

A short introduction to Hong Kong

Extreme landscapes



Overview

Baseline

- Landscape
- Population
- Reclamation
- Lifestyle footprint
- New town and MTR
- MTR R+P
- Economy, Business, Quality of Life

2030+ Challenges

- Key spatial diagram
- Challenges

HK Landscape

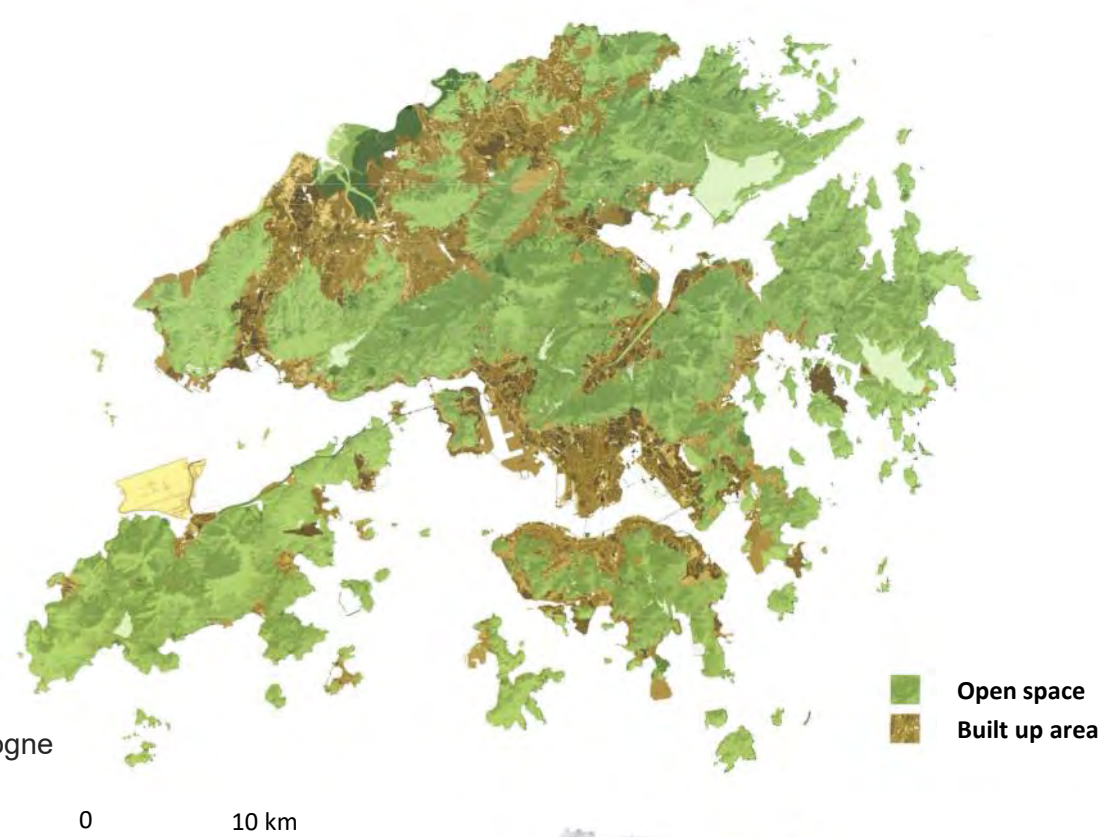
25%

Hong Kong wide land is built up about 275 km² / 1,105.7 km²

<i>Arable land</i>	2.95%	32.62 km ²
<i>Permanent crops</i>	0.95%	10.50 km ²
<i>Other</i>	96.10% (2012 est.) (CIA)	

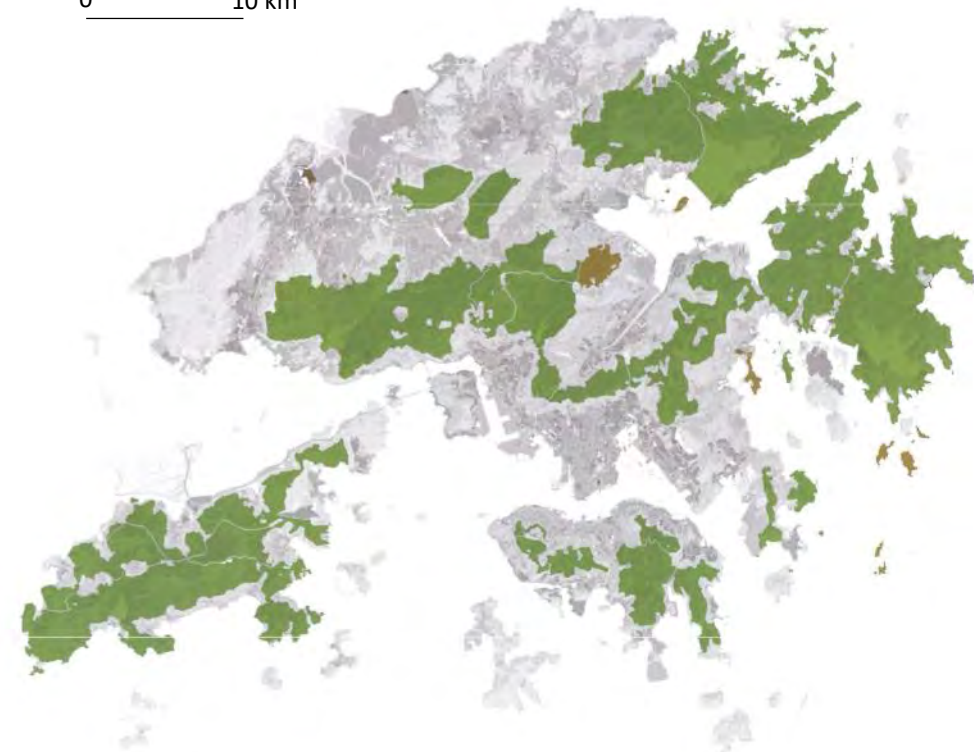
HK Density:	26,850/km²
Paris Arrondissements:	25,650/km² excluding Bois de Vincennes & Bois de Boulogne

humid subtropical climate



40%

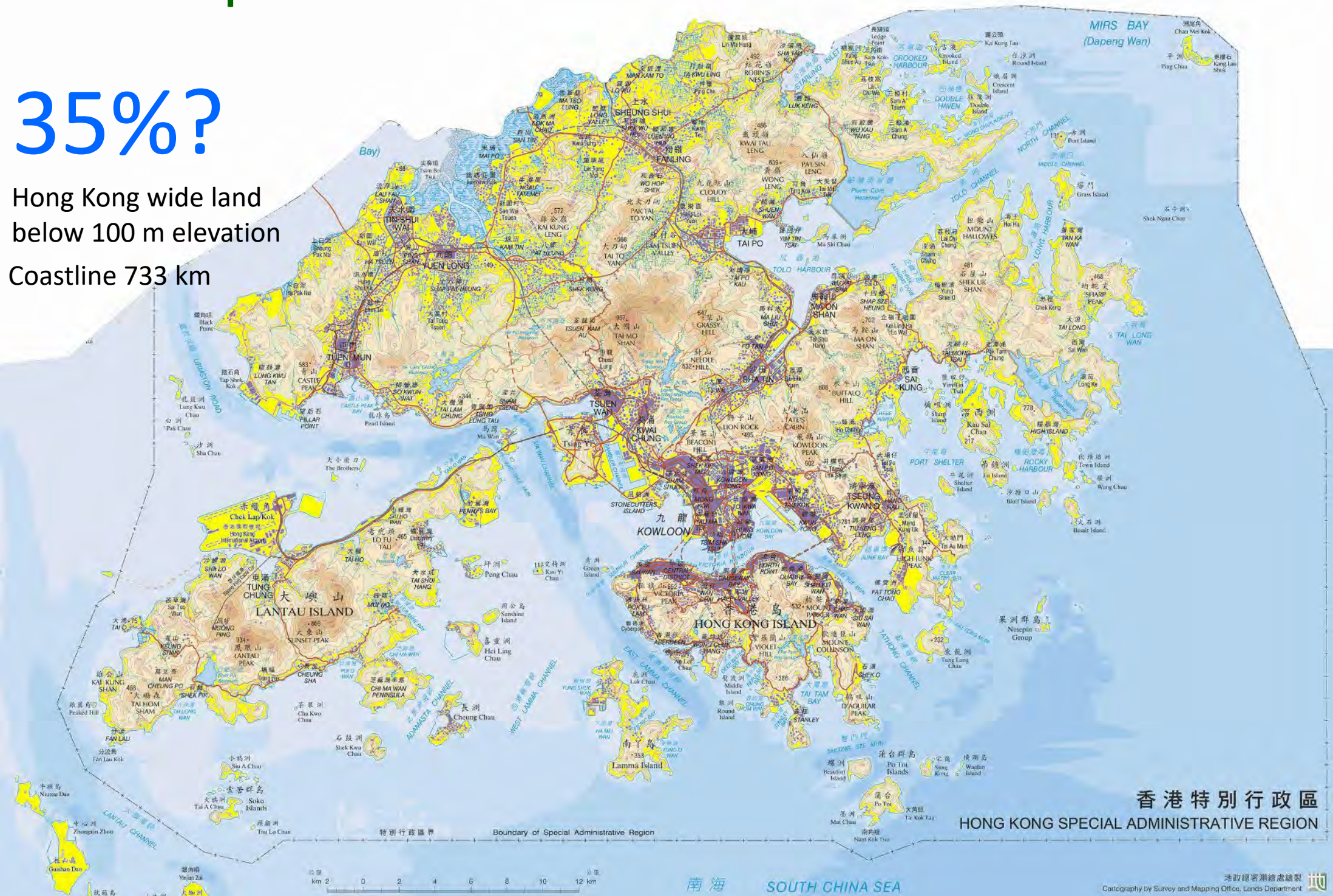
Hong Kong's park system
40% of the city is protected by law as officially designated country parks and special areas about 443 km² / 1,105.7 km²



HK Landscape

35%?

Hong Kong wide land
below 100 m elevation
Coastline 733 km



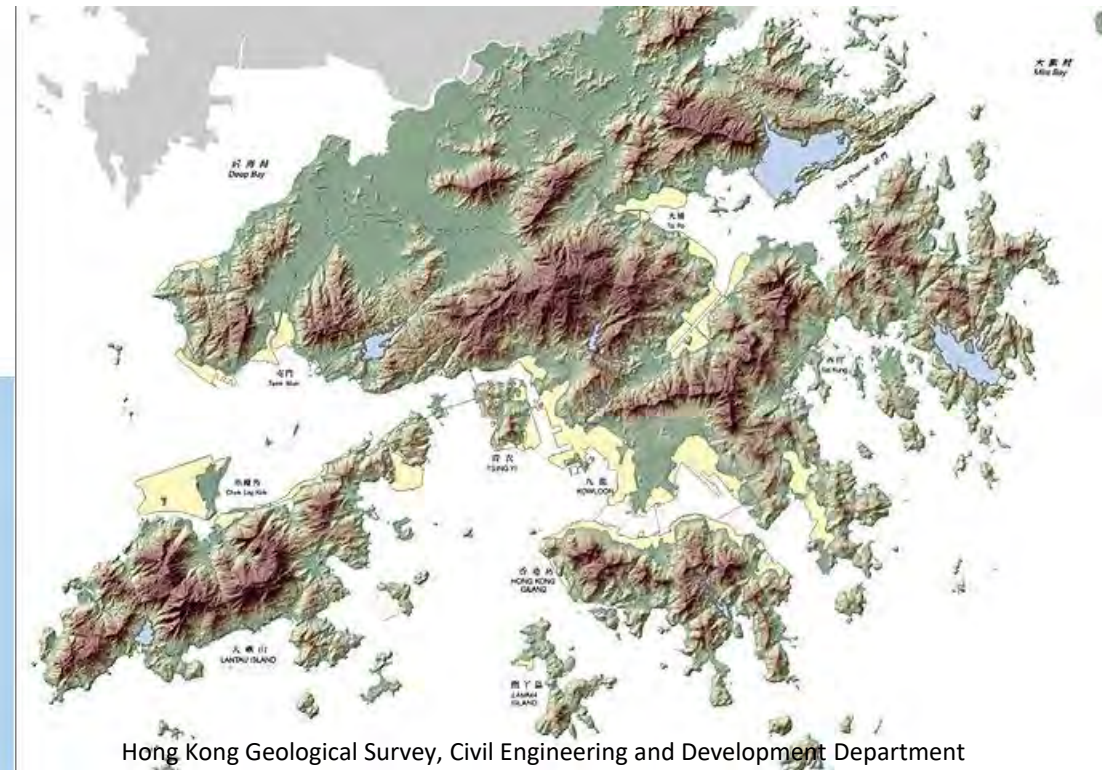
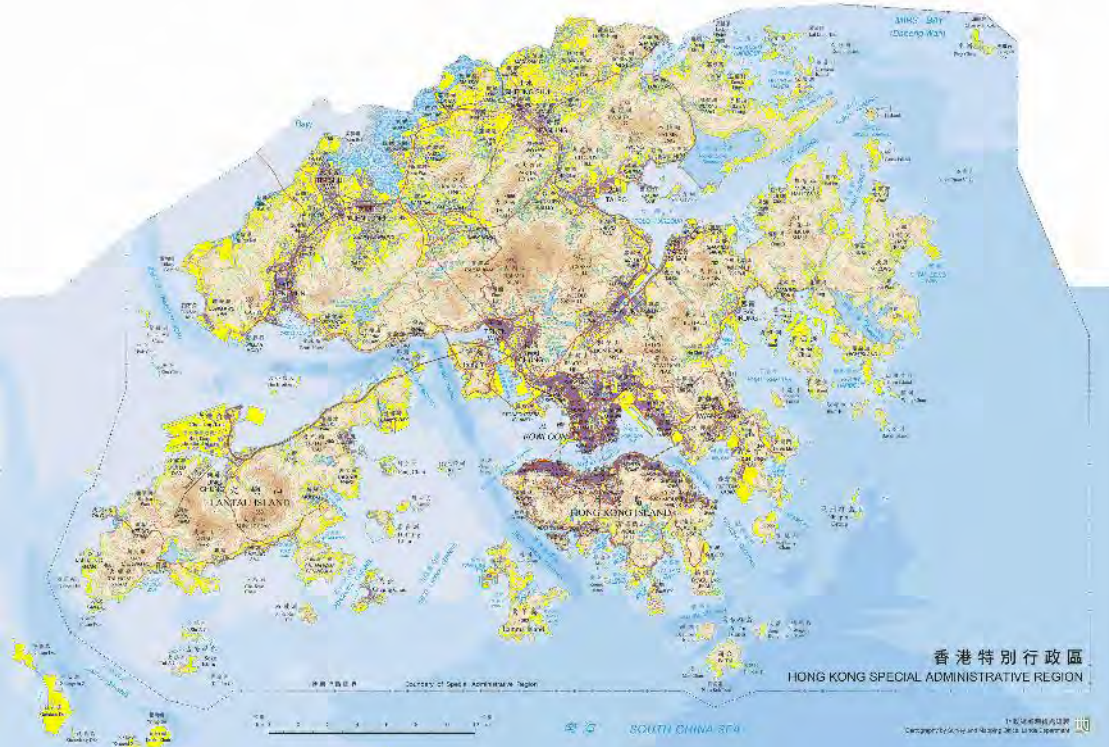
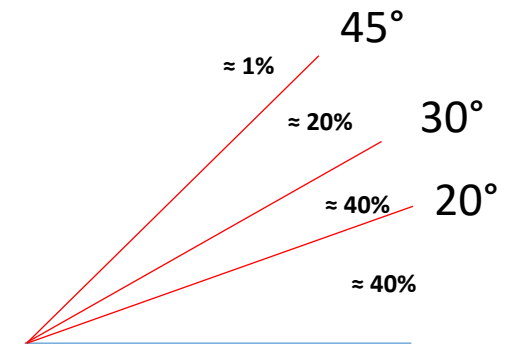
香港特別行政區
HONG KONG SPECIAL ADMINISTRATIVE REGION

