

The Hong Kong Institute of Surveyors

Annual Conference 2011

17th September 2011

Grand Ballroom, Conrad Hong Kong, Pacific Place, 88 Queensway, Hong Kong



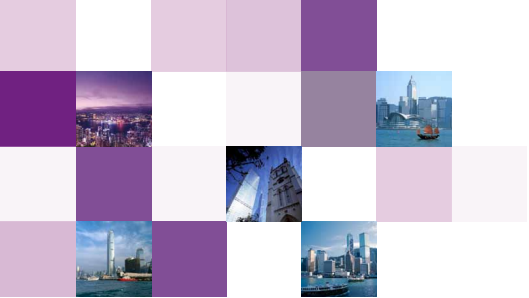
**“Central Business Districts in Hong Kong:
Today and To-morrow”**

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Message from Guest-of-Honour

香港特別行政區政府
發展局局長



SECRETARY FOR DEVELOPMENT
Government of the Hong Kong Special
Administrative Region



**The Hong Kong Institute of Surveyors
Annual Conference 2011 –
“Central Business Districts in Hong Kong, Today and Tomorrow”
Congratulatory Message from
Mrs Carrie LAM, GBS, JP, Secretary for Development**

Several decades ago, Hong Kong’s “Central Business District” (CBD) spanned only a few blocks at the heart of Central. With many years of rapid economic growth and urban development, our CBD has not only grown in size, but has also embraced a wealth of business activities. It now hosts the heart of one of the major international financial and business centres in Asia and the World.

With continuing strong demand for quality office space from local, Mainland and international businesses, we are determined to increase the supply of top quality office space to meet their needs in order to sustain Hong Kong’s economic impetus. Our strategy is three-pronged - free up valuable land and office space in the CBD; develop new office nodes in other metro areas such as West Kowloon and Kai Tak; and facilitate office development outside the CBD, particularly through revitalization of former industrial areas.

This Annual Conference provides a timely platform for us to revisit how our CBD has evolved, draw insights from the past and explore how we would like it to develop in the future, taking into account the increasing globalization in business operations and the emergence of Asia as an important economic powerhouse.

I look forward to the exchange of views among professionals and experts attending the Annual Conference and wish the event a great success.

Mrs. Carrie LAM
Secretary for Development

Message from the President



The Hong Kong Institute of Surveyors Annual Conference 2011 “Central Business Districts in Hong Kong: Today and To-morrow”

Welcome to the Hong Kong Institute of Surveyors Annual Conference 2011. It is so exciting today to meet so many experts with diverse backgrounds in this Grand Ballroom sharing and exchanging their views on a topical issue in the real estate and construction industry.

This year, the theme of the conference is “Central Business District in Hong Kong: Today and To-morrow”. Starting from the second half of 2011, the global economy is shadowed by the Europe’s debt crisis, the US sluggish economy and demotion in credit rating and the possible slowdown of growth in China. Despite the uncertain economic prospects, international as well as multi-national corporations still see Asian markets an opportunity that could provide an alternative way-out for investment, re-investment and market expansion. Being viewed as a stepping stone in tapping into the rest of the Asia markets, we see there is a growing trend of giant corporations setting up their regional offices in Hong Kong.

With an increase in demand for Grade A offices, it is the time for us to review the Central Business Districts (CBD) in Hong Kong today, and to plan for to-morrow. At the same time, Hong Kong has often been challenged by our neighboring competitors in the region on its position as a financial and business hub in Asia. It definitely requires our deep thoughts again in the city’s future positioning and the sustainability of the competitive edges we used to rely on. The conference this year is to provide a timely platform for all of us to review the current situation, identify the challenges and explore new ideas and opportunities related to the development of future CBD of Hong Kong.

Many questions therefore come to my mind: What makes a business district successful? How can our CBD sustain its development? How smart are our new business districts? What should we do to keep up our competitiveness?

We are most honored to have Mrs. Carrie LAM CHENG Yuet Ngor, GBS, JP, Secretary for Development of the HKSAR Government, to give us an opening keynote speech and Mr. Jimmy LEUNG, JP, Director of Planning, Planning Department of HKSAR Government, to share with us the evolution of CBD in Hong Kong. We are also delighted to have so many heavy-weight speakers looking into the topic from various distinctive perspectives. I hope all of you will find the conference inspiring and interesting.

Taking this opportunity, I would like to thank all speakers, moderators, sponsors, guests, Organizing Committees led by Vice President Mr. Stephen LAI to make this conference a successful event.

A handwritten signature in black ink, appearing to read 'Wong Bay', written in a cursive style.

Mr. WONG Bay

President, The Hong Kong Institute of Surveyors (2010 - 2011)



Conference Programme

Time	Program / Topic
08:30 – 08:55	Registration
09:00 – 09:10	Welcome Speech Mr. WONG Bay President, The Hong Kong Institute of Surveyors
09:10 – 09:30	Opening Keynote Speech Mrs. Carrie LAM CHENG Yuet Ngor, GBS, JP Secretary for Development, HKSAR Government
09:30 – 09:35	Souvenir Presentation to Guest-of-Honour
09:35 – 10:05	Hong Kong's Evolving CBD : A Planner's Perspective Mr. Jimmy LEUNG Cheuk Fai, JP Director of Planning, Planning Department, HKSAR Government
10:05 – 10:20	Coffee Break
10:20 – 10:50	MTR -- Transformation of CBDs in Hong Kong Mr. Thomas HO Hang Kwong Property Director, MTR Corporation Limited
10:50 – 11:20	Urban Climate, Urban Design and High Density City Living Prof. Edward NG Professor of Architecture, The Chinese University of Hong Kong
11:20 – 11:50	"Central Value" and "Green Build" Prof. K. S. WONG Chairman, Green Labelling Committee, Hong Kong Green Building Council
11:50 – 12:00	Q & A <i>Moderator</i> Mr. Tony WAN Wai Ming Honorary Secretary, General Practice Division, The Hong Kong Institute of Surveyors
12:00 – 12:05	Souvenir Presentation to Speakers and Moderator
12:05 – 13:05	Lunch
13:05 – 13:35	The Demise of the Traditional CBD Mr. Donald CHOI Wun Hing Managing Director, Nan Fung Development Limited
13:35 – 14:05	CBD Expansion Plans of Asia's Major Financial Centers: Challenges, Constraints and Opportunities Mr. Andrew NESS Executive Director, CBRE Research
14:05 – 14:35	The Transformation of the Central Business District (CBD) in Hong Kong Mr. Dominic LAM Kwong Ki President, The Hong Kong Institute of Architects
14:35 – 14:45	Q & A <i>Moderator</i> Mr. Kenneth YUN Ying Kit Immediate Past Chairman, Building Surveying Division, The Hong Kong Institute of Surveyors
14:45 – 14:50	Souvenir Presentation to Speakers and Moderator
14:50 – 15:05	Coffee Break
15:05 – 15:35	From Central Business District (CBD) to Smart Business Districts (SBD) Mr. LIU Sing Cheong, JP Founder, Evergreen Real Estate Consultants Ltd (Guangzhou) Prof. TANG Bo Sin Associate Head, Department of Building & Real Estate, Hong Kong Polytechnic University
15:35 – 16:05	What will be Next? – A Humble Contractor's View Mr. Thomas HO On Sing, JP Chief Executive, Gammon Construction Limited
16:05 – 16:35	New Business Districts - Why Success or Failure Mr. Augustine WONG Ho Ming Executive Director, Henderson Land Development Company Limited
16:35 – 16:45	Q&A <i>Moderator</i> Prof. Eddie HUI Chi Man Council Member, Property and Facility Management Division, The Hong Kong Institute of Surveyors
16:45 – 16:50	Souvenir Presentation to Speakers
16:50 – 17:00	Closing Remarks Mr. Stephen LAI Yuk Fai Chairman, Organizing Committee
17:00	End of Conference

Speakers and Papers



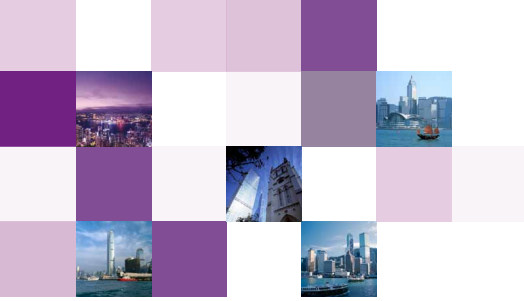
Mr. Jimmy LEUNG Cheuk Fai, JP

Director of Planning, Planning Department, HKSAR Government

Mr. Jimmy LEUNG is the Director of the Planning Department of the Hong Kong Special Administrative Region Government. Mr. LEUNG is a Registered Professional Planner in Hong Kong, a Fellow of the Hong Kong Institute of Planners and a Member of the Royal Town Planning Institute in the United Kingdom. He also holds the PRC Registered Urban Planner Qualification.

Hong Kong's Evolving CBD : A Planner's Perspective

This paper attempts to analyze the development of our CBD from a planner's perspective. Its pattern of growth, development and changes in terms of space, functions and accessibility will be reviewed. In tandem with economic and urban growth, our CBD has expanded quite rapidly in the last 20 years. Government's planning and investment in transport infrastructure, relocation of government offices as a catalyst for office decentralization and last but not least the business interests of developers to create prestigious office clusters within particular localities are the key drivers shaping the processes. The dispersal of offices away from Central to districts like Tsim Sha Tsui, Sheung Wan, Admiralty, Wan Chai and Causeway Bay has signified the early expansion of the CBD. With the emerging office nodes in Quarry Bay, Kowloon East and West Kowloon and the upcoming office development in Kai Tak, our CBD is gradually evolving by linking up with these office nodes. In the long run, a larger CBD may emerge around the harbour. It is also anticipated that Central, being the heart of the larger CBD, will become the financial district through specialization of functions under market forces. The paper will discuss the above processes and the related issues.



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“The heart of an urban area, usually located at the meeting point of the city’s transport systems, containing a high percentage of shops and offices. High accessibility leads to high land values, and therefore intensive land use. Consequently, development is often upwards. Within the CBD, specialist areas, such as a jewellery quarter, benefit from external economies. Vertical land-use zoning is also common, so that retail outlets may be on the ground floor, with commercial users above them and residential users higher up.....” This is the definition of CBD in “A Dictionary of Geography” by Susan Mayhew, Oxford University Press, 2009. Even people without any knowledge of the definition of CBD would easily perceive the Central District as our CBD. Apart from the meaning of the name “Central” carries, the strong presence of high value - added business activities, landmark buildings, world renowned retail and eating outlets as well as government, legislative and judiciary establishments, the strategic transport interchange, and last but not the least the very expensive accommodation price and rental are prominent traits of Central being our CBD. However, the boundary of CBD is conceptual rather than real, and while Central as our CBD is deep-rooted, it is by no means static. It has been evolving in terms of space, functions and accessibility over the years. We can broadly divide the development of our CBD into three phases.

The early phase – a distinctive Central

CBD in Hong Kong has a long history. In the 19th century, the City of Victoria (now known as the Central District) was the first developed area for government and institutional uses as well as major trade businesses. Queen’s Road Central was the first road built by the Government. The early commercial and civic buildings were then constructed between the road and the sea. These included the first Jardines Matheson’s Building, Lane Crawford Building, Queen’s Building and the first City Hall. By 1950s, the earlier buildings had been replaced by new headquarters such as the former Hong Kong and Shanghai Bank, the China Bank, the Central Government Offices and the Legislative Council Building. Central became the focal point of commercial, social and civic life. A critical mass had already been established well before the rapid economic changes that took place in Hong Kong in the past 50 years.

In a report on the City of Victoria released by the then Director of Public Works in 1961, the functions and characteristics of the CBD in Hong Kong were described as follows:

“The City of Victoria is at once the centre of business and banking life, of commercial transactions, of professional, administrative and cultural activity and, with the opening of the new hotels now under construction, will make a strong bid to re-assert its supremacy in the tourists and entertainment fields.”

There is no doubt that our CBD was founded in the Central District. Central and CBD have been interchangeably used in Hong Kong for many decades, though the invisible CBD boundary has been gradually shifting outwards.

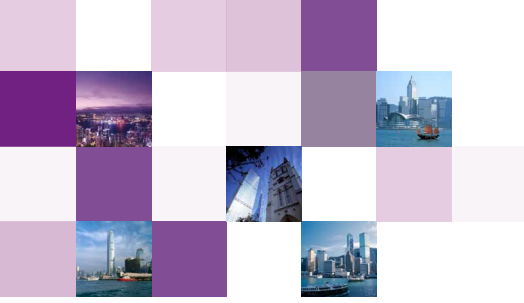
The second phase – the “Golden Triangle”

The expansion of Hong Kong’s CBD was closely related to our development trajectory in the 1970s and 80s when we began to evolve from a manufacturing to a services-based economy. To cater for the strong market demand for high quality office space, rapid redevelopment and a series of reclamation took place. The CBD naturally expanded into its adjoining Sheung Wan, Admiralty, Wan Chai and Causeway Bay areas and across the harbour to Tsim Sha Tsui, forming the “golden triangle”.

The outward expansion of our CBD from Central is an inevitable course of economic and urban growth given the small size of Central. Central with an area of just about 1.6 sq. km. is small in comparison with other leading financial centres - London’s CBD measures about 34 sq. km. while New York CBD comprising Midtown, Midtown South and Downtown takes up about 24 sq. km. The “golden triangle” of Hong Kong with a land area of about 6.6 sq. km. is still small by international standard, though it has quadrupled the size of Central.

The third phase – “Leapfrogging” out of CBD

While the dispersal of offices away from Central to Tsim Sha Tsui, Sheung Wan, Admiralty, Wanchai and Causeway Bay has signified the second phase of the



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CBD development, the end of the last century has heralded a new era in office development in Hong Kong which would eventually reshape our CBD. Largely due to the geography of Hong Kong, linear and continuous office development has taken place along the northern shore of Hong Kong Island. Central is overlooking Tsim Sha Tsui where our early settlements were found. Even before the commissioning of the cross harbour tunnel in 1972 and the MTR first cross-harbour line in 1980, it just took minutes from Central to Tsim Sha Tsui by the popular ferry service. Common to many mature economies, it is always difficult to further expand a well-established CBD as time goes by. The pace of development within the CBD and dispersal to its immediate surroundings slows down. Solution space has to be found elsewhere which is farther away from the CBD. The third phase of development is characterized by “leapfrogging” of offices out of the CBD. Premier offices have been built away from the traditional CBD to Quarry Bay in Island East and Kwun Tong and Kowloon Bay in Kowloon East. By now, Quarry Bay and Kowloon East have become distinct office nodes with a critical mass of offices.

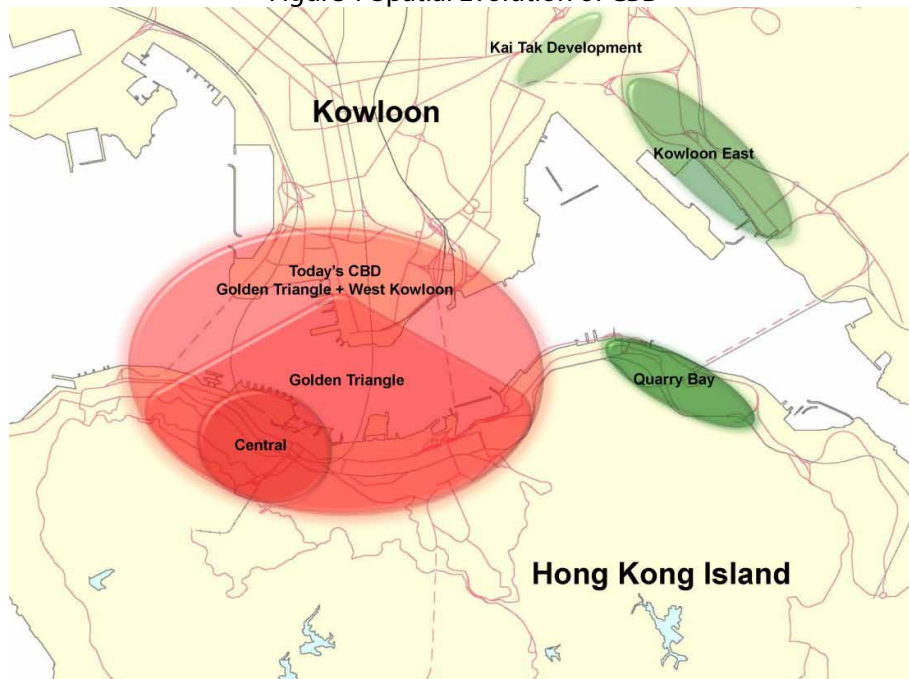
Added to the list of premier office nodes will be the agglomeration at West Kowloon, formed by the International Commerce Centre, the future above-station office development at the Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) Terminus and the potential offices in the West Kowloon Cultural District. Its proximity to Tsim Sha Tsui makes the place a natural extension of the CBD. The planned office cluster in the Kai Tak Development will expand and enhance the Kowloon East office node.

Some Facts of our CBD

Land Area

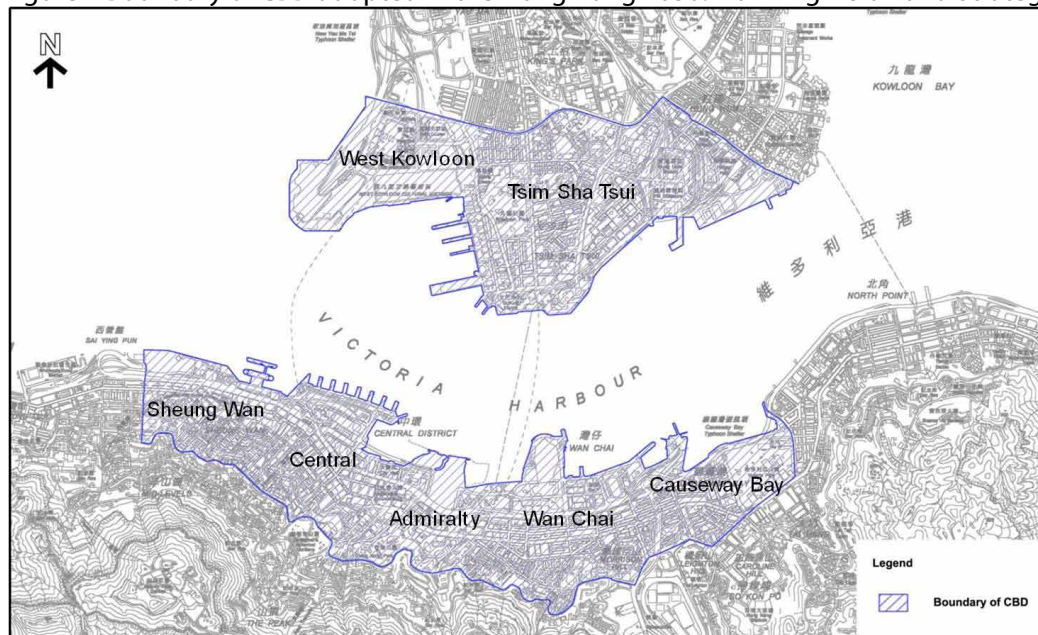
Figure 1 shows the spatial evolution and expansion of our business areas under the three phases described above. With the natural expansion of the “golden triangle” to cover West Kowloon, these areas were taken as the CBD in the “Hong Kong 2030: Planning Vision and Strategy” (the HK2030 Study). The boundary is shown at Figure 2. Today’s CBD sits on a total land area of about 7.5 sq. km. The office nodes around the harbour would add to a supply of about 3 sq. km. of land area to support the CBD.

Figure 1 Spatial Evolution of CBD



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Figure 2 Boundary of CBD adopted in the Hong Kong 2030: Planning Vision and Strategy



The economic primacy of our small CBD could be demonstrated by the sheer density of persons engaged, business establishments, private office stock as well as regional headquarters and offices in just about 2.9% of our built-up area. The agglomeration economies thus achieved is crucial to exchange of innovations and knowledge, underpins the competitiveness of our CBD and is in itself a driver for further growth.

Figure 3 Some Facts of CBD

	Overall HK	CBD
Land Area (sq.km)	263 (built-up area)	7.5 (2.9% of built-up area)
No. of Persons Engaged (1)	2,465,720	649,310 (26.3%)
No of Business Establishments(1)	327,120	79,540 (24.3%)
Private Office Stock (GFA, sq. m.)(2)	14.3 M	8.58 M(60%)
No. of regional headquarters and offices(3)	3,638	1,968 (54%)

(1) For data on the persons engaged and business establishments shown in Figures 3 and 5 to 8, most of the major economic activities in different industry sectors are covered. However, some economic activities are not covered, e.g. agriculture; construction; hawkers; taxis, public light buses, and part of goods vehicles and inland freight water transport; monetary authorities and self-employed insurance agents with no business registration; authors and other independent artists, and some social and personal services; and Civil Service. Individual figures may not add up to the total due to rounding. Source: Number of establishments and persons engaged (other than those in the Civil Service) analysed by industry section and Tertiary Planning Unit (TPU), Census and Statistics Department, with slight modifications.

(2) Compiled by Planning Department based on Property Reviews of the Rating and Valuation Department. CBD here covers the sub-districts of Sheung Wan, Central, Wan Chai/Causeway Bay and Tsim Sha Tsui & West Kowloon.

(3) Based on 2010 Annual Survey of Companies in Hong Kong Representing Parent Companies Located outside Hong Kong, Census and Statistics Department.

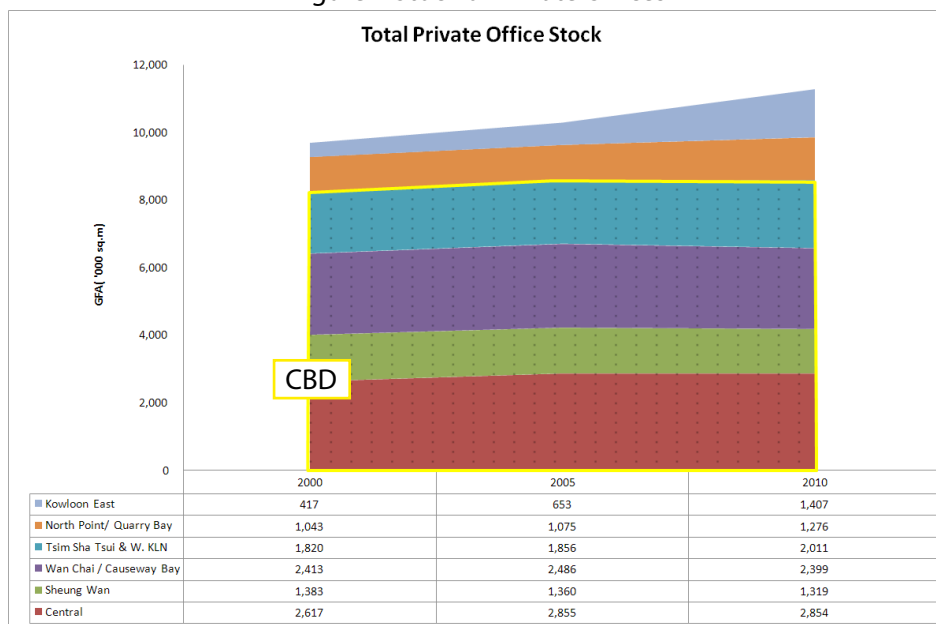
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Office Space

As revealed in Figure 4, we have a very dominant CBD today though its share to the overall office supply is declining due to the growth of other office nodes. Total private office GFA in the CBD rose from 8.23 M sq. m. in 2000 to 8.58 M sq. m. in 2010, up by 0.35 M

sq. m. or 4.3%. With a notable increase by 84% (+ 1.22 M sq. m), the private office stock in North Point/Quarry Bay and Kowloon East jumped from 1.46 M sq. m. to 2.68 M sq. m. This reinforces that the rate of growth in office nodes surpasses that of the CBD when the latter reaches a mature stage of development.

Figure 4 Stock of Private Offices



Source : Compiled by Planning Department based on Property Reviews of the Rating and Valuation Department.

Function

The changing mix of employment and business establishments over time sheds light on the evolving function of our CBD. The following observations suggest the dispersal of some CBD functions to other office nodes, resulting in greater spatial specialization of functions.

As shown in Figure 5, over the past decade, “financing and insurance & professional, scientific and technical services” (the finance and professional sector) overtook “import/export, wholesale and retail trades” (the I/E sector) as the largest industry sector in terms of employment in the CBD. While the percentage share of the former is up from 28 % in 2000 to 30% in 2010, the latter decreased from 31% to 28%.

Specialization of functions is most intense in Central. Over half of the employment in Central engaged in the finance and professional sector in 2010, with the percentage share increased from 55% to 57% over the past decade. This is in sharp contrast to the employment mix in the non-CBD areas where the corresponding figure in 2010 is only 8%. Employment in the I/E sector showed the reverse situation. While employment in Central is skewed towards the finance and professional sector, the non-CBD areas are skewed towards the I/E sector (34% of the employment engaged in this sector in 2010). The entire CBD, with respectively 30% and 28% of its employment engaged in the finance and professional sector and the I/E sector, is somewhere in between the two spectrums. Figure 6 illustrates that similar trend is observed by analyzing the industry type of the business establishments.

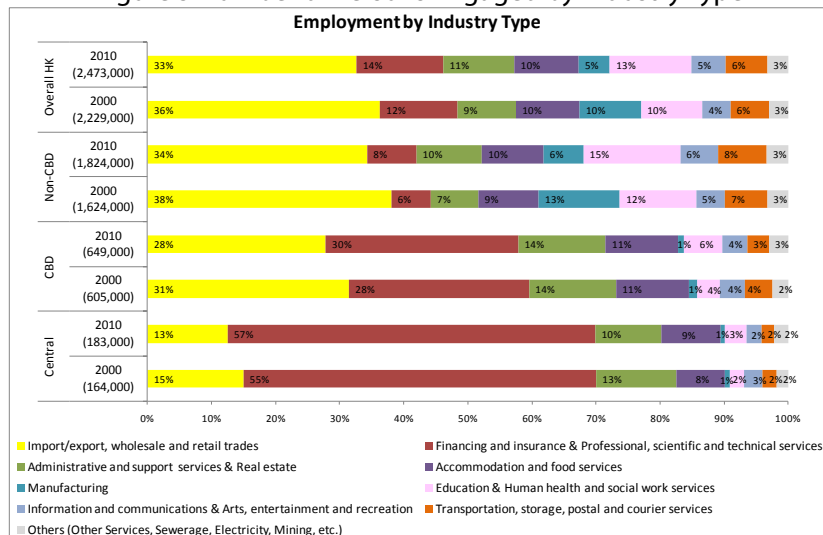
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There was a net increase of about 1 190 business establishments in Central over the past decade, of which 65% was from the finance and professional sector. The figure was even higher (78%) in terms of the increase in employment. On the contrary, net decrease in both employment and business establishments in the I/E sector in Central was noted. Situation in the entire CBD is similar (Figures 7 & 8).

financial institutions. This will likely result in growing specialization in the CBD, especially agglomeration of financial services in Central. Central is becoming the central financial district under market forces as only business undertakings with the highest bid rent ability would remain at the very core. In this process, supporting business services, back offices and business undertakings not requiring a prime location and more cost sensitive have been filtering out to the CBD fringes and other office nodes where accommodation cost is considerably lower.

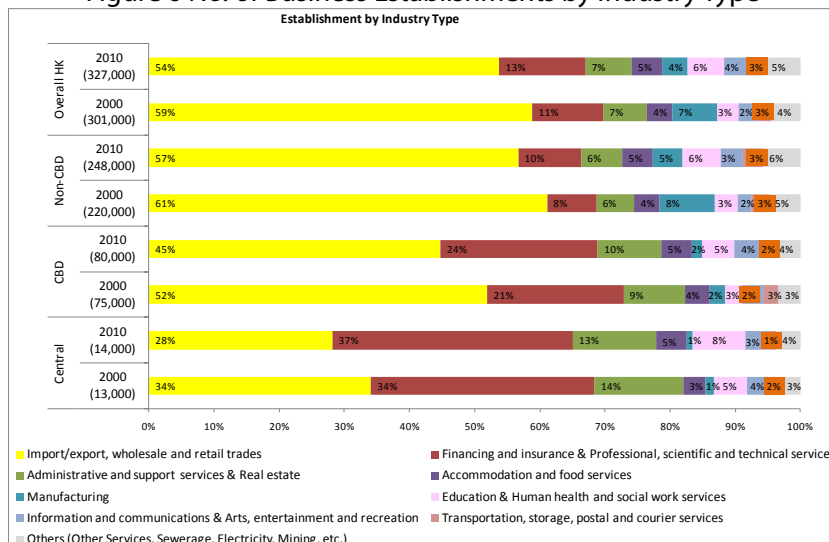
When the economy becomes more globalized, central functions will further agglomerate in global cities. Hong Kong, well known as a global financial centre, will be home to more and more international

Figure 5 Number of Persons Engaged by Industry Type



Note: Figures in () refer to the total number of persons engaged in the area

Figure 6 No. of Business Establishments by Industry Type



Note: Figures in () refer to the total number of business establishments in the area



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Figure 7 Absolute Change in No. of Persons Engaged (2010-2000)

	Central	CBD	Non-CBD	Overall HK
Import/export, wholesale and retail trades	-1,780	-9,730	7,820	-1,910
Financing and insurance & Professional, scientific and technical services	14,350	25,000	39,560	64,560
Administrative and support services & Real estate	-1,770	6,520	65,260	71,780
Transportation, storage, postal and courier services	30	-3,970	31,490	27,520
Accommodation and food services	4,450	3,810	24,070	27,880
Manufacturing	-230	1,149	-92,890	-94,040
Education & Human health and social work services	2,730	17,240	83,360	100,600
Information and communications & Arts, entertainment and recreation	-630	1,610	34,090	35,700
Others (Other Services, Sewerage, Electricity, Mining, etc.)	1,150	4,690	7,780	12,470
Total	18,300	44,020	200,540	244,560

Figure 8 Absolute Change in No. of Business Establishments (2010-2000)

	Central	CBD	Non-CBD	Overall HK
Import/export, wholesale and retail trades	-450	-3,400	2,450	-950
Financing and insurance & Professional, scientific and technical services	780	3,500	6,950	10,450
Administrative and support services & Real estate	40	660	2,400	3,060
Transportation, storage, postal and courier services	0	-250	1,660	1,410
Accommodation and food services	240	840	2,890	3,730
Manufacturing	-30	-510	-7,830	-8,340
Education & Human health and social work services	480	2,030	6,580	8,610
Information and communications & Arts, entertainment and recreation	-10	720	3,700	4,420
Others (Other Services, Sewerage, Electricity, Mining, etc.)	140	840	3,200	4,040
Total	1,190	4,440	22,000	26,430

Driving Forces behind Decentralization of Offices

The above gives a brief empirical account of the development of our CBD. We will further examine the driving forces behind decentralization of offices, particularly leapfrogging of office development. There is a limit to the expansion of our CBD due to shortage of land on the one hand, and the infrastructural and environmental capacities on the other. Decentralization of offices is both a planning response and a market reaction.

