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Reshaping Wan Chai-
Exploring the Path of Urban Renewal

Urban Renewal and Sustainable Development in Wan Chai

Student Name：_____ **Group no.：_____**

Course Date：_____

Objectives

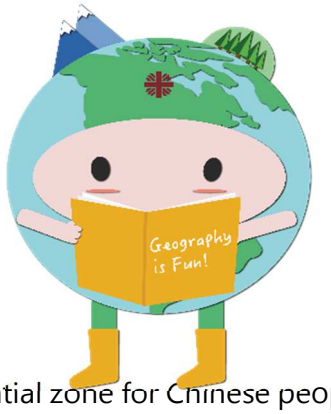
Knowledge：
- Study the relationship between urban renewal and the urban environment
- Understand the various approaches to urban renewal
- Evaluate the environmental improvements brought about by urban renewal

Skills：
- To apply various data collection methods and using field equipment for measurement to local environmental data
- Assess the urban environment using different data collection methods
- Create charts to demonstrate whether urban renewal can achieve sustainable urban development

Values：
- Develop sensitivity to the development of the surrounding environment
- Show concern for issues arising from urban development
- Cultivate a sense of responsibility for protecting and improving the urban environment

Relevance to the DSE geography curriculum

- Compulsory Module 4：Building a Sustainable City - Are Environmental Conservation and Urban Development Mutually Exclusive?



STAGE 1: PLANNING & PREPARATION

➢ Focus of Study

Research whether urban renewal can achieve urban sustainability

➢ Prior knowledge

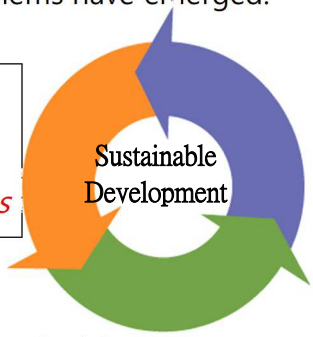
1. The Problem of Urban Decay in Wan Chai

Wan Chai has a long history of development. Since 1843, it has been a residential zone for Chinese people, while British and other foreigners mostly lived in Central. Wan Chai, located between Central's business district and the suburbs, was referred to as "Lower District「下環」" (commonly known as part of the "Four Rings and Nine Compacts「四環九約」": Sai Wan, Sheung Wan, Central, and Lower District, which were informal administrative divisions along the northern coastline of Hong Kong Island). This zone is also referred to as the "Inner City" in textbooks.

If observe carefully, you will notice that Wan Chai's streets, stretching from the south to the north, are a microcosm of Hong Kong's development history. The zone near Queen's Road East, closest to the mountains, was inhabited before Hong Kong's colonial establishment in the 19th century. This zone developed first and contains many historical landmarks, such as the Old Wan Chai Post Office, the Blue House「藍屋」, Nam Koo Terrace「南固臺」, and Tung Tak Pawn Shop. Moving northward toward the sea, the zone consists of commercial and hotel zones developed from land reclamation. Buildings here include the Hong Kong Convention and Exhibition Centre, Central Plaza, and the Hong Kong Academy for Performing Arts.

However, with Wan Chai's continuous development over the years, some urban problems have emerged. Please list any urban issues you know of that are related to these changes:

Housing Problems *Transportation Problems* *Environmental Problems*



2. What is Sustainable Development?

Sustainable development refers to meeting our _____ needs without compromising _____'s ability to meet their own needs, ensuring they have sufficient resources and opportunities.

Sustainable development balances the needs of _____, _____, and _____. From a long-term perspective, solving urban problems with sustainable development is theoretically the better approach.

3. What is the "4R" sustainable development strategy?

To enhance urban renewal in Hong Kong, address urban aging issues, and improve the living environment of residents in old districts, the Urban Renewal Authority's development strategy is based on the four core "4R": _____, _____, _____, and _____. The goal is to create a high-quality living environment for citizens that supports sustainable development.

➢ Which sustainable development indicators reflect performance across the following three aspects?

Economic	Environmental	Social
People's livelihood:	*Living environment:*	*Social and community facilities:*

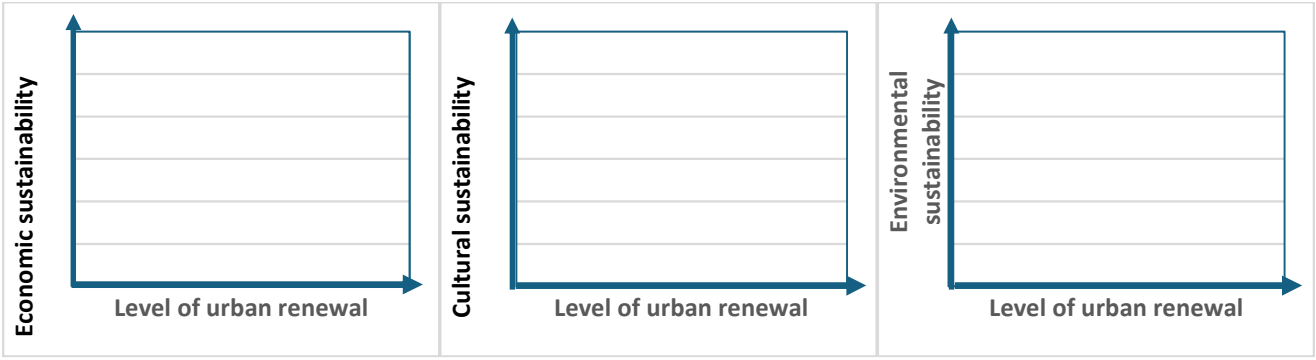
➢ Enquiry question

Focus of Study: Urban problems

- The higher the level of urban renewal, the higher the level of urban sustainability.
  I expect that the zone A / B / C / D in the field study area will have the highest level of sustainable development

How would you observe the relationship between **urban renewal** and **sustainability of a city**?

Use charts to illustrate your hypothesis



➢ When to collect data?

Date: _____ Season: _____

Time: _____ to _____

What factors would you consider in choosing the fieldwork date?

1. Any weather warnings & signals issued by the Hong Kong Observatory in the **past three days**?

☐ Tropical cyclone warning signals ☐ Rainstorm warnings ☐ Frost warning

☐ Cold weather warning ☐ Very hot weather warning ☐ Other:_____

2. When do you think is the best time to conduct the research of this topic? Why?

➢ Where to collect data? *(refer to the map on P.32)*

List three zones in Hong Kong that have undergone large-scale urban renewal.

1. _____
2. _____
3. _____

Is Wan chai an ideal location for conducting research on this topic? Why?

(Consider the advantages of choosing Wan Chai for urban renewal research.)

What factors would you consider when selecting the field site?