HK Landscape

shortage of easily developed level land in Hong Kong

About 650 km², or 60%, is natural terrain

- About 40% of natural hillsides slope at less than 20 degree
- About 40% of natural hillsides slope between 20 degree and 30 degree
- About 20% of natural hillsides slope between 30 degree and 45 degree, with less than 1% sloping at more than 45 degree



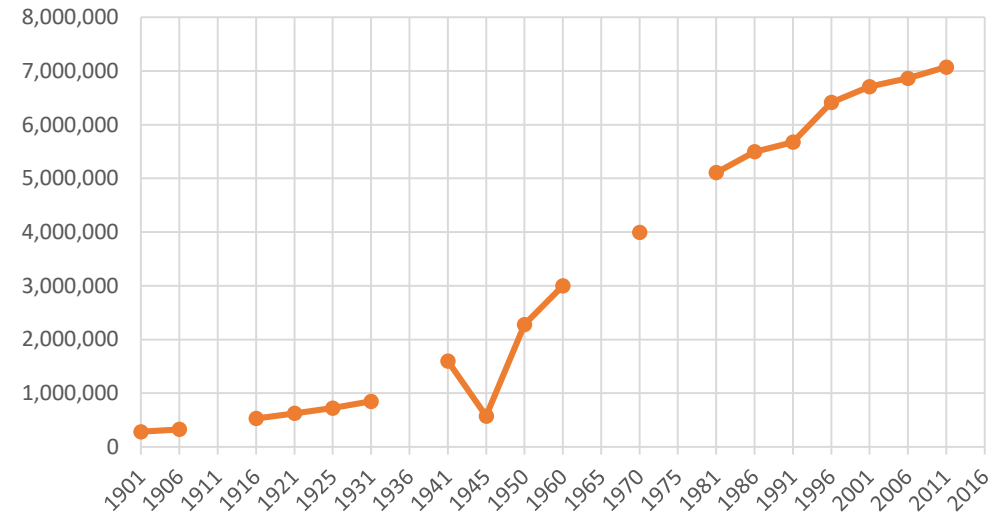
A Digital Elevation Model (DEM) of Hong Kong emphasising the structural control of topography