Transport Infrastructure as Driver

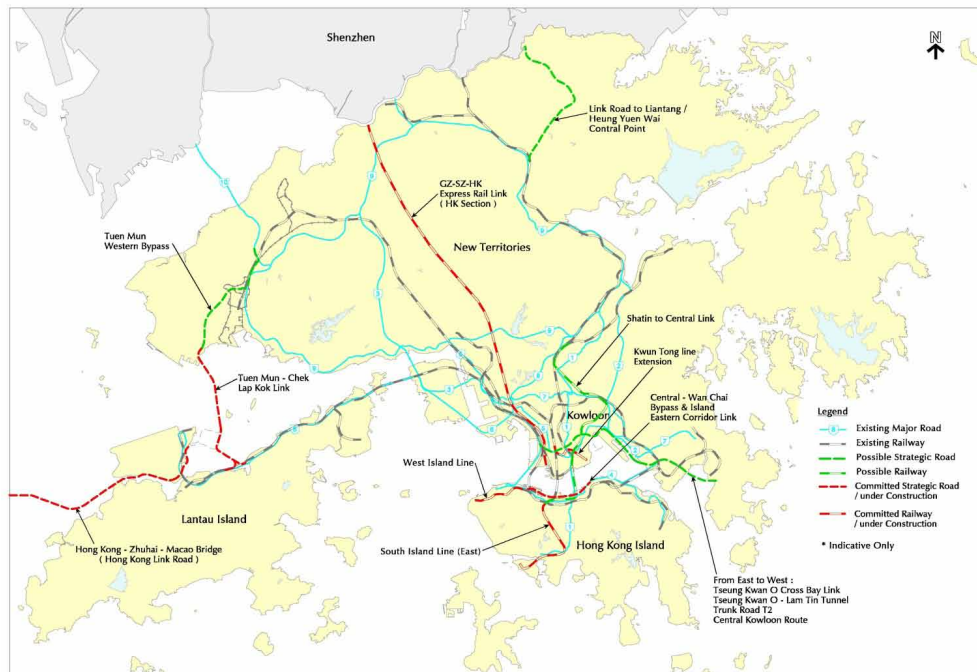
Improved accessibility brought about by Government's planning and investment in transport infrastructure is pivotal to decentralization of offices. Cutting short the journey time would allow the non-CBD areas to be close enough to benefit from the CBD's agglomeration economies. Quarry Bay, Kowloon East and West Kowloon are all well served by mass transit railway, conveniently linking them up with the CBD and other metro areas. Take Quarry Bay as an example. Following the commissioning of the MTR Island Line in 1985 and the Eastern Harbour Tunnel in 1989, the industrial sites in Quarry Bay were rezoned

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to “Commercial” and “Comprehensive Development Area” in 1990s, providing the planning framework for redevelopment to office uses. For West Kowloon, it has the added advantage of being conveniently linked up with the airport and the high speed rail network of the Mainland upon completion of the XRL. Hence, West Kowloon would particularly appeal to companies having strong business ties with the Mainland. The

physical distance between the above districts and the CBD is substantially cut short by the highly efficient transport infrastructure. As a result, our compact metro areas offer great convenience to businessmen in undertaking multi-tasks and face to face appointments at different locations. Figure 9 shows the existing and planned major transport infrastructure in Hong Kong.

Figure 9 Existing and planned major transport infrastructure in HK in the medium term

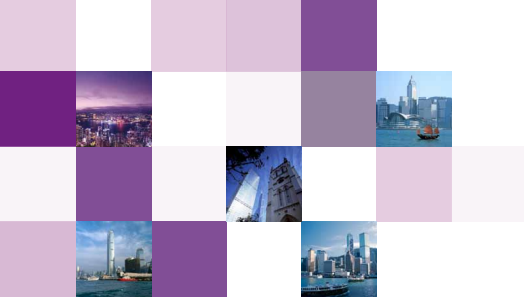


Land Use Planning as Facilitator

Hong Kong has long been advocating integrated transport – land use planning and economical provision of transport infrastructure through optimizing development opportunities along major transport corridors. Complementing the provision of transport infrastructure are planning measures to facilitate the creation of office nodes. Many industrial sites in Kowloon Bay and Kwun Tong have been rezoned as “Other Specified Uses (Business)” (“OU(B)”) in 2001 to increase land use flexibility by allowing a mix of office, commercial and non-polluting industrial uses. Currently, there are 68 hectares of land zoned “OU (B)” in Kowloon Bay and Kwun Tong. The office GFA there tripled from 417,000 sq. m. in 2000 to 1.4 M sq. m. in 2010. Its existing Grade A stock comes second after Central. The industrial lots offer large

footprints which are scarce in the mature CBD for Grade A office development. The policy initiatives to revitalise industrial buildings, introduced by the Development Bureau in April last year, also help hasten the redevelopment/conversion process. We also employ planning measures such as building setback upon redevelopment, footbridge connection and beautification of the waterfront to enhance the ambiance, pedestrian circulation and urban design of the areas. One of the very recent government initiatives is the proposal to redevelop the Construction Industry Council Training Academy Training Ground in front of MegaBox as a low carbon building and landscape area.

Taking advantage of the location of a station of the Sha Tin to Central Link at Kai Tak, the Kai Tak Development



Speakers and Papers

has been identified as a strategic choice for supplementing the CBD Grade A office supply under the HK2030 Study. The Kai Tak Government Offices, expected to be completed in 2015, will speed up the development of commercial office space at this brand new node. As mentioned in the Financial Secretary's budget speech 2011-12, the Kai Tak Development will create noticeable synergy with the office belt transformed from the former industrial areas in Kwun Tong and Kowloon Bay. We will continue to explore initiatives to create a sustainable and thriving Kowloon East Business Area.

West Kowloon is another new office node identified in the HK2030 Study to meet the demand for CBD Grade A offices. Commanding a good strategic transport connection with both regional and domestic transport networks, the site will become a major rail hub. It meets the criteria of size, location, accessibility and agglomeration for developing into a successful office node and being a natural extension of the CBD. To take forward the recommendation of the HK2030 Study, the XRL terminus site was rezoned in 2009 for above-station development with a minimum plot ratio of office development specified. By doing so, this site together with the potential office development at the West Kowloon Cultural District and the existing International Commerce Centre with a total office GFA of over 0.6 M sq. m. would provide a reasonable critical mass of office space.

Private Developers' Initiatives

In a market economy, planning efforts to decentralize offices would be in vain without the appropriate market forces. The business interests of individual developers in creating prestigious office clusters at target areas through constructing landmark buildings, attracting anchor companies, footbridge connections linking up key buildings, landscape improvement and branding are crucial to redefining an area as an office node. Individual developers' initiatives have contributed to the success of office developments in Admiralty, Wan Chai, Causeway Bay and Quarry Bay.

Government Offices as Catalyst

A successful office node cannot be formed without

achieving a critical mass. Once a sufficient mass is formed, the filtering out process will sustain under market forces. Government offices could act as catalyst in the formation process. It is worth noting that the North Point Government Offices, with GFA of 60,800 sq. m. completed in 1998, has been a catalyst for transforming the previous industrial area in Quarry Bay to a distinct office node. Following its completion, private office buildings and the more recently built government buildings like the ICAC and Customs and Excise Department Headquarters have made the area their new homes. Likewise, we anticipate that the Kai Tak Government Offices would stimulate growth of private office developments in the commercial belt at Kai Tak.

Driving Forces working in Wong Chuk Hang

Wong Chuk Hang has the potential to become another office node. The driving forces shaping the Quarry Bay and Kowloon East nodes are also working in Wong Chuk Hang. Its industrial lots have been rezoned to "OU(B)" and its accessibility will be greatly improved with the commissioning of the MTR South Island Line (East) scheduled for 2015. Meanwhile, quality hotel and offices have been built and more are upcoming. The transformation is expected to accelerate with the opening of the railway line.

The Outlook

Much of the above discussion has been devoted to decentralization of offices, but we should not lose sight of the traditional CBD. The HK2030 Study has emphasized the importance of maintaining a steady and adequate supply of CBD Grade A offices so as to sustain Hong Kong as a leading financial centre and regional business hub. As recommended in the study, we will continue to consolidate and enhance the existing CBD alongside developing office nodes outside CBD. Recommendations for the CBD areas include freeing up government accommodation not requiring a prime location, redeveloping multi-storey car-parking sites and delivering new office sites at the Central waterfront.

Globalization is affecting the function of and demand for office space in Hong Kong's CBD. According to the



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“World city network: the Globalization and World Cities Research Network”, Hong Kong ranked third, trailing after New York and London, as a global city. Global cities are the market places for global capital and the headquarters economy. Global command centres emerge as a result of the tendency to concentrate advanced services of top-level management and control functions at strategic locations to oversee and manage the dispersal of plants, offices and retail outlets in a wider region. Hong Kong is a favourable base for multi-national corporations to service the Asian region which is regarded as the world’s economic growth engine in this century. This, together with the gateway role of Hong Kong in the rapid economic development of China, it is anticipated that the demand for office space in Hong Kong will continue to grow, thus feeding the expansion of the CBD and growth of new office nodes. The office nodes will be an adjunct to the CBD. With the continuous improvement in transport infrastructure covering the metro areas, the metro areas will continue to grow in compactness. Acting together, a larger CBD may emerge around the harbour in the long run to serve not only Hong Kong, but also the wider region. With the emergence of a hierarchy of office clusters within the larger CBD, each cluster will find its own competitive advantage and market niche. A more distinct specialization of functions within the larger CBD is likely to occur, with the tendency of corporate headquarters and highly competitive companies engaging in high value - added financial services attaching to Central. The heart of the CBD, Central, will function as a central financial district. Other advanced producer services and trading services would be filtered out progressively. In the process, we have to be mindful of preserving mixed uses of the CBD to sustain its vibrancy and diversity.

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Mr. Thomas HO Hang Kwong

Property Director, MTR Corporation Limited

Mr. Thomas HO is the Property Director of Hong Kong's MTR Corporation Limited. He is responsible for the MTRCL's extensive property development and property management portfolios. He leads a multi-disciplinary team of professionals involved in the planning, design, construction and management of large-scale property developments associated with railway stations and depots.

The MTRCL operates railway services in a 211-kilometre system served by 9 commuter lines together with the Airport Express network, and Light Rail service. With regards to property development, a total of five new, ambitious schemes, generating 3.4 million square meters of residential, retail, office and hotel floor area has been built along the Airport Railway, contributing to landmark of Hong Kong such as the 2IFC at Hong Kong Station and Elements at Kowloon Station.

There are also 3 development projects undertaken by the MTRCL comprising about 0.8 million square meters of residential-cum-commercial properties along the Tseung Kwan O railway line, coupled with the large scale development known as LOHAS Park being developed by phases with about 1.7 million square meters of development floor area in total. Under the leadership of Mr. Thomas HO, the MTRCL is now actively expanding property portfolio with about 2.3 million square meters currently in progress of mixed-use developments in the land bank.

Mr. HO is responsible for overseeing the investment and management of twelve major shopping centres which are wholly owned and managed by the MTRCL. The cornerstone to the success of the Corporation's shopping centres has been a combination of location, tenant mix and property management, together with a comprehensive understanding of the demands and habits of Hong Kong shoppers.

MTR - Transformation of CBDs in Hong Kong

Along with sustained economic growth and closer ties with Mainland China, Hong Kong is facing the challenge of a serious shortage of office supply and rising office rents, particularly in the Central Business Districts. There are expectations that the implementation of 5 MTR new railway lines, including the Express Rail Link, West Island Line, South Island Line (East), Kwun Tong Line Extension and Sha Tin to Central Link will offer a solution, as the efficient MTR network established in the past 3 decades had helped shape the CBDs of Hong Kong.

As Hong Kong enters a new phase of fast economic development, the future of the city's CBD is going to be influenced by interplay of several key factors, of which reliable transport service is only one of such factors. MTR's role is mainly a catalyst for the transformation of the CBD, offering opportunities for some business functions to decentralize to new satellite hubs along new railways and spare the space of the CBD for financial functions which can afford higher rents. MTR lines become the lifeline connecting the CBD and the satellite hubs in the new hierarchy of business centres. Government policies and market forces are the key determining factors for the actual CBD transformation, in ensuring office land availability at selected secondary locations through the town planning/land administration mechanism and subsequent provision of office space by the private sector at affordable price or rental. A picture of CBD's further development and the possible emergence of complementary satellite hubs based on the expanded MTR network is presented.

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A) MTR helped shape today's CBD

Over the past century, Hong Kong's Central Business Districts i.e. the "twin-nuclei" of Central and Tsim Sha Tsui, have transformed from just the cores of a trading port thriving on direct access to Victoria Harbour to an economic powerhouse in the Asia Pacific region, accommodating many regional headquarters and major financial institutions. The dynamics of the CBDs in terms of spatial expansion, development intensification and upgrading in functions have been significantly influenced by the Mass Transit Railway system opened in 1979.

For a service-based economy, "time is everything". The fast, reliable mass transit service provided by the MTR gave unprecedented convenience for people to move across the harbour and along the northern shore of Hong Kong Island. This major improvement in

accessibility has reinforced Central as the core CBD area and facilitated expansion of the CBDs to the peripheral areas, including Sheung Wan, Wan Chai and Causeway Bay along the Island Line (see Figure 1).

Economic growth remained the underlying force driving up demand for offices in the CBD areas which constantly exceeded the supply available. However, rising rents would not force directly complementary trades such as legal and accounting firms out of the CBD. Financial institutions and firms providing related high value-adding services could afford to pay high rents and stay in the CBD core while other business trades would move out, either to the CBD periphery leading to the expansion of the CBD, as in the case of Admiralty and Sheung Wan, or further away along the MTR network to create satellite office hubs such as Island East and Kwun Tong/ Kowloon Bay. The CBD's leading position in the economy only became stronger in the process as a result.

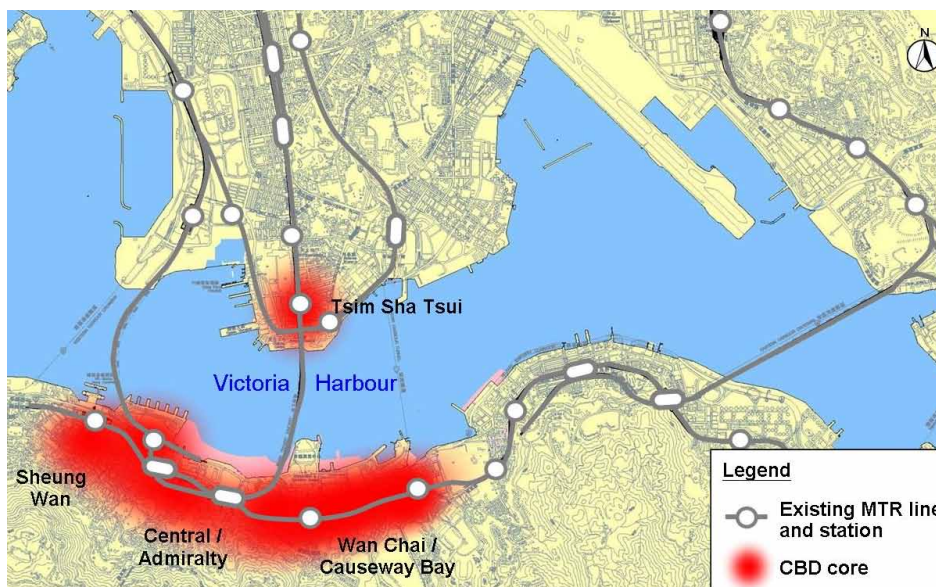


Figure 1 MTR Railway Network, 2011, and Locations of CBD Cores

B) MTR's role as a catalyst

In the transformation of the CBD, MTR's role as a fast, reliable transport service works mainly as a catalyst, offering choice for some business functions to move to peripheral areas or new satellite hubs along new railways and spare the scarce space of the core CBD for international corporation headquarters, financial institutions and related businesses which can afford

higher rents. As convenient transport service is essential to the survival of businesses at off-CBD locations, MTR lines become the lifeline connecting the CBD and the satellite hubs in the new hierarchy of business centres.

Government policies and market forces remain to be the key driving forces for the CBD transformation, in ensuring office land availability at selected secondary locations through the town planning/

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land administration mechanism and subsequent investment by the private sector to provide office space at affordable price or rental to meet anticipated end-user demand. It is the interplay of these key factors that drive the change of the CBD.

C) "Rail + Property" developments as key drivers for CBD expansion

In addition to the railway factor, successful implementation of the comprehensively planned, integrated "Rail + Property" ("R+P") developments at Hong Kong and Kowloon Station of the Airport Railway also contributed significantly to the expansion of the CBDs in Hong Kong since 1990s.

The sites over Hong Kong and Kowloon Stations granted to the MTR Corporation have been successfully developed into landmark buildings, i.e. the International Finance Centre (IFC) and International Commerce Centre (ICC) respectively standing prominently on either side of Victoria Harbour, each as part of a fully integrated business hub comprising not only offices but also an upmarket shopping centre and 5/6 star hotels (also quality residential towers for Kowloon Station). The super-Grade A office towers at IFC and ICC become home to a number of prestigious international firms, particularly those in the Finance, Insurance and Real Estate (FIRE) sector, forming the heart of Hong Kong's financial service activities. Critical factors leading to the achievements include:

1. The developments were designed in an integrated and comprehensive manner together with the station, capturing the full benefits of the convenient location. World famous architects were appointed to design the 88-storey IFC2 and 118-storey ICC as "signature" landmark buildings of extremely high quality forming a gateway to Victoria Harbour. As such, the developments become an attractive address to international firms seeking a prestigious identity.
2. Both the IFC and ICC are well equipped with intelligent office infrastructure including high-speed lifts, rectilinear trading floor plates, dedicated uninterrupted power supply and chillers, dual power system, 100% computer backup, raised floors

and tenant risers. These facilities provide excellent support to the "round-the-clock" businesses of top financial institutions.

3. Both Hong Kong and Kowloon Station developments feature seamless integration between railway stations and the topside property developments. This physical integration creates significant synergies and brings convenience to office users and visitors. The In-Town Check-In facilities also provide an attractive feature to multi-national office tenants who need convenient access to the airport.



Figure 2 The Hong Kong Station Complex

4. The developments are balanced with mixed land uses accommodating offices, retail, entertainment, hotels, etc to form life-style hubs providing vitality to the city centre. They become not just transit nodes but destinations for travellers. Whilst some conventional CBDs in the world are characterised by pure office blocks resulting in deserted streets after office hours, the diversity of functions of R+P developments brings vibrant nightlife back to the city core.
5. In the process of master planning, the R+P projects placed strong emphasis on urban design and quality of environment. The generous provision of amenities such as lushly greened open space, civic square, informal space for alfresco dining etc. successfully enhances the quality of life which is a particular attraction to amenity-conscious professional workers and international businesses.

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As a result of the great efforts made in developing the 2 projects, the Central CBD has been effectively expanded from the traditional Central core northward to the IFC at the harbourfront. The ICC also plays a key role in making West Kowloon an effective extension of the Central CBD which is only a 3-minute travel by the MTR.

The fast expansion in the financial sector and continued growth in trading, tourism and professional services has led to strong absorption of available office space in major business districts. The vacancy is now below 5% in Central, Tsimshatsui and Island East, and the rents are still on the rise. Only the core CBD functions can afford the high rents and stay. Lower order business trades and back offices of big companies are now moving out of the CBDs, notably to Kowloon Bay and Kwun Tong which have convenient access to the MTR service.

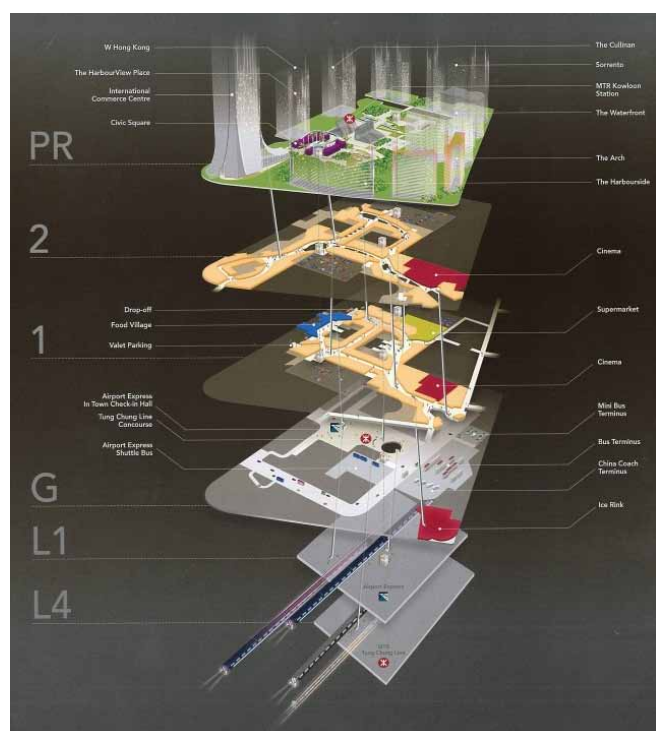


Figure 3 The Kowloon Station Complex: Design in Three Dimensions Integrating Railway and Property Developments

Source: Allenby (2010), *Elements: The Heart of the City*, ORO editions.

D) Future of our CBDs: A new hierarchy of business hubs

Under globalisation, cities are facing intense competition as destinations for international corporations. Due to Hong Kong's competitive advantages, we have been able to attract 33% more regional headquarters in 2010 than in 2003 (Census and Statistics Department, 2010). Along with sustained economic growth and closer ties with Mainland China, particularly its rapid development into an off-shore RMB centre, Hong Kong is experiencing a serious shortage of office supply and soaring office rents in the CBDs.

Hong Kong has entered into a new era of railway construction. Five new railway lines, including West Island Line, South Island Line (East), Kwun Tong Line Extension, Express Rail Link and Sha Tin-to-Central Link are now under construction. The first 3 lines will be owned by the MTR Corporation and the latter 2 lines will be implemented by adopting the service concession model. These lines will be completed in the next few years and will provide further opportunities for new satellite hubs to be formed. Whilst the Corporation will not be involved in office development along the new lines, the greatly improved travelling convenience will provide a strong impetus for a hierarchy of business hubs to emerge, with the CBDs being the core surrounded by additional satellite hubs closely linked by MTR lines. This will support the continued upgrading of the CBD and expansion of business development along the MTR network. Possible new business hubs could be (see Figure 4):

1. Wong Chuk Hang Business Area: Upon completion of the South Island Line in 2015, the travelling time to Central CBD can be substantially reduced from around 45 minutes to 10 minutes. This will be very attractive to firms which need close connection to CBD but cannot afford the high rents of Central. The planned business zone to the north of Wong Chuk Hang Station shows signs of becoming a new office hub for professional firms related to the building industry. Architectural firms prefer large floor plate to allow a pleasant open plan setup and computer floors to facilitate computer-aided design. If one or two office buildings are specially designed for this purpose, it may attract architectural firms to set foot there and build up the momentum enough to grow the area into a new business hub.

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2. West Kowloon: As a transport hub of 3 railway lines upon the completion of the Express Rail Link in 2015, the area will only be 3 minutes away from Central CBD and 18 minutes to Shenzhen CBD by train. With ICC already established as a super-Grade A office building, West Kowloon Cultural District being specially attractive to some businesses and additional quality office space provided above the Express Rail Link Terminus to create a critical mass, it is “gifted” to become an emerging CBD extension for financial business, China trade and creative industries.

3. Kai Tak: This area will enjoy the convenience of reaching Central CBD by Shatin-to-Central Link in about 20 minutes when completed in 2020. To establish Kai Tak as a new location for offices, Government offices to be provided in a significant amount can play the role of an “anchor tenant” to create a critical mass enough to attract private interest in developing other planned office sites of this completely new business hub.

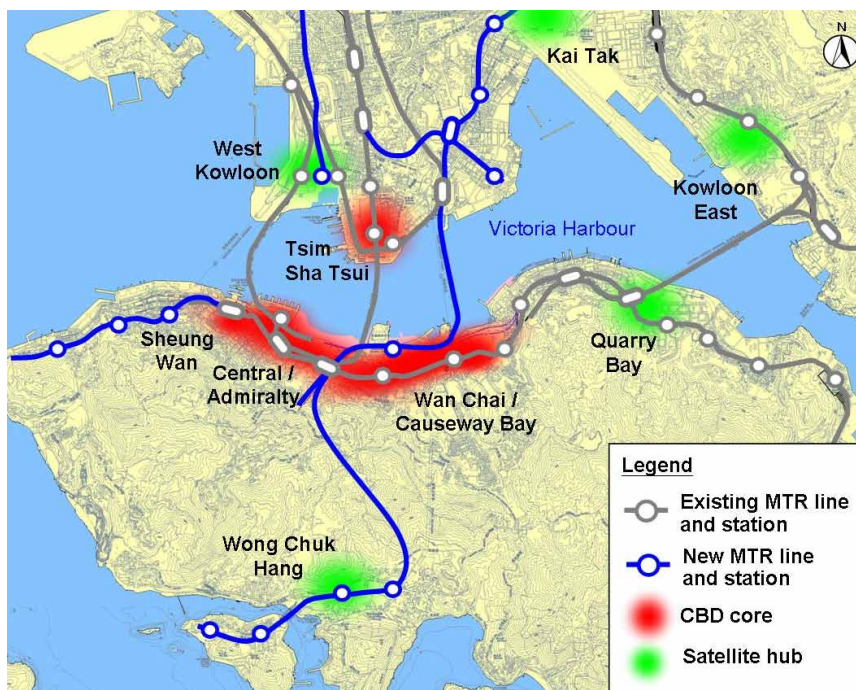


Figure 4 New MTR Railway Network and Locations of the Satellite Hubs

E) Towards a Metropolis

In a few years' time, the city will be much better connected by the new railway lines. This provides the perfect condition for the CBD to be further upgraded and new satellite hubs specializing on specific trades to be established, and they can stay closely connected by the environmentally friendly MTR service. We expect Government initiatives and private sector investments will eventually make this happen.

If Wong Chuk Hang, West Kowloon and Kai Tak are successfully developed as new business hubs, together they can provide as much as 2.5 million square meters of office floor space, which is about the current total in

Central. This will be the most efficient use of scarce land with good accessibility to support economic growth in Hong Kong, driving the city towards an international metropolis of sustainable development.

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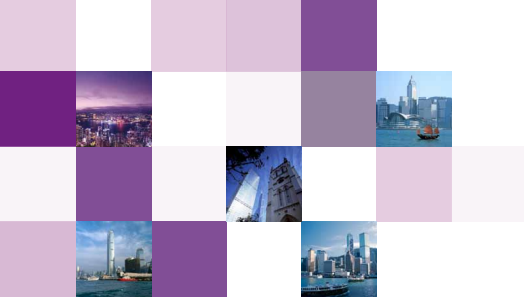
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Urban Climate, Urban Design and High Density City Living

More than half of the world's population now lives in cities. There are more than a handful of cities that are now mega-cities – that is with a population in excess of 10 million inhabitants. More than 100 cities now have more than 1 million inhabitants. Many of these cities are now in the Tropical and sub-tropical regions. Designing them for better human habitation is of paramount importance. The World Meteorological Organization (WMO) has since their World Climate Conference 3 in 2010 put emphasis on the urban climatic design of cities particularly in view of the coming of climate change. It is known that heat wave will be more frequent, more intense and last longer. The impact to health and safety if climatic issues are not taken into account will be severe.

How to design a city for our next generation that they can continue to sustain life? The paper shares research works on how to design for better urban climate in high density cities in the sub-tropics. It discusses design issues related to greening, urban ventilation and building design. Firstly, it is important to understand the key characteristics of a city's urban heat island intensity due to buildings. Secondly, to allow a better comprehension of the urban climatic characteristics of a city, the methodology of Urban Climatic Map is introduced. The Map synergies the city's morphological characteristics with meteorological data to result in a bio-climatic map that can allow planners and designers a way to visualize the diverse environmental conditions for better decision making. For modifying the urban climate of a city, the four key strategies are introduced. Greening as an effective strategy is explained. Another important design strategy for the sub-tropical climate of Hong Kong is to improve urban air ventilation.



