Town density.

7·3 The greatest inefficiency, however, is observed in the unnecessary complexity of the public housing programme. As the programme now straddles between public and private sector developments, interests are logically entangled and the government is consequently forced to alternate between the two diametrically-opposed functions: as both the inflator and suppressor of housing price. This has led to perpetual cyclical spatial distortions and social antagonism between the two economic classes defined by public and private home ownership.

7·4 By acknowledging that the system has become unnecessary redundant, the problem of 50:50 can now be saliently reduced to one point. Simply put, the problem in Hong Kong housing is that the unnecessarily complex development model prevents the maximisation of interests for all agents involved.

7·5 As myopic policies accumulate to preserve one and other over time, the result is logically unpredictable such that no interests are properly served. As mentioned throughout this thesis, these practices ultimately stem from the preservation of the land system, necessitating that development occurs within a rigid structure, and produces a rigid order of spaces. Thus, the allocation of both land and housing resources has been severely constrained since the beginning of Hong Kong's colonial history. It has become a perpetual condition rendering the determination of its efficient equilibrium a permanent impossibility.

7·6 Over time, this structure has resulted in a distribution of power that has increasingly marginalised the housing population as they are left with little capacity to protect their interests and bear the cost of the model's convoluted inefficacies in space. And it is because of this effect - an effect at once inequitable and inefficient - that I have consciously decided to focus on the perspective of the housing population.

7·7 This research seeks not only to illustrate the spatial artefacts of the system, but to demonstrate the incapacitation that the system has produced to all agents involved, and most importantly to its housing users. 50:50 is my attempt to compare and analyse the complex negotiation of interests between the state, capital and the housing users within the system that has caused spatial production in Hong Kong to converge on qualities characterised by homogeneity, separation, rigidity, hierarchy, fragmentation and discontinuity. With spaces in all scales of the city designed not to serve its users, but to preserve a contrived conception of value, Hong Kong has rigorously refined a process of spatial design that paradoxically achieves developmental efficiency by social, spatial, and urban inefficiency.

7·8 In this regard, this thesis is neither a critique on state involvement nor design by efficiency. On the contrary, the findings of this research strongly supports the idea that efficiency is an important determinant of the value of space — a revised notion of efficiency and value that is centred on the capacity of a designed space to provide utility to its occupants. Therefore, value cannot be created from nothing; it rests not on restriction but on genuine spatial differences.

7·9 The preoccupation with scarcity in Hong Kong has meant that value that is based entirely on social separation created by the endless construction of abstract differences. But as Leeming points out, and as resilient Hong Kongers have demonstrated

again and again in their vernacular appropriation of space, the real value of space rests in its capacity to support the 'limitless capacity for life and livelihood,' to develop the 'infinite potential… of [spatial] difference without a distinction' [5-06]—in other words, its capacity to accommodate possibilities and the shifting requirements of Hong Kong's people. Architectural value comes not from efficiently monetised space, but from spaces that support and reflect the aspirations of their residents.

[5-06] F. Leeming, *Street Studies in Hong Kong: Localities in a Chinese City*, 161.

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# Bibliography


**Books and Periodicals**

01 Adams, D., and E.M. Hastings. “Urban Renewal in Hong Kong: Transition from Development Corporation to Renewal Authority.” ***Land Use Policy*** 18, no. 3 (2001): 245–258.

02 Bertaud, A. “Measuring Constraints on Land Supply: The Case of Hong Kong.” Working Paper, World Bank, 1997.

03 Bremner, A.G., and D.P.Y. Lung. “Spaces of Exclusion: The Significance of Cultural Identity in the Formation of European Residential Districts in British Hong Kong, 1877–1904.” ***Environment and Planning D: Society and Space*** 21, no. 2 (2003): 223–252.

04 Brown, S. and C. Loh. ***The Political Economy of Land***. Hong Kong: Civic Exchange, 2002.

05 Buxton, M., and Goodman, R. “Protecting Melbourne’s green belt.” ***Urban Policy and Research*** 21, No. 2 (2003): 205–209.