HK Landscape

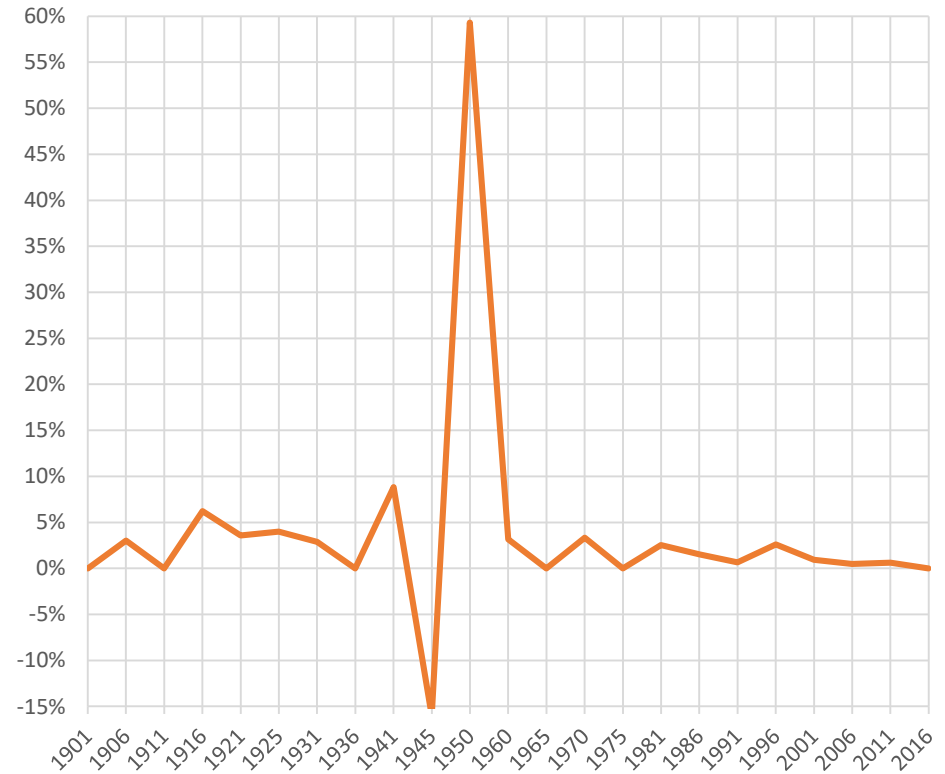


HK population

Hong Kong population

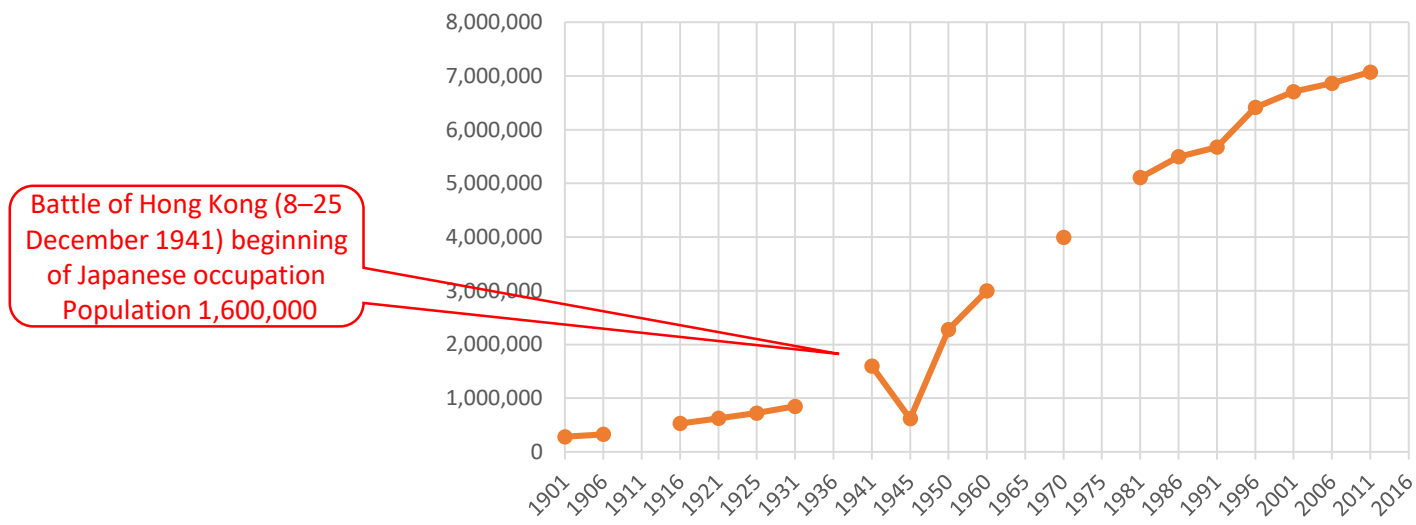


Hong Kong population annualised rate of increase

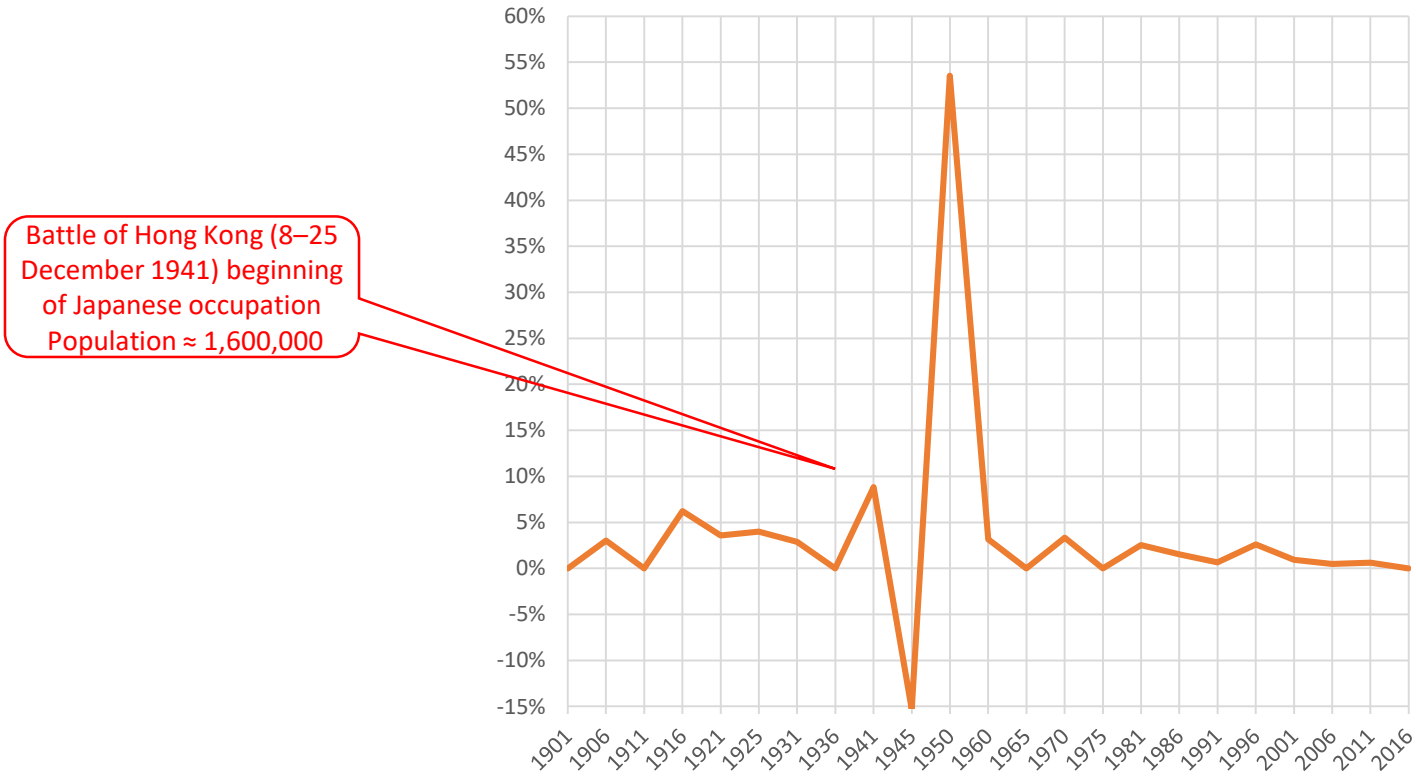


HK population

Hong Kong population

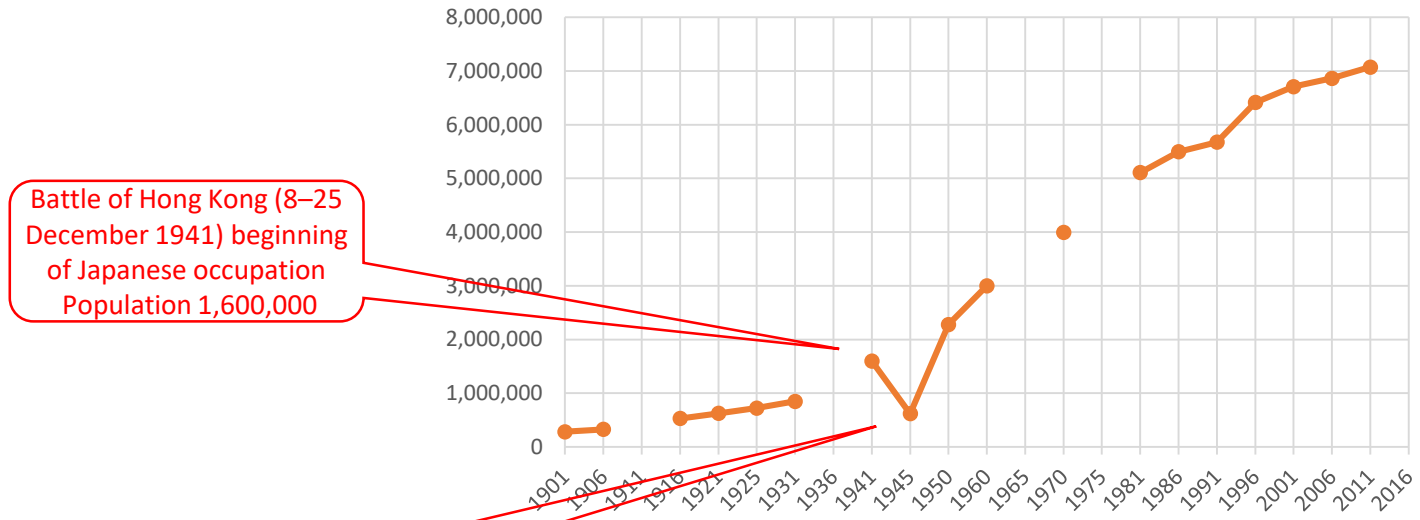


Hong Kong population annualised rate of change



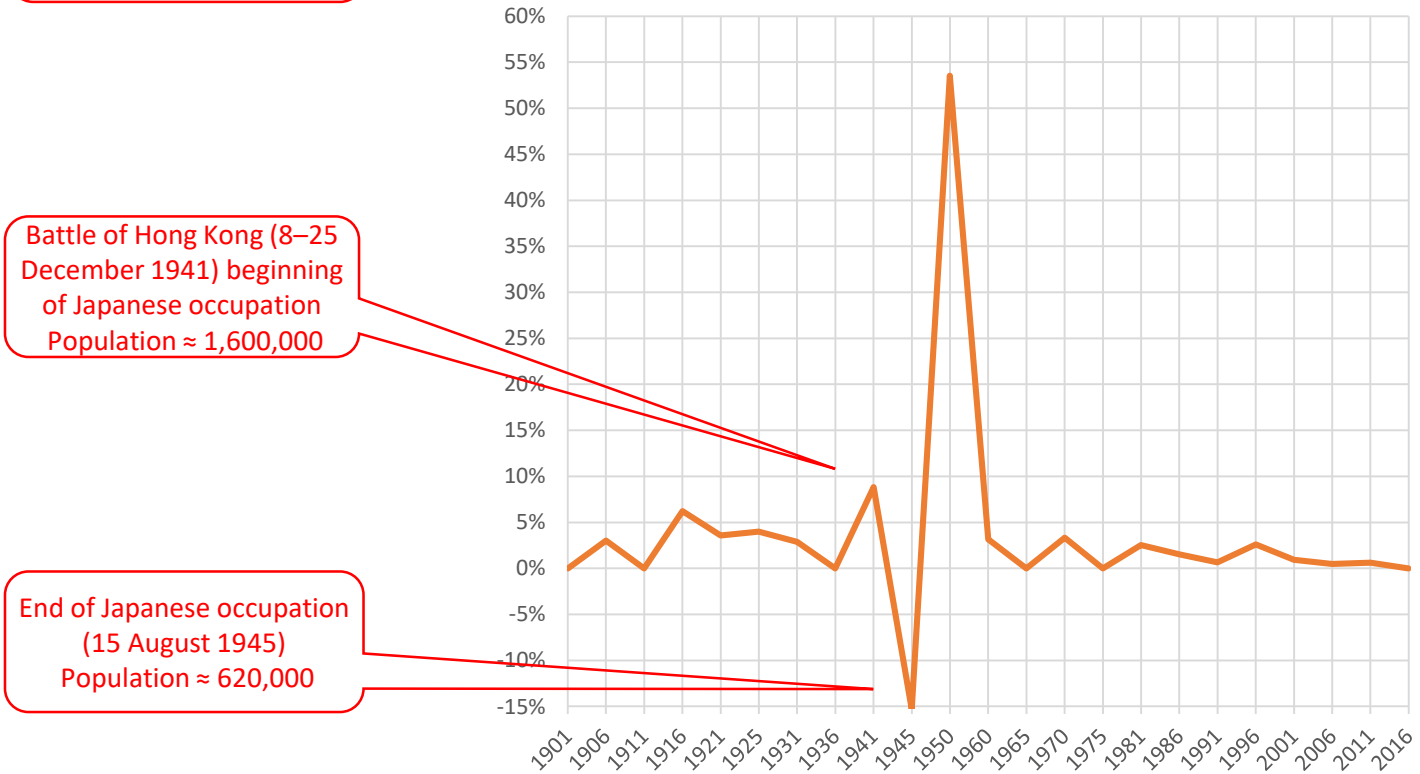
HK population

Hong Kong population



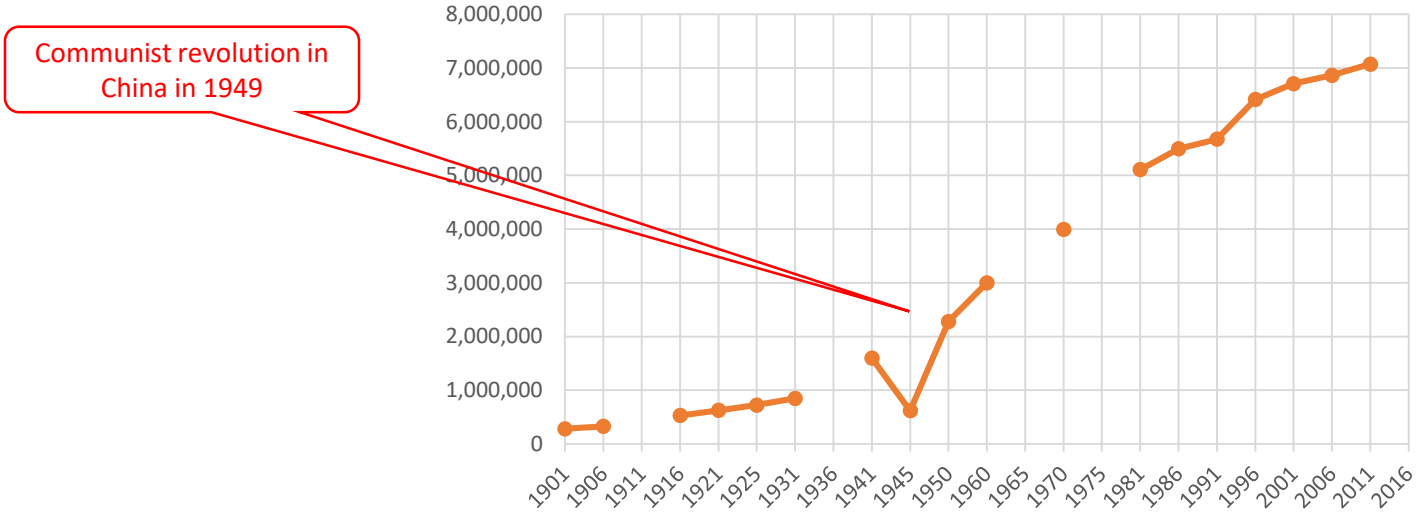
End of Japanese occupation
(15 August 1945)
Population ≈ 620,000

