

# HONG KONG 2030+: DOES IT MATTER TO ENGINEERS?

Breakfast Sharing Talk  
with the Association of Consulting Engineers of Hong Kong  
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Towards a Planning Vision and  
Strategy Transcending 2030



Planning Department



Towards a Planning Vision and Strategy Transcending 2030

Year

2015

Baseline Review and Consolidated Key Issues

Analysis of Land Use Requirement and Land Supply Sources

Formulation of Proposed Spatial Development Framework

2016

Public Engagement

**We are here!**  
Technical Assessments and Territorial Spatial Development Strategy Finalisation

2018

Promulgation of Hong Kong 2030+

- Aims to update the territorial development strategy to **guide planning, land and infrastructure development**, and the shaping of the **built and natural environment** of Hong Kong beyond 2030
- This update adopts **a visionary, proactive, pragmatic and action-oriented approach** to respond to the changing circumstances and challenges ahead



## VISION

To become **a liveable, competitive and sustainable “Asia’s World City”**



## OVERARCHING PLANNING GOALS

Championing sustainable development to meet **our present and future social, environmental and economic needs and aspirations**



## THREE BUILDING BLOCKS

- ① Planning for a **Liveable High Density City**
- ② Embracing **New Economic Challenges and Opportunities**
- ③ Creating **Capacity for Sustainable Growth**

