



Sustainable Urban Development

Enquiry Skills Approach, Version 2.0

A. Planning and Preparation

Module

Building a sustainable city

Enquiry Question

Hypothesis 1 : ***The area with higher building age, the more serious the urban decay.***
Hypothesis 2 : ***Low income residential land use has poorer living environment than other residential land uses .***
Hypothesis 3 : ***The higher the traffic flow, the higher the pollution level.***

Key Concepts

Urban decay	Urban renewal	Sustainable development	Redevelopment	Rehabilitation
Revitalization	Preservation	Succession	Gentrification	Reurbanization

Scope of the Study

Tsuen Wan Town

Think About

List the safety risks when conducting the urban fieldwork.

Field Work Plan

1. Refer to the Map 2.4.
2. Flip the provided transparency, Map 2.3, on Map 2.4. Tsuen Wan town will then be separated into 28 zones.
3. Take a walk according to the route shown on Map 2.4.
4. During the walk, observe and examine the land uses of the labelled 28 zones according to the following classification.
 - a) Commercial b) Industrial c) Low income residential d) Middle income residential
 - e) High income residential f) Institutional g) Construction h) Recreational i) Others
5. For each zone, select one typical building. Observe and evaluate its outlook and surrounding area according to the following items.
 - a) Building materials b) Design c) Height d) Infrastructure e) Recreational facilities
6. Record your scores in Table 2.1.
7. With the provided instruments, measure the noise level and air quality for 1 minute at each checkpoint (A-G).
8. When measuring the data items in 7., count the number and record the major types of vehicles.
9. Record the data in Table 2.2.

B. Data Collection

Complete the following table.

Primary Data Items	To Examine Hypothesis			Data Collection Method			Equipment Required (Number on the Equipment Checklist)
	1	2	3	Observation	Counting	Measuring	
1. Land use							
2. Building appearances and surroundings							
3. Noise Level							
4. Dust particulates level							
5. No. of vehicles							
6. Major types of vehicles							

Sampling Method

Systematic sampling

Think About

List the advantages and disadvantages of systematic sampling.

Equipment Checklist

Items	Quantity	Checked	Returned
1. Base map (Individual)	x1	<input type="checkbox"/>	<input type="checkbox"/>
2. Clipboard (Individual)	x1	<input type="checkbox"/>	<input type="checkbox"/>
3. Compass (Individual)	x1	<input type="checkbox"/>	<input type="checkbox"/>
4. Colour pencils	x1	<input type="checkbox"/>	<input type="checkbox"/>
5. Counter	x1	<input type="checkbox"/>	<input type="checkbox"/>
6. Sound meter	x1	<input type="checkbox"/>	<input type="checkbox"/>
7. Dust particulates meter	x1	<input type="checkbox"/>	<input type="checkbox"/>

Data Recording sheet

Table 2.1 Assessment form for land uses and bulidings in Tsuen Wan

Area	Land Use	Building Appearances and Surroundings*					Total
		a)	b)	c)	d)	e)	
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							
23.							
24.							
25.							
26.							
27.							
28.							

*Markings for building appearances and surroundings (3 marks for the best, 1 mark for the worst):

a) Building materials b) Design c) Height d) Infrastructure e) Recreational facilities

Table 2.2 - Other related data in Tsuen Wan

Checkpoint	A	B	C	D	E	F	G
Noise level (dB)							
Dust Particulates ($\mu\text{g}/\text{m}^3$)							
Number of vehicles							
Major type of vehicles							

Think About

- List the possible errors when collecting data.

- List out the possible reasons why those errors happened.

- Suggest ways to reduce the above errors.

C. Data Processing, Presentation and Analysis

Classify the data items into qualitative data and quantitative data. Compare their advantages and disadvantages of those data used in presentation and analysing information.

Qualitative Data Items:		Quantitative Data Items:	
Advantages:	Disadvantages:	Advantages:	Disadvantages:

Draw the most appropriate diagrams to present the collected data.

Think About

List the merits and demerits of the chosen diagrams.

D. Interpretation and Conclusion

1. Does the fieldwork result support the Hypothesis 1 ***The area with higher building age, the more serious the urban decay.***? Support your conclusion with the collected data and graphs.

2. Does the fieldwork result support the Hypothesis 2 ***Low income residential land use has poorer living environment than other residential land uses .?*** Support your conclusion with the collected data and graphs.

3. Does the fieldwork result support the Hypothesis 3 ***The higher the traffic flow, the higher the pollution level.?*** Support your conclusion with the collected data and graphs.

E. Evaluation

1. Other than the data collected in this course, suggest other enquiry question, data and information that you might need for a fieldwork in Tsuen Wan. Explain your answer.