Sampling method is used in setting the data collection points *(details on P.25)*:

Referring to the map on P.32, the establishment of **survey Zone A to E** in Wan Chai for the investigation applies _____ sampling. *representing different development models/periods of Wan Chai*

Within each survey zone, the selection of appropriate sampling points* by students applies _____ sampling. *e.g. best represent the environment of the area

- **What data to collect and how to collect the data?**

  Focus of Study:

  1. The higher the level of urban renewal, the higher the level of urban sustainability.

Research items and data collection methods：

1. Assessment of urban renewal level

Research items			Primary data collection methods*	Equipment [1-3] (see Table 2) (if needed)	Operational precautions
Part 1：Assessment of urban renewal level					
Assessment of urban renewal level	Residential types	Tenement House (**唐樓**)/ western-style apartments (洋**樓**) / New Luxury Apartments (e.g., residential height / air conditioning design / window styles / style of building entrances)	A/D/F		
	Building quality	Illegal structures / Exterior wall conditions	A/F		
	Style of ground floor shops	Simply furnished traditional shops / Trendy stores / Vacant / Chain stores	A/D		

***[A-I] (see Table 1) (may choose more than one)**

2. Assessment of Urban Sustainability Development Levels

Research items		Primary data collection methods*	Equipment [1-7] (see Table 2) (if needed)	Operational precautions
Part 2：Assessment of Urban Sustainability Development Levels				
Environmental	Aspect ratio (ratio of building height to road width)	B/F		
	Dynamic potential	A/F		
	Air quality (PM2.5/10 concentration)	B/F		
	Noise level	B/F		
	Level of vegetation cover	A/F		
	Street sanitation	A/F		
Social	Type and number of community facilities	A/C/D/F		
	Preservation of cultural property of archaeological, historical and architectural interest	A/F		
Economic	Types of shops and Community Affordability	A/C/D/F		

***[A-I] (see Table 1) (may choose more than one)**

Table 1 Primary data collection methods

A) Observation	B) Measurement	C) Counting	D) Category	E) Distribution (mapping)
F) Scoring	G) Field sketching	H) Questionnaire	I) In-depth interview	

Table 2 Equipment for fieldwork *(Make sure you know how to use them correctly before fieldwork.)*

Equipment for fieldwork		
		
1. Air quality monitor	**2. Noise meter**	**3. Color pencils (self-provided)**

STAGE 2: DATA COLLECTION

Part 1: Assessment of urban renewal level

Data Collection 1: Ground floor shop styles statistics

Work Arrangement: Observe and count the types of shops in each zone (don't insist on finding all the shops, just a representative sample is sufficient), and try to find out the main types of services provided by the shops in that zone.

Zones	Ground floor shop styles statistics (quantity)				Total number of ground floor shop in the zone
	Fashionable / Unique	Chain Stores	Simple / Traditional	Vacant	
A					
B					
C					
D					

Data Collection 2: Residential building aesthetic features

Based on the distribution of the four zones on the map, record the height of residential buildings in the zones, rate the aesthetic features of the buildings to infer the level of urban renewal in the zone.

Work Arrangement: Identify 5 residential buildings that are representative of each zone.

Only observe the buildings from the front facing the street.

Residential Building Aesthetic Features Scoring Indicators			
Feature	**Score**		
	0-1	**2-3**	**4-5**
Building Design	Tenement style (Tong Lau)	Plain / Simple	Modern / Novel
Building Height	Low (L): 10 stories or fewer	Medium (M): 10-20 stories	High (H): 20 stories or more
Facade Condition	Worn/peeling paint/visible stains	Generally tidy/recently renovated	Very tidy
Windows	Old-style frames / inconsistent styles	All small aluminum windows / similar units	All floor-to-ceiling windows / uniform units
Air Conditioning Location	No preset AC location/varies by unit	Protruding concrete structure supporting AC	AC location is discreet /embedded in the wall
Illegal Structures and Hazards	Large illegal structures (e.g., rooftop/platform)	Only small illegal structures (e.g., awnings)	None (5 points)
Building Entrance	Dim / narrow stairway	Basic lighting / simple	Bright, spacious, stylish

Please classify the buildings into four grades according to the following curb appeal scores and show them on the map (P.26-29) in the colour of the legend.

Total score	Level	Legend
0 - 9 points	Severe deterioration	Red ☐
10 - 17 points	Poor	Yellow ☐
18 - 26 points	Good	Green ☐
27 - 35 points	Excellent	Blue ☐

Zones	Building	Residential Building Aesthetic Features (Score)								
		Design	Building Height	External Wall (Façade)	Windows	Air Conditioning Location	Illegal Structures and Hazards	Building Entrance	Total Score	Zone Average Score*
A	1									
	2									
	3									
	4									
	5									
B	1									
	2									
	3									
	4									
	5									
C	1									
	2									
	3									
	4									
	5									
D	1									
	2									
	3									
	4									
	5									

* Zone Average Score = Total Score ÷ 5

Part 2: Assessment of Urban Sustainability Development Levels

*Record the data of each zone on pages 26–29.

Data Collection 1: Environmental Sustainability Assessment

Record the assessment data and calculate the **total score** for the assessment point based on the following scoring criteria. Additionally, evaluate **the urban environmental sustainability** of the assessment point.。

Assessment items	Score and description			
	Highest Sustainability	High Sustainability	Moderate Sustainability	Low Sustainability
*Aspect Ratio (Refer to P.14)	Less than 1.0	1.0-2.0	2.1-4.0	Larger than 4.0
	(10 points)	(7points)	(4 points)	(0 points)
#Dynamic Potential (Refer to P.15)	High	Medium	Low	Very Low
	(10 points)	(7points)	(4 points)	(0 points)
*Air Quality (PM2.5/10)	PM 0-25	PM 26-50	PM 51-75	PM 76 or above
	(10 points)	(7points)	(4 points)	(0 points)
*Noise Level (Average dB)	dB 41-60	dB 61-70	dB 71-80	dB 81 or above
	(10 points)	(7points)	(4 points)	(0 points)
#Level of vegetation cover (Refer to P.15)	Abundant	Moderate	Limited	None
	(10 points)	(7points)	(4 points)	(0 points)
#Street sanitation	Well-maintained and clean / Ideal back alleys	Generally no litter / Normal back alleys	Some litter / Dirtier back alleys	Lots of litter / Unmaintained back alleys
	(10 points)	(7points)	(4 points)	(0 points)

#Assess the overall situation of the Zone *collect data at designated locations

Zone	Aspect Ratio	Dynamic Potential	Air Quality	Noise Level	Level of vegetation cover	Street sanitation	Environmental Sustainability	
	Score						Total score	* Zone Average Score
A							/60	/10
B							/60	/10
C							/60	/10
D							/60	/10

* Zone Average Score = Total Score÷6

Data Collection 2: Social, Cultural and Infrastructural Sustainability Assessment

Work Arrangement: Observe each zone along the way and try to identify the presence of the following socio-cultural and infrastructural facilities in the zone

Assessment items		Zone			
		A	B	C	D
Education Facilities	Quantity				
	Description (e.g. name)				
Medical and healthcare facilities (including veterinarians)	Quantity				
	Description (e.g. name)				
Art venues (exhibitions/galleries)	Quantity				
	Description (e.g. name)				
Public space and community facilities (community centres, public markets, libraries, parks, churches, temples, etc.)	Quantity				
	Description (e.g. name)				
Historic buildings	Quantity				
	Description (e.g. name)				
Number of social, cultural and infrastructural facilities in the area (The highest score is 10 marks)					

Data Collection 3: Economic Sustainability Assessment

Assess the local cost of living, including the prices of **food and basic daily necessities**.
In the zones you investigate, **check the prices of three main consumer goods**, attempting to find the prices at three different stores for each item as a reference. If the item is not available in that zone, please indicate [not available].
(Select the average price for that store category; do not choose the most expensive or cheapest items as sample data.)
Please mark their locations on the map (P.26-29). (Be careful not to disturb the daily operations of the stores.)