06 Castells, M., L. Goh, and R.Y.W. Kwok. ***The Shek Kip Mei Syndrome: Economic Development and public housing in Hong Kong and Singapore***. London: Pion, 1990.

07 Chan, E.H.W., H.M. So, and B.S. Tang, and W.S. Wong. “Density Control and the Quality of Living Space: A Case Study of Private Housing Development in Hong Kong.” ***Habitat International*** 26, no. 2 (June, 2002): 159–175.

08 Chan, E.H.W., H.M. So, and B.S. Tang, and W.S. Wong. “Private Space, Shared Space and Private Housing Prices in Hong Kong: An Exploratory Study.” ***Habitat International*** 32, no. 3 (2008): 336–348.

09 Cheng, K.Y. “Home for Post 80’s: Housing Revolution in Hong Kong.” Master’s Thesis, Chinese University of Hong Kong, 2011.

10 Chiu, T.N. ***The Port of Hong Kong: A Survey of its Development***, Illustrated ed. Hong Kong: Hong Kong University Press, 1973.

11 Christ, E., and C. Gantenbein. ***Typology: Hong Kong, Rome, New York, Buenos Aires***. Zurich: Park Books, 2012.

12 C.E. Chen, and CH.X. Cai, ***Xiang Gang Jian Zhu Bai Nian*** (Hong Kong: Joint Publishing, 2000), 56.

13 Chu, C. “The Myths and Politics of Housing in Hong Kong: The Controversy Over the Demolition of the Hunghom Estate.” ***Habitat International*** 32, no. 3 (2008): 375–383.

14 Cobden, R. ***Speeches on Questions of Public Policy***. James E. Thorold Rogers ed. London: T. Fisher Unwin, 1908.

15 Choy, J. L***ower Ngau Tau Kok Estate***, Hong Kong: Asia One Books, 2010.

16 Cuthbert, A.R., and K.G. McKinnell. “Ambiguous Space, Ambiguous Rights – Corporate Power and Social Control in Hong Kong.” ***Cities*** 14, no. 5 (1997): 295–311.

17 Doling, J. “Comparative Housing Policy.” In ***Comparative Social Policy: Concepts, Theories and Methods***, Edited by J. Clasen, 59–79. Oxford: Blackwell, 1999.

[18] Drakakis-Smith, D.W. ***Urbanisation, Housing and the Development Process***. London: Croom Helm, 1981.

[19] Drakakis-Smith, D.W. ***High Society: Housing Provision in Metropolitan Hong Kong, 1954 to 1979, a Jubilee Critique***. Hong Kong: Centre of Asian Studies, University of Hong Kong, 1979.

[20] Dwyer, D.J. Land Use and Regional Planning Problems in the New Territories of Hong Kong. ***Geographical Journal*** 152, no. 2 (1986): 232-242. Eitel, E.J. "The Opium Question and the Exodus." ***Europe in China***: The History of Hong Kong from the Beginning to the Year 1882. London: Luzac, 1895.

[21] Dwyer, D.J. Introduction to ***Asian Urbanisation: A Hong Kong Casebook***, Edited by D.J. Dwyer. Hong Kong: Hong Kong University Press, 1971.

[22] Ebenezer H. ***Garden Cities of tomorrow***.London: Swan Sonnenschein and Co., 1902.

[23] Edwards, G.E. "Applicability of the 'One Country, Two Systems' Hong Kong Model to Taiwan: Will Hong Kong's Post-Reversion Autonomy, Accountability, and Human Rights Record Discourage Taiwan's Reunification with the People's Republic of China?" ***New England Law Review*** 32, no. 2 (1998): 751-778.

[24] Fay, P.W. ***The Opium War, 1840-1842: Barbarians in the Celestial Empire in the Early Part of the Nineteenth Century and the Way by Which They Forced the Gates Ajar***. Illustrated, Reprint, Revised ed. Chapel Hill: University of North Carolina, 1997.

[25] Faure, D. ***Colonialism and the Hong Kong Mentality***. Hong Kong: Hong Kong University Press, 2003.