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Since 2006, more than half of the world population lives in cities. The number of cities and megacities is on the rise; the urban population, especially in Asia, is on the rise as well. There are now more than 20 megacities (i.e., cities with population of more than 10 million) on Earth. More cities are being added to the list. In addition, more than 400 cities now have populations in excess of 1 million. The conversion rate of agricultural land and rural areas into concrete-paved and tarmac-sealed land, especially in rapidly developing regions such as China, is increasing. The United Nations estimated that the urban population in less-developed countries would rise from 0.5 to 3 billion by 2030. Urbanization and higher density living is now an irreversible trend of human urban development (UNFPA, 2009).

There are commercial and political reasons for high-density living in mega and compact cities. Higher density and more compact city designs conserve valuable land resources, reduce transport distance (and consequently the energy needed), and make public transport more viable. Advocates argue that high-density cities are more economically efficient. The need for appropriate designs for high-density cities is clear. Designs that take urban climate into consideration are puzzling agenda for planners and urban climatologists.

Mega and high-density compact cities suffer from large conglomerates of urban land mass with high thermal capacity and urban heat island intensity. In addition, they have higher ground roughness and poorer urban ventilation (Landsberg, 1981). High anthropogenic heat and pollution emissions are also problems under weak synoptic wind conditions. High-density compact cities, by their own urban morphological nature, have tall and bulky buildings, which lead to high frontal area density, high building-height-to-street-width ratio, restricted sky view factors, and low solar access. They are also lacking in open and green spaces (Jim, 2004).

Urban landscape creates an urban climate that affects human comfort and environmental health. Generally, the use of climatic knowledge in land use and urban planning is lacking. Planners and policymakers either do not pay sufficient attention to this increasingly important issue, or cannot fully engage the missing link. Understanding this lack of integration between

urban climatic and urban planning knowledge is important, especially for planners of mega, high-density, and compact cities (Eliasson, 2000).

Many mega, high-density, and compact cities are located in the tropical and subtropical Southeast Asia, which have hot and humid climatic conditions. Many of these cities are on the coastline. Past ill planning in Hong Kong has resulted in tall buildings that limit incoming sea breeze to inland areas (Ng et al., 2009). For cities next to hills, vegetation is not protected, resulting in lesser katabatic wind and air mass exchange benefits. Cities situated in the basin suffer from low wind penetration and higher air pollution, especially when important air paths through the city are blocked.

In mega, high-density, and compact cities located in the tropical and subtropical region of Southeast Asia, heat-stress-related mortality and morbidity is on the rise (Leung et al., 2008). This has raised the alarm for local politicians and city planners. Given the inevitable event of global warming and extreme weather, health implications of increasing urban heat stress in cities are of topical concern. Heat waves are becoming more frequent, longer in duration, and higher in intensity. One study in Hong Kong has indicated that the occurrence of "heat spells" can increase dramatically. In a nutshell, with 3 °C of UHI, inhabitants of the city would live almost every day and night under high thermal heat stress during the summer (Ng, 2009) (Figure 1). Apart from the impact to health, higher urban temperature also means higher energy consumption for air conditioning (Fung et al., 2006), thereby increasing energy use and CO₂ emission.

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HKO data	Very hot days		Hot days		Hot nights		Very hot nights	
	(Tmax>=33)	(Tmax>=32)	(Tmax>=30)	(Tmin>=25)	(Tmin>=27)	(Tmin>=28)	(Tmin>=28)	(Tmin>=28)
T _{iu} increase	T _{iu} = 0	T _{iu} = +1	T _{iu} = +3	T _{iu} = +3	T _{iu} = +1	T _{iu} = 0	T _{iu} = 0	T _{iu} = 0
	No., of very hot days			No., of very hot nights				
2008	15	42	74	115	48	15		
2007	25	61	117	121	52	23		
2006	3	25	82	117	53	15		
2005	12	33	93	135	51	26		
2004	6	26	94	123	47	19		
2003	14	40	91	139	62	20		
2002	10	32	93	133	45	17		
2001	9	38	90	121	41	16		
2000	10	40	99	124	51	22		
1999	6	49	113	133	55	17		
average	10.6	38.2	96.9	127.3	50.8	19.5		

$$(\text{no. of very hot days}) = 28.85*(T_{iu}) + 10.1$$

$$R^2 = 0.99$$

$$(\text{no. of very hot nights}) = 36.26*(T_{iu}) + 17.5$$

$$R^2 = 0.99$$

Figure 1 Impact of increasing urban heat island to the occurrence of very hot days and very hot nights

Noting the inevitable implications of urban climatic issues on health and comfort, the green and sustainable movement for city planning has gathered momentum in recent years. Since 2002, the Cabinet in Tokyo has had a general task force comprising the ministries concerned to address such issues. In 2005, the Hong Kong government established the First Sustainable Development Strategy for Hong Kong; in 2006, it launched the Feasibility Studies for the Establishment of Air Ventilation Assessment System. Since 2004, the Singaporean government has been finding ways to understand these problems and has attempted to address them by commissioning various studies. Since 2009, the city government of Taipei has begun to pay attention to these same problems. At least for some quickly urbanizing areas, political will is present; only the methods remain to be a concern for the planners and the politicians.

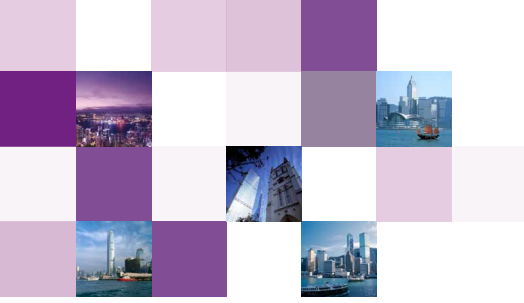
Urban Climate Map and Urban Diversity

The preparation of the draft Urban Climatic Analysis Map for Hong Kong takes into account the German and Japan experiences [including references to the Federal German Standard VDI-3787-Part1 Environmental Meteorology] and the unique climatic characteristics and urban morphologies of Hong Kong. The Urban Climatic Analysis Map (UC-AnMap) translates the urban climatic factors into a classification system with different climatopes and values assigned according to

their positive or negative effects on Thermal Load and Dynamic Potential.

Climatically relevant geometrical data (topographical, land use and buildings information) from the Planning Department, as well as evaluated data from urban climatologists and wind experts of the consultant team are input to a Geographic Information System (GIS) to become the UC-AnMap. The collated information of the UC-AnMap is stored in 100m x 100m grid layers in the GIS system. They are classified and calculated based on the Dynamic Potential and Thermal Load contributions to the urban climate. The two considerations are then combined based on their net effects on human thermal Physiological Equivalent Temperature (PET) values to result in a 1:5000 scale map. Some field case studies have been conducted to refine and verify the UC-AnMap. On this basis, further Wind Information based on HKO measured data and simulated wind data (MM5) from Hong Kong University of Science and Technology are added, and air paths are evaluated to produce the final UC-AnMap.

Information regarding meteorological, topographical, land use, building volume, building coverage, open spaces, urban and natural landscaping are evaluated and generalised to form the UC-AnMap at 1:5000 scale useful for the planning purpose. The reference time frame of the UC-AnMap is the summer months of 2007. The UC-AnMap is useful for planning purpose at OZP



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level. Based on the UC-AnMap, eight climatic classes have been categorized. They are:

Moderately Negative Thermal Load and Good Dynamic Potentials (Class 1)

These areas are situated on the higher altitudes of mountains and steep vegetated slopes. Adiabatic cooling and trans- evaporative cooling are prevalent to bring about good dynamic potentials and moderately negative thermal load. As a result, the temperature is usually very cool. These areas are sources of cool and downhill wind;

Slightly Negative Thermal Load and Good Dynamic Potentials (Class 2)

These areas are extensively covered by natural vegetation, greenery, and natural coastal areas including the hilly slopes. Trans- evaporative cooling is prevalent to bring about good dynamic potentials and slightly negative thermal load. As a result, the temperature is generally cooler. These areas are sources of cool and fresh air;

Low Thermal Load and Good Dynamic Potentials (Class 3)

These areas usually consist of more spaced out developments with smaller ground coverage and more open space very near the sea. As a result, the temperature is mild;

Some Thermal Load and Some Dynamic Potentials (Class 4)

These areas usually consist of low to medium building volumes in a developed yet more open setting;

Moderate Thermal Load and Some Dynamic Potentials (Class 5)

These areas usually consist of medium building volumes situated in low-lying areas further inland from the sea or in areas fairly sheltered by natural topography. As a result, the temperature is warm;

Moderately High Thermal Load and Low Dynamic Potentials (Class 6)

These areas usually consist of medium to high building volumes located in low-lying development areas with relatively less urban greenery. As a result, the temperature is very warm;

High Thermal Load and Low Dynamic Potentials (Class 7)

These areas usually consist of high building volumes located in low-lying well-developed areas with little open space. As a result, the temperature is generally hot in these areas;

Very High Thermal Load and Low Dynamic Potentials (Class 8)

These areas usually consist of very high and compact building volumes with very limited open space and permeability due to shielding by buildings on many sides. Full and large ground coverage is prevalent and air paths are restricted from the nearby sea or hills. As a result, the temperature is very hot in these areas.

The categorization and grouping of the UC-AnMap are by magnitudes of their positive dynamic potentials and negative thermal load effects (Figure 2). Urban climatically valuable areas should be preserved. Planning actions and mitigations should be directed to climatic zones that are critical and important, most particularly, the highly climatically sensitive areas

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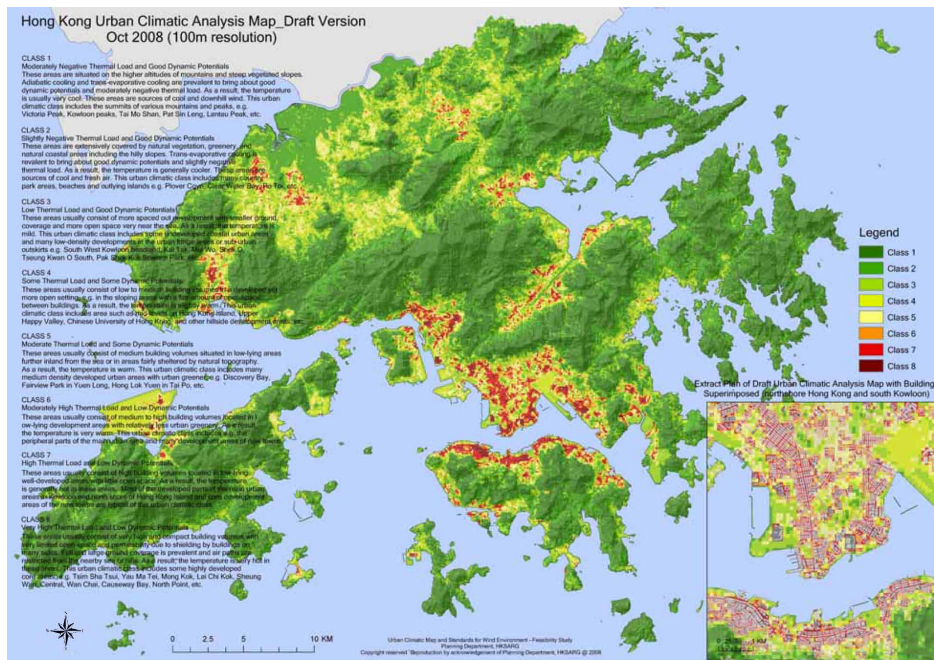


Figure 2 The Urban Climatic Analysis Map of Hong Kong

Key Planning and Design Strategies

Based on the UC-AnMp understanding, there are fundamentally 4 key strategies to mitigate the ill-effects of urban climatic issues. They are: Albedo, Vegetation, Shading and Ventilation (Figure 3). Based on the scientific understanding, a number of planning actions can be formulated. Their effectiveness has different time and spatial scale. For example, dealing with urban ventilation needs a long time scale as it can be difficult to quickly change the existing urban fabric. It also has a small spatial scale in that an air path will only benefit its immediate surroundings, thus one may need a whole array of air paths for the city as a whole.



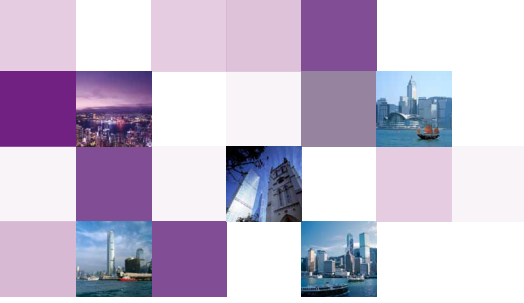
Figure 3 Strategies and Planning Actions towards better urban climate

Greening and Tree Planting

Greening reduces surface temperature and thus minimizes the radiant energy of the urban environment. Moist soil and leave surfaces increase the city's Bowen Ratio and increase Trans-evaporation, thus help to lower urban air temperature. However, grass surfaces are less effective than tree planting in that the leaf area ratio of grass surfaces is a lot less than trees, and more importantly, it does not provide a shaded air space that human activity can take place underneath. Experimental results have indicated that 30% greening can be effective lowering urban air temperature by 1 degree. Groups or lines of trees are more useful than simple trees; trees with leaved canopy are better than palm trees; and trees at grade where pedestrian frequent is more effective than trees on roof tops.

Cool Materials

Under sun, tarmac road surfaces can have surface temperatures reaching up to 65 degree C, lighter colour concrete surfaces are around 40 degree C and leaf surfaces are cooler at only one or two degrees above air temperature. Cool materials are normally light colour materials that reflect back short wave radiation. The surface temperatures of cool materials are lower than normal materials. This helps to lower the urban environment's mean radiant temperature and improve human comfort. Recently, advancement in material



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science means that some darker colour materials can behave like light colour materials. However, they are still expensive. Some cool materials are perforated meaning that water can be stored and evaporate back cooling the air. They are useful to be considered for paving.

Air Space and Building Ground Coverage

For hot and humid climatic conditions, in order to promote evaporation of sweat from our skin surfaces, air ventilation is very important. Urban air ventilation depends on the roughness of the ground surface, the street canyon ratio and most importantly, the air volume near ground. Reducing urban ground coverage is an effective design strategy. Experimental results evaluating air ventilation potentials and the urban frontal air density indicate that the overall urban ground coverage should not exceed 50%. That is to say, the site coverage should be less than 70%. Site level non-building areas, street level building setbacks, stepped podiums, building gaps near ground – design strategies in line with Hong Kong Planning Standards and Guidelines – are useful design strategies.

Urban Building Porosity and Permeability

In line with the understanding above, building porosity and permeability reduces urban frontal area density and improves air ventilation. Buildings Department has recently published APP152 that contains good guidelines for designers.

Shading

Colonnades and canopies shade pedestrian from the direct sun in the summer. This greatly reduces human body's mean radiant temperature. Tree shading can be more effective as the surface temperatures of leaf surfaces are lower than concrete or metal surfaces. It is important that no glazed materials should be used as shading devices. In addition, metal surfaces can heat quickly and are also not suitable to be used especially when the surfaces are close to human head levels.

Building Volumes and Building heights

Concrete and artificial surfaces store heat and re-radiate it back to the urban environment, thus causing urban heat island. Tall buildings and narrow street canyons reduce the sky view of the surfaces and limit its re-radiation potentials; heat is then trapped inside

the urban canyon causing heat stress in the summer months. Limiting building volume may mitigate the problem. However, for high density Hong Kong, this design strategy may be difficult to implement. As such, a balanced approach to increase air volume near the ground level whilst allowing taller buildings to be built is a reasonable compromise. Experimental results also show that a city with a good variation of building heights in close proximity can improve air mixing, allow wind downwash and increase air diffusion.

Reduce Anthropogenic Heat of the City

Traffic and building waste heat are anthropogenic heat sources that increase urban air temperature. Building energy efficiency measures are useful in reducing this. District cooling measures that take away the waste heat source is a useful strategy. Reducing vehicle volume, encouraging public transport and promoting cycling and walking are helpful too; but of course this has to be coupled with a general improvement of the urban outdoor environment before walking and cycling can be more comfortably conducted.

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Central in Hong Kong as an Example

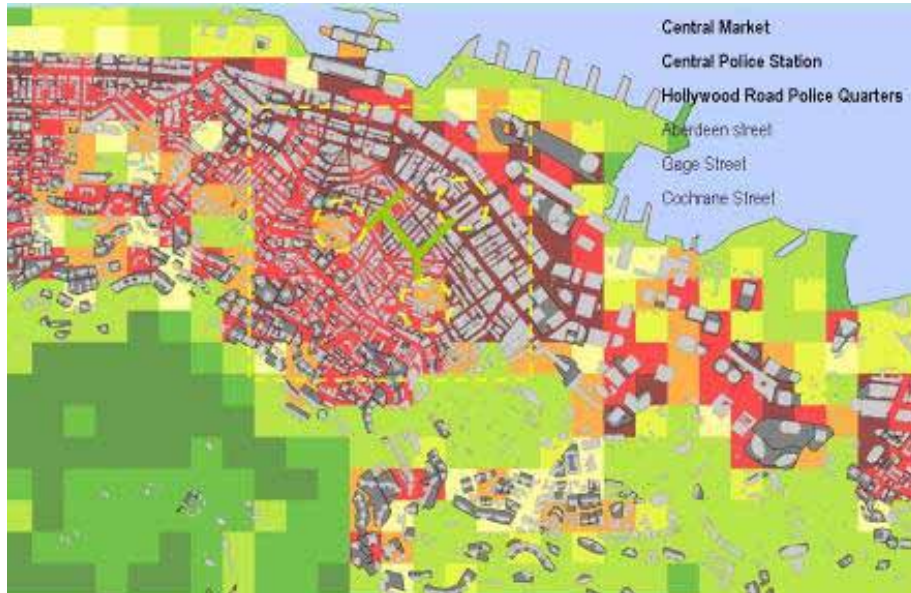


Figure 4 Central / Sheung Wan areas of Hong Kong with a large concentration of UC-AnMap Class 8 areas. Open spaces and green oasis networked with green corridors will improve the area

Referring to Figure 4, the UC-AnMap of Hong Kong indicates that Central / Sheung Wan Districts currently suffer from having a large cluster of **Very High Thermal Load and Low Dynamic Potentials (Class 8)** areas (Figure 4). In the summer months of Hong Kong, the probability of human suffering from heat stress is high. To immediately mitigate the adverse urban climatic condition of the area, it is suggested that green corridors and green oasis be planted into the area allowing breathing and resting spaces for pedestrian (Figure 5). Experimental results have indicated that a networked green oasis with enhanced tree planting to three of the existing open spaces and three of the connecting streets can help to reduce the UC-AnMap class by 1 thus providing relieves to the stressful urban environment. As such the Government's initiative to preserve Central Market and turn it into a green oasis is supported (Figure 6)

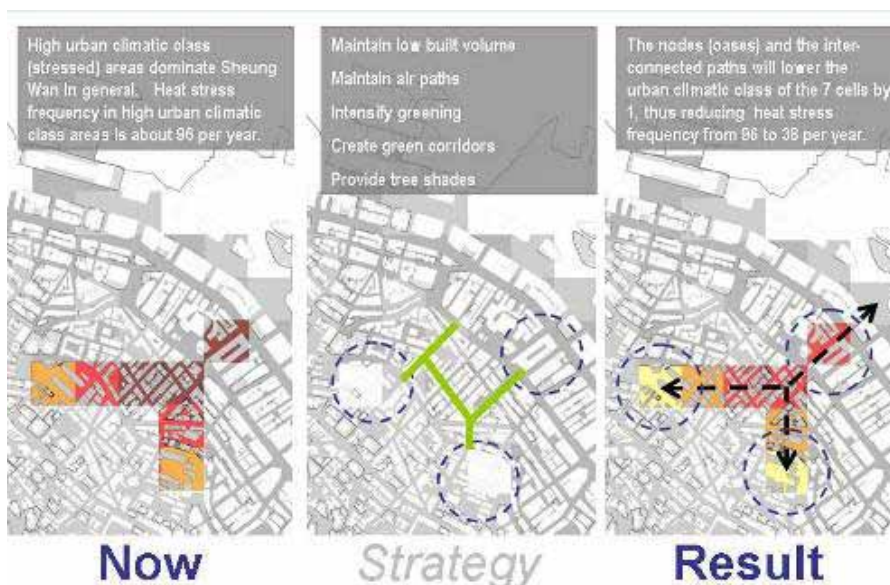


Figure 5 Design strategies recommended

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Figure 6 Greening Central Market: Intensify greening (tree planting) on the roof and in the courtyard, as well as providing vertical greening is suggested

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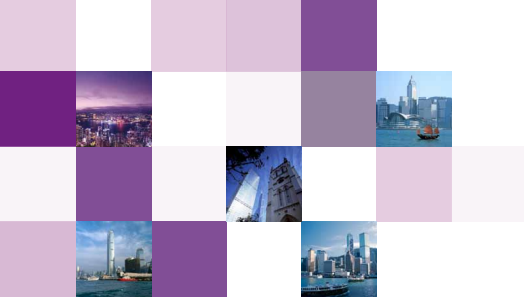
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“Central Value” and “Green Build”

While our cities are built from concrete, stone, steel, glass and so on and involve the flow of energy, water, air, material resources, waste, and people, the fundamental driver that shapes our built environment is the value system. In light of climate change, urban heat island effect and other global / local sustainability issues, the author shall discuss the evolving relationship between “Central Value” (中環價值) and “Green Building” (綠色建築) for today and tomorrow, including the transformation from BEAM to BEAM Plus (綠建環評). In the context of the green building movement, Central Business Districts (CBDs) are expected to take a leading role. The CBDs of other world class cities have been accelerating the process of transformation towards higher urban liveability and lower carbon emissions. What should be the direction of CBDs in Hong Kong when facing the green building challenge today and tomorrow? While the Hang Seng Index (HIS) has been the key driver in Hong Kong, the Green City Index (GCI) can inspire us for shaping our CBDs tomorrow.



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“Central Value” & Hang Seng Index

Is our current CBD reflective of Hong Kong’s values and character? Are all of us proud of our CBD as seen in Hong Kong today? Our value system shapes our city; people tend to value the rising Hang Seng Index (HSI) as well as high-rise and high density buildings in the CBD. For instance, Two International Finance Centre (IFC2), 415-metres-tall, is recognized as the symbol of Central as the financial centre, however, is it also known that IFC2 has been BEAM certified?

Since the urbanization of Hong Kong from the 1840s, the Central district has been the financial and administrative centre of Hong Kong – the CBD. The “Central Value” has shaped our CBD. The Hang Seng Index (HSI) is known as the key indicator of our success. Professor Lung Ying Tai, a celebrated essayist and cultural critic from Taiwan, came to Hong Kong and observed that the Hong Kong government machinery was still driven by the past colonial frame of thought and that development planning was still singularly dominated by the so-called “Central Value”. The lack of cultural awareness of the community in the mentality of the government was once highlighted. Since Hong Kong is soon going to celebrate its 15th anniversary of returning to her motherland, it is time to think about Hong Kong’s future and examine her values. “Where should Hong Kong be heading?”



Figure 1 What shapes our CBD — high density, high-rise buildings?

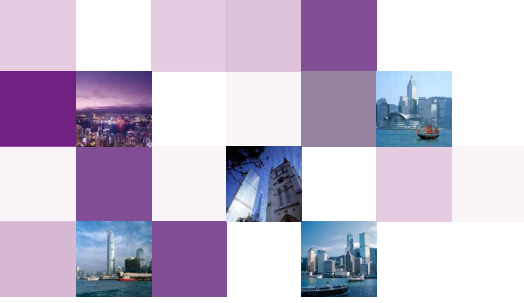
After the controversy regarding the demolition of Star Ferry and Queen’s Pier in Central, as well as the widespread public concern about the “Urban Heat Island Effect” and “Wall Effect Development” in urban areas that have happened in the last few years, there are signs of change in the Hong Kong government policy on urban planning and development control that can better respond to the surging cultural and environmental awareness of the community for today and tomorrow. In addition to the economic focus, people increasingly aspire for better urban liveability in CBDs as well as other urban areas in future. This gives hints on where our present CBD or future CBDs should be heading.

“Green City Index”

In February 2011, the Asian Green City Index, a study undertaken by the independent Economist Intelligence Unit (EIU), analyzed 22 major Asian cities, including Beijing, Guangzhou, Hong Kong, Osaka, Shanghai, Singapore, Seoul, Taipei, Tokyo, etc. with respect to environmental and climate protection. The Index examined the environmental performance of these cities in various categories, embracing, among other categories, energy and carbon dioxide emissions, land use and buildings, air quality, and environmental governance



Figure 2 What shapes our CBD — Hang Seng Index?



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The Green City Index (GCI) recognized Singapore as Asia’s greenest metropolis, while Hong Kong was categorized as “above average” in the overall results.

In Hong Kong, environmental awareness has been growing in recent years, but the average annual CO2 emissions per capita is still about 6 tons, about 30 percent higher than the average Asian cities. Air pollution levels are also a highly critical environmental concern in Hong Kong, including that in the Central District.

and Canada, the following “green” indicators focusing on land use and buildings are relevant to both existing and emerging CBDs:

Green Spaces: Sum of all public parks, greenways, waterways and other protected areas accessible to the public, as a percentage of total district area or in square metres per capita.

Density vs. Urban Sprawl: Measure of efforts to minimise the environmental and ecological impact of urban development, including containment of urban sprawl and reuse of brownfield sites.

Number of Certified Green Buildings: Measure of efforts to minimise the environmental impact of buildings as reflected by the number of certified buildings per 100,000 persons or equivalent.

Energy Efficient Building Standards & Incentives: Assessment of whether energy/carbon audits and similar energy efficiency standards are required for new buildings; and assessment on how widely incentives for retrofitting buildings to improve energy efficiency and/or energy efficiency promotion measures to existing building uses are adopted.

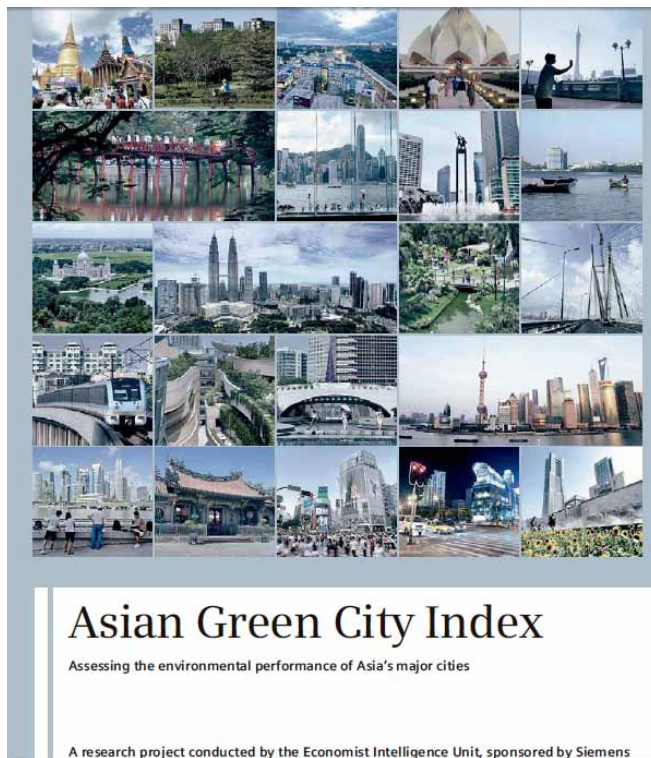


Figure 3 Asian Green City Index (Source: Economist Intelligence Unit, 2011)

“Green” CBD Indicators?

In the context of the green building movement, CBDs are expected to take a leading role. The CBDs of other world-class cities have been accelerating the process of transformation towards higher urban liveability and lower carbon emissions. What should be the direction of CBDs in Hong Kong when facing the green building challenge today and tomorrow? Certainly, the challenge facing an existing CBD or a newly developed CBD is different, but the guiding principles can be similar. With reference to the GCI for Asia, US

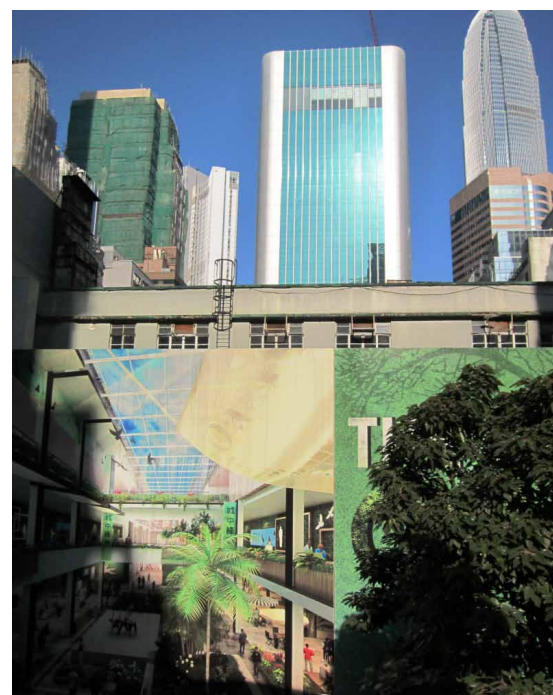


Figure 4 Proposed transformation of old Central Market to the Central Oasis

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Green Spaces & Density vs. Urban Sprawl

Hong Kong is well-known for its high urban density and significantly controlled urban sprawl. However, especially in the older urban areas including the hub of Central, the ratio of green spaces in terms of district area or per capita basis is evidently low. Given the humid, sub-tropical climate and climate change challenge, the future of our CBDs should take into account urban climate, including the enhancement of green spaces, and set a high priority for land use planning and urban renewal.