Community Affordability

Zone	Consumer Goods	Store					
		Shop 1	Shop 2	Shop 3	Average prices	Average prices in the zone	Community Affordability Index (1/4/7/10 points)
A	Bread (a loaf)	$	$	$	$		
	*Lunch set	$	$	$	$		
	Haircut / style Services	$	$	$	$		
B	Bread (a loaf)	$	$	$	$		
	*Lunch set	$	$	$	$		
	Haircut / style Services	$	$	$	$		
C	Bread (a loaf)	$	$	$	$		
	*Lunch set	$	$	$	$		
	Haircut / style Services	$	$	$	$		
D	Bread (a loaf)	$	$	$	$		
	*Lunch set	$	$	$	$		
	Haircut / style Services	$	$	$	$		

Average prices in the zone	Community Affordability Index
$30 - $49	*10*
$50 - $89	*7*
$90 - $149	*4*
$150 >	*1*

#The lower the price the higher the score, the more affordable the life of the people.

**For lunch, please refer to the prices of a lunch set menu / prices for one main course and a drink.*

Part 3: Photographic Evidence Collection

(Always prioritize safety while taking photographs and avoid disrupting daily activities in the zone)

The following are some suggestions for photographing expedition evidence related to the study topic during the expedition for the purpose of analysing the data. Here are some suggestions for what to capture:

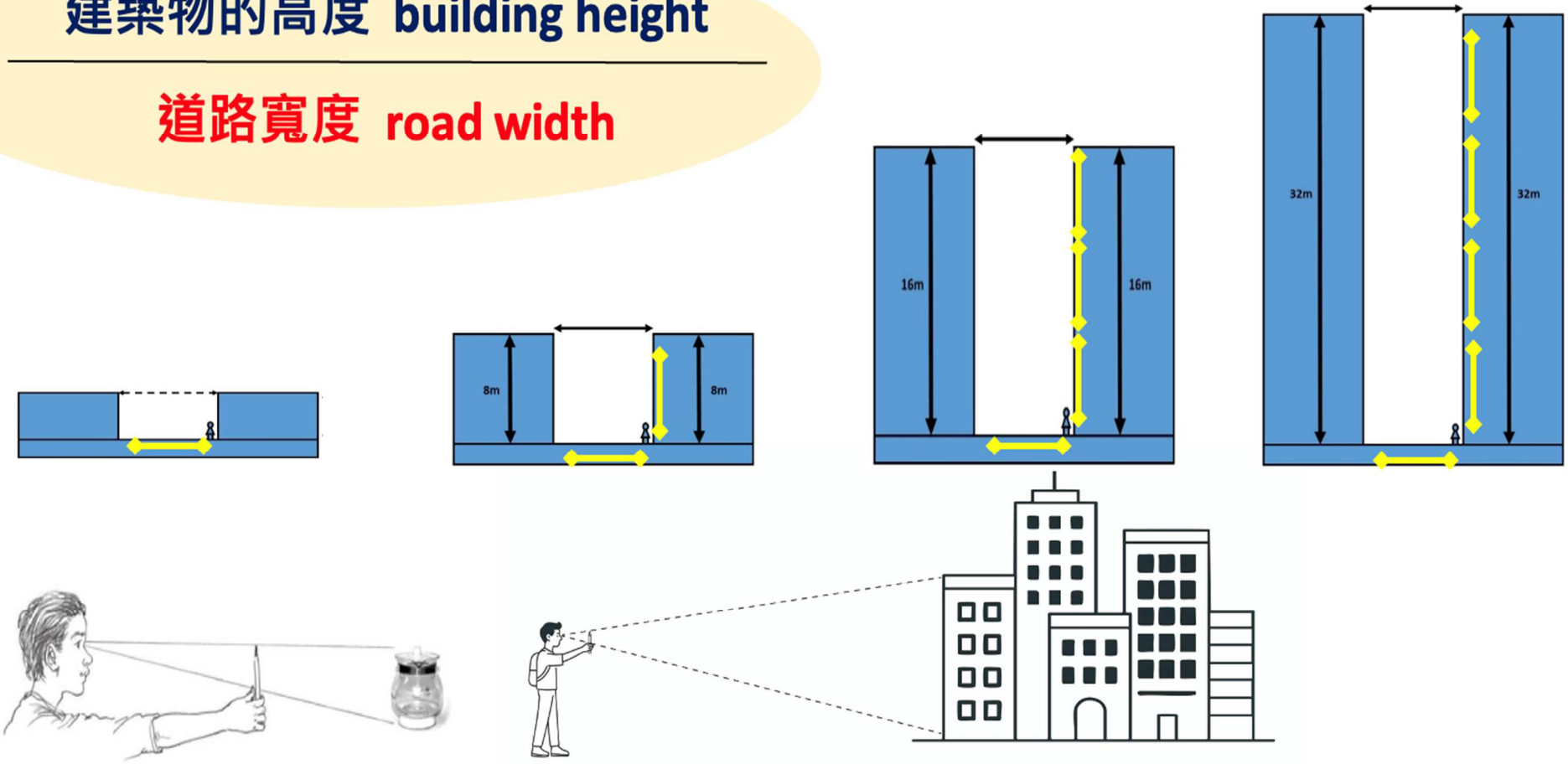
Reflecting the zone's	Photographic Evidence		Consideration
Economic Indicators	1. Architectural style of the zone	Select a street that can reflect the architectural style and the degree of regeneration of the zone.	• How does the building's exterior reflect urban renewal? • What types and styles of buildings dominate the zone? • Are most structures newly rebuilt luxury residences or ordinary houses/tenement buildings?
	2. Types and quality of the local shops	Select a shop that represents the type of retail in the zone (high-end vs. modest)	• What demographic do the shops typically serve? • Do these shops exhibit high-end decor or a more modest style? • Is there evidence of gentrification?
Social and Cultural Indicators	3. Community facilities	Capture images of community facilities in the zone (e.g., community centers, public libraries, parks, churches, temples, markets).	• A balanced community should have adequate facilities to meet residents' needs. • Which zones have more appropriate community facilities to serve local residents?
	4. Buildings with special historical significance	Capture images buildings with historical significance in the zone. (e.g. old government buildings, pre-war tenement buildings, etc.)	• A well-balanced community should respect the local history and culture, and preserve buildings that are historical and cultural assets of the community
Environmental Indicators	5. Street sanitary condition and environment	Select a representative street to reflect the zone's environment and cleanliness	• A well-balanced community should have a good street environment for residents to live in.