[26] Farooqui, A. ***Smuggling as Subversion: Colonialism, Indian Merchants, and the Politics of Opium, 1790-1843***. Lanham, MD: Lexington, 2005.

[27] Feng, B.Y. Xianggang Di Chan Ye Bai Nian = A Century of Hong Kong Real Estate Development. Shanghai: Shanghai: Dong Fang Chu Ban Zhong Xin, 2007.

[28] Forrest, R. and A. La Grange, and N.M. Yip. "Hong Kong as a Global City? Social Distance and Spatial Differentiation." ***Urban Studies*** 41, no. 1 (2004): 207-227.

[29] Freeman, L. and H. Botein. "Subsidised Housing and Neighbourhood Impacts: A Theoretical Discussion and Review of the Evidence." ***Journal of Planning Literature*** 16, no. 3 (2002): 359-378.

[30] Fung, M., M. Leung, and F. Ku. "Economic Analysis of Housing Policy in Hong Kong." Presentation for the Program for Economic Education, The Chinese University of Hong Kong, Sha Tin, Hong Kong, June 19, 2013.

[31] Golger, O.J. ***Squatters and Resettlement: Symptoms of an Urban Crisis; Environmental Conditions of Low-standard Housing in Hong Kong***. Wiesbaden: O. Harrassowitz, 1972.

[32] Gutierrez, L., and V. Portéfaix. ***Mapping Hong Kong***. Hong Kong: Map Book, 2000.

[33] Gutierrez, L., and V. Portéfaix. "Homes for China." ***Architectural Design*** 75, no.1 (2004):81-87.

[34] Haddon-Cave, P. "Introduction: the Making of Some Aspects of Public Policy in Hong Kong." In ***The Business Environment*** in Hong Kong, Lethbridge D ed., xi-xix. Hong Kong: Oxford University Press, 1980.

[35] He, Y.S. ***Xianggang Zhi Zao, Zhi Zao Xianggang: Xianggang Gong Ye Guo Gu Xian Zan Wei Lai***, 2nd ed. Hong Kong: Ming Pao Publications, 2009.

[36] Hughes, R.H. "Hong Kong: An Urban Study," ***The Geographical Journal*** 117, no. 1 (1951): 1-23.

[37] Hopkinson, L., and M.L.M. Lao. ***Rethinking the*** *Small House Policy*. Hong Kong: Civic Exchange, 2003.

[38] Ho, Sang Lok, Wai Chung, and Gary Wong. " The housing ladder and Hong Kong housing market's boom and bust cycle." CPPS Working Paper Series, Centre for Public Policy Studies, Lingnan University, Tuen Mun, Hong Kong, January 1, 2008.

[39] Hui, E.C.M., and F. Wong. "Financial Arrangement" In ***Fifty Years of public housing in Hong Kong: A Golden Jubilee Review and Appraisal***, Edited by Y.M. Yeung, and T.K.Y. Wong, 155-178. Hong Kong: The Chinese University of Hong Kong, 2003.

[40] Hui, E.C.M., and M.C.M. Lam. "A study of Commuting Patterns of New Town Residents in Hong Kong." ***Habitat International*** 29, No. 3 (2005): 421-437.

[41] Ingrams, Harold. ***Hong Kong***. London: Her Majesty's Stationary of Office, 1952.

[42] Jahan, S., A.S. Mahmud, and C. Papageorgiou. "What Is Keynesian Economics?" ***Finance and Development*** 51, no. 3 (2014): 53-54.

[43] Jayantha, W.M., and E.C.M. Hui. "Determinants of Housing Consumption and Residential Crowding in H***ong Kong."*** In ***Extended Proceedings of the Central Europe towards Sustainable Building, June 30-July 2, 2010***. Prague: University Centre for Energy Efficient Buildings, Czech Technical University in Prague, 2010.

[44] Jone, M. "Tuberculosis, Housing and the Colonial State: Hong Kong, 1900-1950." ***Modern Asian Studies*** 37, no. 3 (2003): 653-682.