In this regard, Singapore is an exemplary example in Asia; its tone was set early when their first prime minister, Lee Kuan Yew, vowed that Singapore would not become a “grey city”. Singapore’s impressive environmental performance record is a legacy of its history. Since the city gained independence in 1960s, the government has emphasized the importance of sustainability, including urban liveability and the notion of “garden city”. Singapore does not stop with such, as the government aims to further enlarge the existing generous park space in the city by around thirty percent in ten years. More importantly, it is also adding strategic “eco-links” between parks which can yield multiple environmental and ecological benefits.

Similarly, the Tokyo Metropolitan Government has recently set a 10-year project for Green Tokyo that aims to regenerate its abundant greenery. The project will double roadside trees to 1 million and form a “green road network” connecting large-scale plots of greenery with roadside trees. The latter is coined as “environmental axes” which are designed to create connected corridors of lush greenery by combining parks, roads and rivers with greenery created through urban development. In the existing urban areas, including CBDs, the government also promotes additional green space by greening rooftops, wall surfaces and other possible urban spaces. For buildings being constructed or renovated, the need to produce a greening plan will be reinforced to promote further greening that fits in with the landscape and surrounding cityscape, preferably fostering greening continuity and quality.

In North America, New York City currently achieves twenty percent of the city’s area as recognized green space. Similar to Tokyo, New York has the Million Trees Program, created in 2007, which aims to plant 1 million trees in ten years. On the West Coast, the city of Seattle sets a goal in 2006 of increasing the city’s tree canopy to thirty percent in 30 years; in 2010 the tree canopy in the Seattle city area stood at about twenty percent.

Overall, quantitatively, a 20-30% green space ratio or higher in terms of tree canopy coverage is an environmental indicator of green CBDs. Urban greening in CBDs is applicable to not only accessible green spaces, but also the walls and roofs of buildings, both new and existing. Qualitatively, the connectivity of green spaces is vital for both existing and new CBDs.



Figure 5 Tokyo’s creation of “Environmental Axes” (Source: Basic Policies for the 10-Year Project for Green Tokyo, Tokyo Metropolitan Government, 2007)

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Certified Green Buildings & Energy Efficient Building Standards/Incentives

Certification of green buildings based on comprehensive environmental performance assessment has a history of about two decades. BRE Environmental Assessment Method (BREEAM) in the UK was the pioneer. In Hong Kong, Building Environmental Assessment Method (BEAM) was launched in the early 1990's. In the US, the US Green Building Council (USGBC) as a non-profit organization developed the Leadership in Energy and Environmental Design (LEED) in 2000. Since then, the development of green building certification schemes flourishes in various progressive cities and countries, including the launch of Comprehensive Assessment System of Building Environmental Efficiency (CASBEE) in Japan in 2001, Green Star in Australia in 2003, and BCA Green Mark in Singapore in 2005, to name just a few.

In Hong Kong, BEAM was previously under the BEAM Society. With the establishment of the Hong Kong Green Building Council (HKGBC), co-founded by Construction Industry Council (CIC), BEAM Society, Business Environment Council (BEC) and Professional Green Building Council (PGBC) in 2009, the local green building system has been revamped. The upgraded version is currently called **BEAM Plus**, the awards of which are certified by HKGBC while BEAM Society is entrusted to carry out the assessment execution.

Typically, the green building certification schemes assess the building environmental performance in a comprehensive manner, embracing the aspects of sustainable site, energy use and emissions, material use, water use, and indoor environmental quality. While there are individual attempts to globalize the assessment system, many others believe that the local scheme best fits the respective cities/countries in view of the great variances in climate, context, culture and construction practices. From this perspective, BEAM Plus is developed to specifically address the prevalently high density context and humid, subtropical climate of Hong Kong.

Although Singapore has only started its own Green Mark since 2005, their government exercises effective governance to accelerate the penetration of certified green buildings in the market, including an ambitious target at 80% of all buildings to meet its minimum "Green Mark Certified" standards in 20 years, i.e., by 2030. The target is equivalent to "thousands of Green Mark certified buildings for every 100,000 people"! Green Mark has become mandatory for new buildings and existing ones that undergo major retrofitting since 2008. The city also has an incentive scheme to encourage the owners of existing buildings to adopt them. Since 2010, in order to maximize the potential for cost-effective energy savings and environmental enhancement in the built environment, projects developed on land sold under the Government Land Sales Programme sites in the selected strategic areas such as those in CBD will be subject to higher Green Mark standards, e.g., Platinum rating. On the other hand, specific for energy conservation in existing buildings, there are other incentive schemes to motivate business to be more energy smart especially in commercial premises, including those in CBD since those buildings tend to be the most energy intensive.

Similar to Singapore, Tokyo has pioneered regulations mandating new buildings to be subject to green building assessment. In addition, since 2002 the Tokyo Green Labelling System of Condominiums requires all new residential developments with a floor space of more than 10,000 square metres to display a record of environmental performance when renting or selling apartments. Since 2008, given the positive effect on market transformation, the performance evaluation

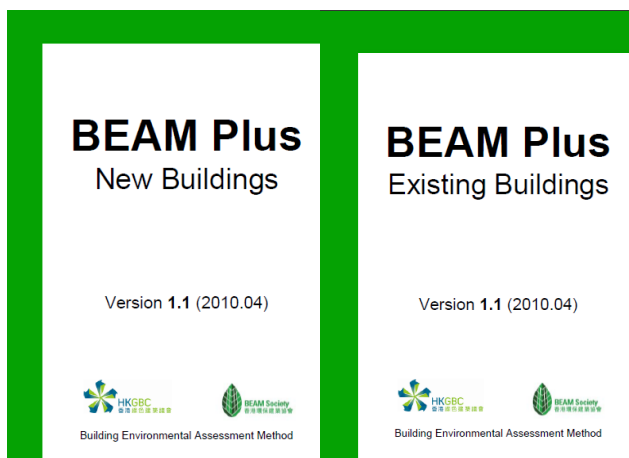


Figure 6 BEAM Plus for New Buildings & Existing Buildings Version 1.1
(Source: HKGBC & BEAM Society, 2010)

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and reporting program has been further expanded to other building types. Specific for energy efficiency and carbon reduction, Tokyo's flagship cap and trade system is the first-of-its-kind in Asia. It mandates cuts in energy consumption for more than one thousand private offices and commercial buildings. Under the programme, launched in 2010, any buildings that consume more than the crude oil equivalent of 1,500 kilolitres of energy annually, will have to cut CO2 emissions by 6% to 8%. The system allows businesses to fulfill reduction obligations by buying credits from businesses that have met reduction targets.

In North America, according to the US and Canada Green Building Index, Seattle stands out to have one of the highest LEED-to-population ratios among 27 major US and Canadian cities. Owing to a 2002 mandate that all municipal buildings over 5,000 square feet receive LEED silver certification, Seattle now boasts an impressive number of LEED certified buildings in relation to population: 17 for every 100,000 people. Atlanta is the highest ranked with a LEED-to-population ratio at 18.3 per 100,000 people. In contrast, New York has only 1.1 LEED certified buildings per 100,000 people.



Quantitative indicators

Category	Indicator	Average	Seattle	Year	Basis	Source
CO ₂	CO ₂ emissions per unit of GDP (metric tons/US\$m)	296.4	156.7	2002	MSA	Purdue University – The Vulcan Project; US Bureau of Economic Analysis
	CO ₂ emissions per person (metric tons)	14.5	9.6	2002	MSA	Purdue University – The Vulcan Project; US Census Bureau
Energy	Electricity consumption per unit of US\$ GDP (TJ/US\$m)	0.33	0.20	2009	City	Seattle City Light; US Bureau of Economic Analysis
	Electricity consumption per person (GJ)	52.2	59.3	2009	City	Seattle City Light; US Census Bureau
Land use	Green spaces as % of total area (%)	11.9	11.6	2008	City	Trust for Public Land
	Population density (persons/miles ²)	8,106.8	7,359.7	2009	City	US Census Bureau
Buildings	Number of LEED certified buildings (silver, gold or platinum) (buildings/100,000 persons)	6.4	17.0	2010	City	US Green Building Council; US Census Bureau
Transport	Share of workers traveling by public transport, bicycle, or foot (%)	13.0	13.2	2009	MSA	US Census Bureau American Community Survey
	Length of public transport (miles/mile ²)	1.1	1.0	2009	Metro-area	National Transit Database

Figure 7 Seattle's GCI indicators related to CO₂, energy, land use and buildings (Source: *US and Canada Green Building Index*, Economist Intelligence Unit, 2011)

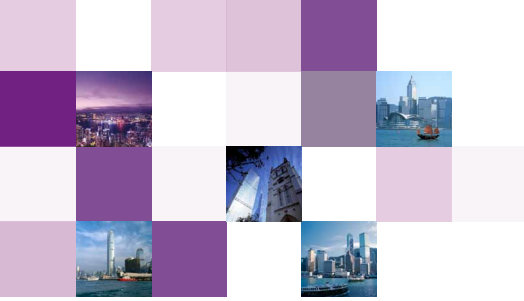


Figure 8 New York City: Greener, Greater Buildings Plan (Source: NYC, 2009)

Specifically for energy and carbon aspects, the city council of Seattle in 2010 adopted long-term **carbon neutrality** plan focusing on the target year 2030 as one of its 16 priorities! The ambitious goal has to be supported by changes in both the supply and demand sides. For the demand side management, in 2010, the city launched its Community Power Works program which aims to retrofit 15% of Seattle's buildings to achieve 15%-45% in energy savings per building. Additionally, the Green Building Capital Initiative, launched in 2009, aims to improve energy efficiency 20% in existing buildings through incentive and loan programs for energy-saving improvements. The initiative also requires large commercial buildings, among others, to monitor energy usage.

In 2009, New York City approved the Greener, Greater Buildings laws, the most comprehensive set of efficiency regulations in the US, which aim to reduce energy costs by US\$700 million annually by 2030. New York City requires annual energy efficiency benchmarking and mandates a set of cost-effective energy efficiency upgrades and evaluations of the city's largest buildings. Buildings over 50,000 square feet in size account for forty-five percent of New York City's energy consumption. The new legislation makes the energy code stricter, requires installation of lighting upgrades and tenant meters in non-residential spaces, requires most buildings over 50,000 square feet to undertake benchmarking and audits, and implements retro-commissioning measures.

In Australia, the new CBD Melbourne Docklands has set new standards for sustainability through its Ecologically Sustainable Design (ESD) Guide, a first in Australia and developed since 2002. Currently, this 200-hectare CBD area has the highest condensed



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number (more than 20) of Green Star certified/registered commercial developments in Australia. While Melbourne Docklands is still under on-going development, a rough estimate based on the Green Star Project Directory of GBC Australia shows that it has a ratio equivalent to about 50 Green Star buildings for every 100,000 people, involving a mix of workers and residents.

Overall, the certified green building ratio becomes an urban environmental indicator. New CBDs in cities like Singapore and Melbourne have government policy or guideline to promote the achievement of highest green building ratings (e.g., Green Mark Platinum and 6 Green Star) in the new buildings, on top of the “basic” requirement on assessing all new projects. For existing buildings, especially the large commercial buildings/businesses commonly found in the CBDs, energy/carbon audits, upgrades and disclosures are the trend. Future-proof CBD may even aspire for carbon neutrality!

Changing Values: HSI vs. GCI

Around the world, most CBDs are characterized by having large public buildings, social amenities, offices and hotels. CBDs contain buildings that tend to be taller than in other parts of the city, often due to being the area with the highest land value. CBDs have high traffic and pedestrian levels and are characterized by being well connected by public transport. All these characteristics appear to be in line with today’s “Central Value” and echo with the economic emphasis related to the Hang Seng Index: high density of commercial and public buildings, high-rise structures, high traffic levels, as well as high land and property values. CBD represents the “heart” of a city. How “green” is our city and how “green” is our “heart”? For sustainability, the Green City Index (GCI) provides hints for shaping our future CBDs. For tomorrow, how about boosting high liveability, high energy efficiency, and high certified green building ratio in our CBDs?

On the aspect of land use and green spaces in compact CBDs, the transformation of the former Central Market to the Central Oasis in Hong Kong is a showcase of not only heritage conservation but also

urban greening opportunities in the existing fabric of an established CBD. The proposed Central Oasis and greening of its surrounding streets will strategically enhance the coverage of green spaces in Central. For more sustainable future, we should learn from Singapore’s “eco-links” and Tokyo’s “Environmental Axes”, creating greenways which can double as breezeways throughout Central. The strategy should also effectively be complemented by the greening of existing buildings upon their redevelopment or renovation.

On the aspect of certified green buildings and energy efficient building standards / incentives, the Hong Kong government has just launched a number of new initiatives for catching up. Key initiatives embrace the following:

The **PNAP APP-151 on Building Design to Foster a Quality and Sustainable Built Environment** issued in January 2011, which requires projects applying for GFA concessions related to green/amenity features etc. to meet pre-requisite requirements including BEAM Plus assessment and disclosure of estimated energy performance. This practice note has been effective since 1 April 2011.

The **Buildings Energy Efficiency Ordinance (Cap. 610)** was enacted in November 2010, and will come into full operation in September 2012. The core parts (Parts 2 to 6) of the Ordinance are still within the grace period. These parts are concerning the requirements for compliance with the Building Energy Code in new construction of specified types of buildings and in major retrofitting works of relevant building services installations, as well as the requirement for conduction of energy audit in commercial buildings.

Between August and December 2011, the Council for Sustainable Development is hosting a **public engagement on combating climate change: energy saving and carbon emission reduction in buildings**. The public engagement focuses on the demand side management especially in the existing buildings, with emphasis on household, office, retail and catering.

The adoption of BEAM certification was on a voluntary basis. Since 1996, there have been about 120 certified

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projects (including about 20 in Central) in Hong Kong, which is equivalent to about 1.7 BEAM certified projects per 100,000 people, or less than 1% of our total building stock. Since the launch of BEAM Plus, there were about 70 registrations in the first year which was partially due to the positive effect of PNAP APP-151. This reinforces the GCI findings that stronger government interventions on planning and building levels are needed if we wish to have greener CBDs and city.

Conclusions

All these new and upcoming initiatives in Hong Kong are vital signs reflecting our changing value system and priorities towards a more sustainable and greener city. This paper borrows four relevant guiding indicators from the GCI:

- Green Spaces
- Density vs. Urban Sprawl
- Number of Certified Green Buildings
- Energy Efficient Building Standards & Incentives

We can adopt and adapt them to suit our Hong Kong context, in both existing and emerging CBDs. The GCI 2011 compiled by the independent Economist Intelligence Unit (EIU) shows that Hong Kong has room for improvement from the perspective of green city development.

The EIU study of Asian cities also shows one thing very clearly: higher income does not necessarily mean higher resource consumption. While resource consumption increases substantially up to an annual gross domestic product (GDP) of about €15,000 (or HK\$168,000) per capita, it drops again when income rises beyond this. In Hong Kong, the GDP per capita is HK\$246,677 according to the 2010 data, which is almost up to 50 percent higher than the said threshold of HK\$168,000. Why? In the prosperous Asian cities, environmental awareness becomes greater and infrastructures become more efficient. These cities can effectively cut their per capita consumption of natural resources and can thus develop more sustainably, while not compromising the quality of living.

In Hong Kong, environmental awareness has been growing in recent years, but the average annual CO2 emissions per capita is still at least 6 tons, about 30 percent higher than the average of Asian cities. Air pollution levels remain a highly critical environmental concern in Hong Kong, including that in the Central District. For tomorrow, higher GDP should no longer be the excuse for higher resource consumption, emissions and pollutions in Hong Kong. For us and our future generations, we should invest wisely on our city from the green city perspective, including the focus on our green build investment in the CBDs. Should we set a target on the BEAM Plus certified building ratio? Should Central take the lead in having the highest BEAM Plus certified building ratio in Hong Kong?

HKGBC has launched the training and accreditation of the **BEAM Professionals** (BEAM Pro) since April 2010. Up to this writing, there are more than 1,200 BEAM Pro who are ready to support the market transformation towards green build in Hong Kong. Given the aspiration as an Asian world-city, Hong Kong should aim high from the environmental viewpoint – even having a target towards carbon neutrality may not be too far away.



Figure 9 BEAM Pro – Supporting the green build

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Mr. CHOI is the Managing Director of Nan Fung Development Limited.

He has over 25 years of development experience and has worked in North America, Asia, and China on a variety of development types including office, shopping mall, hotel, resort, convention centre, residential, urban renewal and whole community development. Clients have included Public Works Canada, British Columbia Buildings Corporation, HK Government, Urban Renewal Authority, HK Airport Authority, Mass Transit Rail Corporation, the former Kowloon Canton Rail Corporation and the private sector.

Before joining Nan Fung in 2000, he was Director of Foster and Partners and the Authorised Person – Architect for the Hong Kong International Airport and Hung Hum Rail Terminus Extension. He was also appointed by the Airport Authority as the Authorised Person for over 70 permanent utilities buildings, bridges, landside and airside roads, storm water and drainage system for the entire Chek Lap Kok Island. The airport was awarded the Top Ten Construction Projects in the World and has won numerous awards including the Best Airport in the World since opening in 1998.

Mr. CHOI studied architecture at Rhode Island School of Design (RISD) and received degrees from RISD, University of British Columbia, Chinese University of Hong Kong, University of Hong Kong, London Business School and Columbia University. He co-edited the book 'One Hundred Years of Hong Kong Architecture' and his paper "The need of a paradigm shift in Hong Kong built heritage conservation" was awarded the Hong Kong Institute of Architects Journal Best Paper Award 2006 under the Design Paper Category.

He was the Former Chairman of Architects Registration Board HKSAR (2008-2010). Community services include serving as director to various not-for-profit institutions like the German Swiss International School Foundation and Hong Kong Architecture Centre.

He is married with two sons.

The Demise of the Traditional CBD

Executive Summary

Sweeping changes of our society and business practices in the age of globalization transform not only workplace requirements in Hong Kong but also our concept of CBD and working. With the possibility of the 21st century being the Chinese Century and the integration of Hong Kong economy with that of the Pearl River Delta, can the growing business demand in Hong Kong be served by the current traditional CBD at a reasonable cost?

The Central District as de facto CBD closely reflects Hong Kong's history and development. It is the most recognizable business and financial area of Hong Kong. Its skyline not only gives visual identity to but also symbolizes the success of Hong Kong laissez-faire capitalism. However, it has its physical limitation and with the recent politicization of the planning and development process, many projects within the CBD and beyond have often been challenged and holdup even if they are urgently required to maintain Hong Kong's competitiveness as a global city.



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My view is needless to say biased by my experience in the market where maximizing development opportunities is the business goal. The recent increased negative public sentiment on development projects in Hong Kong prompts me to ask two questions: Why there is a growing development aversion sentiment in Hong Kong community? Does Hong Kong still need to expand its CBD when the government is advocating a policy of decentralized business districts? My answer to the second question is a resounding yes but I have no clear solution to how the future CBD can be (re)developed to lessen the harsh reality of income inequality in the age of economic globalization that fuels the negative sentiment. However, it is my belief that development, when properly done as an inclusive people-place, could provide benefits to the community in addition to serving commercial interests and brings social cohesion rather than polarizes the haves and have-not in our society.

This talk has three parts. The first part looks at the growth determinants of Hong Kong CBD from a macro point of view and why Hong Kong needs to grow its CBD to avoid being marginalized and losing its competitive edge. The second part discusses the new competitive landscape of HK multi-location business districts. The last part of my talk suggests the need of a paradigm shift in our concept of HK CBD to encourage growth despite the negative development sentiment.

Part 1 - The growth determinants and limitations of Hong Kong traditional CBD

- The major determinants of Hong Kong CBD growth and why expansion is needed
- The present shortage and possibility of Hong Kong losing its competitive edge

Part 2 - The new competitive landscape of HK multi-location business districts

- The new competitive landscape of HK multi-location Business Districts
- Why decentralization does not translate into less demand on CBD

Part 3 - The need of a paradigm shift for HK CBD

- Changing working environment, income inequality, and the negative development sentiment
- The new paradigm for HK CBD growth

Part 1 - The growth determinants and limitations of Hong Kong traditional CBD

The major determinants of HK CBD growth and why expansion is needed

In the first decade of 21st century, China achieved an annual growth rate of 10.5% and its GDP had increased from \$1.3 trillion to \$6.0 trillion. Its share of the world GDP has grown from 4.25% to 9.2%. Despite the uncertainty of a robust economic recovery in the West which might affect China export, China's growth is anticipated to continue, although at a slower growth rate of 7.5% as envisaged in China 12th Five-Year Plan. Therefore, despite soaring Hong Kong office rental costs many international companies are setting up or expanding their offices in Hong Kong to take advantages of China's booming economies and business opportunities. At the end of 2010 there

were approximately 6,500 foreign and mainland firms that have set up offices in Hong Kong with 3,600 of these offices as regional headquarters which shows the desirability of Hong Kong for these businesses. Such firms employ approximately 350,000 staff and are likely to hire more staff as business expands. The overall hiring expectation in key business sections also reached 69% in 2Q 2011 according to the Hudson survey. This positive expansion trend in Hong Kong is likely to sustain as Hong Kong continues to benefit from China growth momentum.

The RMB deposit in Hong Kong has rapidly swelled from 60,000,000,000 in early 2010 to 540,000,000,000 in end May 2011. It attests to the huge potential of RMB trade in Hong Kong as the pace of RMB liberalization quickens, especially when deposit in HK only represents a mere 0.72% of the mainland RMB deposit. The recent announcement (August 2011) in Hong Kong by Vice-

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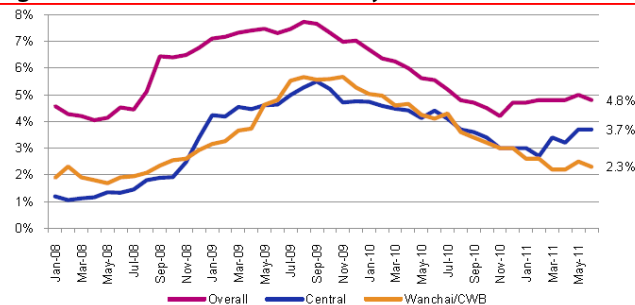
Premier Li Keqiang of the 30 measures to strengthen Hong Kong local economy and the city's role in the internalization of RMB further consolidates Hong Kong's position as an international finance centre and the leading offshore hub for RMB trading. Hong Kong IPO market continues to maintain a healthy growth and raised a total fund of HK\$182.2 billion from 33 IPO deals in the first six months of 2011, a new record performance. The growing number of named brands and foreign companies listing in Hong Kong makes Hong Kong one of most active listing markets in the world and increases business activities not only in the finance, legal, professional services sectors but also spills over to other sectors in the domestic economy. Hong Kong strategic location in the Pearl River Delta (PRD) with its established international network also gives Hong Kong the first mover advantage to become the CBD of a mega PRD region as improved infrastructure and connectivity progressively change the concept of separateness measured by physical distance only. The growing momentum of Hong Kong integration into China and becoming part of the second largest economy in the world would sustain Hong Kong CBD demand for coming years and there is a shortage of developments in the traditional CBD to accommodate such growth.

The present shortage and possibility of Hong Kong losing its competitive edge

The rents of CBD Grade A office have drastically increased in recent months with monthly asking spot rents at 18% to 40% higher than those in the beginning of 2011. Some monthly rents, like that of Exchange Square at \$185/sf, had already exceeded the historical high (3Q 2008 Exchange Square \$178/sf) and IFC Phase 2 has also achieved record rental of \$195/sf in August. According to property agencies the average monthly rent in Central reached HK\$154 psf in June. Rent levels in Hong Kong Island East and Tsim Sha Tsui have also increased 34.7% and 44.8% year-on-year respectively in the second quarter of 2011. Causeway Bay rents also topped HK\$60 psf and Kowloon East rents reached \$26.7 psf, 41.6% higher from one year ago. High rental levels have made Hong Kong the most expensive city to rent office space as demand outstrips supply and the overall Grade A office vacancy rate continues its

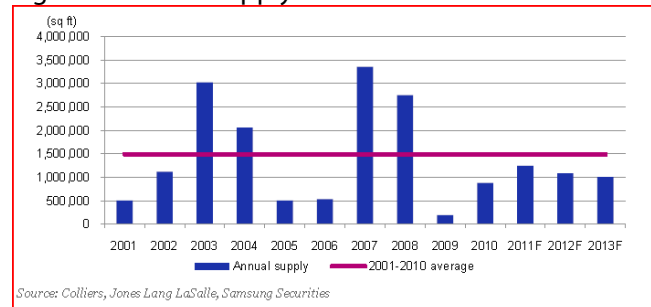
descending trend.

Figure 1 Grade-A Office Vacancy Rate



Source: Jones Lang LaSalle

Figure 2 Annual supply of Grade A office



Source: Colliers, Jones Lang LaSalle, Samsung Securities

The office shortage is especially acute in the coming few years as no office site was sold by government from 2008 to 2010. The Hong Kong office rent levels will continue to go up as Hong Kong de facto CBD, the Central District with around 23 million square feet of office space, is insufficient to service our city business needs as Hong Kong evolves into a global finance and service centre. Taking a broader view of CBD as defined in the Planning Department PVS 338 Zone System, the HK CBD which includes Central, Sheung Wan, Admiralty, Wan Chai, Causeway Bay, Tsim Sha Tsui and West Kowloon, has approximately 48 million square feet of Grade A office which is relatively modest when compared to London 130 million square feet CBD (West End and City) and New York 240 million square feet CBD (Lower and Midtown Manhattan). In a 'winner takes all' world that competes for global talents and resources for growth and prosperity, Hong Kong "modest" CBD offers no economy of scale advantage and the city is in danger of being left behind and losing its competitive edge.

Whilst the raising rent is good news for the landlord

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and despite Hong Kong is competing on quality and service and not on price, the prolonged tightening of office supply and rental increase would hinder Hong Kong development into a truly global city. Under the world-system analysis and global hierarchies of cities, only a few major cities can become the core and gain from the redistribution of global resources from the periphery. As noted by Saskia Sassen of Columbia University, the global cities are the “command points of the organization of the world economy.” The coming world wealth will concentrate in such global cities and the capacity to gain and maintain such status is crucial to Hong Kong as it will provide more employment opportunities, wealth creation, and, hopefully, improved quality of life. It is imperative that Hong Kong makes better use of its CBD to suit the changing working life and community needs of a global city or risks being marginalized.

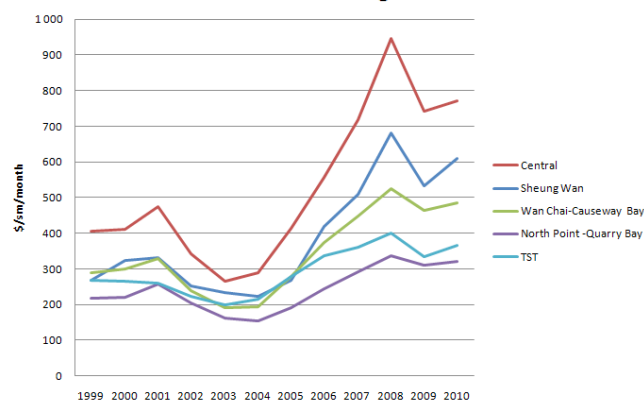
Part 2 - The new competitive landscape of HK multi-location Business Districts and the harsh reality

The new competitive landscape of HK multi-location Business Districts

Due to the high site acquisition cost and limited land supply, newly completed Grade A offices in CBD from 2000 to 2010 only accounted for 18% of the total new Grade A offices constructed in Hong Kong in the same period. The high rental level due to the inadequate office supply in the traditional CBD drives out the less value-added businesses from the CBD. Government’s policy is to decentralize the office space and create multi-location business districts with office nodes in Quarry Bay and Kowloon East. The newly completed Grade A offices in those two areas make up 48% of the total constructed Grade A offices in the last decade demonstrates the market has abided by government’s decentralization policy. Grade A Offices in Kowloon East alone has increased 231% from 4.38 million square feet in 2000 to 14.493 million square feet in 2010. However, demand for office space in core CBD remains high and the classic land use theory of concentric zone model seems to hold as the bid rent curve continues to be relevant even in the CBD area as demonstrated by the large price differential in average Grade A offices rental between Central and Wanchai/Causeway Bay,

which was approximately 50% during the 2Q of 2011.

Figure 3 Grade A Office Average Rental



Source of data: Rating and Valuation Department HKSAR

While government’s policy advocates decentralized office nodes, its recent consolidation of government headquarters function just a stone flow from core central demonstrates that the incentive of lower rent and other benefits offered by decentralization are insufficient to damper the desire for a CBD location even for non-commercial institution. The Financial Secretary, Mr. John Tsang, acknowledges in his speech of 12 March 2011 that:

The new office nodes cannot replace the CBD. The CBD will continue to have strong appeal because of its prestigious status as well as agglomeration effect.