- A 6-month public engagement was conducted until late April 2017

# SNAPSHOT OF HONG KONG 2030+



**PUBLIC ENGAGEMENT EVENTS**

**Total**  
**>230**  
WITH A DIVERSITY OF FORMATS

**INCLUDING:**



**>140**  
BRIEFING SESSIONS



**6**  
PUBLIC FORUMS & TOPICAL DISCUSSIONS



**>20**  
PROFESSIONAL FORUM/WORKSHOP & MEDIA PROGRAMMES



**18**  
EXHIBITIONS & GUIDED VISITS



**>20**  
SCHOOL OUTREACH



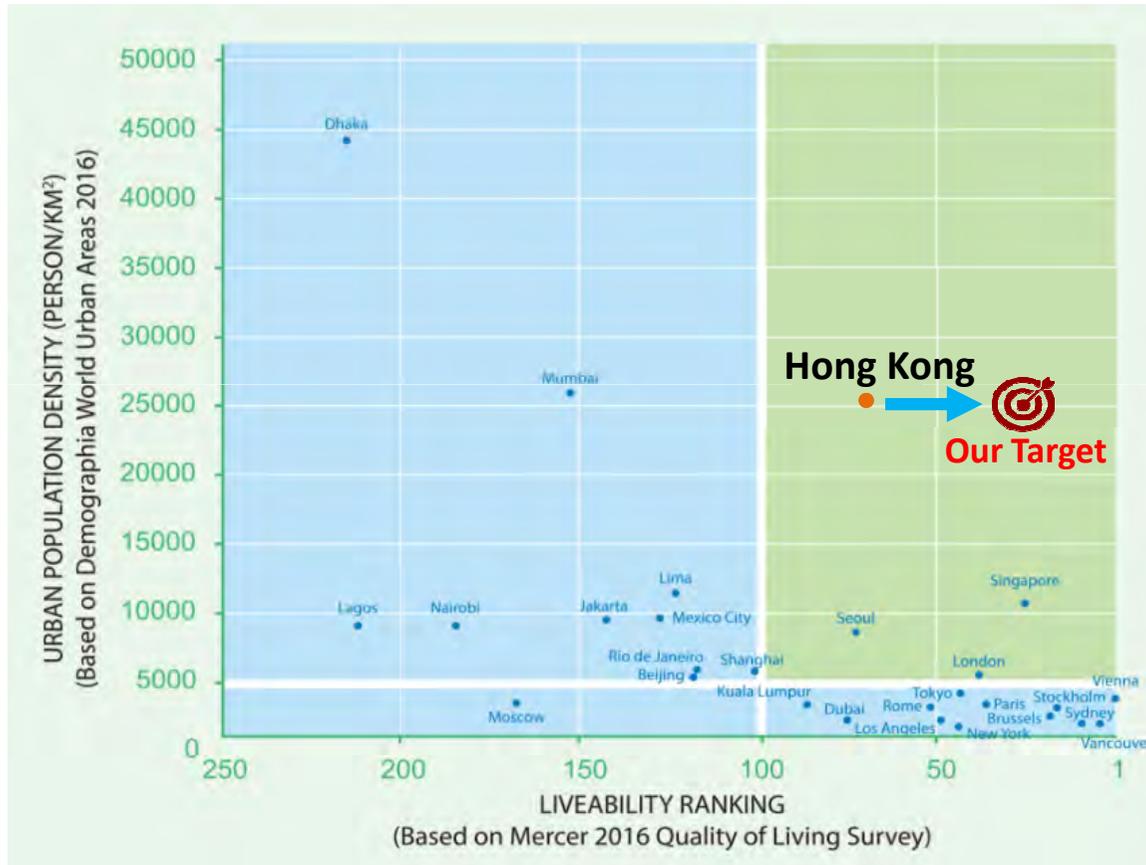
**5**  
KNOWLEDGE SHARING