[45] Harvey, D. ***The Urbanisation of Capital: The Urbanisation of Capital: Studies in the History and Theory of Capitalist Urbanisation***. Baltimore, MD: Johns Hopkins University Press, 1985.

[46] Hong, Y.H. "Myths and Realities of Public Land Leasing: Canberra and Hong Kong." Land Lines 11, no. 2 (March, 1999): 1-3.

[47] Kandt, J. "Hong Kong's Spatial DNA." In the ***Conference Newspaper of the Urban Age Programme: Cities, Health and Well-being, November 16-17, 2011***. Hong Kong: London School of Economics, 2011.

[48] Kyshe, J.W. ***History of the Laws and Courts of Hong Kong. Tracing Consular Jurisdiction in China and Japan and Including Parliamentary Debates, and the Rise, Progress, and Successive Changes in the Various Public Institutions of the Colony from the Earliest Period to the Present Time***. Vol. 2. London: T. Fisher Unwin, 1898.

[49] Lai, L, "Discriminatory zoning in colonial Hong Kong." ***Property Management*** 29, no. 1 (2011): 50-86.

[50] Lai, N., and K. Wong. "Land-Supply Restrictions, Developer

Strategies and Housing Policies: The Case in Hong Kong." ***International Real Estate Review 2***, no. 1 (1999): 143–159.

[51] Lam, N.M.K. "Government Intervention in the Economy: A Comparative Analysis of Singapore and Hong Kong." ***Public Administrative and Development*** 20, no. 5 (2000): 397–421.

[52] Lau, K.Y. "The state-managed housing system in Hong Kong." In ***Housing and the New Welfare State: Perspectives from East Asia and Europe***, Edited by A.M.R. Groves, and C. Watson, 45–74. Aldershot, GB: Ashgate Publishing Company, 2007.

[53] Leeming, F. ***Street Studies in Hong Kong: Localities in a Chinese City***. Illustrated ed. Hong Kong: Oxford University Press, 1977.

[54] Li, L.H. "The Impact of Social Stigma: An Examination of the Public and Private Housing Markets in Hong Kong." ***Appraisal Journal*** 73, no. 3 (2005): 305–317.

[55] Lim B., and T. Nutt. "Planning and Locational Aspects." In ***Fifty Years of public housing in Hong Kong: A Golden Jubilee Review and Appraisal***, Edited by Y.M. Yeung, and T.K.Y. Wong, 45–62. Hong Kong: The Chinese University of Hong Kong, 2003.

[56] Lin, K.P.Y. "Housing Policy in the Context of Globalisation: Case Studies of Hong Kong and Sweden." Working Paper, London School of Economics & Political Science, London, February 28, 2008.

[57] Liu, P.W. " Land Premium and Hong Kong Government Budget: Myths and Realities." Working Paper 19, Institute of Global Economics and Finance, Chinese University of Hong Kong, Shatin, Hong Kong, February, 2014.

[58] Loh, C. Introduction to ***Functional Constituencies: A Unique Feature of the Hong Kong Legislative Council***, Edited by C. Loh. Vol. 1 of ***Civic Exchange Guide***. Illustrated ed. Hong Kong: Hong Kong University Press, 2006.

[59] Lung, P.Y.D., H.Y. Lee, and T.Y.E. Chow. "The Changing 'Rural' Setting of Hong Kong's New Territories in the 20th Century," In ***15th ICOMOS General Assembly and International Symposium: 'Monuments and Sites in Their Setting Conserving Cultural Heritage in Changing Townscapes and Landscapes'***, Oct 17–21, 2005. Xi'an, CHN: ICOMOS, 2005.

[60] Melancon, G. "Honour in Opium? The British Declaration of War on China, 1839–1840." ***The International History Review*** 21, no.4 (1999): 853–1136.

[61] Mok, H, P. Chan, and Y. Cho, "A Hedonic Price Model for Private Properties in Hong Kong," ***Journal of Real Estate Finance and Economic*** 10, no.1 (1995):37–48.

[62] Monkkonen, P., K. Wong, and J. Begley. "Economic Restructuring, Urban Growth, and Short-Term Trading: The Spatial Dynamics of the Hong Kong Housing Market, 1992–2008," ***Regional Science and Urban Economics*** 42, no. 3 (2012): 396–406.