Hong Kong population annualised rate of change

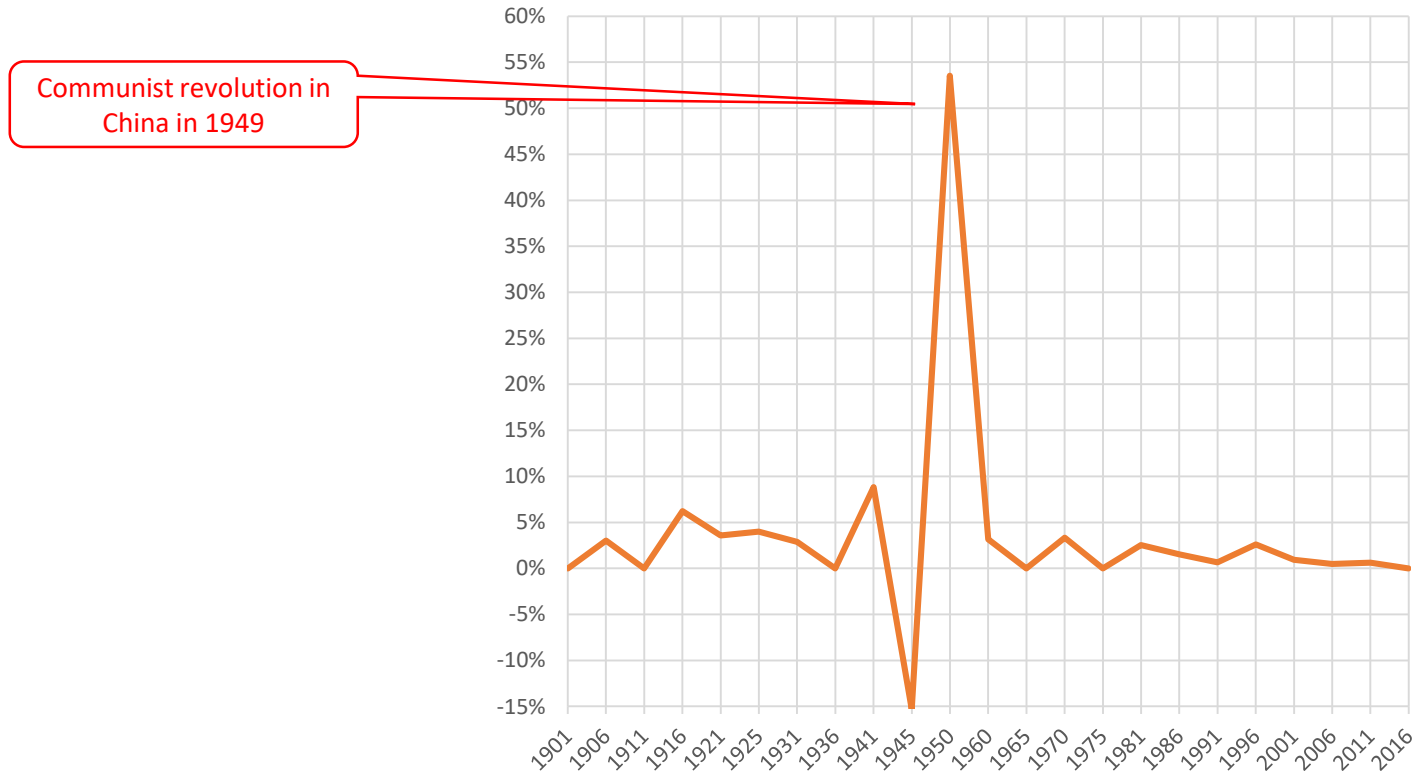


HK population

Hong Kong population



Hong Kong population annualised rate of change

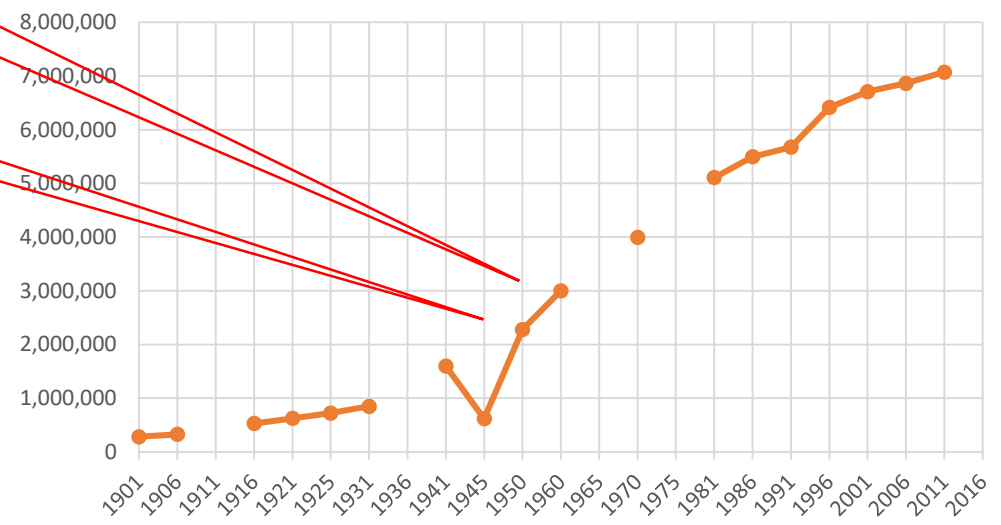


HK population

Great Leap Forward 1958-61

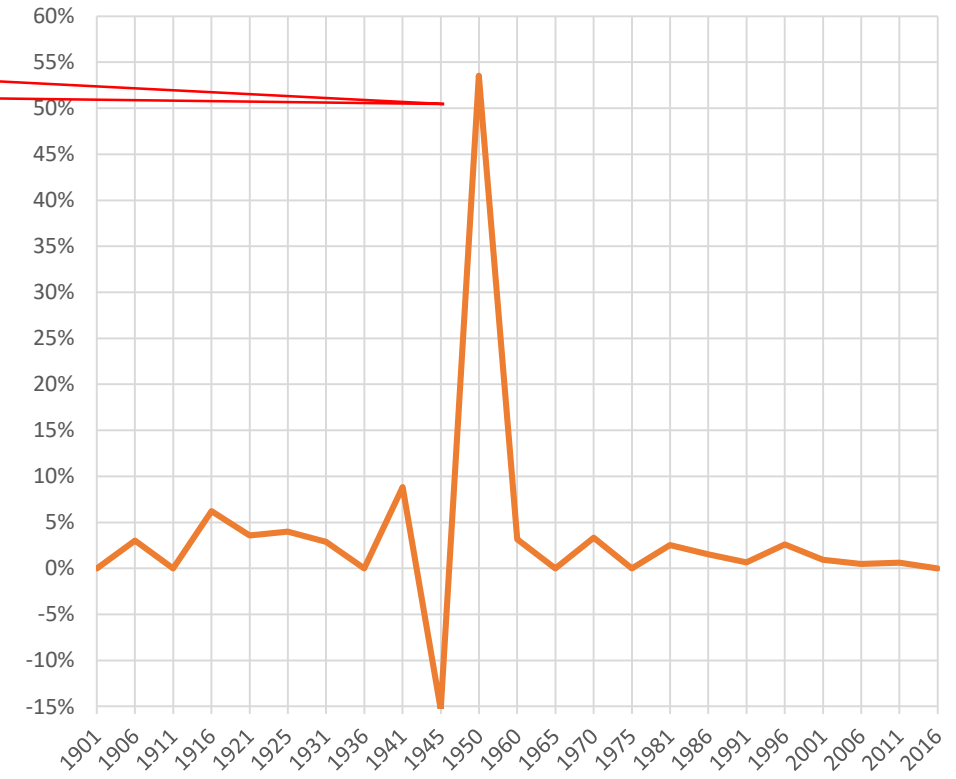
Communist revolution in China in 1949

Hong Kong population



Hong Kong population annualised rate of change

Communist revolution in China in 1949



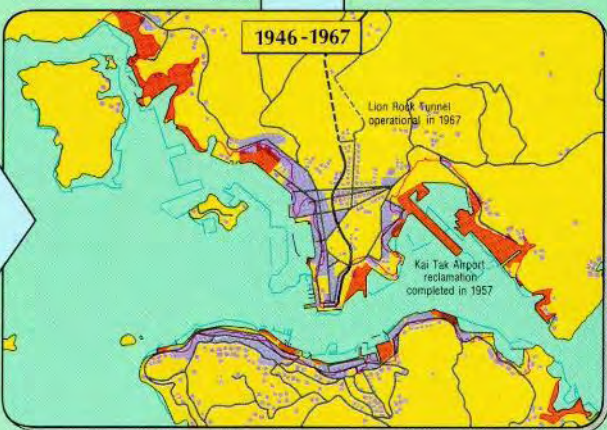
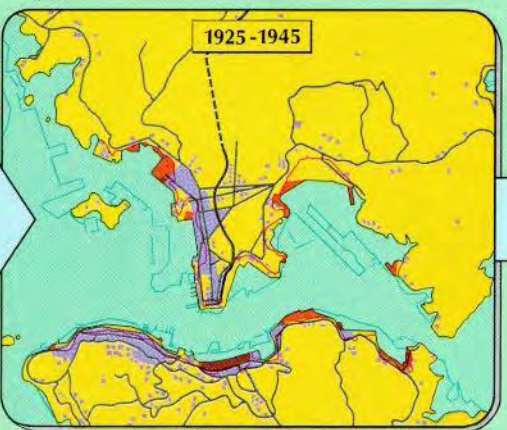
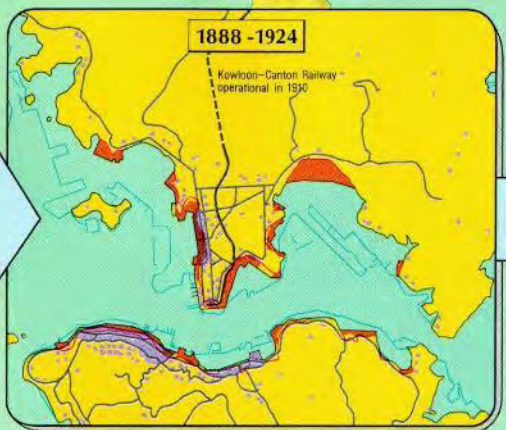
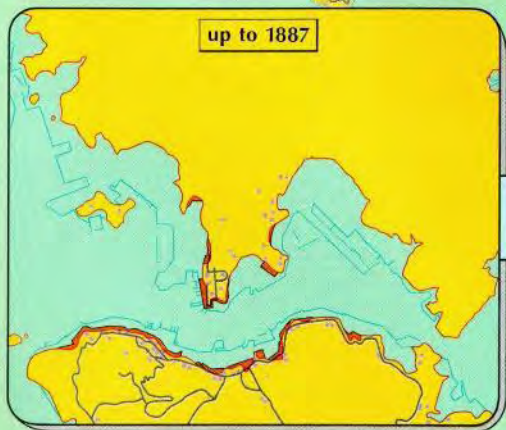
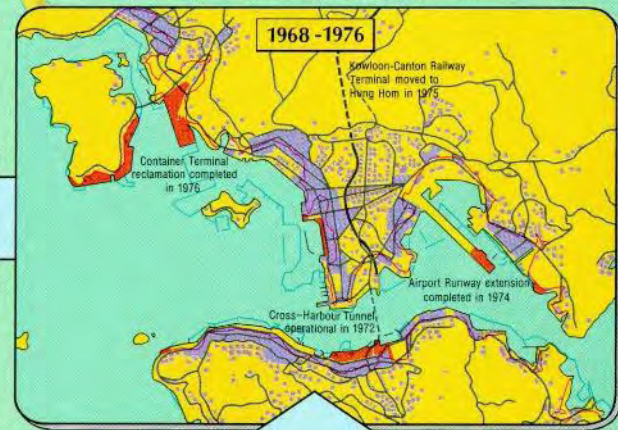
RECLAMATION & DEVELOPMENT IN HONG KONG



- Coastline at Nov. 1996
- Proposed Coastline
- Coastline before 1887
- Coastline & Reclamation between above dates
- Built-up Area
- Main Road
- Tunnel
- Railway
- Light Railway
- Proposed Road
- Proposed Railway



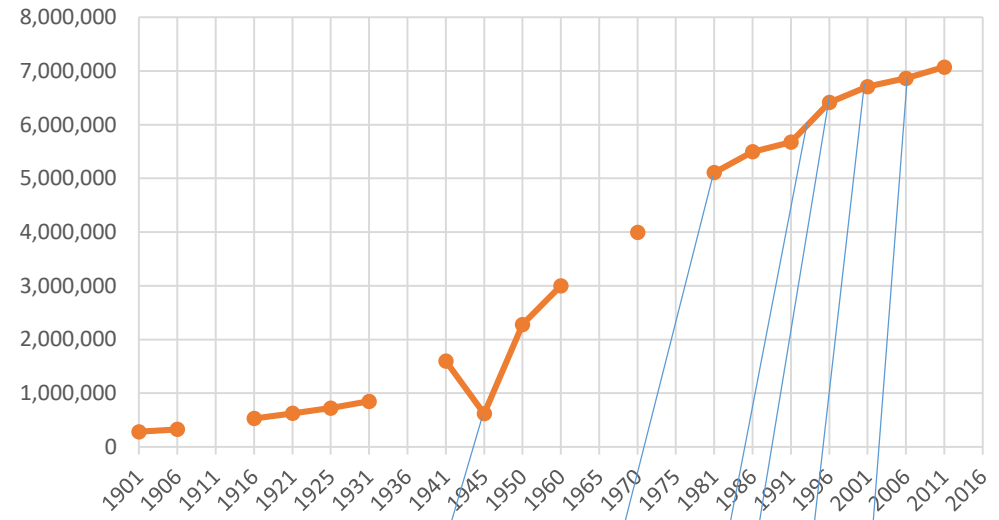
Maps and graphs shown are for general reference only



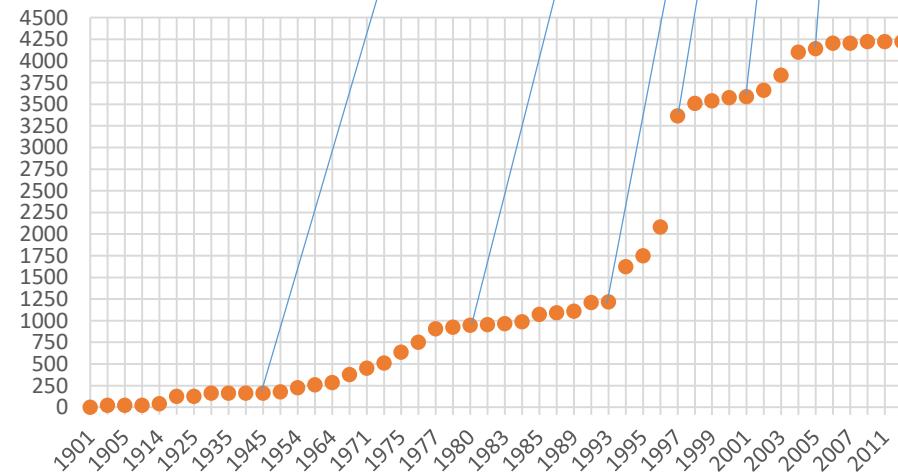
Scale 1 : 200 000
km 0 2 4 6 km

HK Population & Land reclamation

Hong Kong population



Cumulative reclamation (ha)



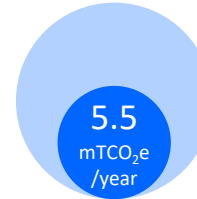
Lifestyle footprint

US vs HK

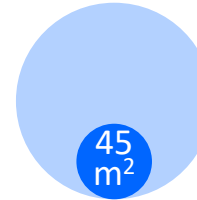
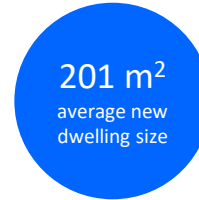
HongKongers & Americans have about the same levels of wealth and prosperity



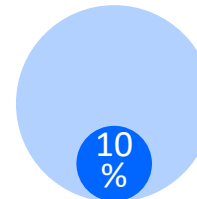
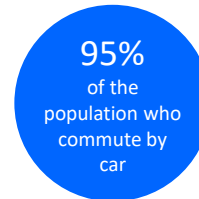
HongKonger emits 68% less carbon emissions than an American



lives in a home that is 78% smaller than an American's



Commute mainly by public transport



and lives longer



Land use efficiency?

Land use effectiveness?

Lifestyle footprint

US vs HK

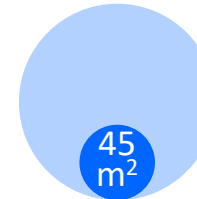
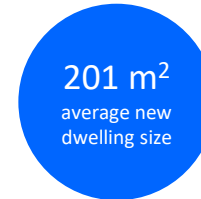
HongKongers & Americans have about the same levels of wealth and prosperity



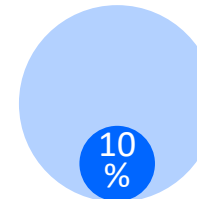
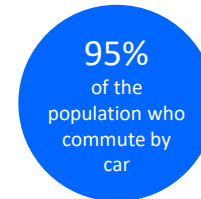
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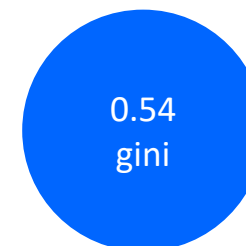
commute mainly by public transport



and lives longer



and have a higher level of inequality

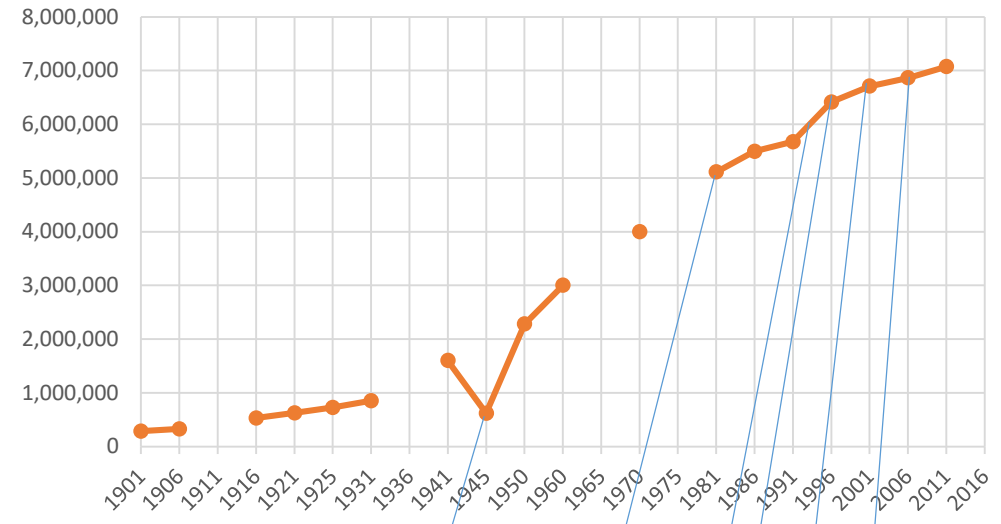


Land use efficiency?

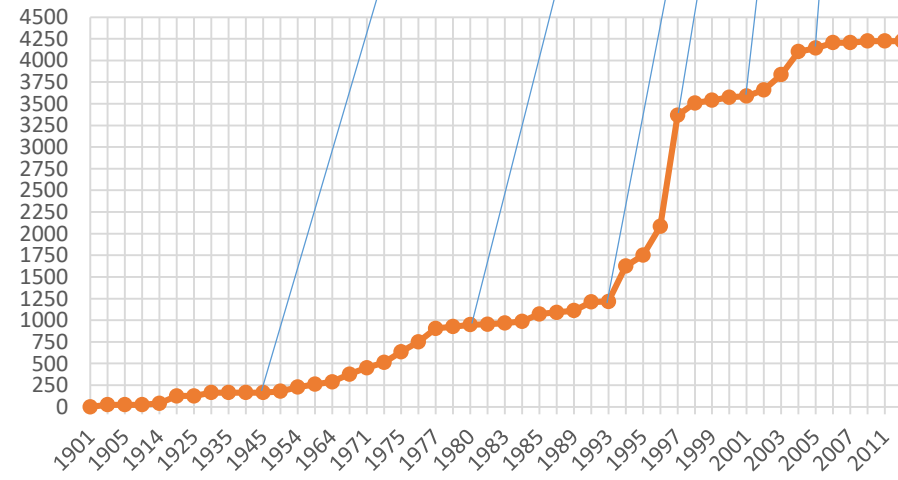
Land use effectiveness?

Lifestyle footprint US vs HK

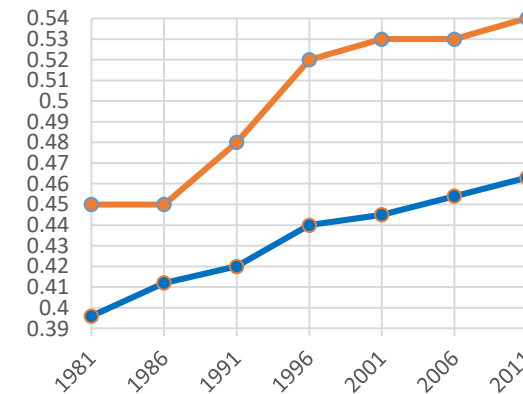
Hong Kong population



Cumulative reclamation (ha)