高寬比- 建築物的高度與道路寬度的比例

Aspect ratio - The ratio of building height to road width.

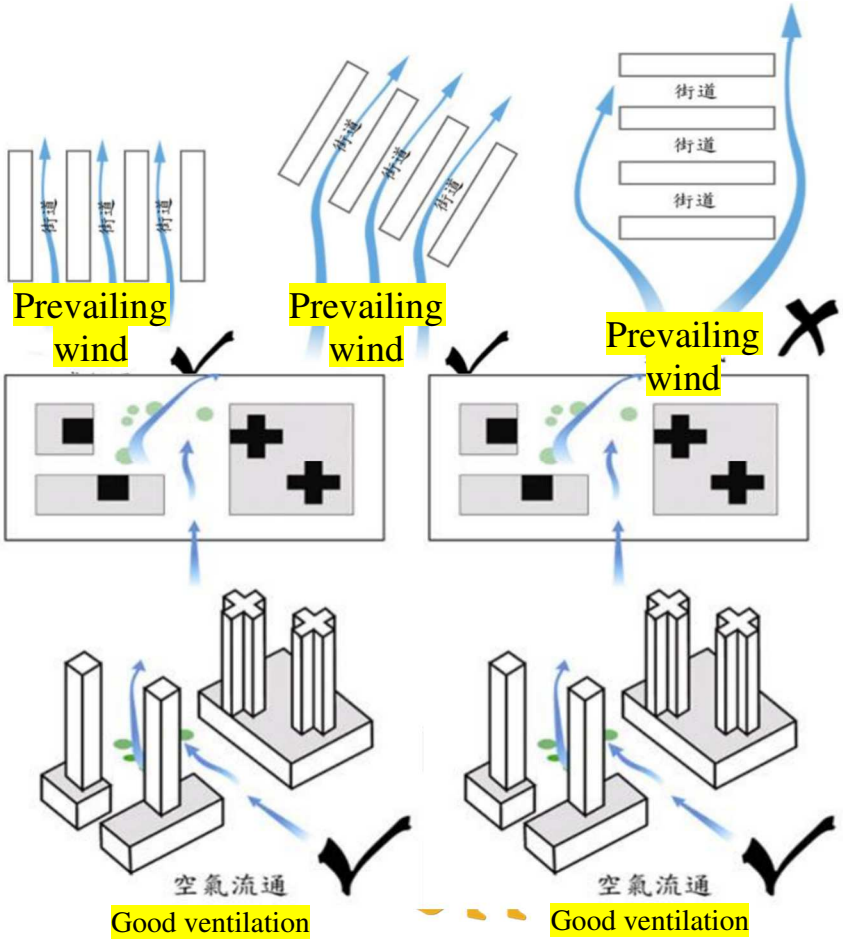
Aspect Ratio	Less than 1.0	1.0-2.0	2.1-4.0	Larger than 4.0
	(10 points)	(7points)	(4 points)	(0 points)

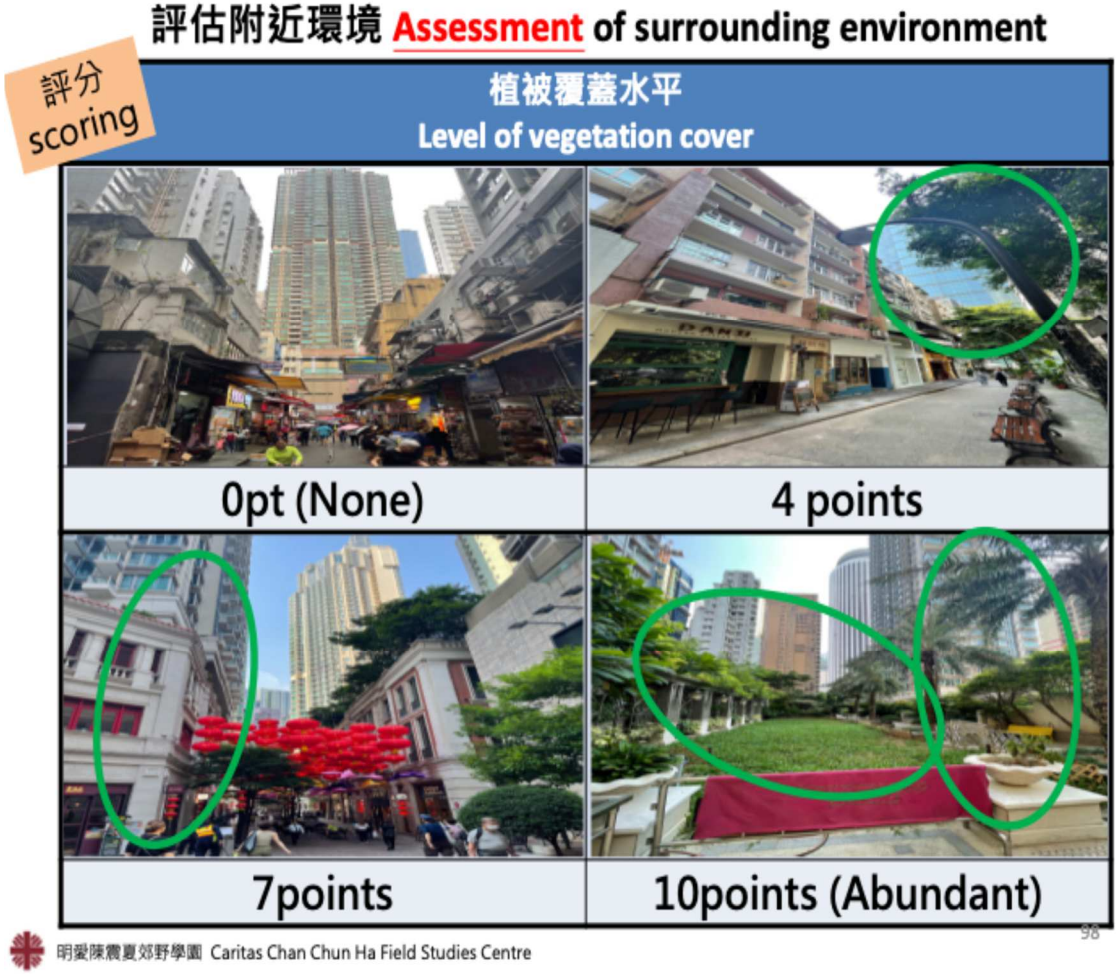
$$= \frac{\text{建築物的高度 building height}}{\text{道路寬度 road width}}$$



Dynamic Potential	High	Medium	Low	Very Low
	(10 points)	(7points)	(4 points)	(0 points)

Level of vegetation cover	Abundant	Moderate	Limited	None
	(10 points)	(7points)	(4 points)	(0 points)





STAGE 3 DATA PROCESSING & PRESENTATION

➢ Data summary

Summarize the data collected (P.7-12), fill in the table below.

