

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

BACKGROUND OF HONG KONG 2030+



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

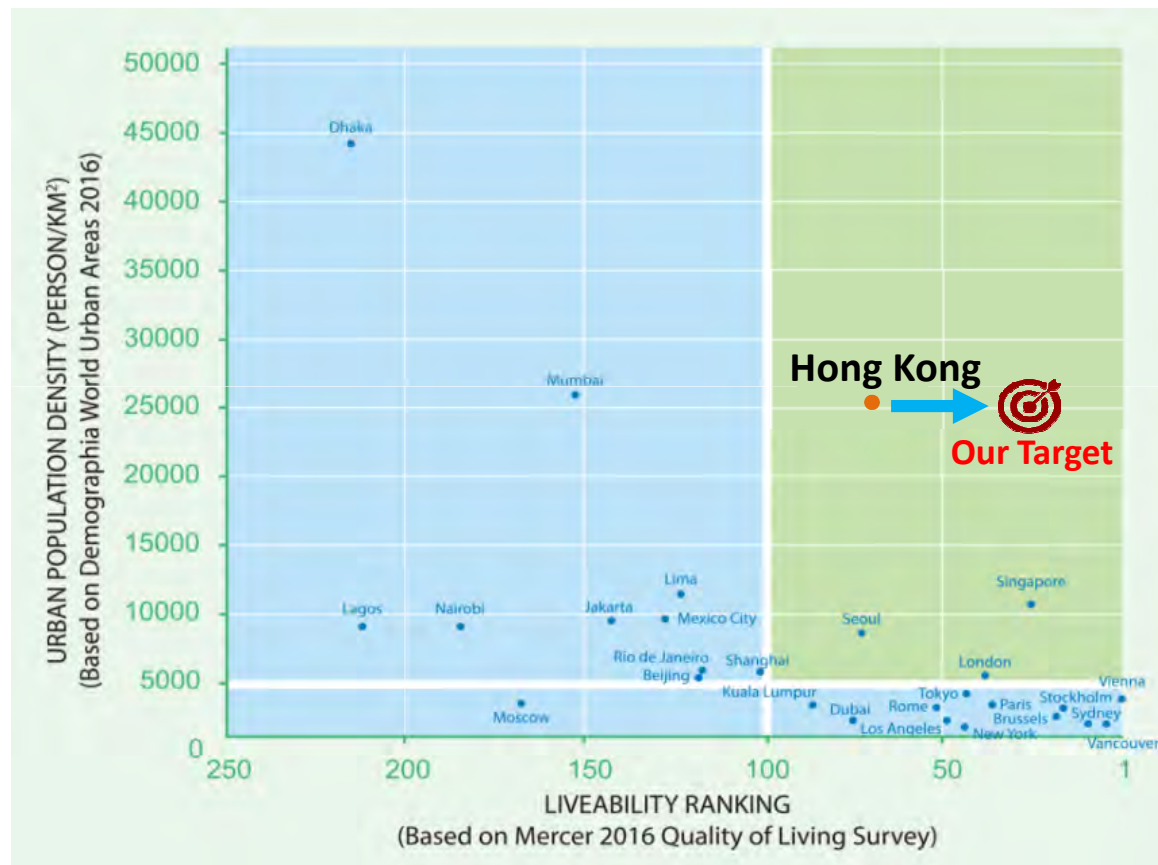


5
KNOWLEDGE
SHARING

Figures as at 2017.04.30

DOES IT MATTER TO ENGINEERS?

Scarce Land Resources and Aspiration for Better Liveability



Land Area

~1,110km²

Population

~7.35M (mid-2016)