Figures as at 2017.04.30

# DOES IT MATTER TO ENGINEERS?



## Scarce Land Resources and Aspiration for Better Liveability



Land Area

~1,110km<sup>2</sup>

Population

~7.35M (mid-2016)

Density

~6,800 persons/km<sup>2</sup>

~27,000 persons/km<sup>2</sup>  
(built-up area only)

## FUTURE POLICY CONSIDERATIONS



HOME SPACE ENHANCEMENT



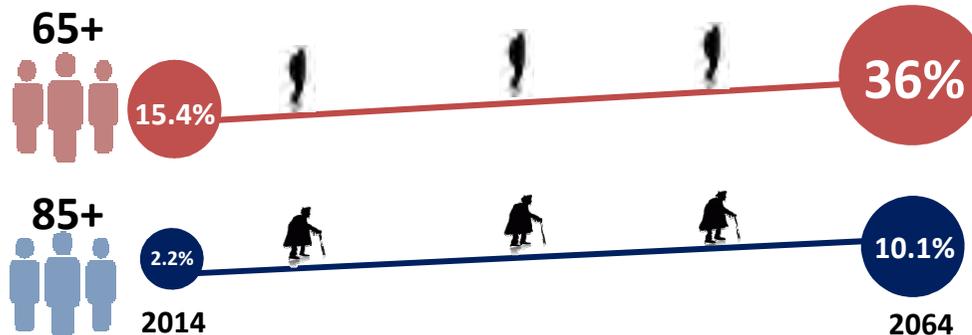
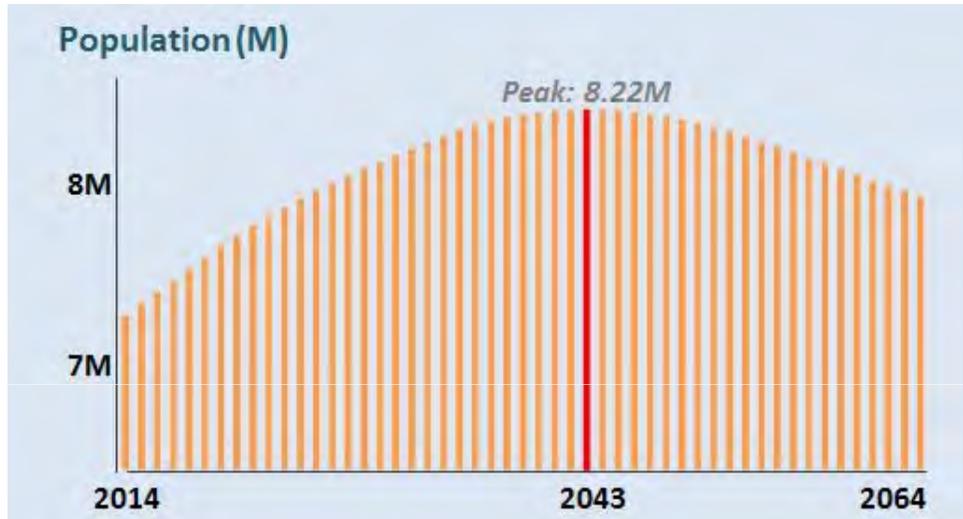
“ACTIVE DESIGN” CONSIDERATIONS