Part 1: Assessment of urban renewal level

1. According to Data Collection 1 (P.7), categorize the store types in the surveyed zone. and calculate the percentage of various types of ground floor shops.

	Zone A		Zone B		Zone C		Zone D	
Total number of recorded ground floor shops								
Ground floor shop styles statistics	Quantity	%	Quantity	%	Quantity	%	Quantity	%
Fashionable / Unique								
Chain Stores								
Simple / Traditional								
Vacant								
Main types of goods/ Service types for Ground Floor Shops (Higher end Mid-Range, Lower end)								

2. Based on the data collection 2(P.9), regarding the aesthetic designs of residential buildings, calculate the total average score for the buildings in the surveyed zone.

		Zone			
		A	B	C	D
Residential Building Aesthetic Features	Zone Average Score				

2. Assessment of Urban Sustainability Development Levels

Environmental Sustainability Assessment

P.10 Based on the collected data, calculate the total average score for environmental sustainability in the various zones. **(# 1-10points)**

	Zone A	Zone B	Zone C	Zone D
Environmental Sustainability scores				

Social, Cultural and Infrastructural Sustainability Assessment

P.11 Based on the collected data, calculate the total average score for the sustainability assessment of social, cultural, and infrastructure assessment across various zones. **(# 1-10 points)**

	Zone A	Zone B	Zone C	Zone D
Social, Cultural and Infrastructural Sustainability scores				

Economic Sustainability Assessment

P.12 Based on the collected data, calculate the total average score for economic affordability in the various zones. **(# 1-10points)**

	Zone A	Zone B	Zone C	Zone D
Community Affordability Index				

- **Data presentation**

Based on the primary data obtained during the inspection, what would be the most appropriate chart to present if we were to try to understand the following items?

Choose suitable diagram to present the following data:	Diagram
a) Compare residential building aesthetic features	
b) Spatial analysis of urban renewal level in different zones	
c) Comparing the 3 indicators of urban sustainability levels (Social/environment/economic) in different zones	
d) Showing the relationship between urban renewal and urban sustainability	
e) Calculate the percentage of various types of ground floor shops	

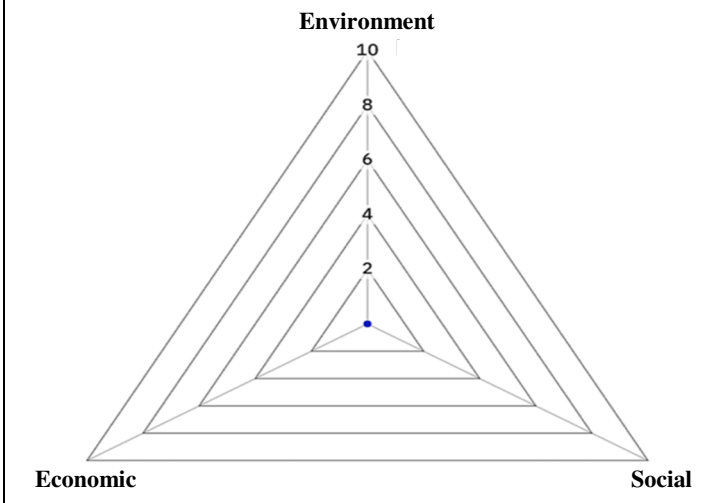
Data Processing -
Relationship Between Urban Renewal and Urban Sustainability Assessment

Zone	Urban Renewal Level
	Residential Building Aesthetic Features Total Score
A	
B	
C	
D	

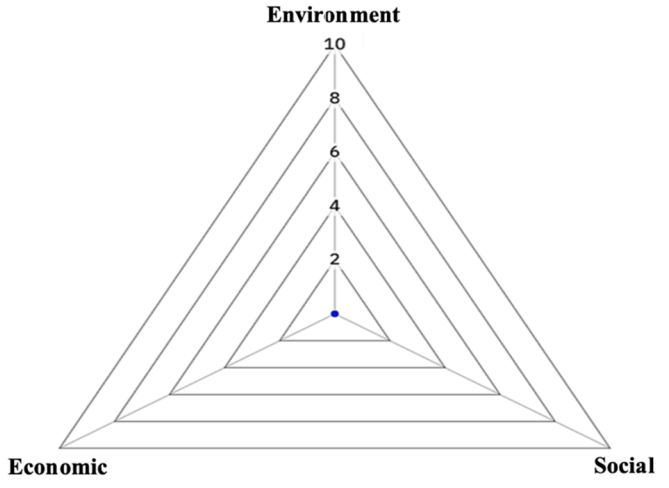
Zone	Urban Sustainability Development Levels			
	Environmental Sustainability Assessment	Social, Cultural and Infrastructural Sustainability Assessment	Economic Sustainability Assessment	Total Score
A				
B				
C				
D				