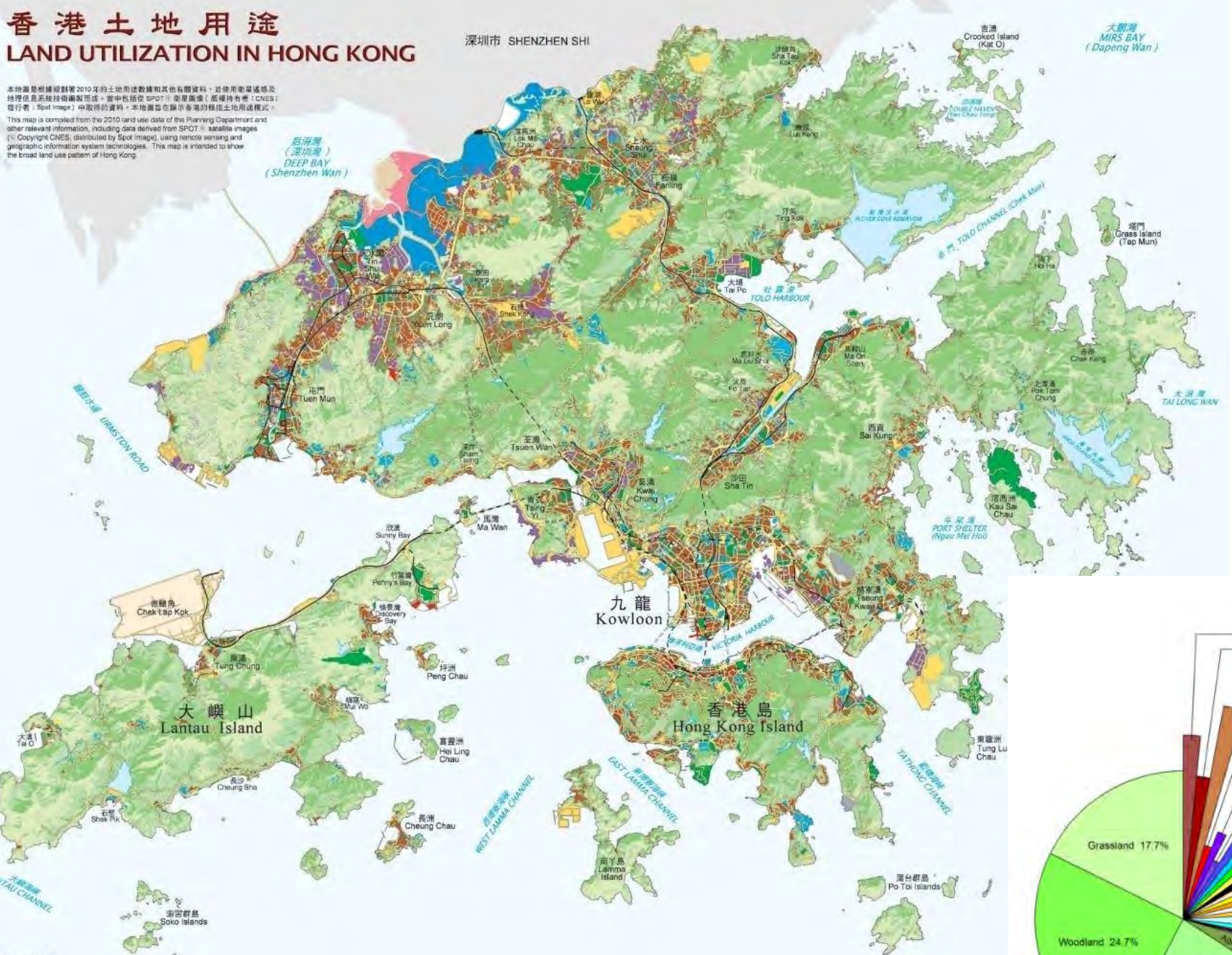


US & HK Gini inequality

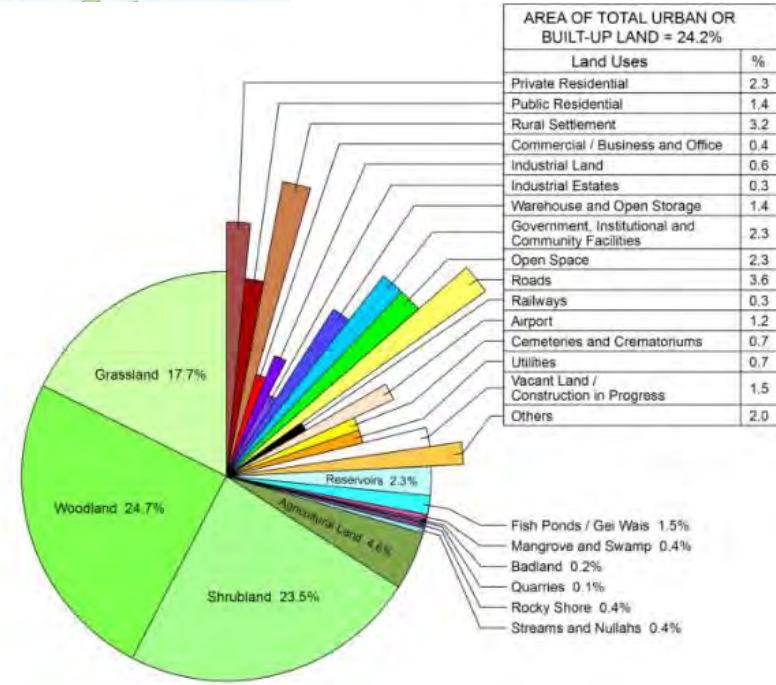


香港土地用途 LAND UTILIZATION IN HONG KONG

本地圖是根據規劃署2010年的土地用途數據和其他有關資料，並使用衛星遙感及地理信息系統技術編製而成。當中包括從SPOT-5衛星圖像（版權持有者：CNES；發行者：Spot Image）中取得的資料。本地圖旨在顯示香港的概況土地用途模式。
This map is compiled from the 2010 land use data of the Planning Department and other relevant information, including data derived from SPOT-5 satellite images (© Copyright CNES; distributed by Spot Image), using remote sensing and geographic information system technologies. This map is intended to show the broad land use pattern of Hong Kong.



residential 6.9%
roads 3.6%
open space 2.3%



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規劃署
PLANNING
DEPARTMENT

2012 Land Utilization Map The Land Utilization Map of Hong Kong
Hong Kong Planning Department

Total land area = 1,110 km² (including about 4 km² of Mangrove and Swamp below the High Water Mark)
Vegetated area cover about 78.7% of the land area of Hong Kong
Country Parks, Special Areas and Mai Po Ramsar Site cover about 41.8% of the land area of Hong Kong

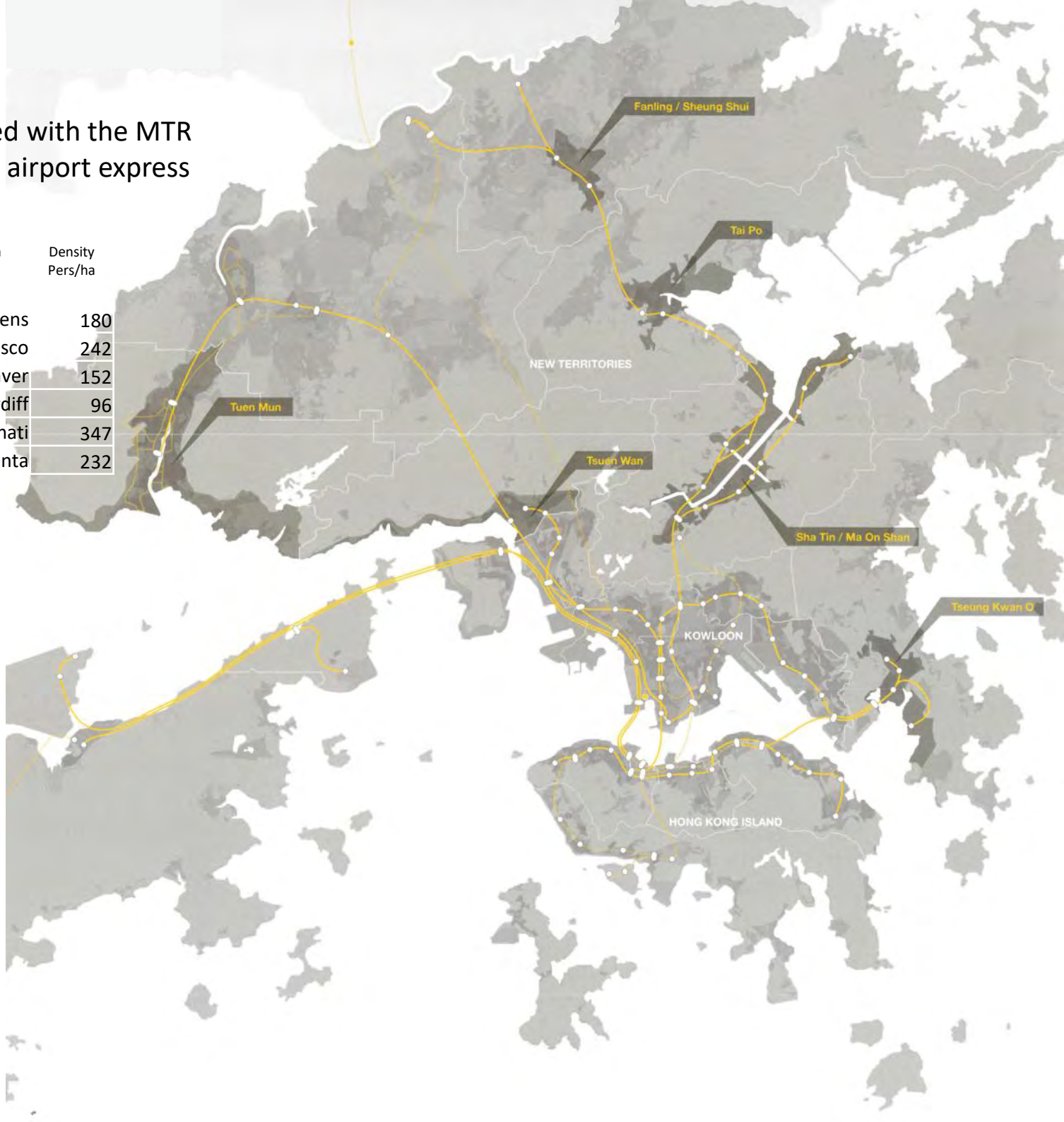
New towns



New towns and MTR

- Every new town ended to be connected with the MTR
- MTR operates 9 rapid transit lines, the airport express and the light rail systems

New Town	Development Area	Projected population 2015	Urban area Equivalent to	Density Pers/ha
Sha Tin / Ma On Shan	3,951	711,100	Athens	180
Tsuen Wan	3,285	796,000	San Francisco	242
Tuen Mun	3,259	496,000	Denver	152
Tai Po	2,897	278,100	Cardiff	96
Fanling / Sheung Shui	768	266,300	Cincinnati	347
Tseug Kwan O	1,738	402,800	Atlanta	232



MTR - TOD

Opened in 1975, the MTS now includes:

- 218.2 km (135.6 mi) of rail with
- 157 stations, including 89 railway stations
- 68 light rail stops



2016

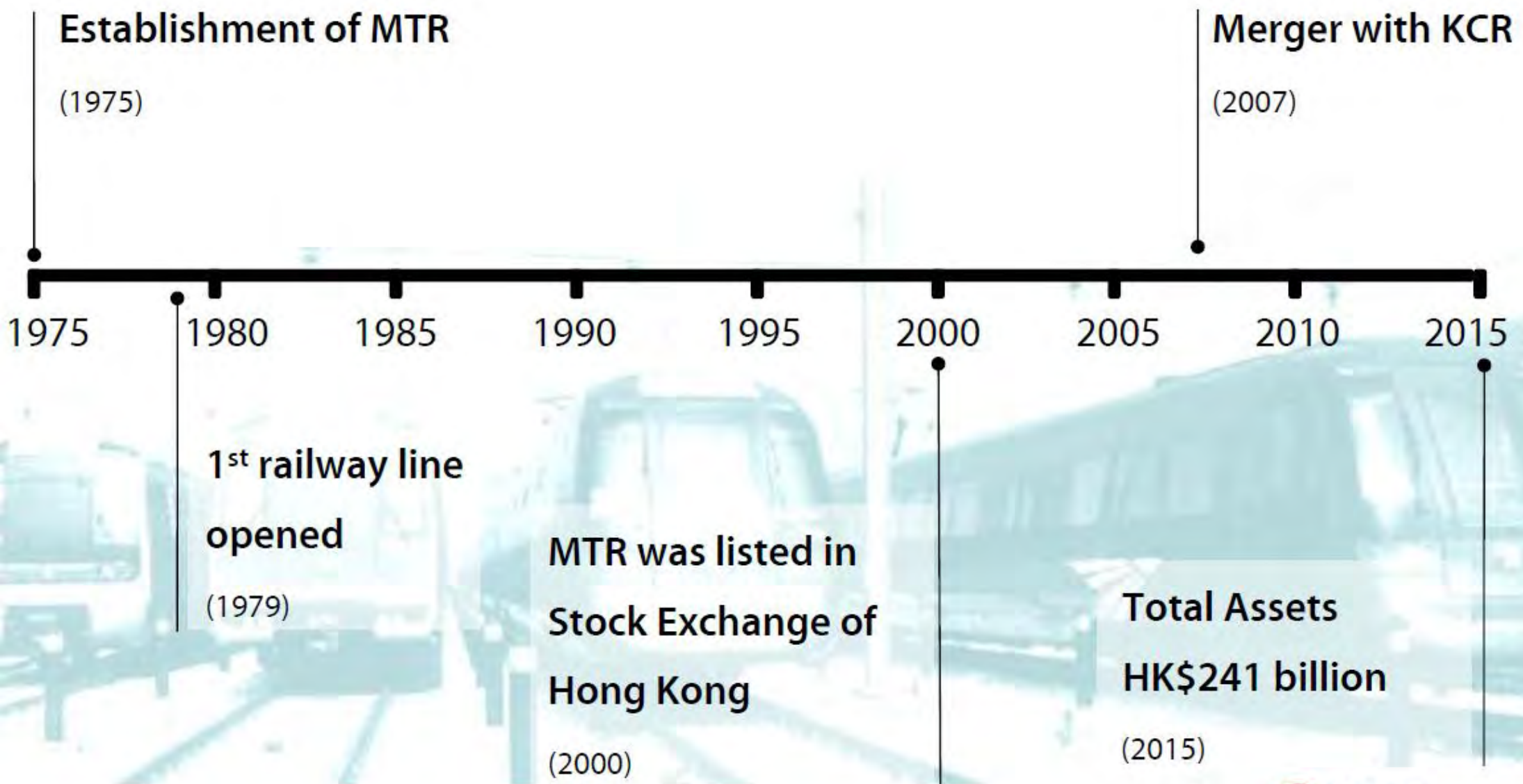
Vision

We aim to be international recognized for project management excellence and proactive in responding to the needs of the community in providing transportation systems