MORE AND BETTER OPEN SPACE

# DOES IT MATTER TO ENGINEERS?

## Ageing Population and Building



### FUTURE POLICY CONSIDERATIONS

- INCLUSIVE AND SUPPORTIVE CITY
- PROLONG USEFUL LIFE OF BUILDINGS
- “AGE-FRIENDLY” BUILT ENVIRONMENT
- INVESTIGATE “RETROFITTING” MEASURES

# DOES IT MATTER TO ENGINEERS?



## Climate Change

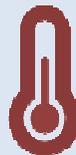
### Extreme Weather Conditions



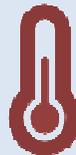
Tai Mo Shan

© SCMP

In 2015/2016...



Highest annual mean temperature  
**24.2°C (2015)**

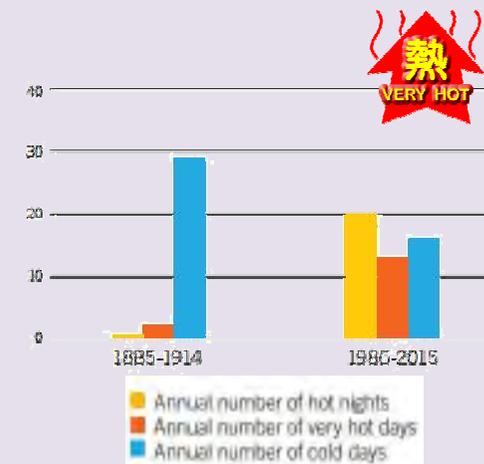
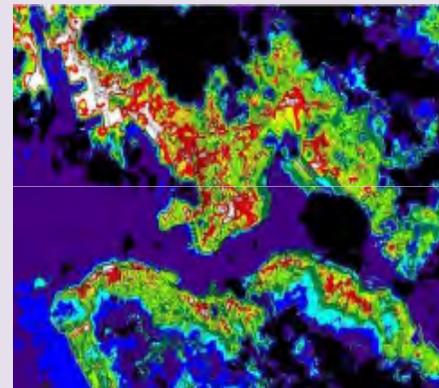


Highest annual maximum temperature  
**36.3°C (2015)**



3<sup>rd</sup> lowest annual minimum temperature  
**3.1°C (2016)**

### Urban Heat Island Effect



Continued increase in the number of very hot days and hot nights

### FUTURE POLICY CONSIDERATIONS

INCORPORATE URBAN CLIMATIC AND AIR VENTILATION CONSIDERATIONS INTO PLANNING AND DESIGN

ENCOURAGE WALKING AND CYCLING

ENHANCE GREEN-BLUE INFRASTRUCTURE

# DOES IT MATTER TO ENGINEERS?



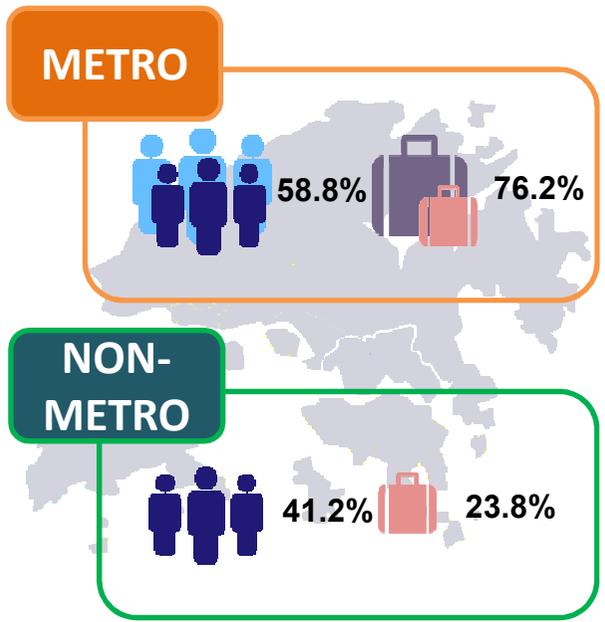
## Requirements for Transport and Infrastructure Capacity