Urban Sustainability Development Levels

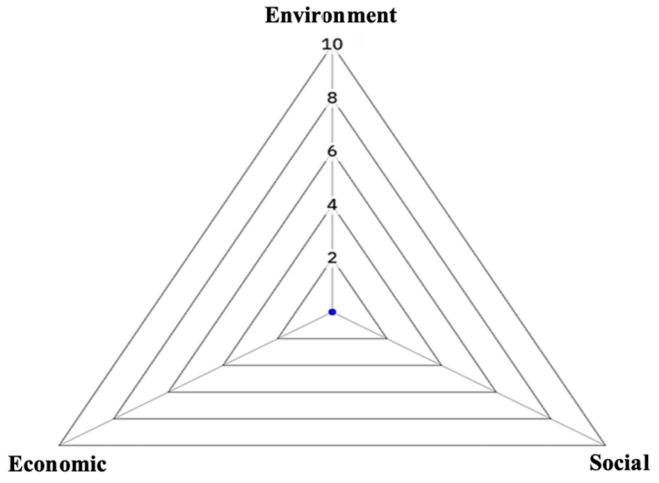
Zone A



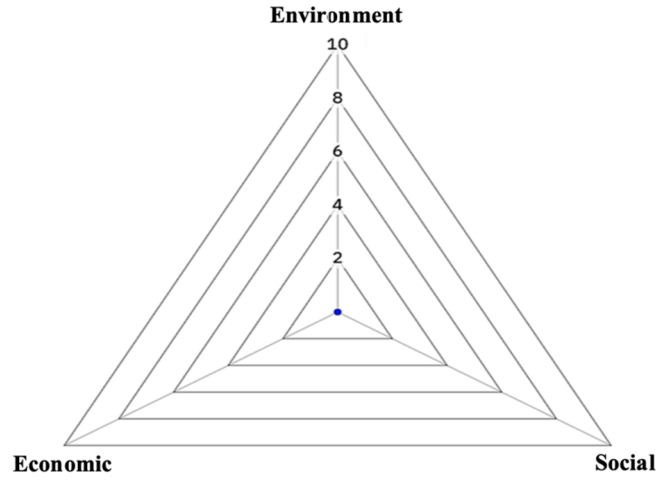
Zone B



Zone C

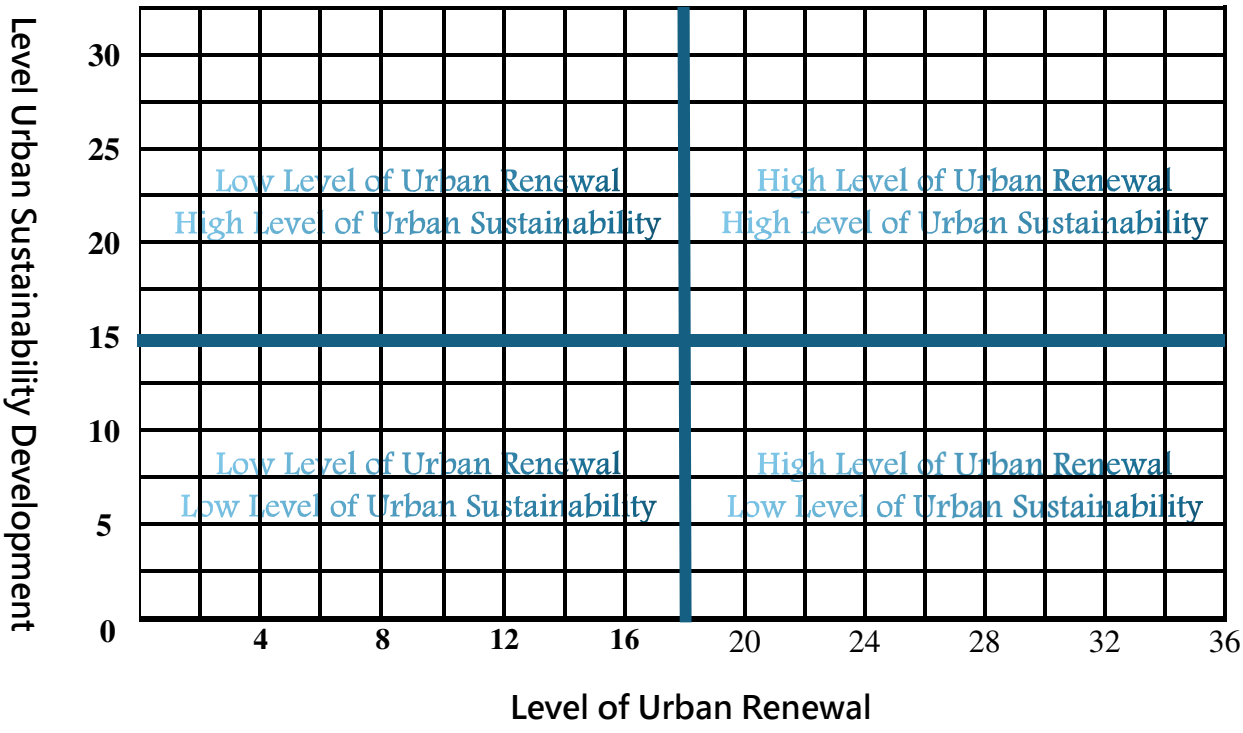


Zone D



Show the data of P.16-18 using scatter diagram

Relationship Between Urban Renewal and Urban Sustainability Assessment



STAGE 4 INTERPRETATION & CONCLUSION

1. Refer to the data collected, discuss whether your hypothesis *(p.3)* is valid. Discuss the relationship between the level of urban renewal and urban sustainability.

My hypothesis:		Note： I expect that "the higher the degree of renewal, the higher/lower the level of urban sustainability." The results are consistent/partially consistent/inconsistent with my hypothesis. What evidence supports this? What evidence contradicts it?
Supporting Evidence / Reasons	Contradicting Evidence / Reasons	

2. How far do the data collected fit the above hypothesis? Why?

Justifications that fit	Justifications that do not fit
What is the rationale behind the hypothesis?	Why do you think those reasons contradict your initial hypothesis? Note：Was there an incorrect prediction? Were there issues with the data collection methods?

3. If some data does not show a positive relationship between urban renewal and sustainability, what factors might affect a zone's level of sustainability?

Environmental imapct：

Social impact：

People's livelihood：

Note： Government policies / Local residents' voices / General societal concerns about specific community issues ?

4. Based on the evidence and its summary, do you think the government is doing enough in terms of cultural and historical preservation in Wan Chai?

Note：Besides preserving the facades of buildings, does the "Retain House and Tenant" 「留屋留人」model of the Blue House in Wan Chai adequately preserve the original culture, community networks, and way of life?

STAGE 5 EVALUATION

1. What sampling methods are used in setting the field sites? Account for the **merits** and **demerits** of these sampling methods.

2. Reflect on the planning of fieldwork. Discuss the factors that might cause data bias and propose methods to improve the **validity** and **reliability** of the data.

Factors affecting the data reliability and validity		Suggestion for improvement
Fieldwork date/ time ◆ Fieldwork date and time representative? ◆ Any impact by today's weather condition?		
Field site/ study zone ◆ Field sites match with research topic? ◆ Field study zone adequate?		
Location of data collection (Sampling) ◆ Sampling method in choosing field site appropriate? ◆ Location of measurement representative? ◆ Sample size sufficient?		
Data collection items/ methods ◆ Data collection items adequate to respond the enquiry questions? ◆ Are the data obtained from the data collection method(s) objective and without bias? ◆ Any inadequacy about the equipment/ instruments? ◆ Measurer using the equipment/ instruments correctly?		

Homework

After fieldwork, organize this fieldwork experience in field trip diary *(P.22-23)* as a reference for the revision of field-based question.

Rebuilding Wan Chai- Exploring the Path of Urban Renewal

My Field Trip Diary

- Related modules: Compulsory Module 4：Building a Sustainable City - Are Environmental Conservation and Urban Development Mutually Exclusive?
- Key point of fieldwork/topic: _____

▪ Date:_____ (Weekday/ Public holiday) ▪ Time:_____ ▪ Field site: _____	▪ Weather condition:
Is the above planning appropriate for the fieldwork?	

- Primary data:

Strategies of data collection	Data collected	Equipment/ Material (if any)	Merits☺/ Demerits☹ of the data collection strategy (give examples)	Suggestion for improvement (give explanations)

➢ Secondary data:

Data collected	Use	Obtained from
Apart from the above, what other supplementary information would be necessary to respond to the fieldwork topic?		

