

# **Beneficial Use of Underground Space in Hong Kong**

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# Hilly Terrain Covers 60% of HK's Land Area



# Island West Transfer Station





# Stanley Sewage Treatment Works



# Kau Shat Wan explosives depot



# Cavern land classification

Cavern Land Class	Suitability	Description
IA	High	above 60 mPD at least 50 m from major underground installations, photolineaments or faults
IB	High	below 60 mPD at least 50 m from major underground installations, photolineaments or faults
IIA	Medium	within 50 m of major photolineaments or faults
IIB	Medium	within 50 m of major underground installations
III	Low	beneath surface development



# Gjøvik Stadium & Recreation Centre, Norway



# Enhancing Land Supply – Development of Rock Caverns

- **Release surface land – relocation of public facilities**
- **Reduce surface land take – housing or high-rise development**
- **Reserve strategic cavern areas – future development**
- **Generate revenue for the Government from land released**



# HKU's new underground saltwater reservoirs

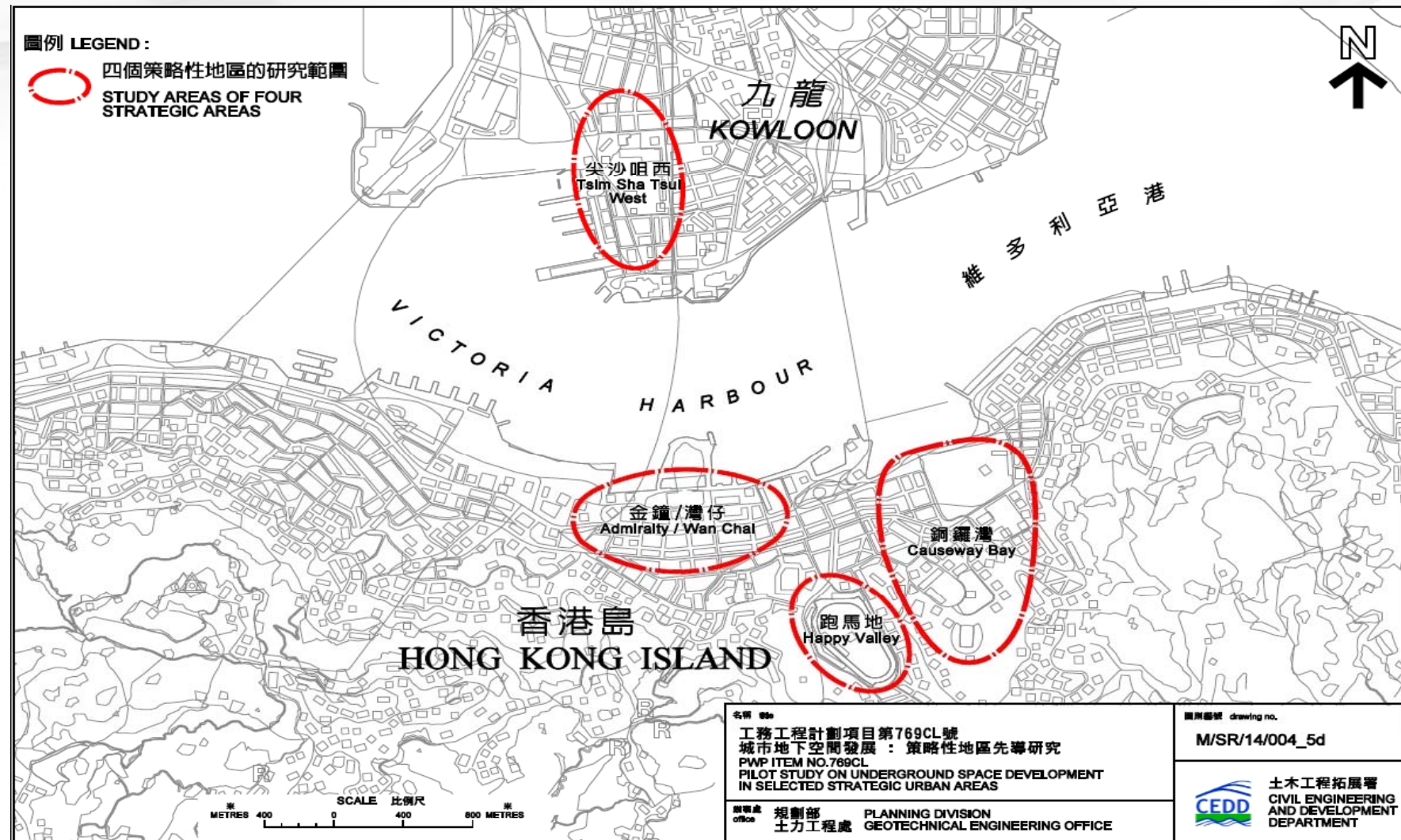


# **Territory-wide Study on Underground Space Development in the Urban Areas**

**Dec 2013 – Dec 2015**



# The four urban areas chosen





# Opportunities of Underground Space Development

- **Improve urban environment**