Mission

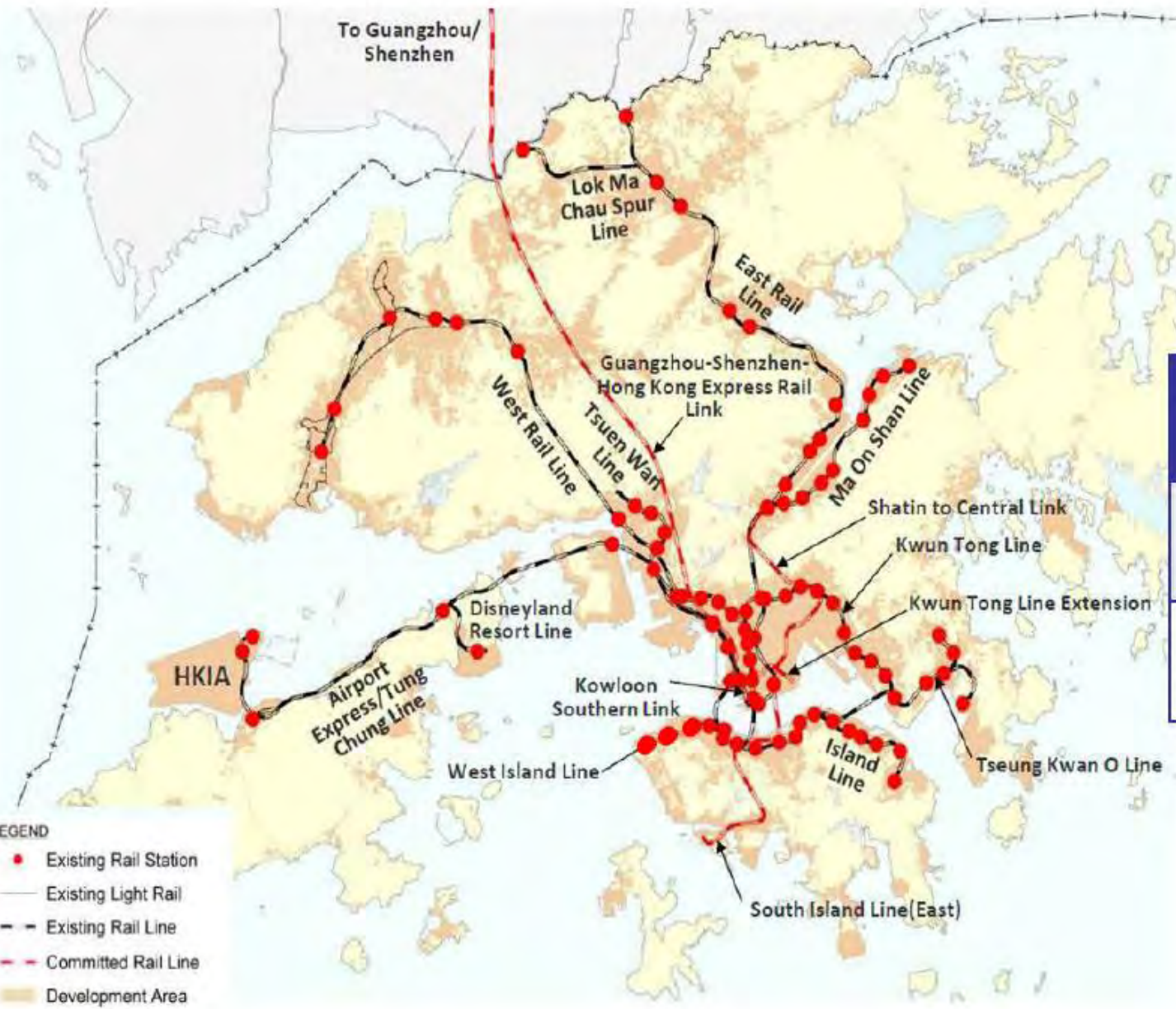
- Enhance customers' quality of life and anticipate their needs
- Set ourselves new standards through innovation and continuous improvement
- Design and construct projects to optimize the sustainability of the environment, our business and social benefits
- Complete projects safely, on time and within budget
- Promote a collaborative working culture which allows all partners to achieve common objectives
- Maximize staff development opportunities to support future growth

MTR - TOD



MTR - TOD

Metro & Rail as backbone of urban growth



Land Uses	% Within 500m of a Railway Station
Housing Units	42%
Commercial & Office GFA	75%

(Source: Planning Department, 2013)

MTR – not really TAD



TAD: Transit Adjacent Development in San Jose, California's Silicon Valley

Light-rail station in roadway median, separated from surrounding buildings, all of which are spread-out, single-use employment centers enveloped by surface parking.

Rail + Property Model

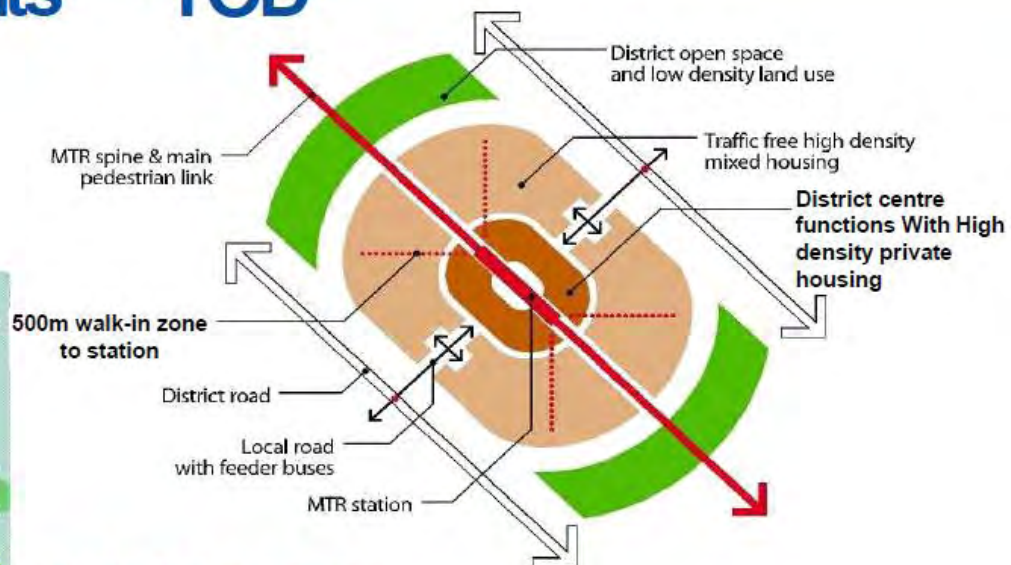
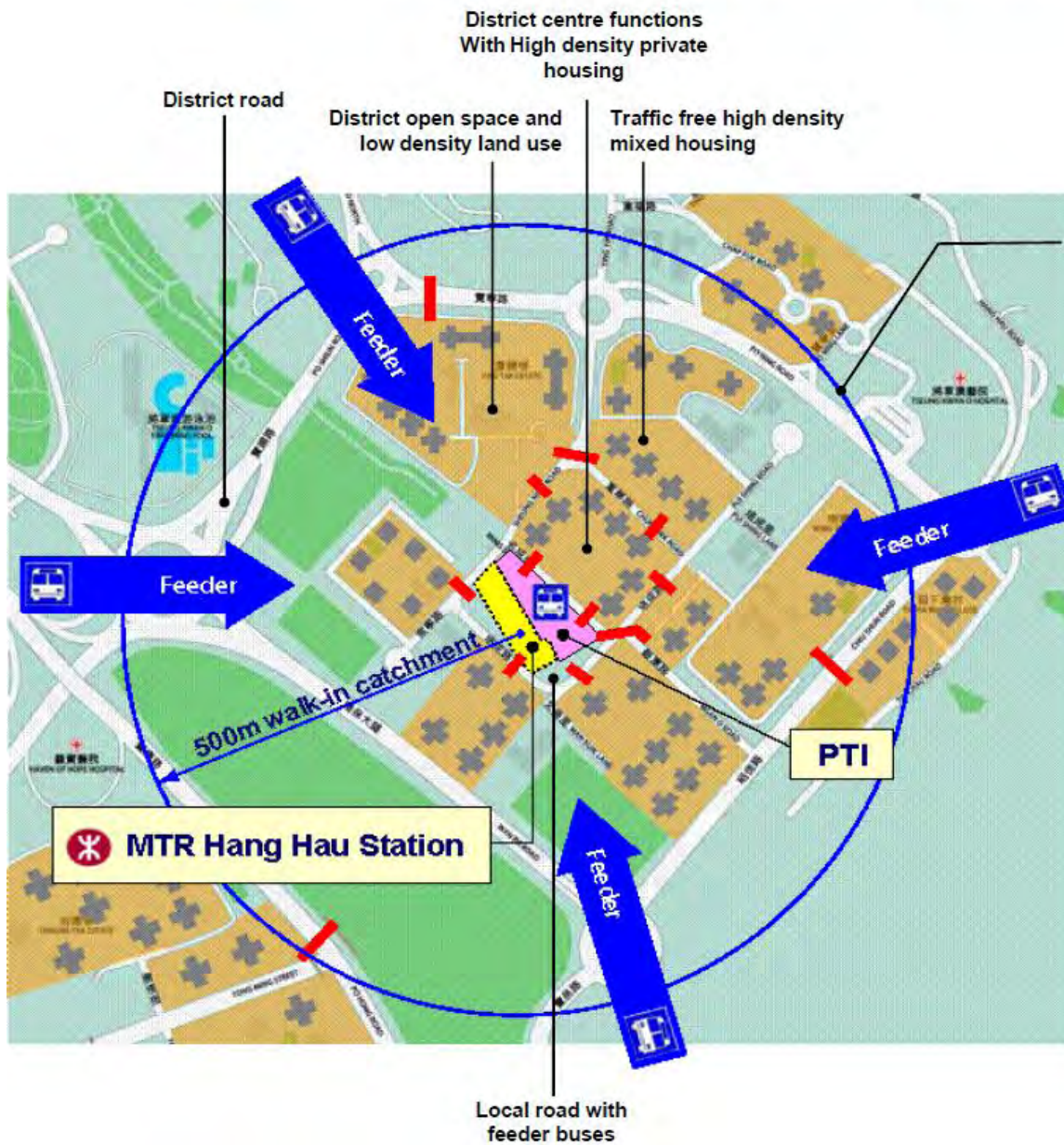
Land value capture mechanisms basic logic

- enhanced accessibility to attractive and efficient transport systems adds value to land and real estate.
- This value addition confirmed by research
- In Hong Kong, research indicates that housing price premiums are in the range of 5% to 17% for units in proximity to railway/metro.
- This premium can even exceed 30% if properties incorporate transit-oriented design, such as structures that facilitate pedestrian access to commercial amenities or provide pathway connected with stations
- Only around 20% of MTR's profit are derived from transport operations



Rail + Property Model

Transit Oriented Developments “TOD”



“3D” Principles:

- **High Development Density**
Intensive and efficient land use within the station walk-in catchment area
- **Land Use Diversity**
Enhance the life and vibrancy of the community
- **High-Quality Community Design**
Seamless connection and interchange, segregation of pedestrian and vehicular traffic, greening environment



Rail + Property Model

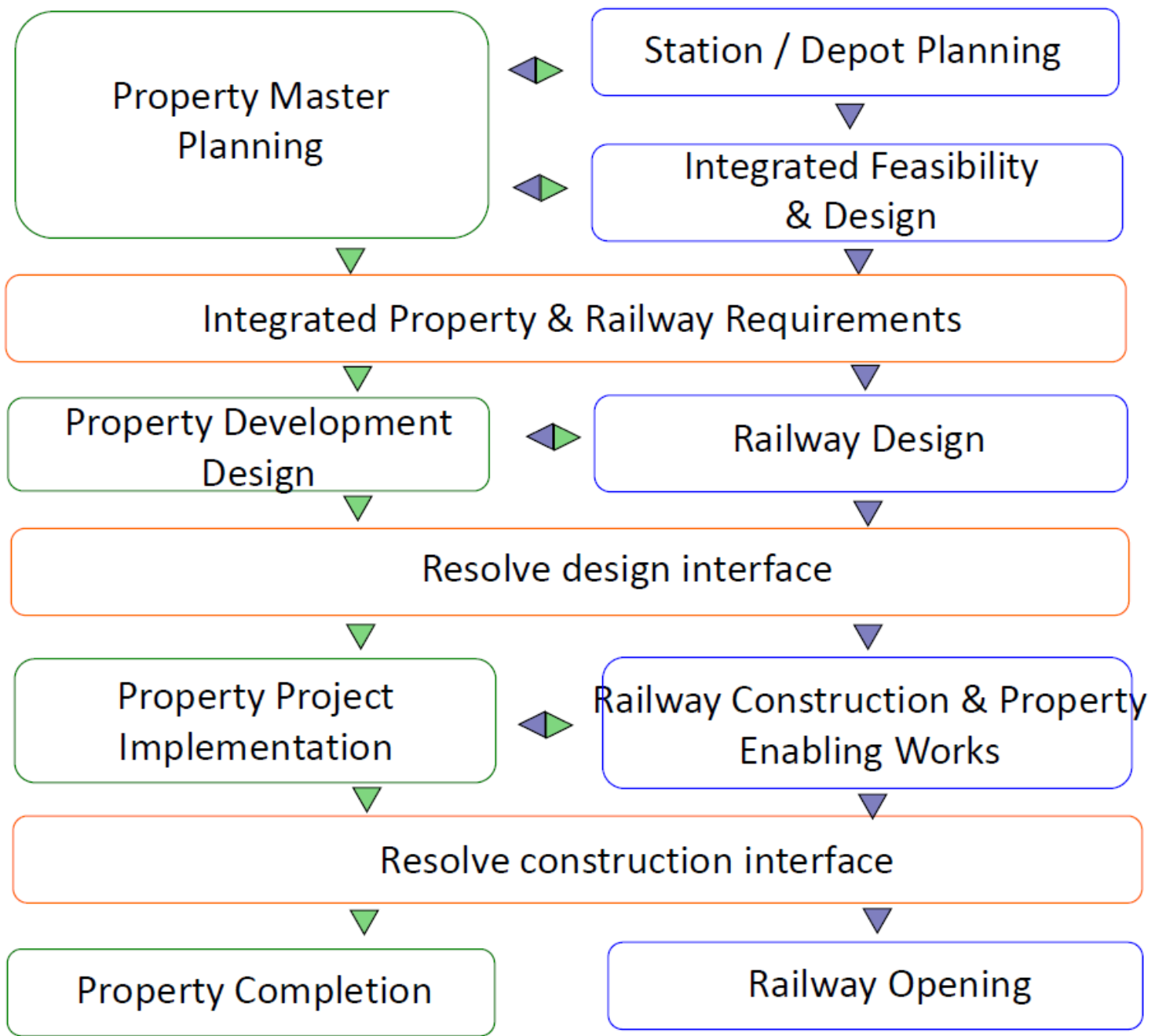
MTR Provides the First and Last Mile to Daily Trips



- Station sites as Origins and Destination of daily trips
- Rail + Property Model → Walkable Communities

Rail + Property Model

Typical Implementation Flow Diagram for R+P



- ✓ *Institutional Arrangement & Legal Framework*
 - ✓ *Land Entitlement*
 - ✓ *Multi-business Organisation (Railway + Property)*
 - ✓ *Comprehensive Planning*
- 