[63] Monroe, K.B. "Buyers' Subjective Perceptions of Price." Journal of Marketing Research 10, no. 1 (February, 1973): 70–80. Montgomery, M.R. ***China; Political, Commercial and Social in an Official Report to Her Majesty's Government***. Vol. 2. London: J. Madden, 1847.

[64] Mossip, E. "Hong Kong's Urban Landscape." In ***Hong Kong : Defining the Edge***, Edited by Richard Marshall and Elisabeth Mossop, 40–53. Cambridge, MA: Harvard Design School, 2001.

[65] Nagle, T. and R. Holden. ***The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making,*** 4th ed. Upper Saddle River, NJ: Prentice Hall, 2002.

[66] Ng, N.K., and A. Cook. "Reclamation: An Urban Development Strategy Under Fire." ***Land Use Policy*** 14, no. 1 (1997): 5–23.

[67] Nissim, R. ***Land Administration and Practice in Hong Kong***. 3rd ed. Hong Kong: Hong Kong University Press, 2012.

[68] Olitsky, P.K. "Report on the Investigations of the Outbreak of Epidemic Meningitis in Hong Kong by First Lieutenant Peter K.O., M.R.C., U.S.A., of the Rockefeller Institute for Medical Research, New York." The Journal of Tropical Medicine and Hygiene 22, no. 6 (1919): 43–44.

[69] Osborn, J.F. ***Green-Belt Cities***. New York City: Schocken Books, 1969.

[70] Ou, M.Z., and W.H. Luo. ***Zhongguo Yin Hang Ye Fa Zhan Shi: You Wan Qing Zhi Dang Xia***. Hong Kong: Xianggang Cheng Shi Da Xue Chu Ban She, 2011.

[71] Page, J. "The East Asian Miracle: Four Lessons for Development Policy." ***NBER Macroeconomics Annual*** 9 (1994): 219–292.

[72] Peyrefitte, A. "After Macartney or a Spiral of Misfortune." ***The Immobile Empire.*** Illustrated ed. New York City: Alfred A. Knopf, 1992.

[73] Prescott, J.A. "Hong Kong: the Form and Significance of a High-Density Urban Development." In ***Asian Urbanisation: A Hong Kong Casebook***, Edited by D.J. Dwyer, 11–19. Hong Kong: Hong Kong University Press, 1971

[74] Poon, A. ***Land and the Ruling Class in Hong Kong***. 2nd ed. Singapore: Enrich Professional Pub., 2011.

[75] Pryor, E.G. ***Housing in Hong Kong***. 2nd, Illustrated ed. Hong Kong: Oxford University Press, 1983.

[76] Ridley, J.G. ***Lord Palmerston***. New York City: Dutton, 1971.

[77] Shelton, B., J. Karakiewicz, and T. Kvan. T***he Making of Hong Kong: from Vertical to Volumetric***, Edited by A. Rudkin. New York City: Routledge, 2011.

[78] Shiller, R.J. ***Irrational Exuberance***, 2nd ed. Princeton, New Jersey: Princeton University Press, 2000.

[79] Smart, A. ***The Shek Kip Mei Myth: Squatters, Fires and Colonial Rule in Hong Kong, 1950–1963.*** Illustrated, Annotated ed. Hong Kong: Hong Kong University Press, 2006.

[80] Sullivan, B., and K. Chen. "Design For Tenant Fitout: A Critical Review Of public housing Flat Design In Hong Kong." ***Habitat International*** 21, no. 3 (1997): 291–303.

[81] Tang, B.S., S.W. Wong, and A.K.W. Lee. "Green Belt in a Compact City: A Zone for Conservation or Transition?" ***Landscape and Urban Planning*** 79, no. 3 (2007): 358–373.

[82] Tsai, J.F. ***Hong Kong in Chinese History : Community and Social Unrest in the British Colony, 1842–1913***. New York City: Columbia University Press, 1993.