- **Release and create land**
- **Enhance urban connectivity**

# The pedestrian link under East TST Station



# Key Items of Work of the Study

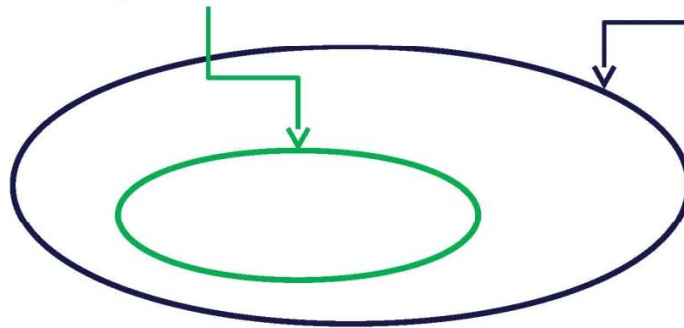
- **Review local cases and overseas examples to identify suitable measures and implementation strategies;**
- **Identify opportunities for underground space development across Hong Kong;**
- **Develop conceptual schemes and see if there are any possible development constraints/issues; and**
- **Consult relevant stakeholders**



# Territory-wide study on underground space development

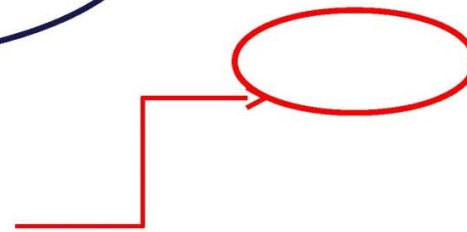
15 urban areas with conceptual schemes for space creation and connectivity enhancement

40 urban areas (urban centres & new towns) with clear potential for underground space development (c. 40 ha each)



## Specific Topics:

- Infrastructure reorganisation
- Undersea pedestrian-cum-retail link within Victoria Harbour
- Guidelines to optimise underground space for new development areas



# **Pilot Study on Underground Space Development in Selected Strategic Urban Districts**

**Late 2014 – Early 2017**

# Areas in the four districts under study

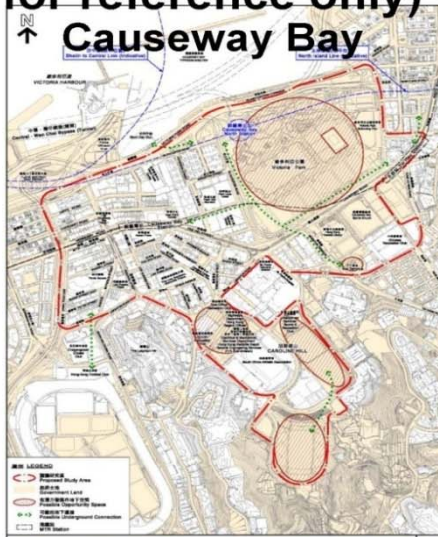
## Strategic Urban Districts

(tentative proposal for reference only)