➢ Sampling method (if any):

Sampling method	Applied during data collection of	Merits☺/ Demerits☹

➢ Data processing and presentation:

Type of graph/ chart	Content and function of graph/chart	Merits☺/ Demerits☹

➢ For deeper learning or further study, I suggest modify the following aspects.

		Suggestion (give examples)
❑	Key point of fieldwork/ topic	
❑	Data to be collected and method of data collection	
❑	Date and time of fieldwork	
❑	Field site	

延伸閱讀 /Additional Resources

Smart City and Sustainable Development in Shenzhen:

Primary data collection methods

Data collection methods	Explanations		Examples
A) Observation	● Using sensory observation to explore the details of research subject (people, things or environment) in a purposive and planned way. Data are recorded using text, photos, sketch, map, etc. (Refer to other data collection methods listed below)		● Identification of the surrounding environment of a field site
B) Measurement	● To estimate or measure the physical quantity of the research subject. It usually requires the use of equipment or tools. Data are usually shown in certain standard, weights or measures.		● Measurement of the width of street and the building height
C) Counting	● To record the number of occurrence of a single item.		● Statistics of pedestrian flow at the pier
D) Category	● To classify based on the nature, characteristics and uses: ♦ to group the same or similar things; ♦ to separate different things.		● Types of goods sold in supermarket ● Customers (serving local residents and tourists) of different shops
E) Distribution (mapping)	● To group similar things according to the research topic (similar to "**D. Category"**); ● Only suitable for spatial representation (different from category); ● Useful in showing the mode of occurrence of research subject in a complex environment.		● Distribution of shops selling big fish balls in Cheung Chau
F) Scoring	● To quantify abstract or subjective concepts; ● To merge various data for easy comparison; ● Scoring items should include different aspects.		● Risk index of natural hazards of Cheung Chau ● Air Quality Health Index (AQHI)
G) Field sketching	● To make simplified drawing of the field site to show what the data collectors observed. Annotations related to the research subject are added to provide key feature or additional information.		● Draw the characteristics and formation of weathering landforms
H) Questionnaire	● Forms: face-to-face, telephone, written, etc.; ● Using questionnaire to understand the opinion of research subject; ● Larger sample size than "**I. in-depth interview"**; ● Mainly closed questions (with options available).	● To collect information by questioning; ● To obtain information which is difficult to be obtained through observations; ● To understand the rationales and opinions of interviewees.	● The main reasons for tourists to visit Cheung Chau ● The level of satisfaction among residents regarding a revitalization project
I) In-depth Interview	● To obtain information through face-to-face/ telephone interview; ● Smaller sample size than "**H.Questionnaire"**; ● Mainly open questions and forthcoming questions will change upon the answer of respondents.		● Opinions of District Council members on the future development of that district

Sampling Methods

	Probabilistic sampling methods ➢ *Need to know the size of population;* ➢ *Few differences among individuals;* ➢ *Individual has equal chance of being selected;* ➢ *Representativeness of data depends on sampling percentage.*			**Non-probabilistic sampling methods** ➢ *Size of population might not be relevant to the research objective;* ➢ *Chance of individual being selected is unknown;* ➢ *Representativeness of the results depends on the judgment of researcher in sample selection (Such as the correlation between samples and research targets).*		
Sampling methods	**Simple random sampling** (簡單隨機抽樣)	**Systematic sampling** (系統抽樣)	**Stratified sampling** (分層抽樣)	**Quota sampling** (配額抽樣/ 定額抽樣)	**Convenience sampling** (便利抽樣/ 方便抽樣)	**Purposive sampling** (立意抽樣)
Explanations	To select sample from the **whole population randomly**. (using computer program, bamboo slip or random number table)	Each member of the whole population is sequentially numbered, then selected according to a **fixed, periodic interval**.	The whole population are classified according to the variable and divided into separate stratum. Then samples are selected randomly by proportion from each stratum.	The whole population are classified according to the variable and divided into separate stratum. Then desired number (quota) of samples are selected from each stratum.	Research subjects are selected due to convenience of recruitment.	Samples are selected according to research objectives and special requirements.
Examples	To choose a certain number of students to conduct questionnaires/ surveys according to the class number.	To measure the noise level of a street in a regular interval.	To group buildings according to their ages (e.g. above or below 50), and select a certain number of buildings in each group randomly.	To select a certain number of male and female customers, then record the amount spent in a shop.	To interview a certain number of relatives who work in mainland China To interview a certain number of passersby on the street	To conduct an in-depth interview with a district councilor about the social problems of that district.
Remarks	Suitable for small population and few variations among samples (for relevant research objectives).	Suitable for large population (hidden cyclic ordering which may affect the representativeness of data).	Effectively show the relationship / effect between variables.	Effectively show the relationship / effect of variables, but the characteristics and size of samples are judged subjectively.	Should not generalize the data to larger population	Suitable for qualitative research (data is easily influenced by the subjective judgment of researcher)