Density

~6,800 persons/km²

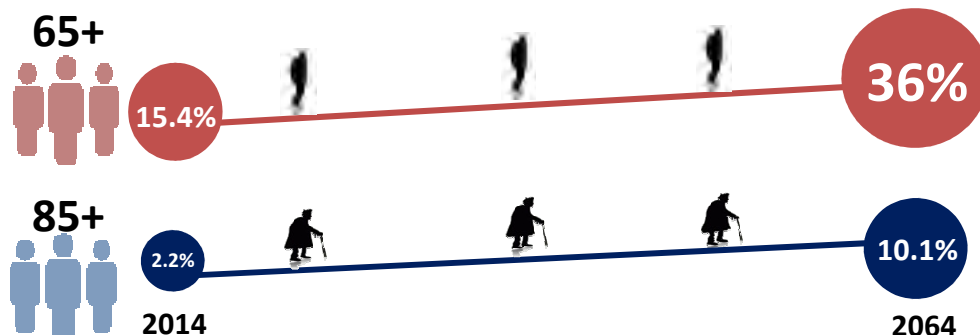
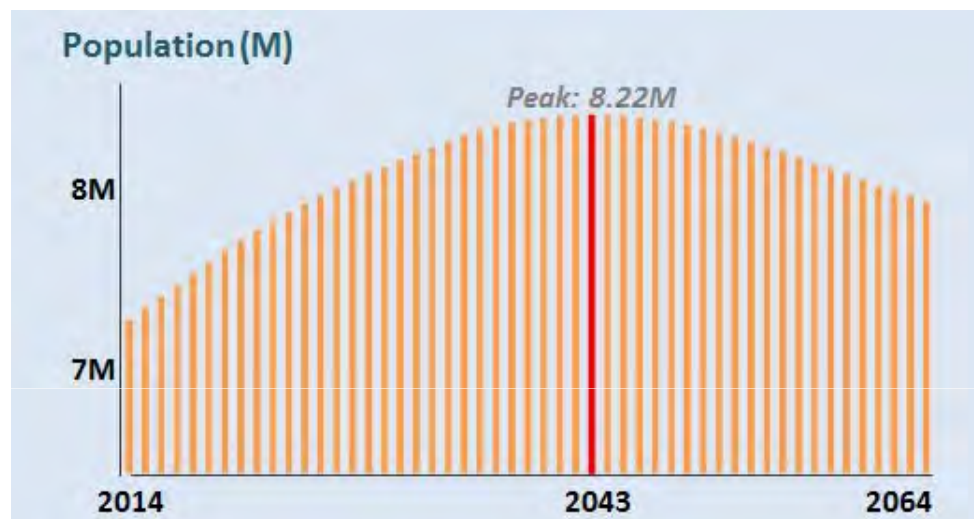
~27,000 persons/km²
(built-up area only)

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
- “AGE-FRIENDLY” BUILT ENVIRONMENT

- PROLONG USEFUL LIFE OF BUILDINGS
- INVESTIGATE “RETROFITTING” MEASURES



DOES IT MATTER TO ENGINEERS?



Climate Change

Extreme Weather Conditions



© SCMP

Tai Mo Shan

In 2015/2016...



Highest annual
mean temperature
24.2°C (2015)

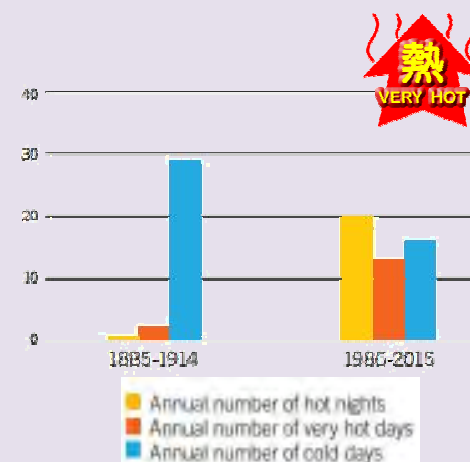
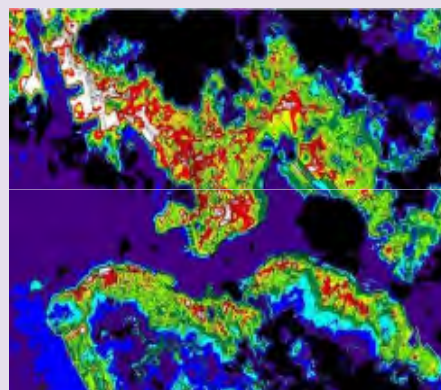


Highest annual
maximum temperature
36.3°C (2015)



3rd 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



~3%*
Private vehicles



> ~1.7%
Domestic households



> ~0.8%
Population

Private Vehicles Average Annual Growth Rate
(1995-2015)