“Rail + Property (R+P)” Developments by MTR

- 43 property projects above stations with total GFA of 13 million m²



Tsing Yi



Kowloon Station



Hong Kong Station

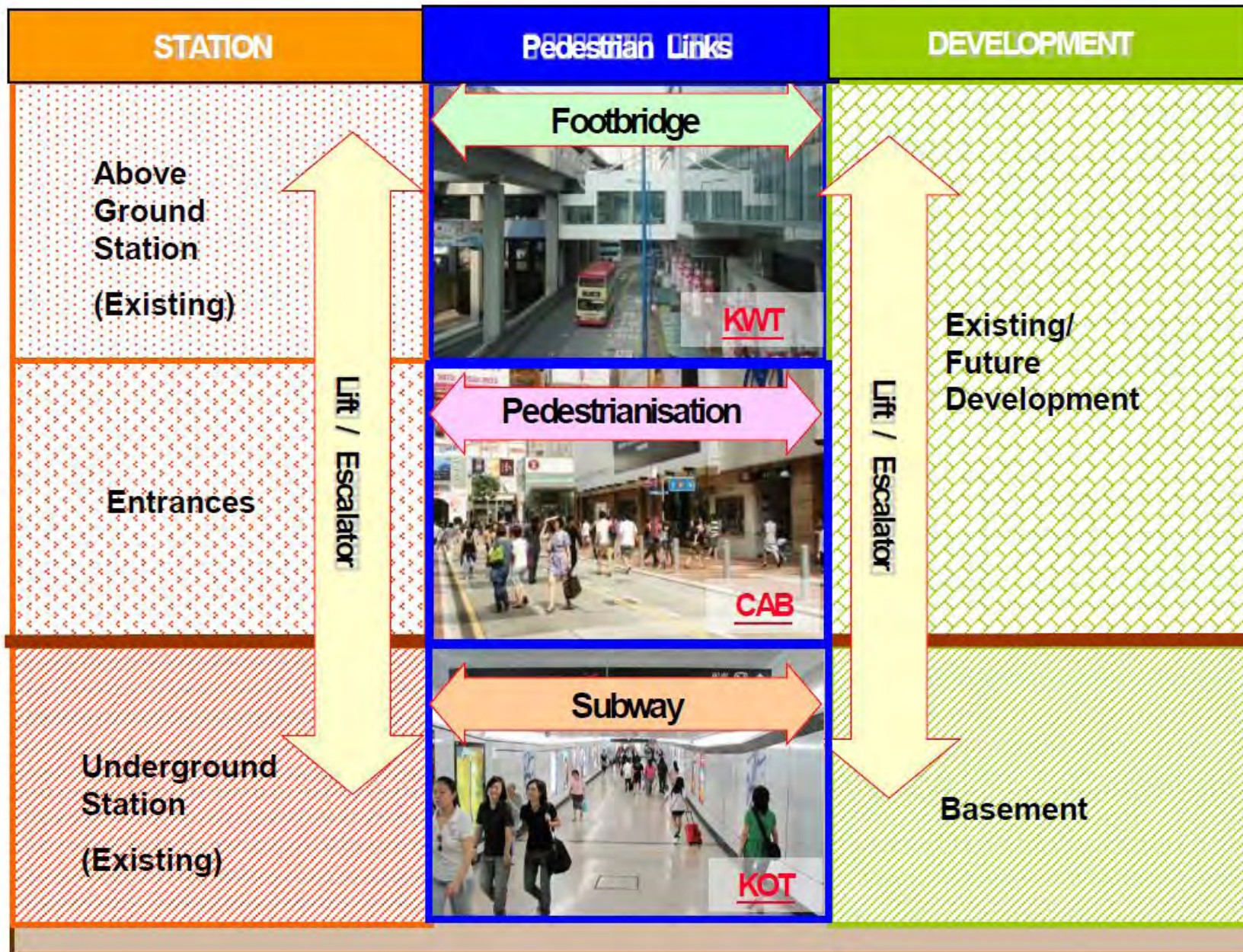


Lohas Park



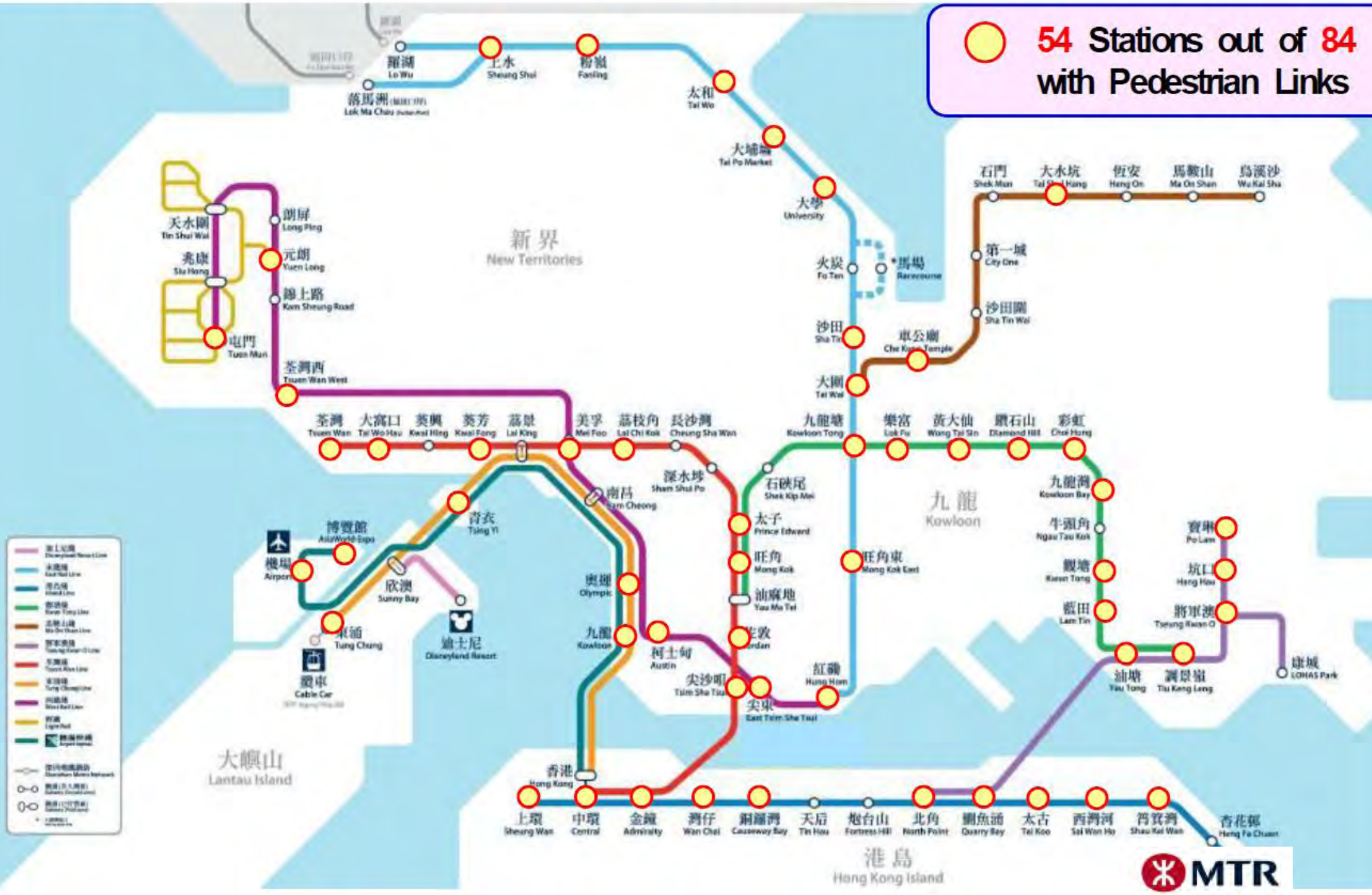
Tseung Kwan O Station

Improvement of Station Accessibility by PedLink



Stations with PedLinks (since 1984)

 **54 Stations out of 84 with Pedestrian Links**

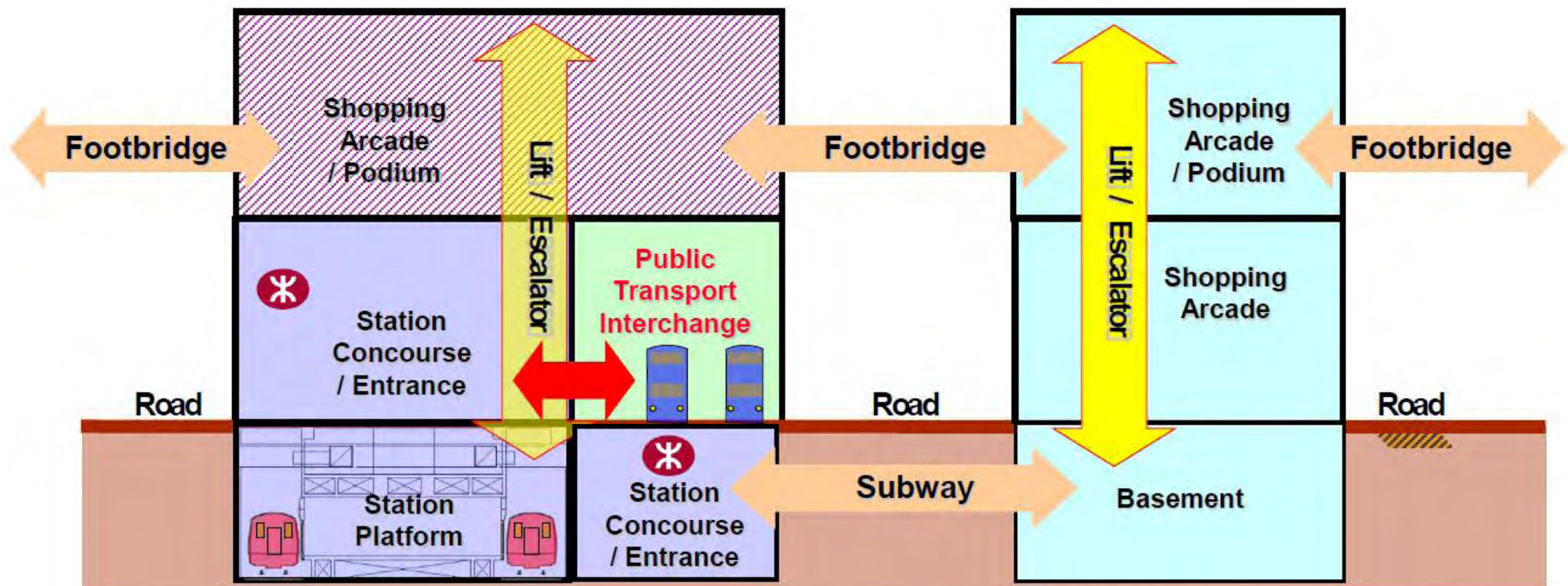


Rail + Property Model

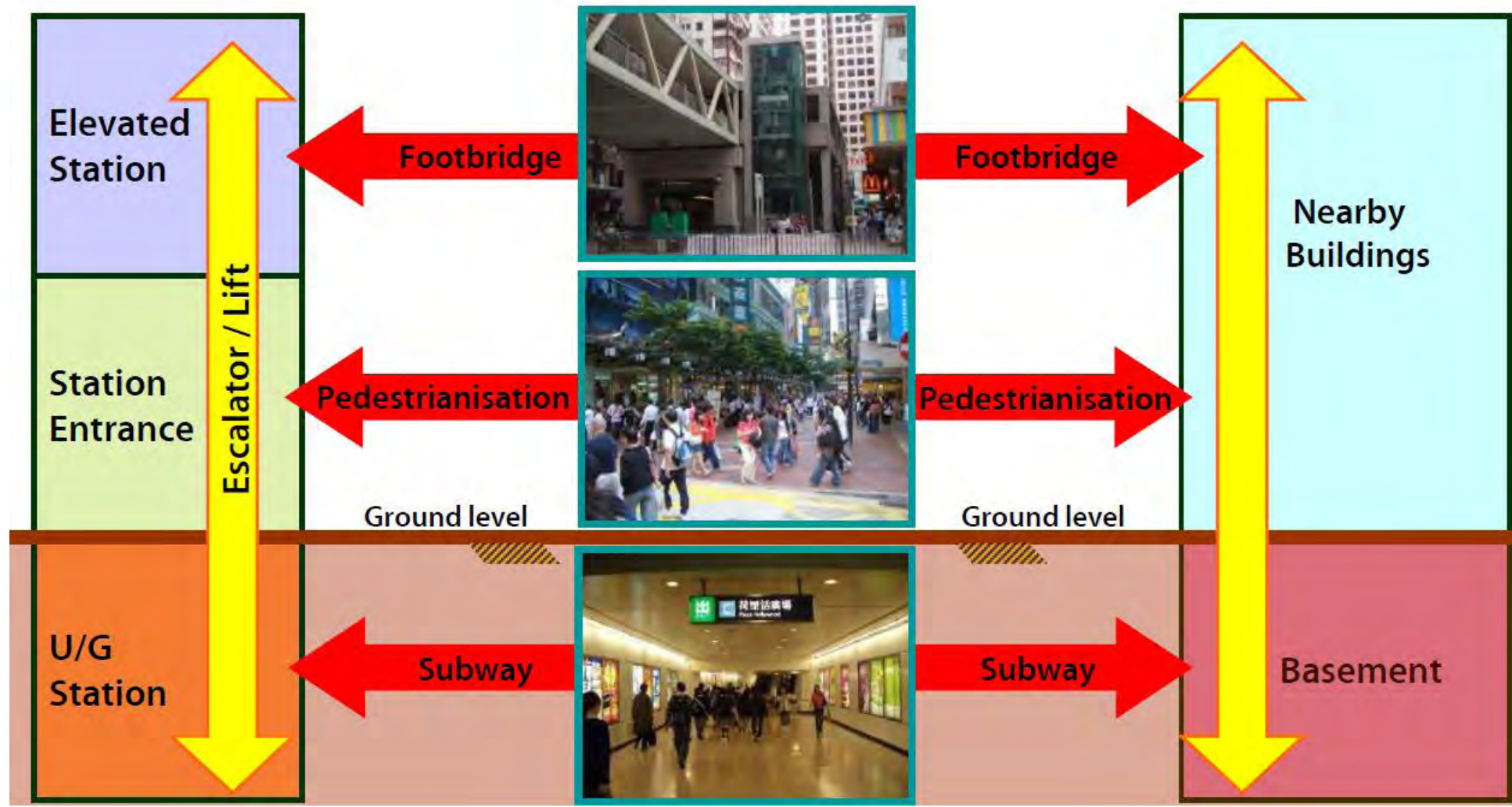


Rail + Property Model

Modes integration

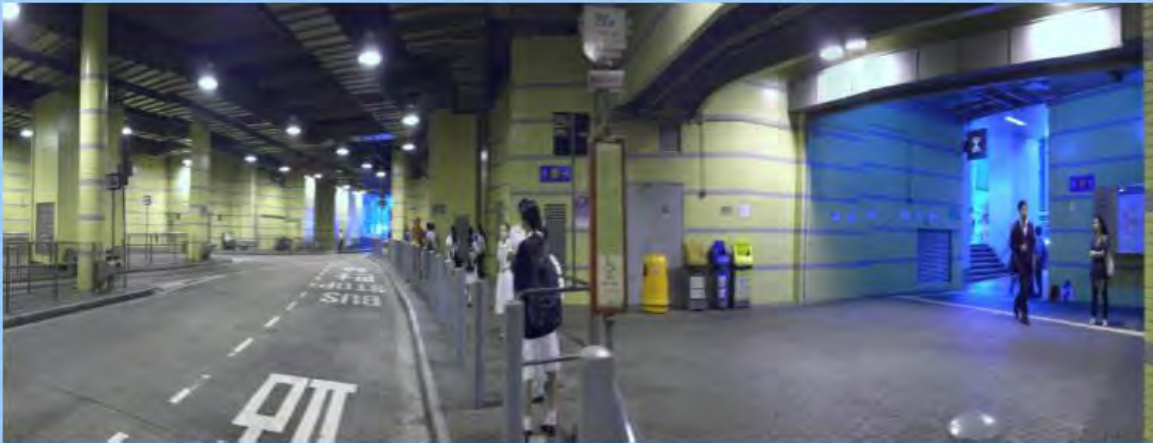


Station Accessibility – Multi-level Ped. Link



Integration with Other Transport Modes

Public Transport



Hung Hau Station



Diamond Hill Station

Private Transport (Park & Ride Facilities)