Why decentralization does not translate into less demand on CBD

The CBD continues to have gravitational power on firms and institutions. The central CBD location is obviously a status symbol and marker of success and the desire to have a core CBD address can be compared to the behavior of conspicuous consumption through which people show off their wealth. However, it goes beyond such simple explanation. Despite the advancement of technology and electronic communication that provides information transparency enabling real time independent decision making and somewhat naturalized the physical separation disadvantage in many of the traditional business processes, it is not the case for the finance and specialized service

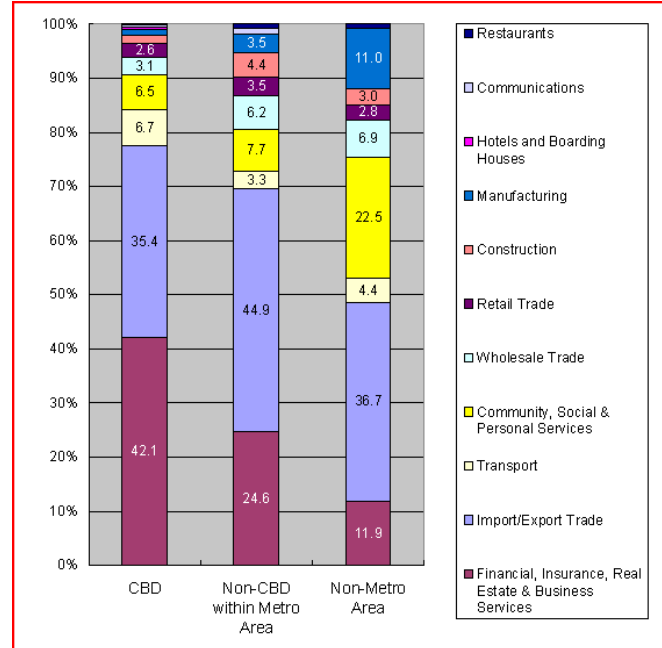
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sectors which dominate the current global economy. The global cities' CBD is organized to serve such dominant interests with centrality and concentrated agglomeration of financial activities and services as distinctive features.

While the core CBD has no physical fencing around its boundaries, the mental construct based on past knowledge does create a conceptual fence limiting certain areas being perceived as core CBD. Furthermore, there is an actual practical need and advantage to have a concentration of financial institutions and associated special service producers in close proximity to each others. According to Sassen, the need comes from the complex and sophisticated transactions being carried out in the global cities involving numerous parties and multiplicity of expertise. The huge capital and risk associated with the financial deals require much more personal contacts than conventionally envisaged. Another build-in advantage of being densely clustered is the disproportionate advantage that people could gain, inadvertently or purposefully, from advanced information exchanges thru a face-to-face interaction in places outside the office like bars or a chance encounter on a central overhead walkway. The high density and spatial concentration of activities ensure all crucial players are routinely involved in such informal network.

The above operation process is evident from the concentration pattern in other global financial centers like New York and London which Hong Kong should study. Since the 1980s, jobs in New York involving finance, insurance, real estate (FIRE) have been concentrated, roughly 90%, in Manhattan. London CBD provides 1/3 of London's employment in 2 per cent of London's land space. In comparison FIRE spatial concentration in Hong Kong CBD seems to lag behind and its productivity growth and competitiveness may suffer in the age of globalization when global cities are highly connected and compete for the same resources and talents to establish dominance over the others for super-profits creation in the trickle-down world economies.

Figure 4 Usage ratio of Grade A office in HK

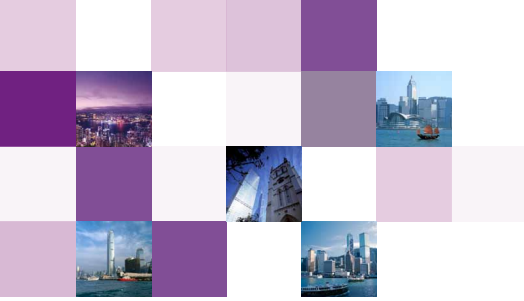


Source: Commercial and Industrial Floor Space Utilization Survey, Planning Department

Part 3 - The need of a paradigm shift for HK CBD growth

Changing working environment, income inequality and the negative development sentiment

The global city working environment is cosmopolitan. It is an irony that when Hong Kong is experiencing a renewed interest in nationalism and promoting its own local, territorial based identity that its business environment requires skills from the opposite direction. The economic globalization demands and produces transnational workers that are highly mobile and unattached to any place. Their lifestyle and accommodation requirements will have more common features with other transnational workers halfway across the globe in London or New York than the workers of a local business half a block away. The global markets also favor business operation with economies of scale which means firms are getting much bigger with more concentrated ownership. The large international conglomerates usually have more influence and power on what are needed in the CBD than local small businesses.



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Real estate as an asset class for investment and its securitization also add exchange values to property in addition to use values making property development one of the stimuli for economic growth if more investment can be attracted into the property sector. The HK CBD will be developed to meet the needs of international corporations, financial institutions and global capital markets with a business cycle lag resulting in demand outpacing supply on an upward trend. The small local businesses will find it hard to compete for space in CBD. The less value-added businesses and back office jobs will be pushed out to the periphery and excluded from participation in the life of the CBD. The rising irrelevancy of the CBD to the growing number of ordinary citizens thru its disconnection from the life of local community, both economically and physically, creates development aversion sentiment or attitude of indifference at best on CBD growth.

The harsh reality of economic globalization is the widening wealth gap and increased polarization of incomes. The ability of the finance companies and special service institutions to earn super-profits increases the earnings disparity between global and local, large firms and small enterprises, managerial/knowledge based staff and the average workers. According to David Bolchover's book - Pay Check: Are Top Earners Really Worth It?, the average CEO in USA earned 42 times of the average worker's pay in 1980 and that had increased to 531 times in 2000. The decade of financial industry liberalization in London from 1979 to 1991 saw the real disposable income ratio between the highest decile over that of the lowest decile roughly doubled from 5.6 to 10.2 times. The real disposable income of household in the same period for the lowest decile had also actually declined by 14%.

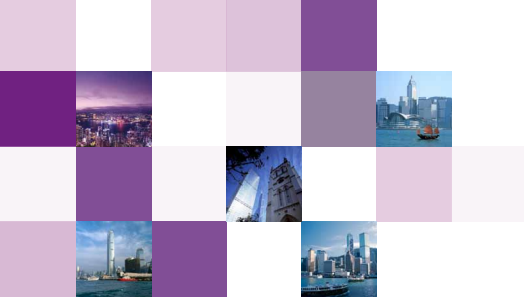
As Hong Kong evolves into an international finance centre and embraces special service for its growth, similar earnings pattern is observed. People with high earning power are often more willing to pay a higher price for quality accommodation and goods. Investment in real estate due to its scarcity and ability to hedge against inflation is also common. The property price in CBD is also compared to that in other international finance centers and not necessarily

competing with the local market. For the ordinary citizens who got left behind in Hong Kong transition into a global city and international finance centre, they are often unable to afford the increased prices and feel disadvantaged as an underclass fueling negative development sentiment.

The new paradigm for HK CBD growth

As I have mentioned in the beginning of my talk I have no clear solution on how the harsh reality of income inequality in the age of economic globalization can be corrected; that requires a joint effort from sociologists, economists, educators, key business leaders, other experts, government policy makers and the public to tackle the problem together and is outside the scope of this talk. However, it will be a big mistake to slow down the growth of HK CBD because continue development is the only chance Hong Kong can remain competitive in the global economy so the poor can benefit from a better HK economy growth. While the decentralization policy has good intention to attract businesses to move out of the CBD, decentralization does not translate into less demand on CBD as pointed out above. Extension into the metropolitan areas with multi-location business districts is not the same as the agglomeration required by an international finance centre. However, it is possible and desirable to incorporate more diversified functions back into HK CBD to reposition and differentiate various sub-areas like the clusters of London CBD.

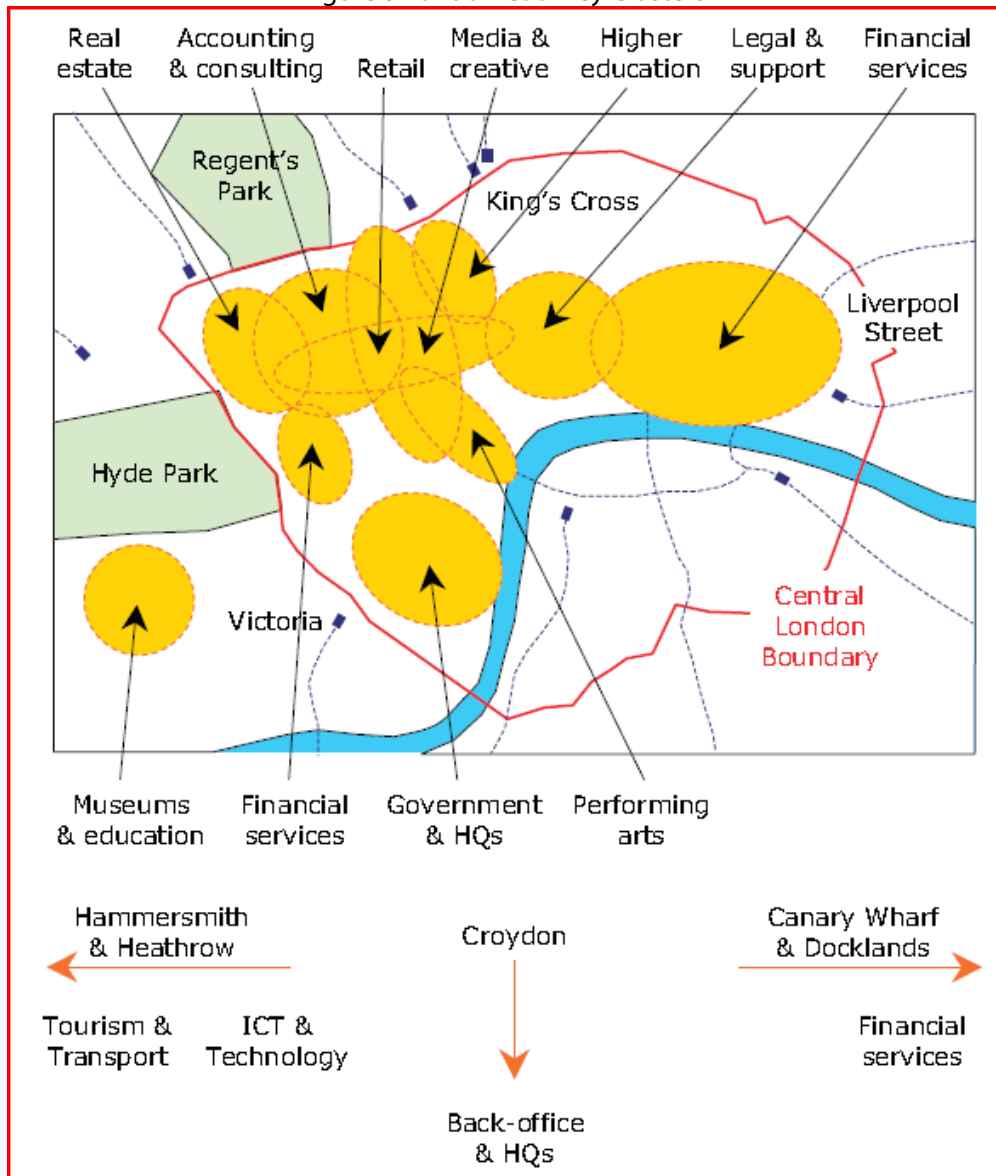
Instead of dispersing the activities, the new paradigm for HK CBD is really to concentrate and intensify the development with hyper-density pedestrian-oriented projects. Hong Kong as a compact city with good transit networks has the inherit advantage of walkable urbanism. HK CBD should encourage new hyper-density office (re)developments as well as comprehensive mixed-use developments with flexibility in planning to allow working, living, entertaining, learning, etc. to happen simultaneously 24/7. There must be flexibility in the (re)development process to address the collective interest by freeing developable sites or delimiting outdated development restrictions. For example, obsolete office buildings can be encouraged via subsidies and regulatory relief for



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conversion into inclusive residences or other daily support functions for trip chaining reduction. It is important to ensure flexibility and provide incentive for better (re)development based on planning gain and exactions. At the same time the CBD (re)development process needs to be transparent with the full participation of local communities and businesses, i.e., all stakeholders rather than just the planning experts.

Figure 5 London CBD Key Clusters



Source: Cabinet Office, Prime Minister's Strategy Unit, London Project Report (July 2004)

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Mr. Andrew NESS

Executive Director, CBRE Research

Mr. Andrew NESS was educated at Columbia College of Columbia University, from which he graduated in 1975. As Executive Director, Asia Research, Andrew is responsible for ensuring that regional research is deployed to formulate the Company's views on changing conditions in Asian property markets, maintaining the databases used in formulating these views, as well as deploying research to support business development, managing of client relationships and raising corporate exposure in the international and local media. Over the past 15 years Andrew has been involved in many different aspects of inaugurating new research initiatives, initially in Greater China, and then, since 2002, on an Asian regional basis. These include the launching of the Company's present Asian regional publications and the management of related databases. Outputs are directed at internal and external clients in the form of Asia regional publications, regional white papers, tailored commentary, client briefing reports and presentations.

Andrew communicates the Company's Asia research findings to the real estate community as a frequent commentator in the regional and local media. Over the past two decades, Andrew's articles and editorial commentary on the subjects related to Hong Kong and Mainland China real estate markets and urban development have appeared in the South China Morning Post, Hong Kong Standard, China Business Review, Asia Wall Street Journal, Britain in Hong Kong Magazine and the Journal of the American Chamber of Commerce.

CBD Expansion Plans of Asia's Major Financial Centers: Challenges, Constraints and Opportunities

The paper will view how the leading cities in Asia have experienced an extraordinary intensity of urban restructuring over the past two decades as they have been forced to work harder to accommodate the expanding requirements of the most powerful corporate constituents of the service sector.

The paper will note that if the process is to be successful a degree of government intervention is indispensable. Indeed, governments' ability to accommodate the need to undergo rapid urban restructuring and change is a key indicator of their resilience. Surveying the 18 office hubs in Asia which were the main subject of study, the paper will explore how in dealing with this need to at least partially "re-invent themselves" so as to deal with the explosive growth of financial and producer services and IT sectors, they have adopted one of three basic strategies: namely, expanding or upgrading an existing central business hub, developing an alternate inner city office hub or establishing an entirely new satellite commercial sub-center in a suburban or urban fringe location.

However, as the paper will point out, the cities surveyed have enjoyed varying degrees of success in implementing their re-centering strategies, as their ability to undertake such change was variously facilitated or impeded by factors not entirely under their control. The paper will explore precisely what these factor were, and will examine how municipal development authorities, in conjunction with private developers, have dealt with such urban development constraints, while also going on to explore what other techniques urban governments have used to facilitate the emergence of alternate business hubs or extend and upgrade existing ones. The paper will conclude by pointing out that Hong Kong has opportunities to re-center its prime office market, away from Central and away from Hong Kong Island but to accomplish this the S.A.R. is going to have achieve better results than it has accomplished to date in re-arranging the hierarchy of its office hubs. At the same time, the paper will point out that this cannot be accomplished without the S.A.R. re-considering some basic government policies which have been adopted over the past two decades and using more of the tools which it has readily at its disposal to accelerate the psychological "re-centering" of its prime office market.

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The Re-centering of Cities in Asia: Points of Attention for Hong Kong

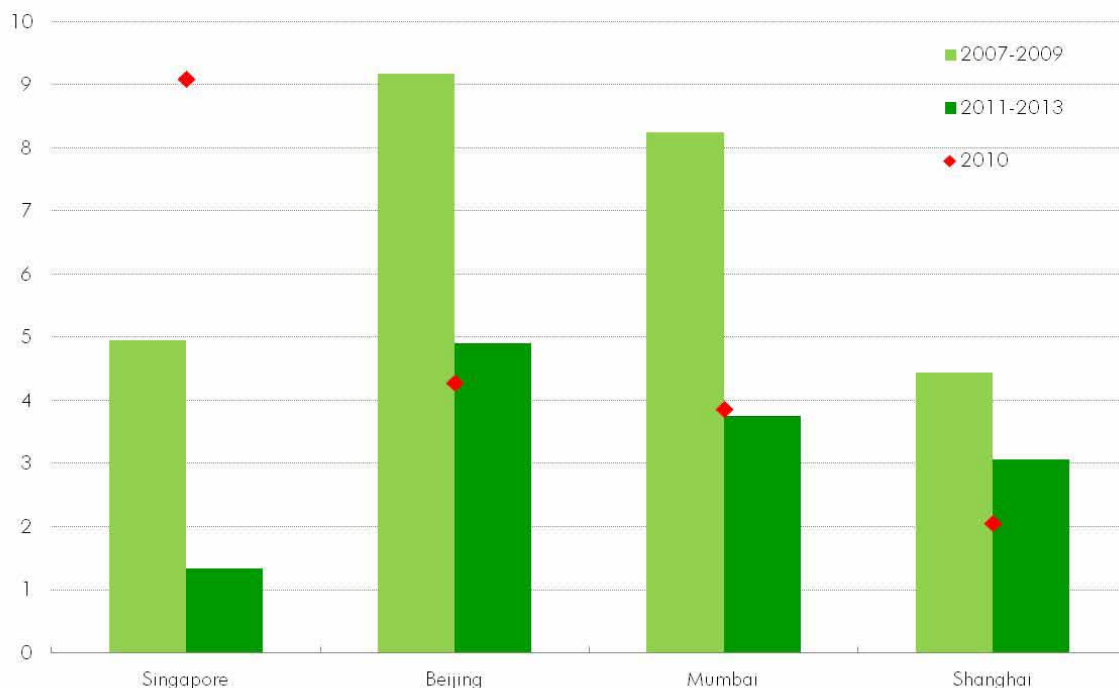
Rise in Asian region over the past three decades: precipitating a wave of urban change

The global economic order has undergone a drastic shift in the three decades since 1980. The rise of the tiger economies in South East Asia, followed by a spectacular growth in the giant economies of China and India, have collectively acted to re-centre global growth away from the advanced economies of the West. As a consequence, Asia has emerged not only as the most economically dynamic part of the world but also as leading the global urbanization process. Especially over the past two decades, growth in Asia's maturing economies has been increasingly led by the producer services, financial services and the IT and innovation sector. These services sectors now combine to contribute more towards urban growth in Asia than the manufacturing sector.

Dialectics of globalization/localization in Asia and its accompanying restructuring of industrial production have brought along with it an extraordinary expansion of the scale of requirements for modern office space in Asia. Many of Asia's major commercial centers, along with their re-focusing attention on the need to accommodate the growing requirement of the "power holding" organizations of service economy, have experienced an extraordinary intensity of urban restructuring.

As a consequence of this phenomenon, many of the more dynamic cities in Asia, including the Hong Kong S.A.R. amongst their number, have come under continuous pressure to re-invent themselves, compelling their governments to act in conjunction with private sector forces to precipitate change in their urban form.

Financial and Business Services Growth



Source: Oxford Economics



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Crucial for government to have its own future city vision

While we live in an age in which government intervention tends to be regarded with suspicion, nevertheless government intervention in the process of urban change is indispensable, and in fact positive urban change is inconceivable without government becoming directly involved in the reshaping of the city, in partnership with the private sector. At the same, it must be acknowledged that government having a grand vision of the future of a given city is not necessarily a sufficient reason for the launching of a new satellite commercial or alternate business district, in the absence of strong market demand¹.

As we note from the different responses adopted to this need for change by the cities surveyed in our report, municipal governments' ability to accommodate change and to deal appropriately with the need for economic re-structuring is an important indicator of their resilience. We note that more flexible cities tend to have greater potential to succeed as places where people can gain access to jobs and wealth².

However, with respect to our survey of this group of cities and our assessment of their differing degrees of resilience and ability to adapt to shifts in the structure of employment, it must be acknowledged that municipal governments are not free to act exactly as they please, but must operate within the frameworks which have been established for them. As a consequence of this fact, we note that their approaches to orchestrating urban change have been quite different.

Across the Asian cities surveyed, the levels of different government authority which have been driving change have varied between individual cities and between specific urban regeneration projects. We have also observed variation in the frameworks defining the limits of a fiscal and administrative authority of the government bodies driving the urban regeneration process, with this, in turn impacting on their power to regulate land-use development within their urban boundaries.

Our report also noted that, these major Asian cities themselves have very different underlying economies,

have differing urban development histories, different urban landscapes with varying requirements for safeguarding heritage buildings as well as different priorities with respect to preserving the existing fabric of the inner city or protecting natural features, such as harbors or riverfronts. In addition, we saw that cities presently host different population densities within their core and peripheral areas and similarly have differing levels of corporate concentration in existing and decentralized business districts. The consequence of all of the above factors has brought about what Sonia Sassken terms "different levels of both agglomeration and dispersal."³

While the requirement for re-centering existing business districts is generally driven by shortfall in supply of prime office facilities, there are a number of possible variations within this basic theme. Sometimes the main force driving creation of an alternate hub/new hub is desire to protect the fabric of the older inner city from demolition and urban regeneration (New Delhi, Hanoi); desire to relieve pressure on existing inner city CBD and flight to cost savings (Tokyo); flight to cost savings combine with desire for better planned and more supportive operating environment (Manila); desire to provide more high quality office facilities at lower cost so as strengthen competitiveness of city's position in Asia (Singapore) and finally by the inability to satisfy the sudden growth in requirement for large-scale office facilities with existing inner city business districts (Mumbai).

In conducting our survey regarding which areas some of the cities achieved reasonably good results, in their efforts at urban restructuring and areas where a number of them encountered serious challenges, it may be possible to derive some useful lessons for Hong Kong, similarly confronted as it is with strong growth in requirements for office space from both financial service and producer service industries, as it progresses further with its own plans to generate new alternate office hubs.

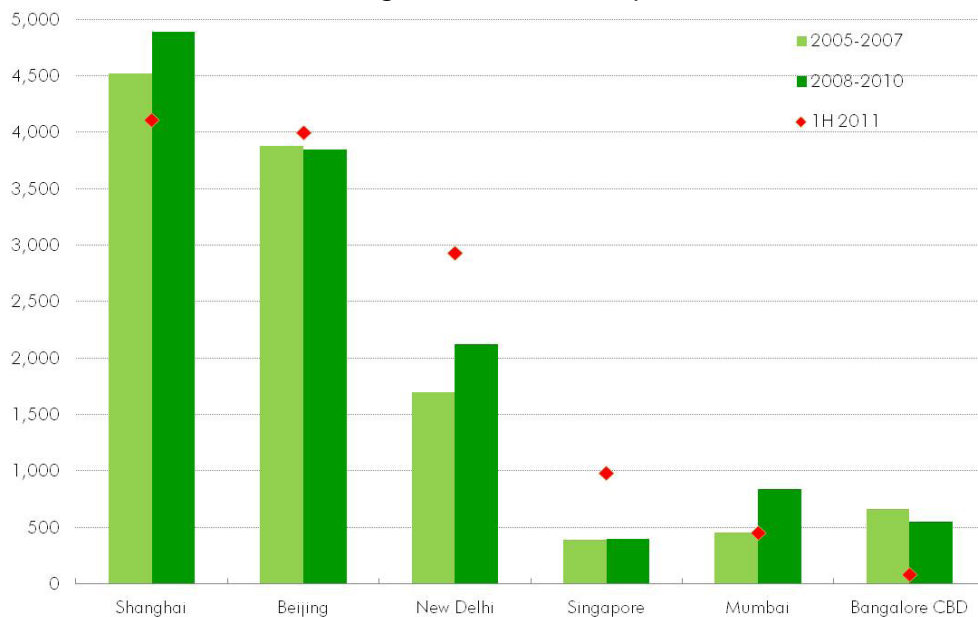
¹ "Politics, Power, Cities", Enrique Penalosa

² Data Analysis: a statistical analysis of six urban age cities, Burdett and Sudjic, Eds

³ "Seeing like a city", Saskia Sassen

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Strong demand for office space



Source: CBRE Research

Three basic approaches to re-centering the CBD

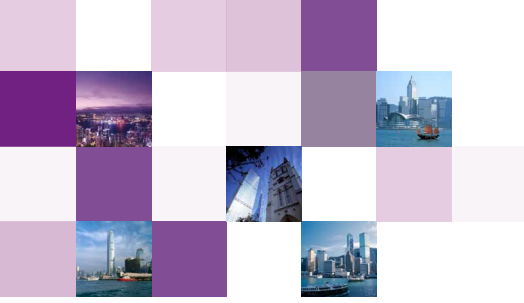
Faced with explosive growth in the finance, IT, hi-tech and producer services sectors over the past two decades, many cities simply could not accommodate the rapidity of growth in these operational areas within their existing planned forms. For cities as diverse as Tokyo, Mumbai, Bangalore, Shanghai, Shenzhen and Taipei, and Manila the simplest solution was to find a newly formed or underutilized site situated close to the city center, and where existing ownership patterns did not present a major obstacle to government resumption, re-zoning and master planning the site for development as an alternate business hub. Through conducting our study, we noted that this strategy was adopted with respect to the establishment of 13 of the 18 business districts Surveyed in our report.

We also encountered the case of two cities where urban government decided to extend the existing core CBD, either because it was feasible to do so and furthermore made good sense, from an urban design perspective, as in the case of Singapore; or, alternately, as in the case of Beijing, because the density of existing development of the inner city did not provide any substantial underutilized sites in inner city locations which could be repositioned as new alternate business hubs.

However, unlike Singapore, where Foreshores Act gives the Singapore government full authority to reclaim any part of the foreshore subject to the approval of Parliament and where the President may declare any lands formed by the reclamation to be State Land and subject to the State Lands Act, since 2004, Hong Kong has not been at liberty to create new land for commercial development through further reclamation of either the inner harbor or outer harbor areas.

The final strategy, sometimes adopted out of necessity, was the strategy of establishing an entirely new satellite commercial area in peripheral urban area, this strategy having been adopted by cities like New Delhi and Hanoi, which impose town planning restrictions on undertaking major inner city regeneration projects. This constraint, in turn, has left developers have with no choice but to look towards their suburban or urban fringe areas when planning new commercial sub-districts.

Comparing Hong Kong with the twelve other cities covered in our report, we find that it falls squarely into the category of cities which have opted to provide more commercial facilities via creation of new inner city office hubs in former industrial areas or by redeployment of disused inner city sites.



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Hong Kong, however, is at a disadvantage, at least as compared with Shanghai, Shenzhen and Taipei, in that it does not have substantial inner city area covered with underutilized industrial buildings under simple unified title ownership, and which would be easy for municipal government development authorities to resume, in creating substantial new inner city development sites. Rather, the problem confronting the large-scale regeneration of Hong Kong's older industrial districts is somewhat more difficult, as it is directly linked to the highly fragmented strata-title ownership of many of the older industrial buildings. Therefore, being unable to resume these buildings themselves, Hong Kong's development authorities have been compelled to adopt a non-interventionist approach, proposing providing several additional measures in 2009/2010 to encourage their conversion to alternate use and smooth the way towards the larger transformation of these older industrial districts. However, this approach has only paved the way for the revitalization of older industrial areas on a piecemeal basis and resulted in what has inevitably proved to be a fairly drawn out process.

Source: CBRE Research

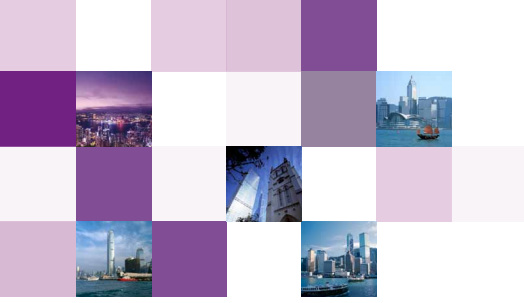
Expand/upgrade existing office hub	Creation of new inner city hub	Create new suburban satellite office hub
Greater China <ul style="list-style-type: none"> ▪ Beijing CBD West Expansion & Financial Street West Expansion ▪ Singapore Marina Bay 	Greater China <ul style="list-style-type: none"> ▪ Shanghai Lujiazui CBD ▪ Shenzhen Futian CBD ▪ Taipei Xinyi New Area Japan <ul style="list-style-type: none"> ▪ Tokyo Toyosu India <ul style="list-style-type: none"> ▪ New Delhi Noida ▪ Mumbai Bandra Kurla Complex & Lower Worli ▪ Mumbai Worli ▪ Bangalore Electronic City, Outer Ring Road and Whitefield Philippines <ul style="list-style-type: none"> ▪ Manila Bonifacio Global City ▪ Manila Ortigas Hong Kong <ul style="list-style-type: none"> ▪ Hong Kong 	India <ul style="list-style-type: none"> ▪ NCR Gurgaon Vietnam <ul style="list-style-type: none"> ▪ Hanoi Western sub-market

Challenges in Assembling New Business Hub Sites

Singapore Marina Bay reclamation sites in 1984
Land Reclamation



Source: Urban Redevelopment Authority



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New inner city hubs in which development has proceeded most smoothly have been precisely those in which the assembly of the original underutilized inner city areas or sites were used to generate the new commercial sub-district, was assembled with relative ease by the urban development authorities. Furthermore, where sites have been easy to assemble, this has permitted municipal planning authorities to plan their redevelopment from scratch, and given them much freer choice to decide the ultimate mix of end uses contained within the new district as well as the phasing of their development.

Hong Kong, with respect to the issue of “degree of difficulty in assembling new business hub site” would have to be judged as belonging to the “difficult” category. In this relatively small city with its densely developed central core area, reclamation has long been a well-established means to generate land to serve the city’s social and economic development needs. Consequently, in 2004 when Hong Kong Court of Final Appeal handing down a judgment reaffirming the 1997 Protection of the Harbour Ordinance, and government furthermore publicly pledged that it would not permit any future high-rise commercial developments within the three harbor front reclaimed areas, aside from the Tamar site government offices, this blocked a major route for the expansion of the inner city’s built environment which had been heavily used since the mid-19th century. With substantial reclamation no longer an option, opportunities available Hong Kong government to assemble major new sites suitable for undertaking groups of commercial development have become substantial curtailed, especially over the short-term. In this respect, Hong Kong is not unlike Mumbai, where there are similarly tough restrictions on further reclamation of the Mumbai Harbor (in the east) and Naval hub in the South, which cannot be encroached upon due to economic and security issues, preventing the further expansion of the older Nariman Point CBD.