Imbalance Home-Job Spatial Distribution

METRO



58.8%



76.2%

NON-METRO



41.2%



23.8%

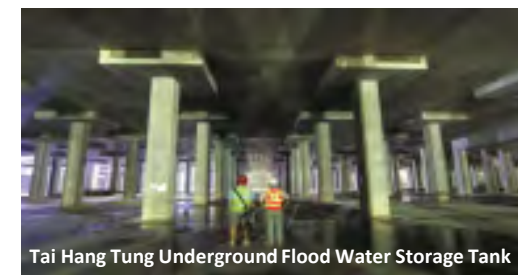
Provision of Public Infrastructure



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

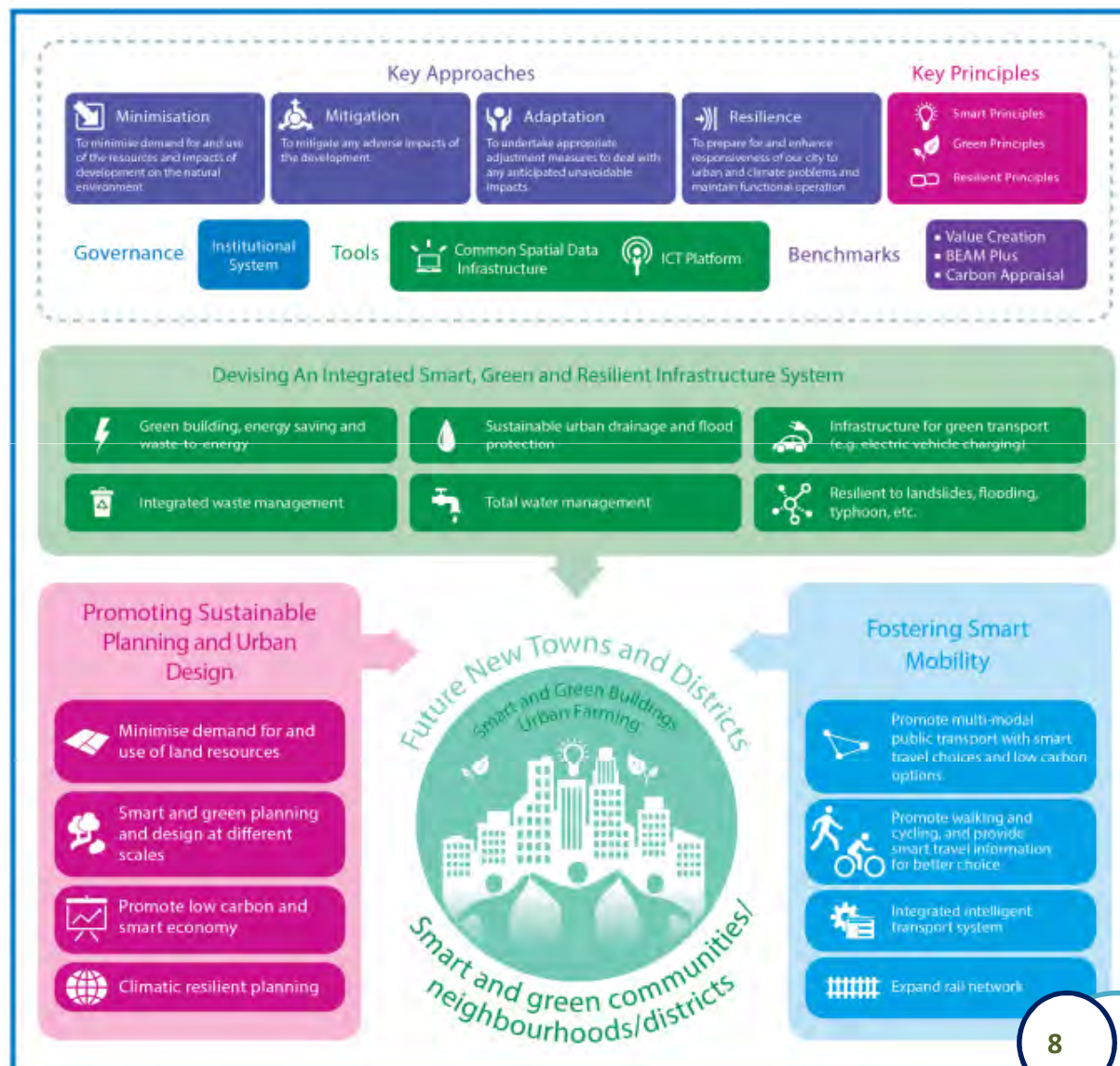
➤ Setting up a common spatial data infrastructure and ICT infrastructure