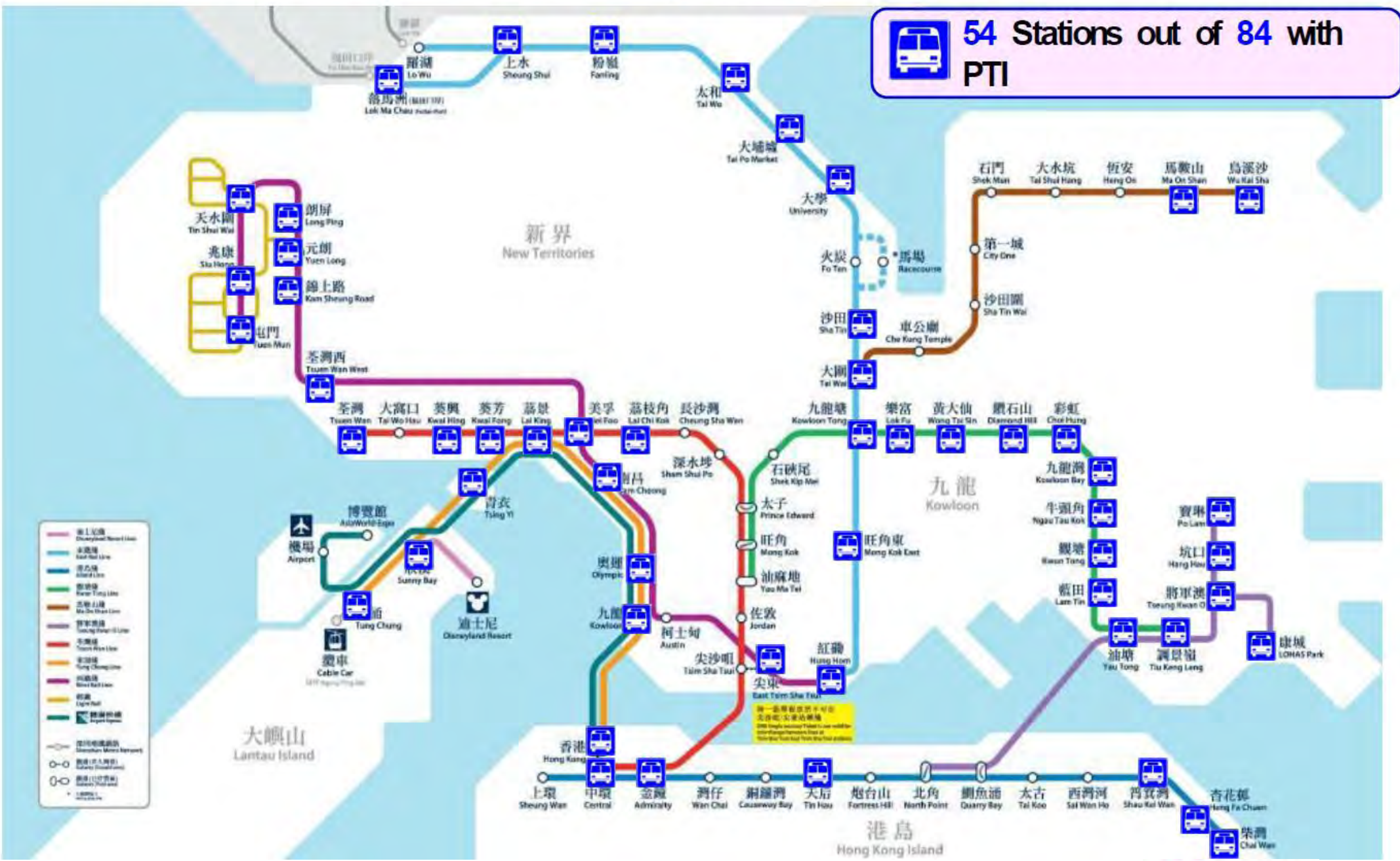
Choi Hung Station



Kam Sheung Road Station

Stations with Public Transport Interchange

54 Stations out of 84 with PTI



- 東涌線 (Tung Chung Line)
- 東鐵綫 (East Rail Line)
- 西鐵綫 (West Rail Line)
- 九龍綫 (Kowloon Line)
- 荃灣綫 (Tuen Wan Line)
- 沙田綫 (Sha Tin Line)
- 東涌綫 (Tung Chung Line)
- 西鐵綫 (West Rail Line)
- 九龍綫 (Kowloon Line)
- 沙田綫 (Sha Tin Line)
- 港島綫 (Hong Kong Island Line)
- 大嶼山綫 (Lantau Line)
- 機場綫 (Airport Line)
- 機場快綫 (Airport Express)
- 港島綫 (Hong Kong Island Line)
- 大嶼山綫 (Lantau Line)
- 機場綫 (Airport Line)
- 機場快綫 (Airport Express)



Stations with Park & Ride Facilities



MTR – success? model?

- Every day, over 11 million passenger journeys are made on the public transport system, which includes railways, trams, buses, minibuses, taxis and ferries
- More than 90% of all motorized trips are by public transport, the highest market share in the world
- Hong Kong, China, represents an extreme case difficult to copy in other parts of the world. However, many coastal cities in mainland China have recently mimicked Hong Kong's development pattern (high-rise, mixed-use development).

HK Economy & Business

	Hong Kong	Switzerland	US	Singapore
Overall	1	2	3	4
Economic Performance	5	10	1	4
Domestic Economy	19	9	1	13
International Trade	2	17	12	1
International Investment	2	4	1	5
Employment	13	17	10	4
Prices	60	51	35	52
Government Efficiency	1	2	25	3
Public Finance	1	5	49	4
Fiscal Policy	2	7	29	8
Institutional Framework	6	1	22	2
Business Legislation	1	14	13	3
Societal Framework	25	5	27	19
Business Efficiency	1	3	7	5
Productivity & Efficiency	7	5	4	10
Labour Market	1	16	25	8
Finance	1	3	2	6
Management Practices	2	3	14	17
Attitudes and Values	1	8	21	4
Infrastructure	21	3	1	8
Basic Infrastructure	14	8	5	9
Technological Infrastructure	14	9	3	1
Scientific Infrastructure	26	4	1	13
Health and Environment	17	4	16	25
Education	13	9	24	4

Note: Each of the sub-factors carries the same weight (i.e. 5%) in the overall results.

Source: International Institute for Management Development (IMD) World Competitiveness Yearbook 2016.

HK – Economics & QoL

		Quality of Life			Economics							
		Economist 2014	Monocle 2014	Mercer 2014	GaWC 2012	Z/Yen 2014	Brooking 2014	Metro Pop	Area	Density	year	
City	Country	Rank	Rank	Rank	Rank	Rank	GDP \$ per capita	in M	km2	/km2		
Melbourne	Australia	1	3	17	34	A-	166 37,387	4.44	9,990	444	2014	
Vienna	Austria	2	6	1	27	A-	180 74,380	2.42			2015	
Vancouver	Canada	3	15	5	>50	<A-	101 41,057	2.46	2,877	855	2012	
Toronto	Canada	4	>25	15	17	A	261 46,774	5.58	5,906	945	2011	
Adelaide	Australia	5	>25	26	>50	<A-	43 33,077	1.30	3,257	399	2014	
Calgary	Canada	5	>25	35	>50	<A-	79 65,289	1.21	5,107	237	2011	
Sydney	Australia	7	11	10	9	A+	203 41,942	4.84	12,367	391	2014	
Helsinki	Finland	8	5	29	>50	<A-	76 54,676	1.39	2,970	468	2014	
Perth	Australia	9	>25	22	>50	<A-	104 51,485	2.02	6,417	315	2013	
Auckland	New Zealand	10	12	3	>50	<A-	44 28,758	1.53	4,894	313	2014	
Tokyo	Japan	>10	2	40	7	A+	1900 54,897	34.61	13,754	2,516	2010	
Hong Kong		>10	13	>50	3	A+	350 48,409	7.23	1,104	6,549	2014	
Singapore		>10	16	28	5	A+	372 68,007	5.47	718	7,618	2014	
London GLA	UK	>10	>25	32	2	A++	836 99,405	8.41	1,572	5,350	2013	
Paris IdF	France	>10	18	34	4	A+	715 59,583	12.00	12,012	999	2014	
New York	USA	>10	>25	47	1	A++	1403 59,374	23.63	34,490	685	2013	
Shanghai	PRC	>10	>25	>50	6	A+	594 24,485	24.26	6,340	3,826	2010	
		stability	safety/crime	safety	Globalisation	Global Financial Centres						
		healthcare	international connectivity	education								
		culture	climate/sunshine	hygiene								
		environment	quality of architecture	health care								
		education	public transportation	environment								
		infrastructure	tolerance	recreation								
			environmental issues	political-economic stability								
			access to nature	public transportation								
			urban design									
			business conditions									
			pro-active policy developments									
			medical care									



香港 HONG KONG
2030+

Towards a Planning Vision and Strategy Transcending 2030

Public Engagement



Development Bureau



Planning Department

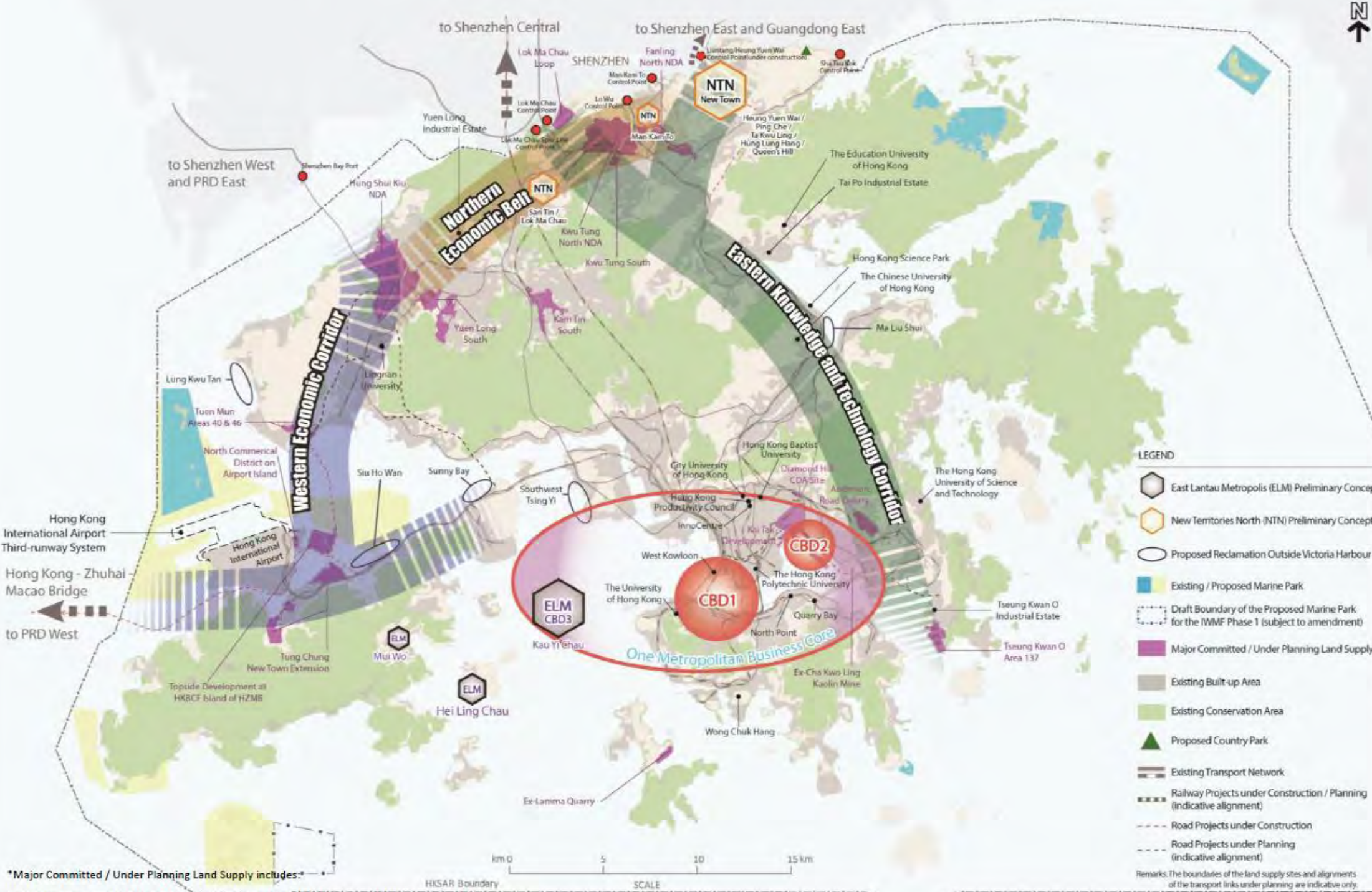
Location, location, location



Reaching Half of the World's Population within 5 Hours' Flying Time



70-120 millions people within the Pearl River Delta (PRD) 39,380 km²



*Major Committed / Under Planning Land Supply includes:

Kai Tak Development, North Commercial District on Airport Island, Tung Chung New Town Extension, Topside Development at HKBCF Island of HZMB, Yuen Long South, Hung Shui Kiu NDA, Kam Tin South Development (Phase I), Lok Ma Chau Loop, Kwu Tung North NDA, Fanling North NDA, Anderson Road Quarry, Diamond Hill CDA Site, Ex-Lamma Quarry, Ex-Cha Kwo Ling Kaolin Mine, Tuen Mun Areas 40 & 46, Kwu Tung South and Tseung Kwan O Area 137

HK – Key challenges



A growing and ageing population and a shrinking labour force



Aspiration for enhancing liveability



Imbalance in home-job spatial distribution and jobs of a limited range of skills



Keen competition in the global and regional economy



Innovation and technology and enabling education to increase productivity



Meeting the land requirements and adopting a much longer term view



Providing new transport and other infrastructure



A large quantity of ageing building stock



Readiness for climate change

Q&A

A short introduction to Hong Kong

Extreme landscapes



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