[83] Tsang, S.Y.S. ***A Mo1dern History of Hong Kong***. London:

I.B. Tauris, 2003.

[84] Ure, G. ***Governors, Politics and the Colonial Office: Public Policy in Hong Kong, 1918-58***. Hong Kong: Hong Kong University Press, 2012. Welsh, F. ***A History of Hong Kong***. Illustrated, Reprint ed. London: Harper and Collins, 1993.

[85] Von Mises, L. ***Human action: A Treatise on Economics***, The Scholar's Ed. Auburn, Alabama: The Ludwig von Mises Institute, 1998.

[86] Will, B.F.. "Housing Design and Construction Methods." In ***Housing Design and Construction Methods,' in Housing in Hong Kong: A Multi-Disciplinary Study, Hong Kong***, edited by Luke S.K. Wong, 91-127. Hong Kong: Heinemann Educational Books (Asia) Ltd, 1978 Educational Books (Asia), 1978.

[87] Wiltshire, T. ***Old Hong Kong***. Vol. 2. Central, Hong Kong: FormAsia, 1997.

[88] Wong, L.S.K. "An Overview of Housing Provision and Housing Needs in Hong Kong." In ***Housing in Hong Kong: a Multi-Disciplinary Study***, Edited by L.S.K. Wong, 23-54. Hong Kong: Heinemann Educational Books (Asia) Ltd, 1978.

[89] Wong, Y.C.R. ***Hong Kong Land for Hong Kong People: Fixing the Failures of Our Housing Policy.*** Illustrated ed. Hong Kong: Hong Kong University Press, 2015.

[90] Wu, D.T. "Fen Ceng Chu Shou De Hui Yi." In ***Si Yu Shi Ji***, Edited by D.T. Wu. Hong Kong: International Hung Hsing Holding Limited, 1994.

[91] Yeh, A.G.O. "Public Housing and New Town Development." In ***Fifty Years of public housing in Hong Kong: A Golden Jubilee Review and Appraisal***, Edited by Y.M. Yeung, and T.K.Y. Wong. Hong Kong: The Chinese University of Hong Kong, 2003.

[92] Yeung, Y.M., and M. Wu. Introduction to ***Fifty Years of public housing in Hong Kong: A Golden Jubilee Review and Appraisal***, Edited by Y.M. Yeung, and T.K.Y. Wong. Hong Kong: The Chinese University of Hong Kong, 2003.

[93] Wigglesworth, J.M. "The Development of New Town." In ***Asian Urbanisation: A Hong Kong Casebook***, Edited by D.J. Dwyer, 48-69. Hong Kong: Hong Kong University Press, 1971.

[94] Wheaton, W.C., and R.J. Peng. "Effects of Restrictive Land Supply on Housing: An Econometric Analysis." ***Journal of Housing Research*** 5, no. 2 (1994): 263-291

[95] Wong, K.C., K.W. Chau, and S.M. Ma. "The Disposal of the Hong Kong Land Stock Under the Sino-British Joint Declaration." ***Journal of Property Research*** 16, no. 4 (1999): 323-337.

[96] Wong, S.H.W. "Political Connections and Firm Performance: The Case of Hong Kong." ***Journal of East Asian Studies*** 10, no. 2 (2010): 275-231.

[97] Vinayak, B. ***The Emerging Asian City: Concomitant Urbanities and Urbanism***, Illustrated Ed. New York City: Routledge, 2013.

[98] Van Rijs, J. "Far East. Hong Kong Tower Typology." In Farmax Excursions on Density. (MVRDV)," Edited by R. Koek, W. Maas, and J. van Rijs, 174-189. Rotterdam: 010 Publishers, 1998.

[99] Y., Chester. "'Asia's Walled City' Leaves - Residents Longing for Air." ***The Standard***. Last modified December 21, 2006. http://thestandard.com.hk/news_detail.asp?art_id=34625andcon_type=1andsear_year=2006.

**Online Encyclopedia**

[100] Schenk, C.R. "Economic History of Hong Kong." In EH.Net Encyclopedia, Edited by Robert Whaples. Last modified March 16, 2008. http://eh.net/encyclopedia/economic-history-of-hong-kong/.