In contrast to Singapore, where Foreshores Act gives the Singapore government full authority to reclaim any part of the foreshore subject to the approval of Parliament and where the President may declare any lands formed by the reclamation to be State Land and subject to the State Lands Act, since 2004, Hong

Kong is no longer at liberty to create new land for commercial development through further reclamation of either the inner harbor or outer harbor areas. Singapore was careful not to impose any regulatory prohibitions on reclaiming substantial portions of the bay area for creating the Marina Bay extension to its historical CBD area, and in this respect had a relatively free hand in creating the development sites it needed via harbor reclamation. Commencing the process of harbor reclamation in 1969, Singapore effectively had more than three decades within which to consider the master planning of the 85 hectare area provided by the two sites reclaimed from the bay.

As compared with Hong Kong’s constrained situation, some cities, such as Mumbai, were fortunate enough to have substantial marshland areas within the inner city, such as the site resumed by MMDA for the development of the Bandra Kurla Complex. Grouped within the same category would be cities such as Shenzhen Futian and Bangalore Whitefield and Electronics City where urban governments had access to substantial vacant or sparsely developed inner city lots, or the instance of Xinyi, where the municipal government had no problems resuming a site that was largely occupied by single-storey factories and government facilities.

Regarding the issues faced by Hong Kong with respect to accelerating the revitalization of its inner city industrial areas, the S.A.R. is not as fortunate as Tokyo. In just one instance of a former industrial node which has been converted into a new commercial sub-market, Tokyo was fortunate to have the former shipyards area of Toyosu, in Koto-Ku, directly adjacent to the Central Five Ward area of Chuo. Toyosu was an area where several large sites were re-zoned for commercial use by the Tokyo Municipal Government and which were ultimately regenerated into a number of sizeable commercial complexes, in a process that was conveniently largely driven by their original industrial owner.

However, in the field of converting former industrial properties to alternate use, Hong Kong by no means had the most difficult experience of any of the 12 cities surveyed. The S.A.R. has generally enjoyed an easier time at handling this matter than was experienced

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by Worli in Mumbai. During the early period of the conversion of this former inner city textile mills district, a major controversy erupted when a large number of the existing mill sites were opened up for private redevelopment, the Mumbai development authorities becoming mired in a bitter legal dispute with the families of the former textile workers who continued to live in the area. While the forces seeking to re-develop the area ultimately won, it has garnered Worli the legacy of bitter social controversy.

Gurgaon in 2003 and Gurgaon today



Source: CBRE Research

Connectivity Other Key Areas in the Municipality

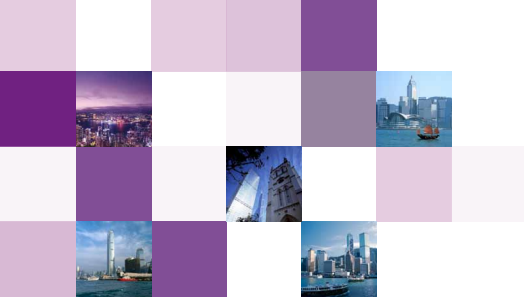
Our survey of the 13 Asian cities which have undertaken generation of new commercial sub-centers revealed that improving connectivity between these areas and the core central city business district, especially by provision of new tunnels and bridges, if they are separated from the core commercial area by a river, bay or other body of water, and provision of adequate mass transit links between newly revitalized areas and central city area is indispensable critical factor in their success.

Over the short term, the main areas which are available for office regeneration in Hong Kong are the industrial sites which are still to be transformed in Kwun Tong and Kowloon Bay. But providing quick and easy access between these areas and the other key office hubs is still an area where the Hong Kong government faces special challenges. At present, there are only three vehicular tunnels across Victoria Harbour, all of which are privately operated on a toll charging basis, and two of which are subject to massive traffic bottlenecks

during peak periods. Similarly there are only two cross harbor metro lines, and the East Kowloon area is only served by one metro line in Kowloon, the Kwun Tong Line, and has only one direct metro connection to Hong Kong Island, via the Tseung Kwan O line. These metro lines are furthermore subject to serious overcrowding during morning and evening rush hour times. Furthermore, given the relative large size of the Kwun Tong and Kowloon Bay areas, most residents living or working in the areas have to take cabs or minibuses to access the one metro station in each area. These existing transportation connections are furthermore slated to come under additional pressure, as relocation of back office and middle management functions to Kowloon East by major Hong Kong Island office occupiers has continued to pick up speed since 2009.

Looking nine years out, along with the emergence of Kai Tak as a major new development node, Kowloon East is bound to emerge as an increasingly important hub of commercial activity in Hong Kong. Hence, the Hong Kong government should begin planning early to address the issue of the lack of adequate connectivity between Hong Kong Island, which still contains the S.A.R.'s largest agglomeration of major corporate office occupiers, and Kowloon East.

However, it is unfair to expect Hong Kong to directly "learn from Shanghai," in the manner in which it tackled its connectivity problem, given the difference in political organization between the provincial-level municipality and the S.A.R., and especially their different respective frameworks for development, ownership and operation of key transport infrastructure. Nevertheless, it would be good for the Hong Kong development authorities to pay heed to the high priority which the Shanghai government assigned to upgrade all of the transportation systems in Pudong and to improve the connectivity between Pudong and Puxi, following the establishment of Pudong as a New Economic Development Zone in 1990. Especially worthy of attention are the huge sums which the Shanghai government invested to accomplish this. In the ensuing 21 years following the establishment of the Pudong New Economic Development Zone, some 7 metro lines have been built in Pudong. The No.2 line



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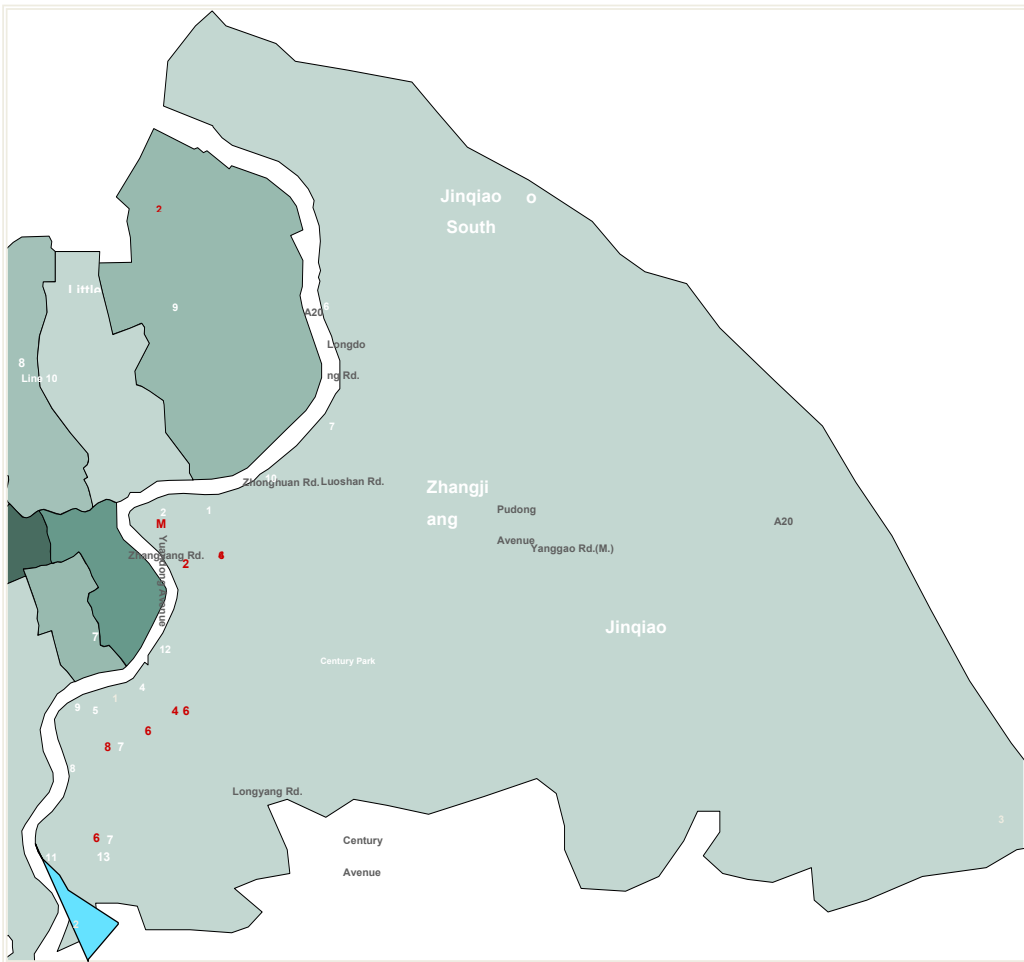
directly linking core Lujiazui CBD with Puxi, as well as 12 tunnels, 4 bridges, 2 elevated ring roads which cross the Huangpu River, all of which are toll free, at a total cost of over RMB 180 billion. Instant access to the huge existing corporate agglomeration in Puxi was certainly one factor contributing to the speed with which Lujiazui was transformed from being an industrial backwater into being hub of financial services industry. Fueled not only by the massive injection of capital but also by instant access to the strategic knowledge economy of Puxi, the Lujiazui CBD was quickly transformed from being an industrial backwater into China's largest financial industry hub.

In India's NCR, both Gurgaon and Noida, serve as a negative example of what can happen when growth proceeds ahead much faster than adequate transportation planning. In these two new development nodes of NCR, lack of integration between different

modes of public transport and inter-city transit systems has led to increased use of private vehicles. As this vehicular traffic increased, there is heightened stress on the existing road transport network, leading to long travel hours and a traffic tie-ups at key junctions connecting Delhi with Gurgaon and Noida.

While the situation has improved recently due to the recent advent of the metro lines connecting both Gurgaon and Noida to the inner city precincts, traffic congestion is still acting as a drag on these two alternate business hubs in achieving their full potential. Provision of an efficient and wide reaching public transportation system serving both of these areas still remains a pressing necessity. However, this issue is being addressed by the development of monorail in Gurgaon (again being private development led) and extension of the metro network across these new growth hubs.

Transportation and Communications Improvements Effected Between Pudong and Puxi, 1990-2010



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Pudong Infrastructures Development			
Metro Lines Line 2 (2000) Line 4 (2007) Line 6 (2007)* Line 7 (2009) Line 8 Ph. 2 (2009) Line 9 Ph. 2 (2009) Line 13 - Expo Line (2010)	Tunnels 1 Xiangyin Rd. Tunnel (2005) 2 Jungong Rd. Tunnel (2011) 3 Dalian Rd. Tunnel (2003) 4 Xinjian Rd. Tunnel (2009) 5 Yan'an Rd. (E.) Tunnel (1985) 6 Renmin Rd. Tunnel (2009) 7 Fuxing Rd. (E.) Tunnel (2004) 8 Xizang (S.) Rd. Tunnel (2011) 9 Dapu Rd. Tunnel (1971) 10 Dapu Rd. Tunnel Ph. 2 (2010) 11 Longyao Rd. Tunnel (2010) 12 Shangzhong Rd. Tunnel (2009)	Bridges 1 Yangpu Bridge (1993) 2 Nanpu Bridge (1991) 3 Lupu Bridge (2003) 4 Xupu Bridge (1997) Elevated Ring Roads Inner-Ring Road (1994 - 2009) Mid-Ring Road (2006 -) Meg-Lev (2002)	Airports Pudong Int'l Airports (1999 Ph.1/ 2008 Ph. 2) Ports Waigaoqiao Port Source: CBRE Research

Source: CBRE Research

Ease of Circulation within the New Sub-center

While some of the more technically advanced new business precincts which have emerged in Asia, such as Marina Bay and Taipei Xinyi, are well on their way to success in implementing their plans for enhancing internal connectedness, this remains an area in which a number of the other CBDs and new commercial sub-center areas covered in our report are still struggling with. The ease of communication, between major groups of buildings, within the district itself clearly emerges as an issue which impacts not only convenience of office occupation, but also trading performance of retailing shops, leisure, hospitality and F&B situated within the larger commercial precinct. Facilitating internal connectedness becomes an even more pressing issue when concentration of developments within business districts covers are scattered over an exceptionally large area

Looking at the more sophisticated and successful CBD extension plans which are in the midst of being

implemented in Asia to date, such as Marina Bay in Singapore, planning for the new area calls for all of its major developments to be connected via underground. One completed underground corridor, the Marina Bay Link, already connects the core CBD area and Raffles MRT to MBFC, One Marina Boulevard and The Sail, is fully air-conditioned and is partially lined with fashion shops and F&B outlets, having positioned itself as a kind of extended underground shopping mall. Similarly, Marina Bay Sands will be connected via underground to one of the MRT stations on the Circle Line.

Taipei Xinyi is similarly in the midst of implementing a sophisticated plan for building skybridges / skywalks is to link commercial buildings (mostly retail complexes) and facilitate pedestrian movement within the larger Xinyi area. The construction of the skywalk system, which is now largely completed, was jointly built by the government and private developers, and runs a length of approximately 2.3 kilometres. Buildings connected with skywalks include: Taipei 101, Taipei World Trade Center, Viessow Cinema, four stores of

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Shin Kong Mitsukoshi, Bellavita, and ATT 4 Fun (still under construction).

Lack of easy pedestrian connections between existing buildings is a problem which confronts both Beijing Finance Street and CBD. In CBD the problem is exacerbated by the fact that strong master planning for the area was not introduced until 2003, leading to a real lack of connectedness not merely between the existing major shopping facilities in the area but between the district's larger clusters of commercial development. In Beijing, construction of a system of protected passageways in these two business districts is even more necessitated by the city's climactic extremes in the summer and winter. While a detailed plan has been put forward to connect most major developments in the CBD via a system of pedestrian tunnels, progress in launching its development has been slow. Finance Street also plans to build a 2.3 kilometer underground passage way system which is similarly still in its planning stage. Both CBD and Finance Street have been put off by the unwillingness of local government to shoulder part of the huge project cost, and also by the negative example of Zhongguancun, where a 1.9 kilometre underground pedestrian circular system connecting 14 office properties has been completed, but which has proven to be ineffective, due to poor management.

In Shanghai Lujiazui CBD the problem relates not only to ease of access between buildings, but relates to basic vehicular and pedestrian traffic design within plan for the new district. With 100-m-wide Century Avenue and other road systems crisscrossing the CBD area diagonally, and the lack of overpass or passenger tunnels, traffic flow, with respect to both vehicles and pedestrians is fraught with problems. In recent years, Shanghai government has been taking actions to improve transport system within the Lujiazui CBD. In May 2010, for example, a ring overpass named Pearl Ring was opened for pedestrians. In addition, in acknowledgement of the inconvenience presented by the relatively long walking distance between individual office buildings in the Lujiazui CBD, in April 2011, the first 'White Collar Mini-bus' went into service to provide transportation services linking more than 30 buildings in the district

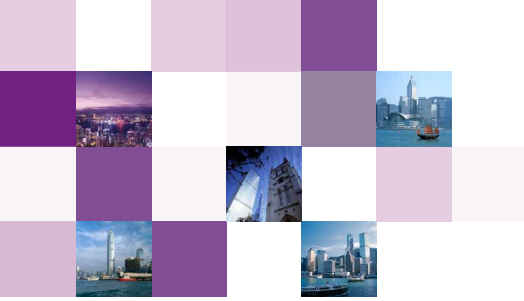
In a sense, because Lujiazui was developed from the outset the basis of a pre-conceived master plan, the lack of consideration given to connectivity between its office buildings and supporting commercial facilities was a genuine planning error. In the case of Hong Kong, where the 22 office buildings which have been developed in Kwun Tong and Kowloon Bay since 1998, the Hong Kong government, understanding the value which skywalks have added to both office developments and retailing developments on the island, has begun the construction of a 550 meter elevated walkway system in Kowloon Bay linking up the Kowloon Bay Industrial Area and Telford Gardens to the MTR Kowloon Bay Station, as well as construction of associated staircases, escalators and lifts for the proposed elevated walkway system.

However, because the regeneration of Kwun Tong and Kowloon Bay was initiated by the private sector, the overall initiative does not follow a master plan. Rather, the regeneration of these areas has grown up based upon where buildings developers were able to acquire for regeneration happen to be located. Because of the sizeable distances between buildings Kwun Tong and Kowloon Bay, weaving together the entire area through use of skybridges and pedestrian walkways presents a unique set of challenges. . Hence, this is an area where Hong Kong is going have to continue to play catch up, as compared with the Xinyi New Planned Area and Marina Bay, where skybridges or subterranean pedestrian shopping corridors have been an integral to the master plan from the beginning

Taipei Skywalk System



Source: CBRE Research



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Creating a Vibrant and Attractive Atmosphere

Some government authorities displayed a very clear awareness from the outset that their new “downtown area” could not succeed merely by providing a major clustering of large footprint state-of-the-art office buildings. Rather, establishment of the new downtown area in all cities surveyed was part of a larger strategy to attract major local corporations and multinationals to set up major operations in their cities. The attractiveness, vibrancy and livability of the new commercial sub-district or expanded CBD hence has emerged as a critical issue of concern for the most of the relevant municipal development authorities.

While this is not an area in which the Hong Kong has specifically come up short to date, nevertheless it is a point which should be kept firmly in mind; particularly as the S.A.R. approaches development of its last major vacant core downtown opportunity namely the 320 hectare Kai Tak site. This site provides the Hong Kong government with a precious blank canvas which it cannot afford to waste, since certainly it is easier to create vibrant and attractive commercial district when one is starting from scratch, as opposed to trying to infill development into an existing district, as we saw clearly illustrated by Beijing Finance Street’s belated and unsuccessful attempt in 2001 to enliven the existing business hub with the infill of a large shopping center. In Kai Tak, there is a real opportunity to implement good urban design practice, something which involves more than simply providing a sizeable retailing element and ensuring easy pedestrian flows, but rather in creating a very strong sense of place and a location where people desire to be

Regarding other areas which are coming up for regeneration in Hong Kong, such as Wong Chuk Hang, as well as with respect to the still unfinished task of creating a better urban design framework for Kwun Tong and Kowloon, certainly there are many more constraints than when working with a newly formed site. However, these latter areas, despite containing a substantial number of buildings which cannot be removed, also present the opportunity for Hong Kong to display good practice in regeneration by trying and create a more identifiable sense of place, a good

pedestrian environment, minimal vehicular intrusion, and an overall feeling of vitality and interest, such that each former industrial area presents itself as a distinctive quarter of the city.

In the case of planning Singapore’s Marina Bay, the URA clearly understood from the outset that taking steps to encourage the development of prime new office facilities in an attractive surrounding environment would be perceived as a “business friendly” posture by the multinational corporations and financial institutions which it wished to attract to establish or expand operations in the city state. of the Singapore government development authorities were clearly aware that creating a vibrant and positive atmosphere in the new business district would also help its major corporate occupiers recruit and retain staff.

This varied mix of facilities which are being made available in Marina Bay are helpful in promoting what the Singapore government likes to describe as “live-work-play” communities. As a consequence of this flexible approach, a number of residential projects, namely The Sail @ Marina Bay and Marina Bay Residences, have been completed while the opening of Marina Bay Link Mall and Marina Bay Sands provide much needed retail and entertainment elements to the mix.

At the opposite end of the spectrum with respect to Singapore’s keenness to establish what it terms a “live-work-play” community is the problems which have been experienced by Beijing Finance Street. Finance Street Holdings Company Ltd., as a novice developer of a new downtown financial hub, initially maintained rather single minded focus on selling development sites in the zone to domestic corporations for use in self-developing office facilities. In fact, Finance Street Holdings did not fully wake up to the necessity of having to make the new business district attractive until 2001 the year when China gained accession to membership in the WTO, an event which also heralded the further opening of the country’s financial sector to overseas involvement. An attempt was made to remedy this defect by developing a 100,000 sq. m retailing complex This bid was unsuccessful, however, due to the new facility’s unfavorable location, its lack of easy accessibility from within the zone, poor visibility

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and consequently its inability to attract shoppers. Hence, while Finance Street area now contains 3.35 million sq. m of various kinds of facilities, it cannot be judged a success with respect to attractiveness of its atmosphere..

Xinyi Planned Area – lively night life



Source: CBRE Research

Zoning to Attract Major Corporate Occupiers

Major financial institutions and multinational corporate locators, when seeking properties to serve as their regional or national headquarters, have very definite requirements with respect to the size and shape of floorplates, standards which they seek in building efficiency, and the provision of car parking and security services. Singapore's URA was sensitive to this fact in basing the layout of its Marina Bay master plan on a grid-like pattern which has the advantage of creating a flexible framework within which land parcels can be combined or sub-divided based on the requirement of carrying out larger developments in staged phases. As the land parcels are laid-out in a checker board pattern, this provides developers with the space and flexibility to develop Grade A office buildings with large, square floor plates to cater to demand from financial institutions and major transnational occupiers.

However, at the same time, major companies are not willing to establish major "command and control" operations in areas where it is hard for them to entertain guests, or where their staff face challenges in finding dining, shopping and entertainment facilities.

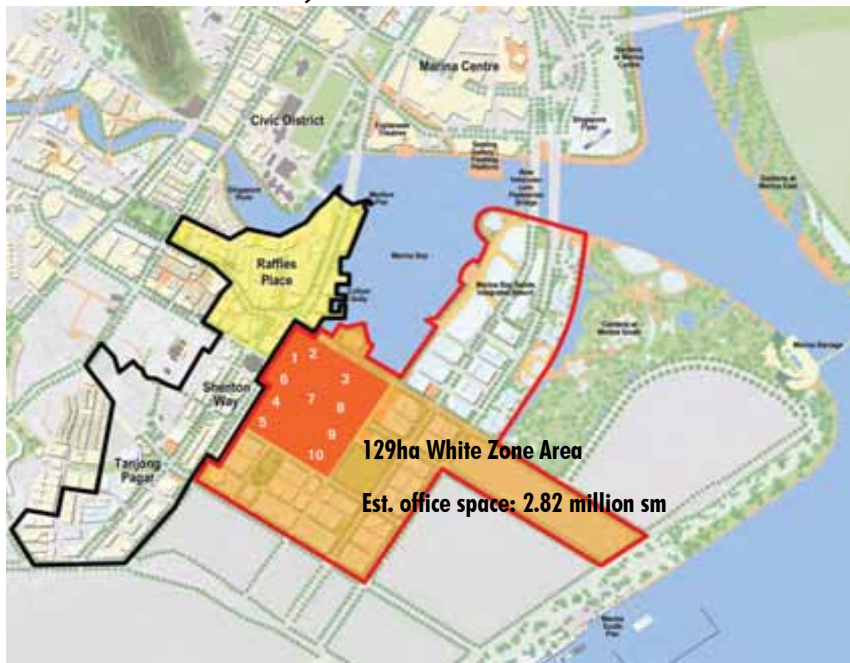
The URA similarly displayed awareness of this fact in the "white zoning" approach which it deployed with respect to Marina Bay, under which sites can be zoned to develop mixed use projects containing commercial, hotel, residential, sports, recreational and other uses, the flexibility of this arrangement allowing for introduction novel combinations of facilities which the more traditional Raffles Place did not provide.

Similarly, in Beijing CBD Administrative Committee, from the moment the decision was made to transform the Jianguomenwai Area into both a kind of showcase for China's openness and also to capture a larger share of the city's international business occupation, commissioned several studies of the scale, density and overall layout and mixture of functions in other successful central business districts in advanced economies, before undertaking a tender and then a competition for the best master plan design.

However, in Hong Kong, the first major opportunity to create such a flexible zoning plan, designed to capture best practice in urban design, will be with respect to the Kai Tak site in 2019, when the area becomes open to development. This is one area where the Singapore government, in designing the lot sizes and shapes for the initial mixed use developments it sought to attract to Marina Bay, displayed both commercial awareness and urban design awareness.

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Marina Bay introduce the white zone area



Source: Urban Redevelopment Authority, CBRE Research

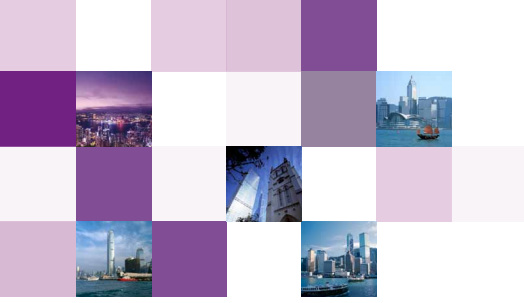
Cultivation of branding to strengthen sense of identity

Yet another important way in which a new commercial sub-district, can build up its stature and enhance its branding is through encouraging the development of one or more iconic buildings or strongly memorable features. At the same, development of iconic buildings is not foolproof, and such buildings can be developed, and situated in a manner which can be rather more or less appropriate, something which Hong Kong development authorities would do well to bear in mind, with respect to the remaining areas of major development opportunity still available to them.

In the case of new business sub-centers which have not permitted development of such iconic structures, this has been generally been due to zoning restriction which prohibited the development of tall structures, as was seen to be the case in Bandra Kurla Complex, where proximity to the Mumbai Airport has meant the imposition of height restrictions on development within the new zone. Beijing Finance Street has also not been permitted to develop tall buildings due to area's close proximity to seat of Central Government in Zhongnanhai.

In, Beijing CBD, by contrast, where severe height restrictions have not been imposed, this has encourage the development of a number of powerful, iconic buildings, including CWTC, Yintai Centre and China Central Place. However, it was the development of the USD 1.2 billion CCTV Tower, based on a design by Rem Koolhaas, which has had the most image enhancing effect in re-positioning the office hub. In other alternate, new business districts, such as Taipei Xinyi, it was not until the completion of Taipei 101 in 2004, that that Xinyi solidified its status as the city's leading CBD. The lessons from other cities in Greater China have not been lost on Shenzhen Futian, with construction work on the 115 storey Ping An Insurance Building, as the tallest commercial structure in the Pearl River Delta, having already been launched, and is scheduled for completion in 2015, with the intended effect of further raising the new business district's market position.

And yet, while development of a striking landmark can work wonders on raising profile, when a development zone is sufficiently mature to benefit from this boosting effect, the premature development of a major landmark building can have unintended negative effects. This has been the case with the Landmark 72, now under development in Hanoi West (My Dinh area),



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As the centerpiece of this new satellite commercial sub-district, the Vietnamese government have made a very bold move in authorizing the development of this massive, iconic mixed-use complex, which will contain the tallest structure in Vietnam. However, as the development is coming on stream in a suburban location, it will be hard for the Hanoi office market to absorb the substantial office floor area which it is bringing on stream. This difficulty stems not only from possible slackening of demand, but also to due to overloading of the city's infrastructure by the current wave of commercial development now under way, and transportation constraints which hamper access to My Dinh new area.

In a more mature commercial center, such as Hong Kong and Singapore, the emphasis in adding iconic buildings to a newly emerged office hub, can be more on quality and design innovation, as opposed to spectacular, eye-catching effect, as was witnessed by completion of the first phase of the MBFC in Marina Bay. In Hong Kong, by contrast, we note that the capacity of iconic buildings to reinforce the perception of the importance of place can be wasted, when the opportunity to create a new commercial sub-center is not properly availed upon. This was recently seen to be the case with the 2010 completion of ICC in West Kowloon, where the monumental sized office tower was surrounded by a ring of high-rise luxury residential blocks, whose development has effectively precluded ICC from emerging as the center of a new business hub, at least over the short term. Despite such lost opportunities, however, Hong Kong will still have an important chance in Kai Tak to use iconicity to make a statement about importance of this newly emerged commercial hub, with its 320 hectare site and spectacular harbor views.

Beijing iconic building – CCTV Tower



Source: CBRE Research

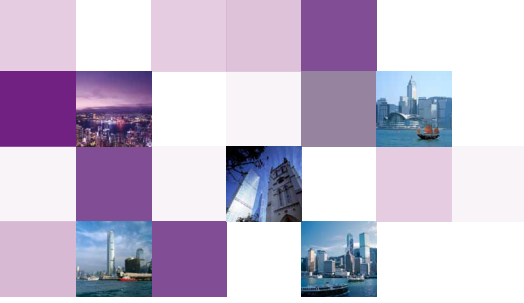
Relocation of key municipal functions/ government offices

In a number of cities, where the intention for establishing a new alternate business district was to set up a new financial or administrative center for the city, the decision of the municipal government to relocate certain key municipal government offices or municipal government functions to the new commercial sub-district can serve as a clear signal of the re-centering of the city's administration, around this newer area.

This was achieved in Taipei, where relocation of the Taipei City Council and Taipei Municipal Government offices to the Xinyi New Planned Area in 1990 and 1994 helped solidify its status as the city's leading non-core office area. However, it was not until the completion of Taipei 101 in Xinyi in 2004, as Taipei's most attention getting iconic building that Xinyi solidified its position as the city's leading CBD, a position which was further strengthened with the relocation of the Taiwan Stock Exchange to Taipei 101 in 2005.

In Hanoi, in the West, the sense of of My Dinh area as a viable new commercial sub-district has certainly increased along with the removal of government administrative offices. Following the establishment of the National Conference Centre in the area, the ministries of Foreign Affairs, Internal Affairs, and Resources have all relocated to the district

Shenzhen Futian intends to accomplish this same effect, with the relocation of the Shenzhen Stock Exchange from Luohu to Futian, with the new Futian Shenzhen Stock Exchange buildings scheduled to be completed and handed over in 2012.



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In Mumbai, MMRDA is working towards development of an International Finance and Business Centre with BKC as the central hub. MMRDA proposes that BKC lead Mumbai's drive towards becoming a leading global financial hub, by accommodating all of Mumbai's leading institutions like the National Stock Exchange, The Diamond Bourse, Convention and Exhibition Centre which will naturally serve to attract leading Indian and foreign banking and financial institutions.