### Significant Growth of Private Vehicle



Private Vehicles Average Annual Growth Rate (1995-2015)

### Imbalance Home-Job Spatial Distribution



### Provision of Public Infrastructure



Existing strategic landfills expected to reach capacities in coming years



Ensure adequate water supply and drainage network/ treatment facilities for growing population



Tai Hang Tung Underground Flood Water Storage Tank

## FUTURE POLICY CONSIDERATIONS

- RESHAPING TRAVEL PATTERN
- BRINGING JOBS CLOSER TO HOMES

- MINIMISE DEMAND FOR NEW TRANSPORT AND INFRASTRUCTURE
- INTEGRATED SMART, GREEN AND RESILIENT INFRASTRUCTURE

# CREATING CAPACITY FOR SUSTAINABLE GROWTH - A SMART, GREEN AND RESILIENT CITY STRATEGY

## ➤ Focus under Hong Kong 2030+:

Shaping a smart, green and resilient built environment

1. Sustainable planning and urban design

2. Smart mobility

3. An integrated smart, green and resilient infrastructure system

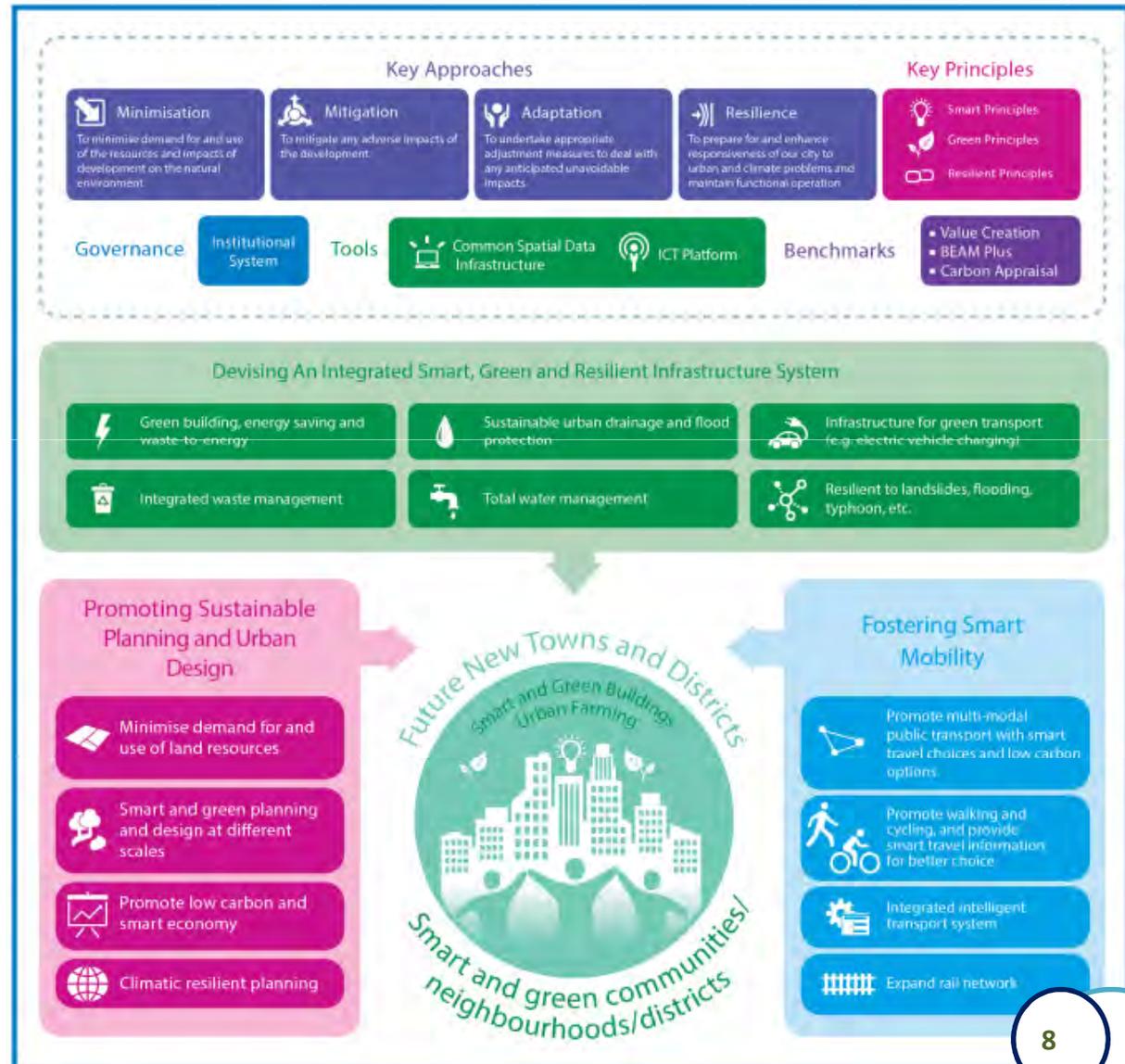
## ➤ Setting up a common spatial data infrastructure and ICT infrastructure