[101] Krainer, J. and C. Wei. "House Prices and Fundamental Value." ***Federal Reserve Bank of San Francisco*** Economic Letter. Last Modified October 1, 2004. http://www.frbsf.org/economic-research/publications/economic-letter/2004/october/house-prices-and-fundamental-value/.

[102] Riley, G. "Functions of the Price Mechanism." ***tutor2u***. Last modified September 23, 2012, http://tutor2u.net/economics/revision-notes/as-markets-price-mechanism.html.

[103] "Floor Area Ratio - FAR." ***Investopedia.com***. Accessed January 1, 2015. http://www.investopedia.com/terms/f/floor-area-ratio.asp.

**Online Editorial and Blogs**

[104] Pilling, D. "Hong Kong's Land System that Time Forgot." ***Financial Times***, March 9, 2001. http://www.ft.com/cms/s/0/2731d5f0-4a87-11e0-82ab-00144feab49a.html.

[105] Restall, H. "Hong Kong Was Better Under the British." ***The Wall Street Journal***, February 23, 2012. Accessed January 1, 2015. http://www.wsj.com/articles/SB10001424052970203960804577239252005926874.

[106] Yiu, E.C.Y. ***[Why was] One Island East [permitted legally to]... achieve a plot ratio of 28[?] (blog) Real Estate Development and Building Research and Information Centre***. Last modified March 9, 2009. https://ecyyiu.wordpress.com/2009/03/09/buildings-ordinance-1955-why-and-when-plot-ratio-and-site-coverage/.

[107] Yiu, E.C.Y. ***[Why was] One Island East [allowed to]... achieve a plot ratio of 28[?] (blog) Real Estate Development and Building Research and Information Centre***. Last modified July 11, 2012. https://ecyyiu.wordpress.com/2012/07/11/tdr-why-one-island-east-can-achieve-a-plot-ratio-of-28/.

[108] Tu, Kuhon. ***Qu Chu Lai De Shi Yong Luu*** (blog). ***Yahoo! Finance (Hong Kong)***. Last modified December 31, 2012. https://hk.finance.yahoo.com/blogs/%E8%B6%A3%E9%81%8A%E6%A8%93%E5%B8%82/%E5%B1%88-%E5%87%BA%E4%BE%86%E7%9A%84%E5%AF%A6%E7%94%A8%E7%8E%87-033600227.html.

[109] Glendinning, M. "Wah Fu Estate, Hong Kong." ***Twentieth Century Society***. Last modified July, 2011.

[110] "Historic Photos." ***Government Hill Concern Group***. Accessed January 1, 2015. http://www.governmenthill.org/images/history-TPB.htm.

**Newspapers**

[111] "Shou Chuang Mai Lou Hua Chou Zi Jin Qi Lou." ***Apple Daily***. October 29, 2006.

[112] "The Land Fund." Sing Tao Daily, October 19, 1996, A14.

[113] "Cut-Price Sale of Flats on Harbour Stirs Anger." ***South China Morning Post***. February 10, 2004.

[114] "Planet Plutocrat." ***The Economist***. March 15, 2014.

[115] "Tin Shui Wei vs 'Bei Shang Cheng Shi,'" Wen Wei Po, July 18, 2006.

**Government Reports, Resources, and Proceedings**

[116] Hong Kong. Building Reconstruction Advisory Committee. ***Final Report of the Building Reconstruction Advisory Committee***, Appendix 2.

[117] Hong Kong. ***Official Record of Proceedings of the Legislative Council***. 3 July 1947.

[118] Hong Kong. ***Official Record of Proceedings of the Legislative Council***. 163-1-1677. 5 February 1954.

[119] Hong Kong. ***Official Record of Proceedings of the Legislative Council***. 9 May 2007.

[120] Hong Kong. Hong Kong Housing Authority. ***Long Term Housing Policy: A Policy Statement***.

[121] Hong Kong. Legislative Council. Housing Commission. ***Report of the Housing Commission 1935.*** Hong Kong Legislative Council Sessional Paper, 257-287.