As we saw above in the case of Mumbai, Hanoi, Shenzhen and Taipei, the relocation of key central or municipal government institutions to a new district can serve not only as an important signal that the center of a city is shifting, or at least is being partially realigned towards a new district or commercial sub-center, but furthermore the nature of the function which is relocated to the new hub area can provide a key indicator as to what its future function is intended to be. However, Hong Kong has been somewhat slow to catch on this tactic. By relocating municipal government headquarters to the Tamar site, this once again underscored the centrality of Central-Admiralty with respect to the administration of the city, the irony of this choice being that this is perhaps the one location in the city which is least in need of being reinforced.

However, in the future, if the Hong Kong Government wishes to send a strong signal to about the city's recentering in the direction of Kowloon, or its stronger alignment to the East, the S.A.R. government might consider relocating at least one or more key government offices to occupy one of the new developments in the greater Kwun Tong, Kowloon Bay, Kai Tak area. Such a move would better establish the perception of the growing importance of Kowloon East, if only from a "command and control" perspective. Indeed, the relocation of just one important government office to a former industrial area which is slated for commercial transformation, such as Wong Chuk Hang, after the South Island Line (East) metro connection is in place, would have a remarkable effect in changing public perception of an area which was previously viewed as being decentralized.

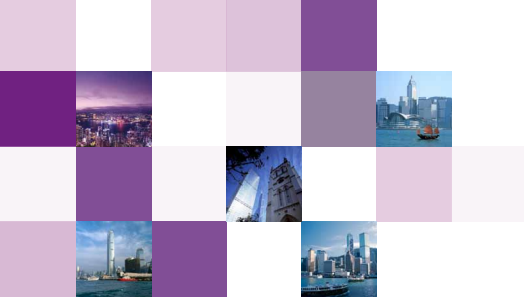
Preferential treatment for incoming developers/occupiers

Providing specific incentives to motivate occupiers to relocate to new commercial sub-centers, is an approach which is more associated with emerging economies of Asia, such as China and India, which are still in the midst of building their first business districts and hence are still maturing, and where, in some cities and locations, incentives are still needed to build up the initial critical mass of occupiers. However, provision of direct incentives would certainly not occur in commercial centers mature economies of Asia, which are more apt to be troubled by lack of supply of suitably priced facilities rather than about concerns over attracting a sufficient number of financial industry occupiers. In those emerging markets where incentives are on offer to attract certain occupiers, use of this tool can also give rise to unintended forms of competition. For example, in Beijing Finance Street in 1998, took the lead in issuing a series of preferential policies to attract financial institutions to set up operations in the district, but Beijing CBD followed closely on its heels, offering a similar set of subsidies to similar occupiers the two districts effectively throwing themselves into direct competition for capturing the same occupier market.

In Whitefield and Electronics City in Bangalore, the emphasis is less on attracting certain types of tenants as it is on leveraging on the provision of fully serviced sites in order to attract developers to accept the development risk of undertaking projects in these new areas, and further sweetening this offer by the provision of land at subsidized rates.

However, in advanced economies in Asia, such as Singapore,, while there may be no direct incentives offered to occupiers to move into the new Marina Bay office facilities, by offering developers of large sites in Marina Bay special flexibility, with respect to determining the phasing of their developments, may help to mitigate development risk, in the facing of the present volatile international financial market conditions, this therefore comprising a form of "preferential treatment" for developers undertaking such projects.

In Hong Kong, as mentioned previously in the paper,



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all of the incentives put forward to date relate to easing the conversion of industrial buildings to alternate enduses, new regulations in 2009 lower the threshold of ownership for triggering compulsory purchase of a building and lowering the premium payment for redevelopment by changing the calculation methodology.

The main impediment which blocks Hong Kong from offering incentives in the form of the degree of flexibility in development is that in the absence of public private partnership mechanism for real estate development, Lands Department simply auctions sites to the highest bidder who must then shoulder all market risk. At present, no mechanism is available which permits some degree of public/private collaboration in real estate development, and hence which can be market responsive in relation to future 'ups and downs.'

In India, Bandra Kurla Complex is the sole new commercial sub-district which offers specific incentives targeted at attracting financial industry occupiers



Source: CBRE Research

Consequences for Hong Kong of delaying launching of new alternate office hubs

Points for attention for Hong Kong

Hong Kong has opportunities to re-center its prime office market, but also faces some tough constraints

Hong Kong is a mature and advanced economy in Asia, and the opportunities and constraints which it faces, with respect to the urban regeneration which it needs to accomplish in order to support the development

of the quantum of high quality prime office facilities which it requires in order to remain competitive as an international business center, are quite unique

Hong Kong is experiencing problems in re-arranging its hierarchy of office hubs

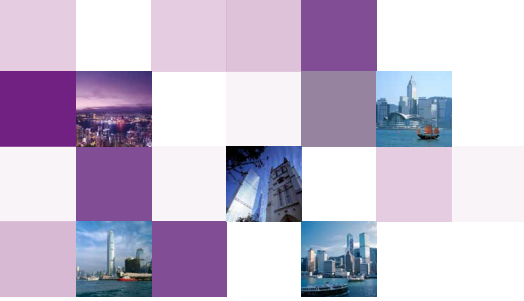
Hong Kong's main problem is that on the one hand it is experiencing sizeable problems in re-centering its present hierarchy of office hubs away from the present model, which is based on Hong Kong's Central office district being positioned as the S.A.R.'s leading CBD, despite the fact that it has no further room for expansion and very few opportunities for re-development.

Hong Kong could do a better job than it has with respect its own "psychological re-centering"

Despite the fact that Hong Kong will not have any major new development sites available prior to 2019 which are suitable for developing an entirely new CBD district, it could do a better job than it has to date with respect to accomplishing the "psychological re-centering" if the city's CBD . Other cities have moved to address the problem of increasing the prominence and feeling of centrality of newly regenerated commercial hubs by removing government offices to these new office precincts. This is a powerful tool, with respect to psychologically reinforcing the re-centering of a city. Regrettably a huge opportunity to make initiate the process of a major change in perception of the city, and make an incisive statement about the growing importance of Kowloon East, as an office hub, was wasted by relocating the government offices to the Tamar site, effectively already the center of a CBD which can no longer expand and add life to the city. Furthermore, this opportunity will not come up again until the launching of development of the Kai Tak Site, with its potential of yielding 947,000 sq. m of commercial space.

Hong Kong has not used iconic buildings to effectively support the re-centering of the city

Placement of iconic buildings in key areas can also be an important tool to aid in establishing new areas as key central hubs, but Hong Kong has not used iconic buildings to effectively support the re-centering of the



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city away the Central CBD and towards other areas. Rather, iconic buildings have been built in places which have no short-term potential to emerge as office hubs. While serving as an iconic advertisement for themselves, such developments do not provide the kind of impact achieved by Taipei 101, in changing market perception of an entire commercial sub-district.

Hong Kong is currently facing a worsening shortage of prime office space

Hong Kong's options for further expansion of its prime office markets on Hong Kong Island have been further limited by the government's own decision, to retain the Central Market as a retail podium, with the negative results of recent public hearings being used to buttress their decision making. And to devote 70 % of the developable GFA on the Central reclamation site to development of the new government office buildings in Tamar. However, as a consequence of these moves, with only a few exceptions, such as the redevelopment of a portion of Swire's office portfolio in Tai Koo Shing, and eventual relocation of government offices away from the IRD and Immigration Services Tower, Hong Kong Island has been left with lack of any suitably positioned large development sites which could serve as new, commercial sub-areas. Furthermore, as a result of the 1997 Protection of the Harbour Ordinance, Hong Kong can no longer reclaim any more of the inner Victoria Harbour except under very special circumstances, and even reclamation of the outer harbour areas is highly restricted and can be undertaken only to create residential sites.

Impasse suggests that it may well be time to revisit its total ban on reclaiming portion of outer harbor for commercial purposes

However, given the large size of Hong Kong's outer harbor area, the fact that it also provides a number of sites where reclamation to create new commercial sites could be considered –with a number of potential reclamation areas having previously been identified in the 1990s including W. Kowloon, Green Island and Aldrich Bay, this is one area which Hong Kong government development and planning authorities might re-open for consideration.

Better management of the public consultation process might be helpful

Unlike cities like Singapore, where the public consultation process is managed effectively, public consultation in Hong Kong frequently results in lengthy wrangling and in long project delays, and more often than not results in innovative ideas for changing the uses of existing areas in the city being blocked by the forces of social inertia and fear of change. While Hong Kong is democratic, and one would not wish to see the kind of rubber-stamp public consultations which the government frequently arranges in large cities in China, where public acceptance is a foregone conclusion, unless proposed development has some unusually harmful aspect, nevertheless public consultation could be better managed in Hong Kong, so that it was more focused on achieving the sort of positive results put forward by a value add engineering circle rather than trying to achieve consensus amongst many disparate interest groups whose views are frequently very difficult to bring together. This change in approach would undoubtedly result in more constructive solutions being put forward, rather than simple condemnation of change.

Main short-term solution to date is to speed the conversion of older industrial buildings

Main short-term solution to date provided by Hong Kong government is to speed the conversion of older industrial buildings to alternate commercial use. However, this approach can only be undertaken on a piecemeal basis, cannot be implemented quickly, and has not to date provided a great increase in the number of individual industrial sites to be made available for regeneration, following the 2009 legislation to ease the conversion of older industrial buildings through lowering the threshold for compulsory sale. While government is furthermore reportedly considering additional legislation which would further ease the transformation of older industrial buildings, this still does not get to the root of the fundamental problem of lack of sizeable vacant sites available over the short-term to provide the foundation for a new commercial sub-district.

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Further attempts convert older Kowloon industrial areas into new hubs will remain piecemeal and private sector led

Hence, in places such as Kwun Tong, Kowloon Bay and eventually Wong Chuk Hang, attempts to convert these places into vibrant commercial hubs will inevitably still have to be private sector led. This means that any attempt to convert these areas into vibrant new hubs will have to be “after the fact” and therefore cannot fundamentally alter the fundamental character of such places. This can only take the form of offering to make some more improvements, as rearguard actions, While Hong Kong development authorities cannot exercise broad control over better place making design for such former industrial areas, due to lack of control over these places in their entirety, they can still work on facilitating pedestrian flows by improving the interconnectedness of entire areas, as we saw government is beginning to do in Kowloon Tong, and trying to brighten the environment by providing more gardens and greenery.

The city is still not prepared to meet the eventuality of its shift towards being centered in Kowloon East

As a result of our study of the very proactive stance taken by some cities to improve connectivity between new and old CBD areas, such as Shanghai, we note that other cities which did not move quickly on this issue experienced lack of easy accessibility as a major factor in delaying the emergence of a planned new area as a vibrant commercial sub-district in its own right. Certainly, Hong Kong faces serious constraints, which cannot be easily overcome, which relate directly to the fact that harbor crossing tunnels are all privately owned and operated and toll charging, and that the extension of its metro system is also partially determined by market forces, as it is also owned and operated by a listed company. However, the fact still remains that if the city is planning for a long-term shift from being centered on Hong Kong Island to rather being centered in Kowloon East, it must somehow address the severe bottlenecks which presently exist and which impede the smooth flow of vehicles and pedestrians back and forth across the harbor.

Key decentralized areas slated for transformation and potential prime office clusters in Hong Kong

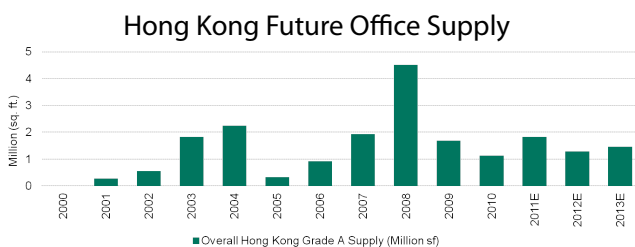


Source: CBRE Research

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Conclusion

Heading into the period of 2012 and beyond, Hong Kong faces some rather stiff challenges in meeting the expanding need for Grade A on the part of major regional and transnational corporations, and especially on the part of the large financial institutions which provide the underpinning for its strong financial sector. Over the past decade, as a result of the vagaries of release of land or commercial re-development sites, combined with self-imposed regulatory and town planning constraints and the sheer fact of the city's geography and development history, in the years 2011 and 2012, it is anticipated that about 3.12 million sq. ft. of Grade A office facilities are scheduled to come on stream in Hong Kong within this time frame, as compared with proven average annual absorption of 1.5 million sq. ft. between 2001-2010.



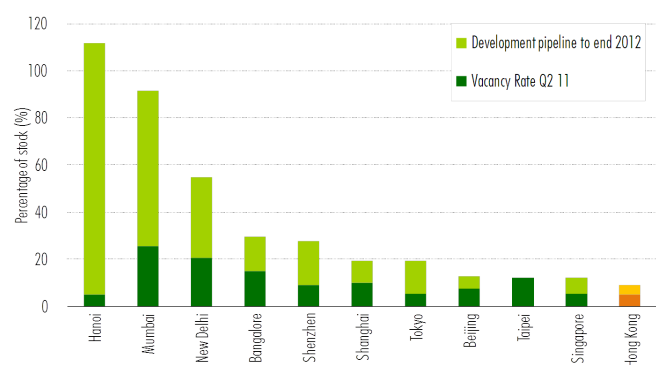
Source: CBRE Research

While in terms of actual quantity, the balance between future supply and demand in Hong Kong does not appear bad, what these figures do not reveal is that less than 30 percent of the buildings scheduled for completion in Hong Kong over the 2011-2012 period are Grade A buildings providing large floorplates. Besides this fact, and somewhat more disconcerting from the point of view of large financial institutions, virtually all of the developments coming on stream on Hong Kong Island are small floor plate buildings. The tightening of supply catering to such financial sector occupiers has resulted in continued upwards pressure on office rents, although rental increases are expected to moderate going forward as landlords adopt more realistic expectations, given the persistence of uncertain conditions in the global financial sector.

The kind of shortage in supply of new properties catering to financial institutions which Hong Kong faces should be contrasted with the 4.4 million sq ft

of institutional grade office space which Singapore is scheduled to bring on stream within the same time frame. This quantum of completion, which will provide at least the first phase of four large floorplate Grade A office towers in the Marina Bay area, is well aligned with Singapore's average annual absorption between 2006-2010, which averaged 1.6 million sq. ft. per annum for Grade A and Grade B office buildings. This steady provision of institutional grade space is the direct result of years of meticulous pre-planning by the Singapore government, always keen to maintain the city's competitiveness as an international business platform.

Vacancy rate & two-year pipeline as % of stock



Source: CBRE Research

Hence, in summary, from the simple point of view supply, in Hong Kong lack of availability of prime large floor plate office space in locations suitable for financial institutions will continue, over the short term, to squeeze Hong Kong prime office vacancy down and push rents up, thereby continuing to curtail Hong Kong's claim to pre-eminence amongst other cities competing for the status of being Asia's pre-eminent international financial center.

By contrast, other major centers in Asia which are also witnessing rapid growth of financial and producer services industry, Shanghai, Shenzhen, Guangzhou, New Delhi, Mumbai and Bangalore, will all see the completion of a sizeable quantum of prime, large floor plate Grade A office properties in 2011-12. This will provide large transnational office occupiers with the luxury of a range of choice under conditions which will see demand remain positive, but possibly commence moderating, as companies become more focused on



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cost containment amidst the current global economic instability. In other markets, landlords are expected to become more flexible, prompting developers in some locations with an emerging overhead of vacant space to delay project completions.

Historically, besides being one of China's leading entrepôt for overseas trade, Hong Kong's other great function has been to serve as an ideal platform for international businesses seeking to expand their footprint in Asia. Therefore, given the key importance which hosting international business plays in Hong Kong's economy, and despite the specific constraints which the S.A.R. faces in the areas of its geography, its land management, town planning and taxation systems as well as historical urban development, Hong Kong must rise and face the competition, since its position as the leading international business hub in Asian is something which can be maintained only by continual striving. While Hong Kong has recently missed a number of good opportunities to re-invigorate its prime office market by re-centering it away from Central and away from Hong Kong Island, it is still not too late to rectify the situation. However, Hong Kong can only hope to do this if it is willing to adopt a somewhat new mindset and learn from the successful experience which cities like Singapore, Shanghai, Shenzhen and Taipei have had in re-centering their older CBD areas.

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The Transformation of the Central Business District (CBD) in Hong Kong

CBD refers to the business and financial area of a city. In Hong Kong, Central is the historical CBD dated back from the Sino-British period and is a matured area over decades. CBD, in its traditional term, is characterized in many aspects, but the key factor remains is its high accessibility. As Hong Kong has an efficient transportation system within the small city fabric, CBD is easily extended to its periphery area, and therefore the Central is easily linked up with Admiralty and Wanchai to form a more consolidated CBD, and more readily supported by Sub-CBD.

Outline

1. Definition and differentiation
2. Characteristics
3. Distribution and location of Hong Kong CBD
4. Transformation of Hong Kong CBD
5. The historical CBD and new evolving Sub-CBD in Hong Kong
6. Development of historical CBD Vs development of new Sub-CBD
7. Urban renewal and CBD development
8. Sustainability and CBD development
9. Towards a new era of CBD in Hong Kong

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Mr. LIU Sing Cheong, JP, founded Evergreen Real Estate Consultants Ltd. in Guangzhou in 1993. He is also the founder Chairman of My Top Home (China) Holdings Ltd. The Guangzhou based group provides a host of integrated real estate related services and has established branches in 10 cities in the mainland. Its subsidiaries, MyTopHome (China) Property Agency Co. Ltd., Guangzhou Estate Credit Guarantee Co., Ltd., Estate Mortgage Services Co., Ltd., XiYingMen Design Co., Ltd. and Pearl River-Evergreen Information Systems Ltd. are all industry leaders in Guangzhou. The Group also operates the most popular insurance website (www.xiangrikui.com) in the mainland, which ranks No.1 among similar websites in terms of both visitor volume and number of registered members of insurance practitioners. Mr. LIU's group of companies currently employs over 7000 people. Mr. LIU is also an independent non-executive director of Swire Properties Limited and Prada S.p.A.

Mr. LIU is a Justice of the Peace of the HKSAR, a member of the Council of Hong Kong University of Science and Technology (HKUST), a Member of the Board of Directors of Hong Kong Science and Technology Parks Corporation, a Member of the Development Committee under the West Kowloon Cultural District Authority, a Member of the Hong Kong Security and Guarding Services Industry Authority, and a Part-time Member of the Central Policy Unit of the Government of the HKSAR. He is also an Honorary Professor at the University of Hong Kong and an Adjunct Professor at the Hong Kong Polytechnic University. He is an Honorary Fellow of the HKUST. He is a University Fellow, a recipient of the Outstanding Alumni Award 2003 and a Member of the Court of the Hong Kong Polytechnic University. Mr. LIU was the founding Chairman of the Asia Pacific Board of the Royal Institution of Chartered Surveyors.



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From Central Business District (CBD) to Smart Business Districts (SBD)

Cities are complex human systems and inventions in our civilization. Today, more than half of the world population is living in the urban areas and the trend of urbanization is expected to continue. Urban growth is often driven by the expansion and dynamism of its central business district (CBD), which occupies the most strategic and accessible location, reflects the nature, scale and progress of the underlying industrial development of the city and attracts a disproportionate amount of political interest and economic resources. Under increasing economic globalization and intense inter-urban competition, CBD strives to act as the command-and-control centre of its host city, if not for its region as well as across continents. However, while the CBD development magnifies the strength and advancement of humanity, it also breeds many social, economic and environmental problems in a city. Sustainable urban development requires not only an effective urban planning and management strategy to address these problems, but also a critical, new mindset to review the conventional CBD concept in light of the rapidly changing business environment, economic restructuring and global circumstances. This presentation outlines our thought about some key principles, represented by the acronym S-M-A-R-T, in building our future business districts.

Introduction

Central Business District (CBD) is often regarded as the heart of a city. CBD is always the focal point because it has a concentration of the highest-valued land uses - usually commercial-office, upmarket retail and government headquarters - occupying the most strategic location of a city. In Hong Kong, it is very obvious that the Central District is where our CBD is located. As our city develops, commercial and business land uses have begun to expand from the Central District to the adjoining districts such as Sheung Wan, Admiralty, Wanchai, Tsim Sha Tsui, and even to Quarry Bay, Cheung Sha Wan and Kwun Tong. Nonetheless, probably few will deny that the Central District remains the core CBD of our territory.

While the CBD occupies only a small land area in a city, it has tended to attract a disproportionate amount of political and economic attention. This is not only because CBD often contains the most prestigious real estate and provides the “postcard image” of a city, but also because CBD is the command-and-control centre in which decisions with significant repercussions on the economic fortune and political trajectory of the city are being made. In the age of globalization, CBD is not content to be the centre of its host city only. It also wishes to expand its influence to the hinterland, if not across the whole world. London and New York are usually considered as the world cities largely because of the global influence of their financial services, high-level business and commercial activities. Hong Kong

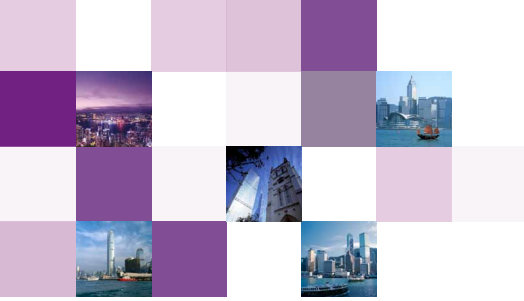
aspires to become the “Asia’s World City” and seeks to build up our CBD in order to attract these high-order business activities. Hong Kong is certainly not alone in this pursuit. Our counterparts in the mainland such as Shenzhen, Guangzhou and Shanghai are all trying to develop their modern CBDs to compete for the position of the “dragon head” in the region and in China.

This paper has two key objectives. First, it provides a critique of the CBD-bias development strategy in the context of modern cities. We suggest a review of the conventional CBD concept in light of the rapidly changing business environment, economic restructuring and global circumstances. Second, we outline our thought about some key principles that future business districts should comprise, and we call them Smart Business Districts (SBDs). While the CBD can be a smart business district, the latter does not necessarily have to be at the central location or a CBD.

CBD Concept and Problems

CBD is visually distinctive and easily discernible in a city as it usually contains the following characteristics:

- A high concentration of high-rise grade-A office buildings, landmark development projects and/or skyscrapers
- A high concentration of high-end commercial uses, retail shops and entertainment



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- An extremely high intensity of traffic flows during the daytime
 - A tremendously high volume of pedestrians on the streets during the daytime
 - A central location and/or the centre point of transport networks in a city
 - A place at which almost everything (e.g. land prices, property rents, food and drinks, people's time) is expensive
 - A place where low-cost housing and manufacturing industry are not found
- Does our CBD development create sustainable economic value for the entire city?
 - Does our CBD development generate excessively lopsided growth of our economy making it socially inequitable?
 - Is our CBD environmentally unhealthy, overly congested and not sensibly using urban land resources?

These CBD's characteristics are outcomes of a combination of market capitalism and government planning. In ancient cities, city centres were used for exchange and transaction of agricultural products of farmers. These became the predecessors of CBDs and slowly evolved to become the business centres of cities. In the advent of capitalism and somewhat promoted by government planning, CBDs often emerge to accommodate only the highest order of business activities, usually dominated by finance, asset investment, wealth management, producer services and upmarket retail sales.

We do not dispute the significance and contribution of these higher-order business activities to the economy of modern cities such as Hong Kong. We however cast doubt on the government strategy of putting excessive emphasis on these activities at the expense of the other sectors. This strategy often underscores a policy bias towards facilitating and promoting CBD development, at the existing location and/or on adjacent land, without questioning whether this is indeed the best development approach for the entire city. Such a development strategy is commonly seen in developing cities in which their levels of economic growth do not warrant a massive investment in CBD expansion, often resulting in unbelievably high rates of property vacancy and wastage of resources.

Hong Kong fares better than many developing cities in our CBD development, primarily because we are constrained by the scarcity of urban land and the

shortage of floor space. Yet, it is still pertinent to ask the following questions:

These questions relate closely to the problems faced by cities and societies under market capitalism today. Thayer Scudder, an American social anthropologist and emeritus professor from the California Institute of Technology, suggests in his book *Global Threats, Global Future* that increasing income inequality, various forms of fundamentalism and widespread environmental degradation are the three global threats to our living standards. Scudder (2010, pp. 207 - 242) points out that "the single-minded pursuit of growth as measured by global per capita gross domestic product (GDP)" in market capitalism is a major contributing factor to these threats and suggests the need to pay more attention to the "quality of life issues" and to "employment generation" in future development strategy.

Stuart Hart, a professor of management at Cornell University, also suggests that global capitalism is now at a crossroads as societies are facing the challenges from global environmental change, mass poverty, terrorism, to financial turmoil. To address these challenges, he puts forward the "base of the pyramid" strategy which suggests that "local investment and bottom-up entrepreneurial development" should replace the "one-size-fits all solutions dictated from the top". This strategy calls forth "a new private sector-based approach to development that creates profitable businesses that simultaneously raise the quality of life for the world's poor, respect cultural diversity, inspire employees, build communities, and conserve the ecological integrity of the planet for future generations" (Hart, 2010, p.17). This is "a more inclusive form of enterprise, one that is based in the local context and built from the bottom up", and one that looks into the underserved markets at the "base of the pyramid" for the new waves of growth (Hart, 2010, p. 223).

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As Hong Kong aspires to become a world city, are we building our city to address the challenges of environmental deterioration, poverty, fundamentalism and financial collapse? Is our CBD today and tomorrow developed in such a way that addresses these challenges? Or, is it part of the contributing factors to these global problems?

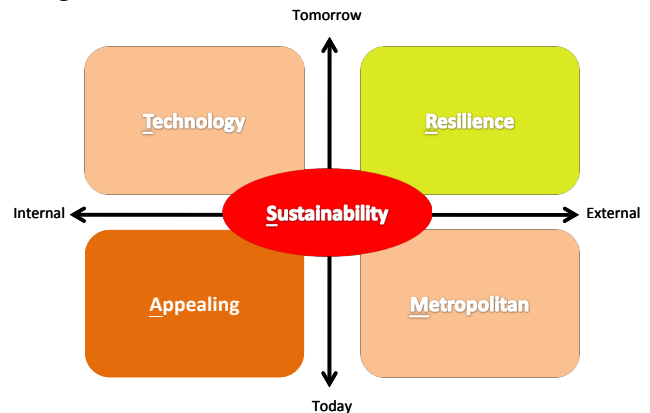
SMART Business Districts

We believe in the power of cities in addressing these challenges and improving human well-beings. Edward Glaeser, a professor of economics at Harvard University, states that “cities magnify humanity’s strengths” (2011, p.249). The commonality of all successful cities, as he has rightly pointed out, is that they “must attract smart people and enable them to work collaboratively. There is no such thing as a successful city without human capital.” (Glaeser, 2011, p.223).

So, how to attract and retain the smart people? How to cultivate the right mix of talent and make them work collaboratively so that those who start with less can end up with more? We believe that business provides the motive and incentive for the smart people. It is appropriate to create “business districts”, which seek to maximize the benefit of urban concentration, minimize its adverse effects and generate sustainable benefits to the economy as well as society.

We call them SMART business districts. They may not necessarily be the CBD and/or be located at the city centres. SMART business districts are places which provide the platforms and pathways for smart people to pursue bottom-up entrepreneurial and innovative activities, work collaboratively and create sustainable values for individuals, enterprises and society. SMART business districts are characterized by five development principles including **Sustainability**, **Metropolitan**, **Appealing**, **Resilience** and **Technology** (Figure 1).

Figure 1 S-M-A-R-T Business District - Framework



Source: Adapted from Hart (2010)

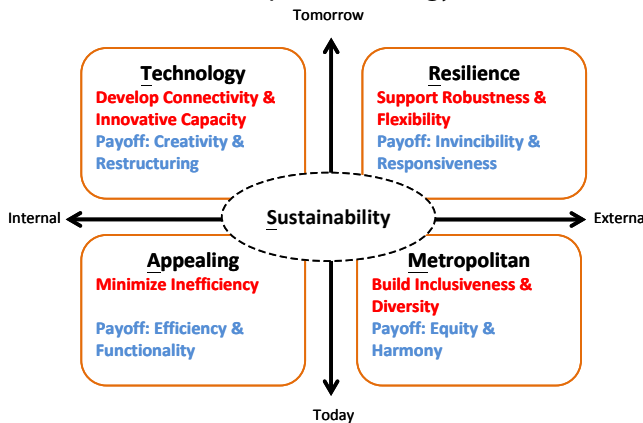
This framework is inspired by Hart (2010). While his proposal relates to the business strategy of the next-generation private enterprises, we have adapted it to the development strategy for today and tomorrow’s business districts (Figure 2).

Sustainability stays at the heart of this whole strategy. Business districts have to be environmentally, economically and socially sustainable. Sustainability is about being environmental friendly and thus the principles of green building, low-or-zero carbon development, ecological balance and nature stewardship are all applicable. Yet, the sustainability of business districts is also concerned about economic vibrancy and social equity. While the pursuit of wealth generation is important, other considerations such as the quality of life, social inclusion and work-life balance should not be neglected. In this respect, it is unfortunately a common characteristic that while the CBD may be a heaven for money-making, it is often a hell for living.

The other four boxes describe the four principles related to whether they are focusing on the internal/external characteristics of the business districts and whether they aim at achieving today’s or longer-term future benefits.

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Figure 2 S-M-A-R-T Business District Development Strategy



Source: Adapted from Hart (2010)

Smart business districts have to be metropolitan to enhance the diversity in culture, people and business and support social inclusion. They should be able to accommodate multiple kinds of business ventures and allow a maximum degree of cross fertilization of different business activities. As such, multiple and mixed land uses should be the norm. They should be able to support creativity, entrepreneurship and business innovation. Equity and harmony are not only the objectives but also the payoffs under this principle.