City Efficiency

Low-carbon

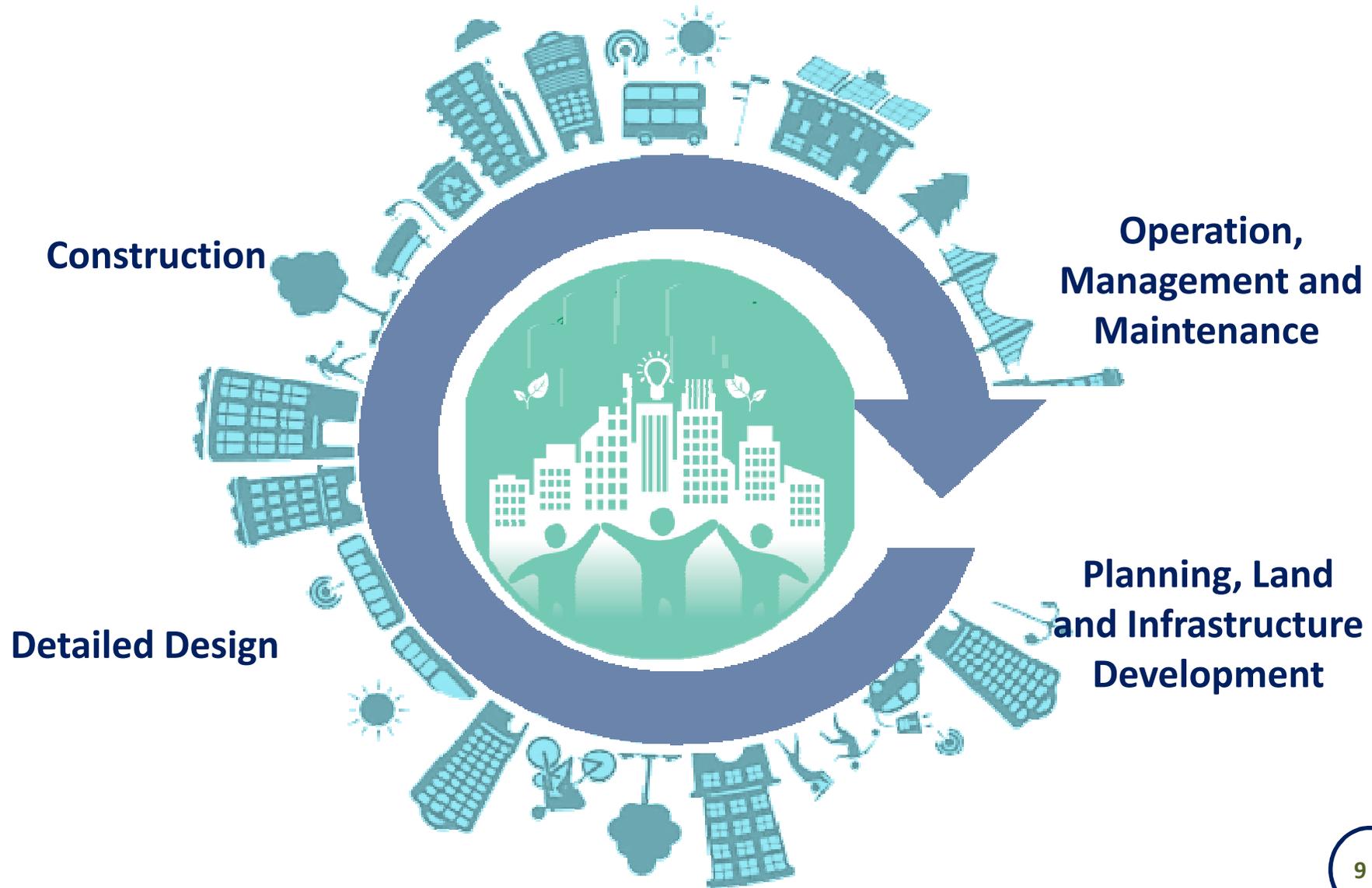
Climatic resilience

Quality living



# CREATING CAPACITY FOR SUSTAINABLE GROWTH : - A SMART, GREEN AND RESILIENT CITY STRATEGY

- All levels, aspects and stages of city planning and development



# PLANNING FOR THE NEXT GENERATION OF SGR NEW TOWN - HUNG SHUI KIU NEW DEVELOPMENT AREA



## Compact rail-based development



Proposed HSK Station

## Walkable, Cycle-Friendly and Inclusive Mobility

- Streets with retail frontages along TSW River Channel and near HSK Station with **5 in 1 functions** including Circulation, Leisure, Air ventilation, Visual Permeability and Thriving Local Economy

## Green Mobility

- **External:** West Rail link with a new Hung Shui Kiu Station and existing Tin Shui Wai Station
- **Internal:** A **Green Transit Corridor** (GTC) comprising Environmental-Friendly Transport System (EFTS), walkways and cycle tracks



Green Transit Corridor

### Revised Recommended Outline Development Plan

New Population	About 176,000
Total Population	About 218,000
Employment	About 150,000

# PLANNING FOR THE NEXT GENERATION OF SGR NEW TOWN - HUNG SHUI KIU NEW DEVELOPMENT AREA

## Integrated Smart, Green and Resilient Infrastructure System



### Sustainable Urban Drainage

- Revitalise river as major green spine, breezeways and view corridors
- Flood retention lake to regulate stormwater



### Water Resource Management

- Use of treated sewage effluent and rainwater harvesting



### Refuse Collection and Sorting

- Automatic refuse collection system and organic waste management facilities



### Smart Energy

- Encourage energy efficient buildings and explore use of district cooling system



### Information and Communication Technology

- Common Spatial Data Infrastructure and an Information and Communication Technology Platform