街區 A Zone A

Potential Environmental Data Collection Points

Finishing Point

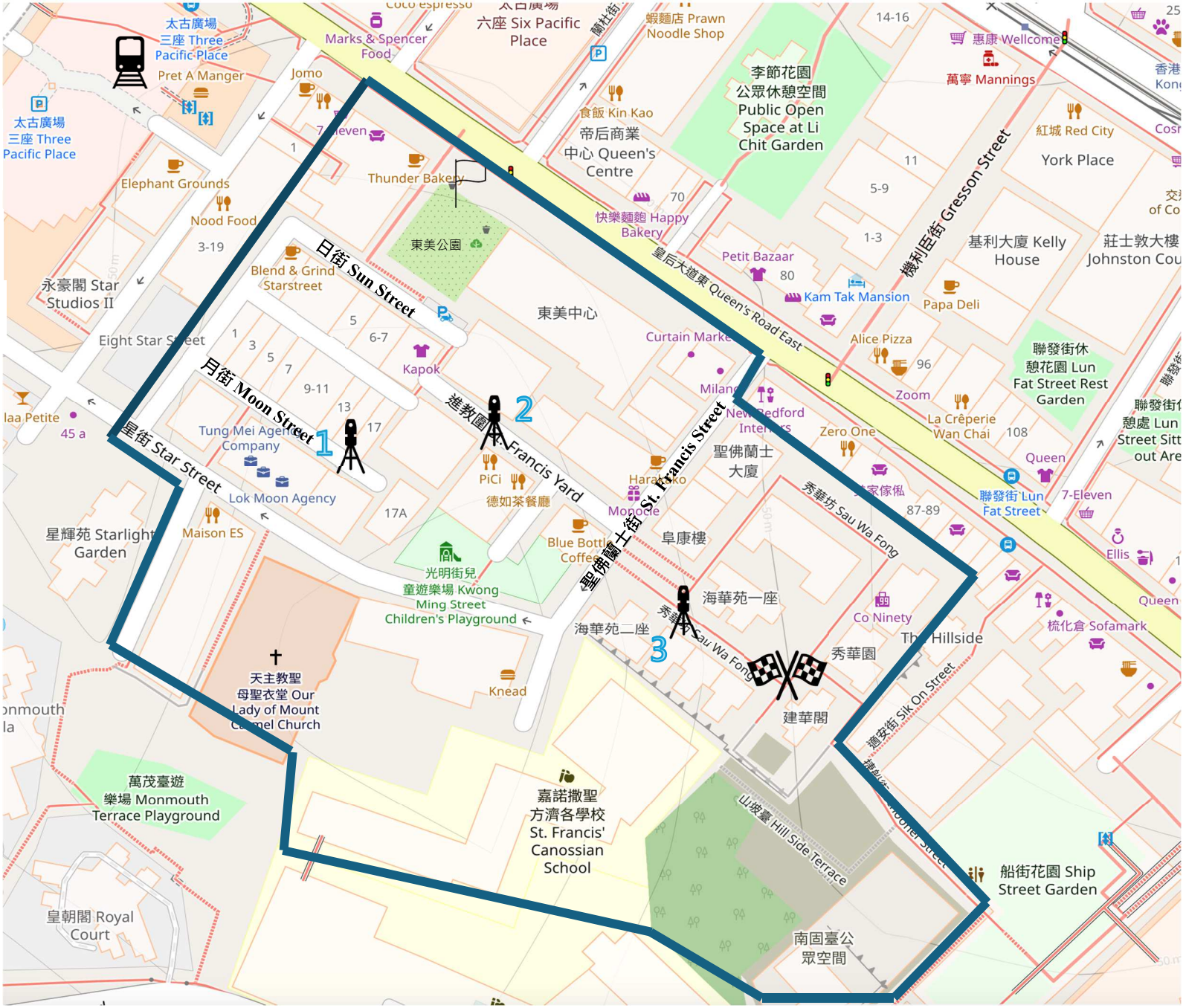
Study Zone

金鐘站 MTR Station

Starting Point

	Air Quality	Noise Level	Aspect Ratio
1			
2			
3			
Average			

The average value of the above 3 sets of data should be **converted into a score** according to the criteria in P.10.



街區 B Zone B

Potential Environmental Data Collection Points

Finishing Point

Study Zone

Starting Point

	Air Quality	Noise Level	Aspect Ratio
1			
2			
Average			

The average value of the above 3 sets of data should be **converted into a score** according to the criteria in P.10.

街區 C Zone C

Potential Environmental Data Collection Points

Finishing Point

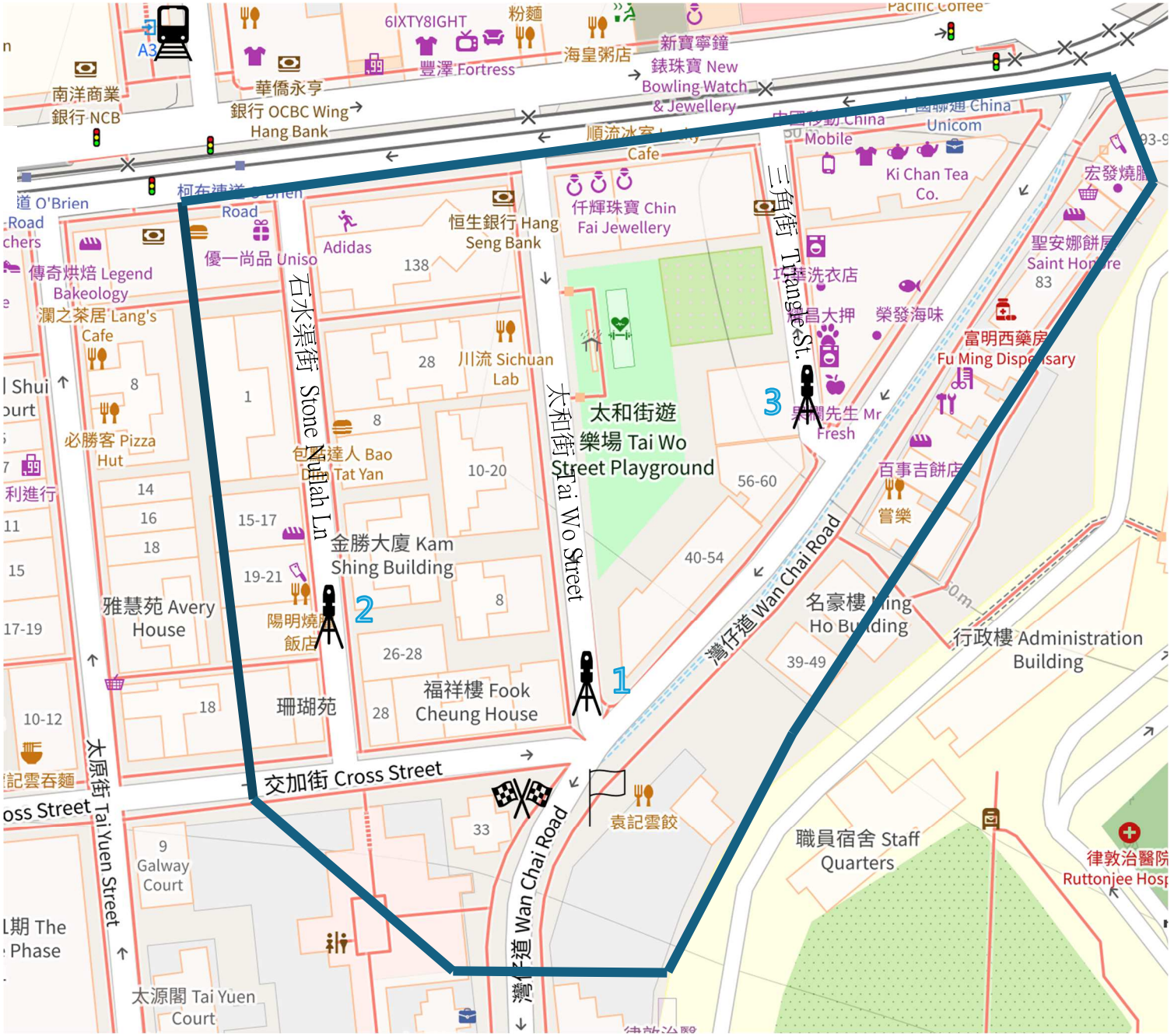
Study Zone

灣仔站 MTR Station

Starting Point

	Air Quality	Noise Level	Aspect Ratio
1			
2			
3			
Average			

The average value of the above 3 sets of data should be **converted into a score** according to the criteria in P.10.



街區 D Zone D

Potential Environmental Data Collection Points

Finishing Point

Study Zone

Starting Point

	Air Quality	Noise Level	Aspect Ratio
1			
2			
3			
4			
Average			

The average value of the above 3 sets of data should be **converted into a score** according to the criteria in P.10.

Notes:

Notes:

考察地圖 Field map