Smart business districts should also be appealing to talented people and enterprises. This aspect relates to the physical, economic and social environment. Insofar as the physical environment is concerned, the strategy should aim at minimizing inefficiency and enhancing functionality of the places. Different places have different ways to make them appealing. Most CBDs put emphasis on erecting iconic buildings and flagship projects with a view to capturing international eyeballs. But in general, safe and clean streets, good schools, fast and convenient transport and efficient urban services are probably no less important.

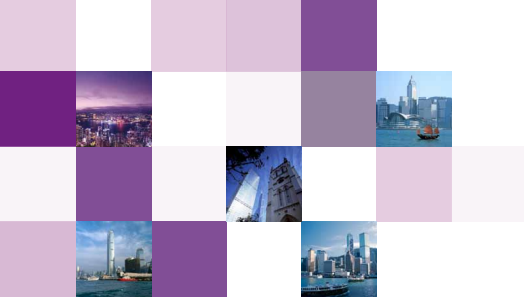
Smart business districts should also be developed to be resilient. CBD in a city is particularly vulnerable to the threats of terrorism and financial instability primarily because it is too economically specialized and spatially concentrated. The strategy of building resilience and robustness of business districts supports polycentricity, promotes multiple instead of a monocentric business centre, and encourages a diversity of business activities.

Technology has altered the ways we interact, consume and produce. Smart business districts have to live up to the latest technological standards and requirements, particularly in relation to connectivity and innovative capacity. Good connectivity in terms of transport and telecommunication is a prerequisite to the success of all business districts. Advancement in mobile communication technology has fundamentally restructured the ways of business is conducted and will have far-reaching repercussions on land use mix, space requirement, business management strategy and corporate structure.

Application

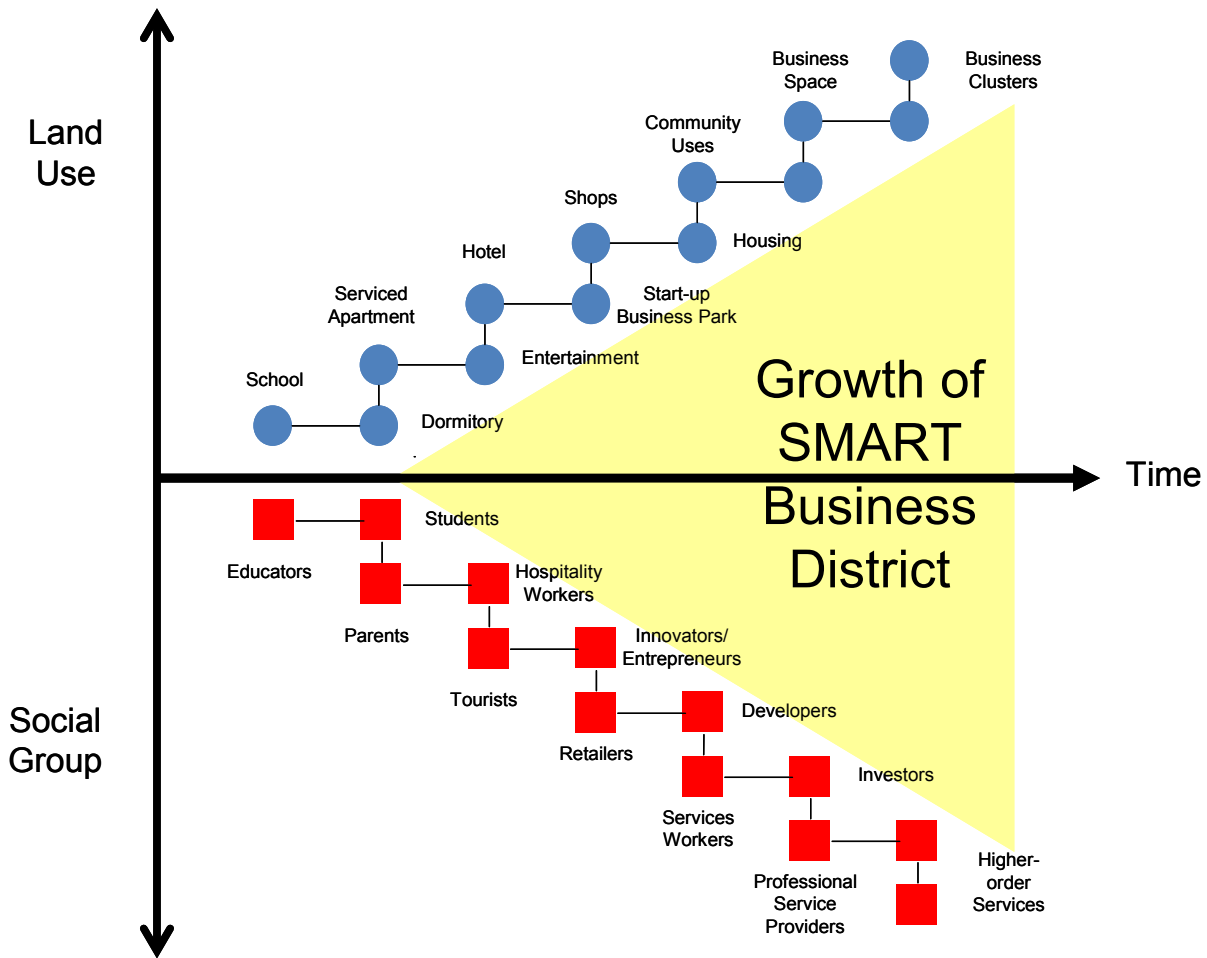
Figure 3 illustrates a theoretical model of how a smart business district may be developed out of the establishment of a school in a locality. The Administration has determined to develop Hong Kong as an international education hub. Education and creative industries are designated as the strategic industries in supporting the future development of Hong Kong. In this regard, internationally esteemed educational institutions such as the Savannah College of Art and Design (SCAD) and the Harrow International School have established their footholds in the territory.

But, have we made the best opportunity of having these institutions as the growth poles in generating more and sustainable benefits to the local community as well as for the whole of Hong Kong?



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Figure 3 Creation of S-M-A-R-T Business District: A Theoretical Model



Our theoretical model shows that a smart business district can grow out of a good international school by attracting talented people other than the educators and students and they will be able to contribute to the development of the locality. For instance, the international students can draw in their parents and other visitors who will generate demand for accommodation and entertainment. If the local conditions permit, this will stimulate development of hotels, serviced apartments and other recreational facilities which will generate employment for hospitality workers (and of course for construction workers during the time of development).

Many success stories of nowadays international business giants originated from students and graduates setting up innovative business ventures out of their creative and pioneering ideas. Thus, if a start-up or incubating business park is provided in the locality, this

may have the effects of encouraging entrepreneurial business activities to stay behind, avoiding brain drains and extending the impact of knowledge transfer from education to industry. Business space cannot stand alone and it requires complementary facilities. This is especially the case insofar the business space for the creative, knowledge and innovative class is concerned. Coffee shops, cafeteria, restaurants, bookstores, libraries, research labs, art galleries, museums, cultural space and so on, in a stimulating physical environment and with good accessibility and connections (including transport and internet) are highly desirable, if not, essential land uses.

All these will generate demand for various sorts of employment as well as business opportunities for retailers, service providers, professionals, developers, investors, and so on in order to satisfy the demand. If the local space is responsive and if the government



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land use planning strategy is supportive, a business district can emerge containing an intricate mix of land uses and development within which the dynamism and sustainability of the growth of the entire district may no longer come from the school alone.

Conclusion

CBD is a useful component of a city. However, it is never the solution to many of the urban problems faced by modern cities today. A city should not be complacent in building a “world-class” CBD so as to accommodate only the highest-order finance, global businesses and multinational commercial services. This is definitely a wrong approach when its development generates lavish benefits only to a tiny segment of the local community, expands at the expense of the other industrial/employment sectors and ignores the local state of affairs. Hong Kong is rapidly becoming not only an aging community, but also a divided society. About 40% of the Hong Kong population are expected to reach age 60 or above in 2050. Income inequality is growing, the situation of which can partly be attributed to the quality, education and training of our workforce. At present, only about 25% of the working population has attained post-secondary education but close to a quarter has reached only primary education or no schooling at all. The conventional CBD-bias development model cannot help to avert these trends. Against this context, we believe that a more balanced and organic development approach, described by our SMART business district concept, is probably more desirable in generating sustainable values to the city, as well as accomplishing a harmonious society.

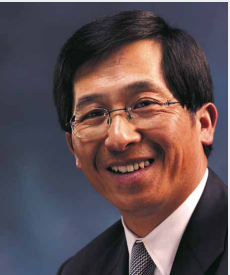
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Speakers and Papers



Mr. Thomas HO On Sing, JP

Chief Executive, Gammon Construction Limited

Mr. Thomas HO, JP, is the Chief Executive of Gammon Construction Limited, a Hong Kong based construction group with operations throughout China and South-East Asia, jointly owned by Jardines and Balfour Beatty. Gammon had a turnover of around US 1.3 Billion and employed over 3,300 professional staff.

Mr. HO possesses over 30 years of experience in the construction industry. He is very active in community services and professional institutes' services and is recognized by the industry as the figurehead in promoting excellence in construction management and quality construction. He is currently the President of the Hong Kong Construction Association (HKCA) and Chairman of Climate Change Business Forum (CCBF). He is also the Chairman of Pneumoconiosis Compensation Fund Board (PCFB) and a member of the Construction Industry Council (CIC) and the Building Contractors Committee. Thomas was named Director of The Year by Hong Kong Institute of Directors (HKIOD) in 2007 and he earned the Outstanding PolyU Alumni 2009 Award.

What will be Next? – A Humble Contractor's View

The speaker is going to talk about the recent construction in Central Districts in Hong Kong and explore what will be next in the future.

The speaker will focus in the projects recently undertaken by his Company like PP Mall, Luk Hoi Tung, Landmark Development, Luxury Residential in Central, Tamar, etc which identify the challenges in relation to Construction and then with a view to looking into the future trend. It is true to say with the limited new Sites, the future redevelopment will pose a lot more challenges than previous and a new mindset should be established. A lot more Greener Construction is being looking for which require the Contractors to slowly transform themselves in order to survive.

Speakers and Papers



Mr. Augustine WONG Ho Ming

Executive Director, Henderson Land Development Company Limited

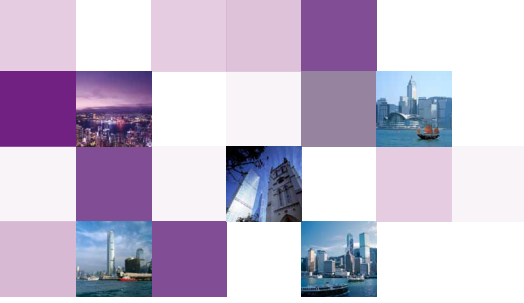
After graduating from the then Hong Kong Polytechnic studying General Practice Surveying, Mr. WONG Ho Ming, Augustine joined the then Collier Petty, Chartered Surveyors, a leading real estate consultancy firm and was handling valuation of properties. He became Executive Director in 1991 and was in charge of the Investment Department and PRC business. He joined Henderson Land Group in November, 1996 and was appointed as the Executive Director of Henderson Investment Limited in 1998 and also Executive Director of Henderson Land Development Company Limited in 2010. His main duties include acquisition of development sites by private negotiation, public auction and public tender, negotiation with the government on conversion of agricultural land to building land and town planning applications.

He is Fellow of The Hong Kong Institute of Surveyors, as well as a registered professional general practice surveyor and holds a Master Degree of Science in E-Commerce for Executives and a Master Degree of Economics.

He is currently Member of The Hong Kong Housing Authority and its Commercial Properties Committee and Subsidized Housing Committee, Member of The Legal Sub-Committee of The Real Estate Developers Association of Hong Kong and Member of the Departmental Advisory Committee of The Building and Real Estate Department of The Hong Kong Polytechnic University. He was Member of the Land and Building Advisory Committee, Member of the Estate Agents Authority since its establishment in 1997 as well as the Chairman of the Licensing & Practice Committee, one of its four standing committees, Part-Time Member of The Central Policy Unit, Member of Estate Agents Appeal Board, Member of the Real Estate Services Training Board of Vocational Training Council and Member of Commission on Strategic Development Committee On Economic Development And Economic Cooperation With The Mainland.

New Business Districts—Why Success or Failure

My topic will cover the analysis of Tsimshatsui East, Kowloon Bay, Quarry Bay, Pacific Place & Wanchai. In general Tsimshatsui East and Kowloon Bay areas are not generally regarded as successful new business districts while Quarry Bay, Pacific Place & Wanchai are accepted as successful examples. What are the differences between these areas? I shall look into the factors such as infrastructures such as railway networks, ownership patterns such as the presence of a single large player, efforts of the government and the overall planning.



Speakers and Papers

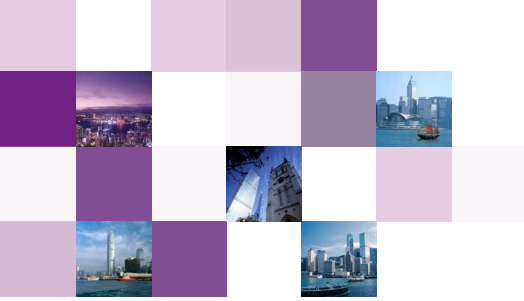
With the growth of economies in Hong Kong and the aspiration for better working environment, the demand for office has been increasing in the long run. We have seen new skyscrapers and modern office towers coming up in different districts. Indeed, these new office towers are in different districts because there are limitations in providing sufficient land for new developments in the traditional business districts only. In the old days, reclamation was the major, if not the only, way of getting new land for expansion in the Central. The IFC complex, Jardine House, Exchange Square etc. are all on reclamation land. With the Protection of Harbour Ordinance, it is almost sure that we can forget about reclamation. Reclamation is only allowed if the reclamation can fulfill the overriding public interest test. Another way having new development in Central is redevelopment of underdeveloped aged buildings. However this is also difficult now. For example, the Central Market building will no longer be available for redevelopment. It will be refurbished to provide space for the working population in the Central. The development intensity of the Government Hill has been reduced substantially because of objections. Therefore, new supply of office has been from areas outside Central and the so called "Decentralization" has been happening for more than 20 years. Today, we have major office nodes in Admiralty, Wanchai, Causeway Bay, North Point and Quarry Bay on the Island side; Tsimshatsui East, Hunghom, Mongkok West, Kowloon Bay and Kwun Tong on the Kowloon side. Though there are no objective yardsticks, some of the areas are generally higher regarded by the general public than others.

Without carrying out any scientific research, my own view is that Admiralty, Quarry Bay and Causeway Bay are better than the remaining. One may say that it is so obvious because these 3 areas are all in the HK Island, with good infrastructure such as MTR and more close to Central. Certainly, transportation infrastructure is important. However if we look at other areas, they are all served by MTR and not far away from Central since Hong Kong is not a large place anyway. I think these 3 areas have one common important factor which makes them outperform other areas. It is the ownership pattern. There is a single major owner of office towers in these areas:

Admiralty	:	Swire Group
Quarry Bay	:	Swire Group
Causeway Bay	:	Hysan Group

Admiralty may be a good example to support such argument. There is Pacific Place which is controlled by the Swire Group on the southern side of Queensway and also other office developments such as Admiralty Centre, Queensway Centre, Lippo Centre, Far East Finance Centre on the northern side of Queensway. The general impression to the public is that Pacific Place is better than its neighbours on the opposite side. Apart from ownership pattern, all the other factors are very similar. Thus it serves as a good example for analysis. In terms of MTR connection, the northern side of Queensway with MTR station directly underneath may arguably even better than Pacific Place. Buildings in the Admiralty area are mainly under strata ownership while Pacific Place is under the control of a single player. Pacific Place is well planned with 5-stars hotels, office towers and a large mall. The promotional activities are well co-organized under a single organization. Tenants mix is also carefully planned. All these are only possible in a comprehensive development under single ownership. As for the Admiralty area on the northern side of Queensway, all of them are on another extreme, i.e. under strata title ownership. There is no coordination in the tenants mix in the retail podia of different developments. For large tenants, it is usually necessary to lease several floors. To deal with a single landlord is straight forward. On the contrast, it is impossible to talk with several landlords for same terms. It is not acceptable that the lease terms of different floors are different for the same tenant who is using all the floors together.

Tsimshatsui East is another example illustrating the importance of single major player. Tsimshatsui East is larger in area and was comprehensively planned by the Government physically. There are 5 star hotels, quality office towers, shopping malls, Government buildings and even residential towers. In terms of number of buildings and total floor area, Tsimshatsui East should have high chance to be a successful quality new business district. Quite a number of major developers are there owning whole buildings. But after almost 30 years since the beginning of the development of the area, Tsimshatsui East is generally not regarded



Speakers and Papers

as a successful business district. Apart from the poor transportation linkage in the past, ownership pattern is another major factor. Though quite a number of buildings are under single ownership, there are still many buildings under strata-title ownership. More importantly, there is no single major player over there and no single mega development which is large enough itself to act as magnet for the whole area. The new extension of MTR line to the area may be too late to help.

As for the town planning and the land administration on the government side, it is difficult to be very specific on the details of the proposed development. Except for very large scale development, master layout plan is not required to be submitted for prior approval. Even if master layout plan is required, it covers only the physical layouts, the landscape proposals and not the software such as tenant mix, marketing activities and property management. Turning to the land administration system, the famous saying is that we should leave the details of the future development to the market. Usually, there is no requirement stipulated in the land grant for the future management of the completed development. In fact, it is impossible to spell out the tenant mix requirements in the land grant. As a matter of fact, private sector does not like rigid control by the government. The private sector should be in a better position to decide on how to do business. Moreover, land grant document is for the whole term of the lease, i.e. 50 years. It is beyond imagination that such document can be drafted to take into account the future development 50 years down the line. Thus it is true that we should leave with the market to deal with the details of development, in particular the software side.

It is true that the market will find out the best way to use the land. However it is necessary to understand that it is the best way for that particular plot of land governed by that particular land grant document and not the whole area at large covering other plots. For example, cinema may be useful to attract people to the area but the rental is much less than retail shops. Unless the development is large enough to accommodate cinema in the tenant mix, otherwise it is unlikely that the developer will have cinema in the development simply because the return of cinema itself is not

justified. In order to maximize the return, buildings will just have the users which will give the highest return on their own, i.e. retail and office. If there is a major player in the area, then a well-balanced tenant mix will come out. Knowing that cinema or theme restaurant can attract people and enhance the image of the area, the developer will have these in the area since the rentals from other portions in the same area will be increased. A major player usually can afford to take the overall return into picture in making business decisions. On the other hand, if each developer owns only a small portion of land in the area, everyone will probably want to take a free ride. They like to see such attractions of low rentals in the area but provided by other people. This behavior may be taken as selfish. However, it is the ironic fact that exactly how the free market will operate. Each person is only interested in its own economic benefits.

Moreover, with a single large player, it is more easy to have comprehensive planning for the whole area. Comprehensive planning is not just for the physicals but also the software, i.e. tenant mix, property management etc. In order for a new business district to be successful, both physical planning, quality of building, management and marketing are equally important. Tenant mix is also very important to attract quality office tenants. On the tenants' side, for large organizations to move away from the conventional business districts, apart from the amount of savings in rental expenditures, the willingness of the people in the organizations to go to new areas is an important factor. In order for the administration department to convince the operation department staff to agree to the plan to go to decentralized business district, it is necessary to have the wish lists from the staff. The more the items on the wish list can be offered by the landlord, the higher the chance that this organization will move. Obviously, it is more easy for a major player to do so. For example, if a fitness centre is required, it is only likely that it can be provided in large scale development. Even worse, for a new business area with business prospect still unclear, fitness centre operator may be reluctant to open a new centre. In such case, assistance from the landlord may be necessary and only a large player is more willing to offer financial incentive to get this done. Again, for a major player, the return of the whole area is being considered.



Speakers and Papers

Turning to the marketing side, it is so obvious that if there is a single person to co-ordinate events in the area and marketing of the whole area, the more easy for the area to be well known by the general public. Taking Tsimshatsui East as an example, in the absence of a single organization to promote the area, there is no orchestrated efforts in marketing of the area. Even worse, some users may be able to pay high rentals but may adversely affect the image of the general area. Since everyone is only interested in its own interest, such users are still welcome by individual owners. As a result, the image or quality of the whole area is scarified. The situation will be out of control if strata title ownership is common in the area. The higher the fragmentation of ownership, the worse will be the situation.

Tenant mix is organic in nature. Organic in the sense that it is ever changing. Something which is so attractive to people will be out fashioned. In such case, landlords need to respond to the market movement and have the development renovated and with tenants replaced. Only with high concentration of ownership, such change can be expected. Worldwide House in the Central is an example illustrating the problem of fragmentation of ownership. Neither renovation nor major change in tenant mix has been observed for many years. On the contrast, there have been endless changes in the buildings in the Hong Kong Land's portfolio.

Although a major player is important for development of a new business district, it is not optimistic that this will be done. If the government adopts such approach, a very large piece of land will be required to be put up for sale. Since the amount of capital investment is huge, only a few players can afford to participate in the sale, be it open tender or public auction. Government will then easily be criticized as favoring a few large developers and the degree of competition is not high enough. If a large piece of land is divided into several plots and each one is put up for sale separately, the different plots may go to different owners and comprehensive development may not be possible. However, by doing so, there will be less criticisms against the government. On implementation side, a magnet or large key development in new business district will definitely help to make it a success.



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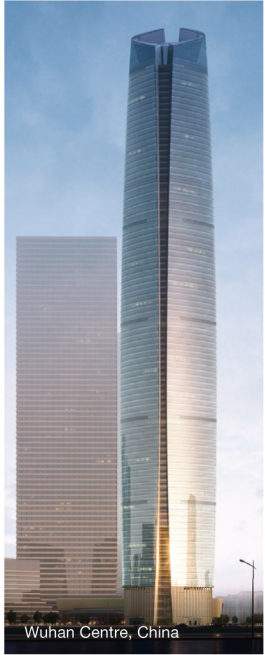
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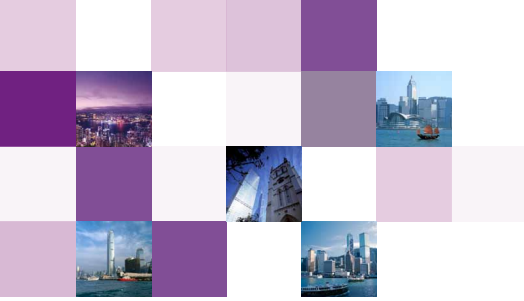
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Introduction of HKIS

The history of the surveying profession in Hong Kong goes back to 1843 with the arrival of the first Surveyor General from the United Kingdom. The first Government Land Auction then took place on 22 January 1844. Until the 1950s, most surveyors in Hong Kong were recruited from overseas, these surveyors being qualified chartered surveyors. Local educational institutes started diploma courses in surveying in the 1960s, and now there are three universities in Hong Kong offering degree courses in surveying.

The Hong Kong Institute of Surveyors (HKIS) has strong links with the Royal Institution of Chartered Surveyors (RICS). A Hong Kong Branch of the RICS (the Branch) has been in existence since 1929 (then known as The Surveyors Institution Hong Kong Branch). In 1978, the Branch set up a working group to examine the possibility of establishing a local institute of surveyors and the conclusion was positive. The Branch was only dissolved on 31 August 1997.

The HKIS was founded in 1984 and registered under the Societies Ordinance. It had 85 founder members, the number of members has now grown to around 5,259 as at 12 August 2011 – Members and Fellows - distinguished by the initials MHKIS and FHKIS. The HKIS is now incorporated by ordinance, with the passing of the Hong Kong Institute of Surveyors Ordinance in January 1990. In July 1991, there was also passed the Surveyors Registration Ordinance to set up a Registration Board to administer the registration of surveyors.

To qualify as a corporate member of the HKIS, surveyors must possess a recognised academic degree or similar qualification, followed by a minimum 2 years supervised professional experience within strict guidelines, followed by an Assessment of Professional Competence. HKIS members are also bound by a comprehensive Rules of Conduct.

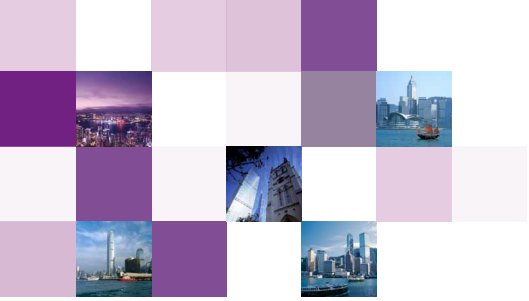
The title of “Surveyor” embraces a number of disciplines involved with land and its development with buildings. Usually the first to be involved is the **Land Surveyor** who measures and sets out the site. Next follows the **Quantity**

Surveyor who is concerned with the building contractual arrangements and cost control. The **General Practice**

Surveyor is involved in the valuation, sale, leasing and management of the finished product. **Planning and Development Surveyor** advises on the possible change of zoning likely environmental impacts and make suggestion on preliminary development contents, while the **Building Surveyor** is involved in the construction and maintenance of the fabric of the building. The **Property and Facility Management Surveyor** plans, organises and manages accommodation services, supplies and other facilities relating to building occupancy.

The HKIS has reciprocal agreements with the following overseas surveying institutes:

- The Royal Institution of Chartered Surveyors
- The Australian Property Institute
- The New Zealand Property Institute
- The Singapore Institute of Surveyors and Valuers
- China Institute of Real Estate Appraisers
- China Engineering Cost Association
- China Association of Engineering Consultants
- The Australian Institute of Quantity Surveyors
- New Zealand Institute of Quantity Surveyors
- Building Surveyors Institute of Japan
- Canadian Institute of Quantity Surveyors
- Chartered Institution of Civil Engineering Surveyors



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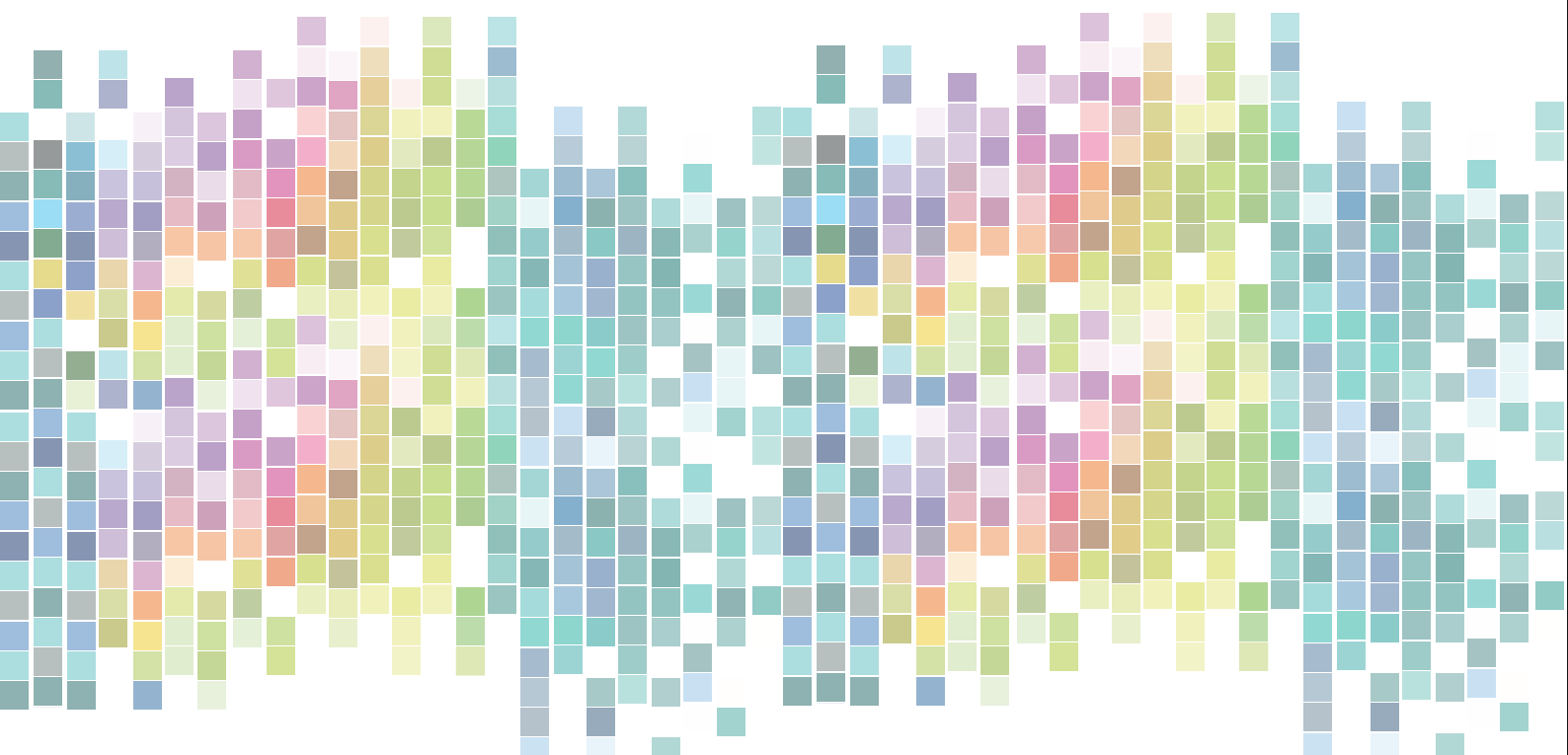
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