[122] Hong Kong. Research and Library Services Division. ***Housing Standards of Private Dwellings***. By Joseph Lee, Eva Liu, and Jackie Wu. RP10/98-99.

[123] Hong Kong. Legislative Council. Legislative Council's Panel on Development. ***Walled-Buildings in Hong Kong Overview***, by GreenSense CB(1)983/06-07(03).

[124] Hong Kong. Legislative Council. Legislative Council's Panel on Development. ***Addressing the " wall-effect" in Developments***, by Hong Kong Institute of Architects CB(1)1033/06-07(05).

[125] Hong Kong. General Statistics Section, Census and Statistics Department. ***Hong Kong Annual Digest of Statistics***, 2014.

[126] Department, Buildings. "Frequently Asked Questions: Subdivision of a Flat." ***GovHK***. Last modified February 17, 2015. http://www.bd.gov.hk/english/services/index_faqJ.html.

[127] Department, Planning. "Table 8 : Initial Flat size Assumptions." ***GovHK***. http://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/ch2/ch2_tbl_8.htm.

[128] How Competitive is the Private Residential Property Market? ***Hong Kong Consumer Council***. Last modified 1996. Accessed January 1, 2015. http://www2.consumer.org.hk/hseg607/hse_e.htm.

**Speeches**

[129] MacLehose, M. "Housing Policy Speech by His Excellency The Governor Sir Murray MacLehose." Speech given to the Legislative Council, Central, Hong Kong, 18 October 1972.

[130] Tsang, J. "Budget Speech by the Financial Secretary." Speech given to the Legislative Council to move the Appropriation Bill 2012 to a Second Reading, Central, Hong Kong, February 1, 2012.

[131] Chan, P. "Opening Remarks by Secretary for Development." Speech given at Press Conference on Development Bureau Initiatives in 2014 Policy Address, Central, Hong Kong, January 17, 2014.

**Laws, Ordinances, and Practice Notes**

[132] Public Health and Building Ordinance No. 1 of 1903

[133] Public Health and Building Ordinance No. 18 of 1935

[134] Public Health and Building Ordinance No. 37 of 1956

[135] Building (Planning) Regulations No. 97 of 1962

[136] "APP-130: Lighting and Ventilation Requirements - Performance-based Approach." In ***Practice Notes for Authorised Persons, Registered Structural Engineers and Registered Geotechnical Engineers***. Hong Kong: Building Department, Government of Hong Kong, 2013.

[137] "APP-2: Calculation of Gross Floor Area and Non-accountable Gross Floor Area Building (Planning) Regulation 23(3)(a) and (b)." In ***Practice Notes for Authorised Persons, Registered Structural Engineers and Registered Geotechnical Engineers***. Hong Kong: Building Department, Government of Hong Kong, 2013.

[138] Joint Declaration of the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the People's Republic of China on the Question of Hong Kong (Instrument A301).

[139] Hong Kong, ***Draft agreement between the United Kingdom of Great Britain and Northern Ireland and the Government of the People's Republic of China on the Future of Hong Kong***, White paper, September 26, 1984, no. 1366 of 1984.

**Town Planning Documents**

[140] Town Planning Division, Lands Department. Town Planning in Hong Kong. Hong Kong: Government Printer, 1984.

[141] Town Planning Board. ***Shau Kei Wan Outline Zoning Plan***. No. LH 9/32. Hong Kong: Crown Lands and Survey, 1967.

[142] Town Planning Board. ***Castle Peak Outline Zoning Plan***. No. LCP/36. Hong Kong: Crown Lands and Survey, 1967.

[143] Town Planning Board. ***Sha Tin Outline Zoning Plan***. No. LST/47. Hong Kong: Crown Lands and Survey, 1967.

[144] Town Planning Office. ***Draft Tai Po Outline Zoning Plan***. No. LTP/47. Hong Kong: Government Printer, 1980.

[145] New Territories Development Department. ***Hong Kong's New Towns : Tsuen Wan***. Hong Kong: Public Works Department, 1976.


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