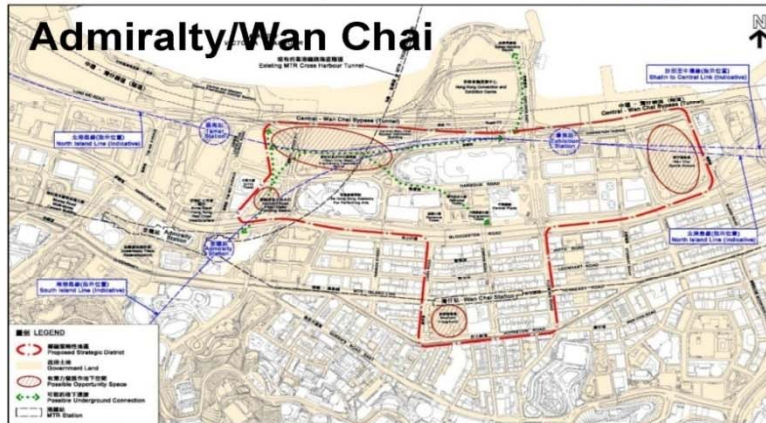
↑ Tsim Sha Tsui West



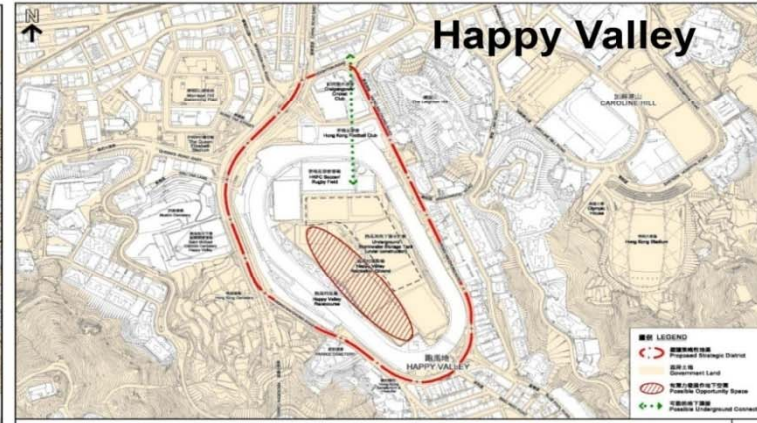
↑ Causeway Bay



Admiralty/Wan Chai

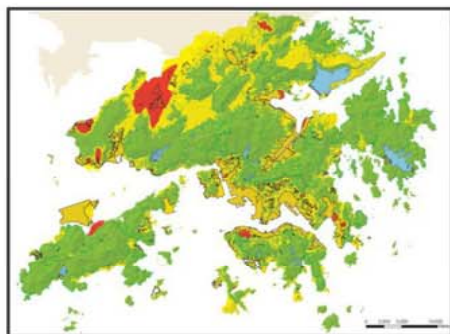


Happy Valley

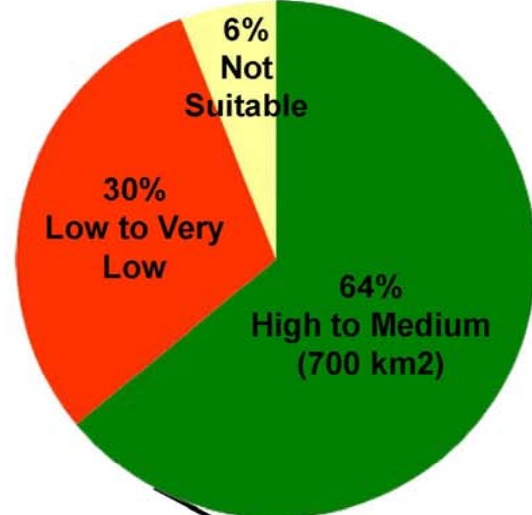




# Hong Kong's Hidden Land



Cavern Suitability Class Distribution



Total land area:  
1,104 km<sup>2</sup>

Cavern space (35 km<sup>2</sup>)

Rock pillar (35 km<sup>2</sup>)

Assuming 10% is readily accessible on urban fringes (70 km<sup>2</sup>)

Remote area away from existing infrastructure



35 km<sup>2</sup> = 3,500 ha  
(180 no. Victoria Park)

*Thank you*