City Efficiency

Low-carbon

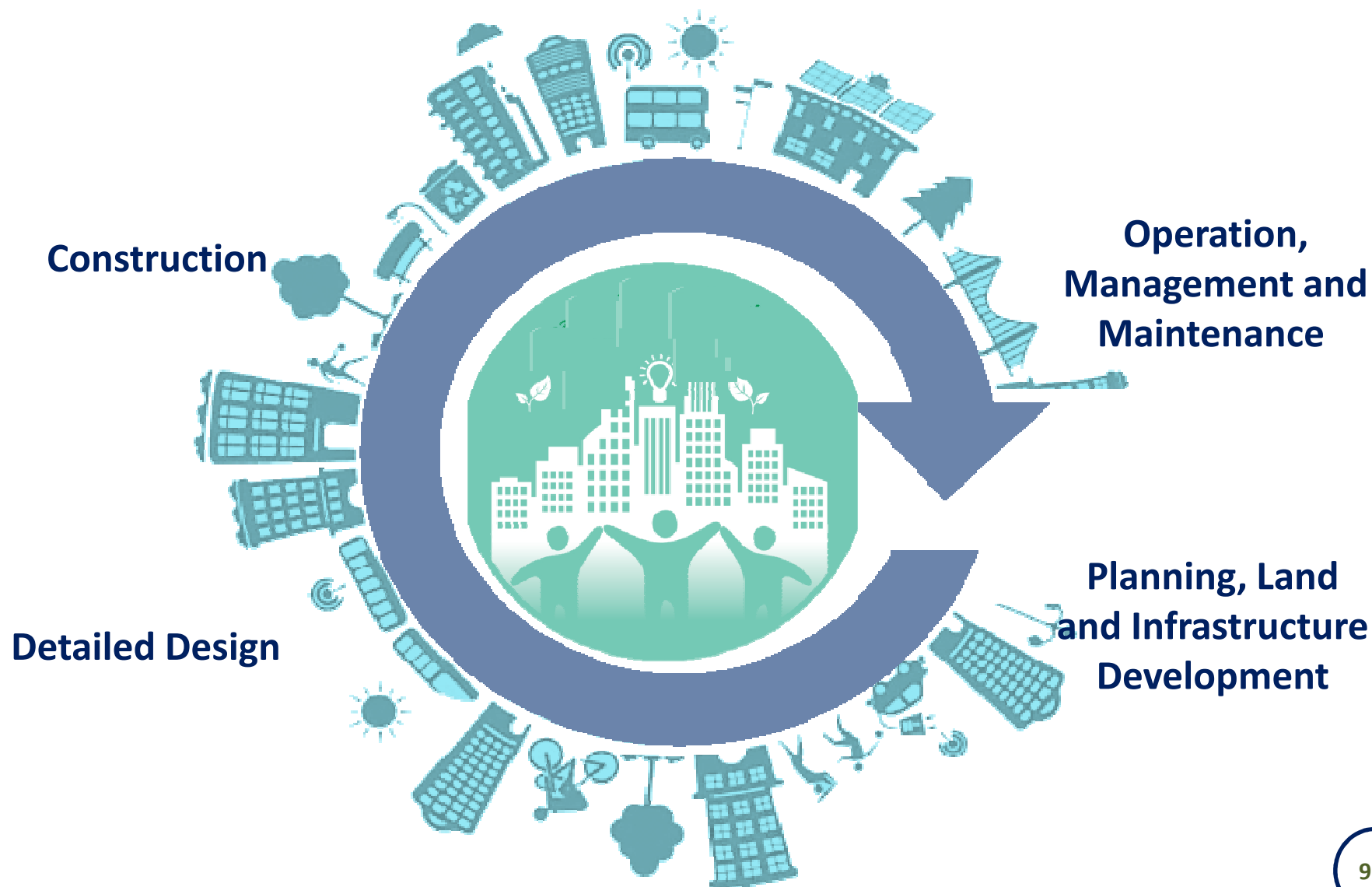
Climatic resilience

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



Revised Recommended Outline Development Plan

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

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

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

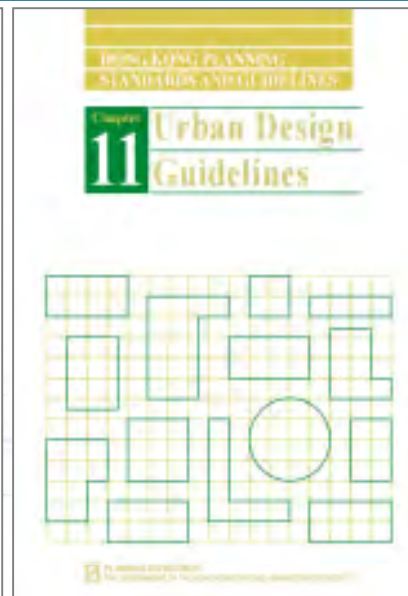


Information and Communication Technology

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



FOOD FOR THOUGHT



- 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 400m² or 200 bikes in 50m²)

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



FORT D'ISSY, FRANCE



Devising An Integrated Smart, Green and Resilient Infrastructure





-  A new neighbourhood converted from a 12-ha former military site. 1,620 homes, 1,500m² 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 **23,000m³** 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 Hong Kong, showing a dense urban landscape 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, sans-serif capital letters. To the left of the text is a blue circle with a black outline, and to the right is a yellow circle with a black outline. Both circles are partially overlapping the text.

THANK YOU