Other Open Spaces and Amenity Area



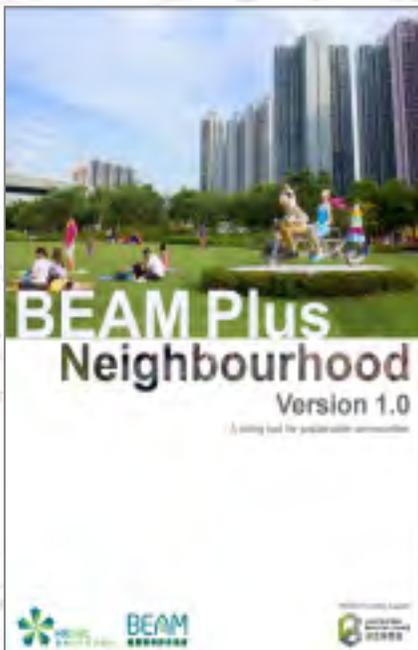
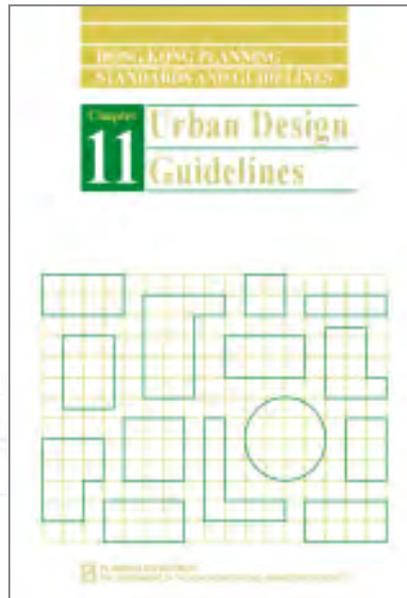
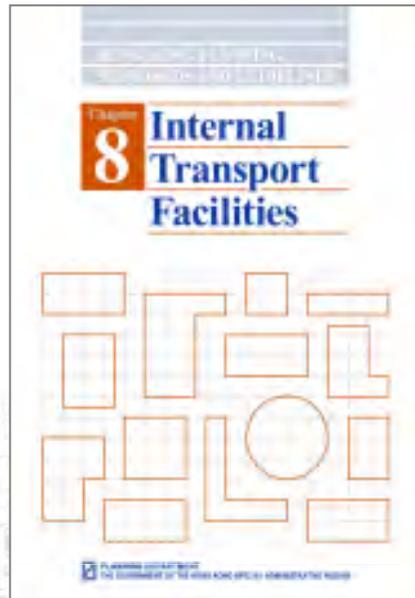
Regional Plaza



Regional Park



Riverside Promenade



- Are these tools enough?
- Can they be further improved?



# ECO-CYCLE and ECO-PARK (TOKYO, JAPAN)

## Smart Mobility



Giken's ECO-Park System



ECO-Cycle near Shinagawa Station

-  Automated high capacity **underground car parking and cycle parking facilities**
-  Facilitating **first and last mile**
-  **Land saving**, especially surface land (50 cars in 400m<sup>2</sup> or 200 bikes in 50m<sup>2</sup>)

Photo Source: <https://www.giken.com/en/brochures/>



## Devising An Integrated Smart, Green and Resilient Infrastructure



 A new neighbourhood converted from a 12-ha former military site. 1,620 homes, 1,500m<sup>2</sup> of retail space and services, two schools and a nursery, a swimming pool and a museum

 Underground **pneumatic household waste collection system**

Photo Source: <https://www.bouygues-immobilier-corporate.com/en/content/fort-dissy>



# MUSICON STORMWATER MANAGEMENT BASIN & SKATE PARK COPENHAGEN, DENMARK



## Devising An Integrated Smart, Green and Resilient Infrastructure



- One of the project's targets is to **handle stormwater on the surface and utilise the facilities for other purposes during dry weather**
- Three separate basins are used for collecting water. The third basin is designed to **handle 10 year rain events** - the most powerful rain events that occur statistically only every 10 year
- The entire complex can store up **23,000m<sup>3</sup>** of water and is fully integrated into the canal system and brings rainwater to the adjacent lake

Photo Source: <http://www.visitroskilde.com/en-int/musicon-gdk619640> & <http://musicon.dk/rabalderparken>

- We need a **new urban development strategy** in face of new global megatrends and changing local context
- We endeavour to explore a holistic urban development strategy to create a **liveable, smart, green and resilient city**
- Above-all, **cross professional collaborations** is crucial

An aerial photograph of a city, likely Hong Kong, showing a dense urban area with numerous skyscrapers and residential buildings. The city is surrounded by green hills and a large body of water. The sky is blue with some clouds. Overlaid on the image is the text 'THANK YOU' in white, bold, uppercase letters. To the left of the text are two overlapping circles, one blue and one black. To the right of the text is a yellow circle.

**THANK YOU**