For discussion
on 26 February 2010

Legislative Council Panel on Transport

Assessment Results on Proposals for
Provision of Hillside Escalator Links and Elevator Systems

PURPOSE

This paper briefs Members on the assessment results on the proposals for the provision of hillside escalator links and elevator systems using the proposed assessment system.

BACKGROUND

2. The Transport Department commissioned a consultancy study in May 2008 to establish an assessment system for the provision of hillside escalator links and elevator systems. The proposed assessment system aims at providing a comprehensive set of objectives and transparent evaluation criteria in determining the merits and relative priority of proposals on hillside escalator links and elevator systems. We consulted the Legislative Council Panel on Transport (the Panel) on the assessment system at its meeting on 22 May 2009. We agreed at the meeting that we would update the Panel on the finalized assessment system and the assessment outcome in due course.

THE FINALISED ASSESSMENT SYSTEM

3. On the basis of the structure of the assessment system as presented to the Panel in May 2009, we have now worked out the scoring scale for the assessment. The details of the finalized assessment system, with the respective weight of each criterion under the three key factors for assessment (i.e. circumstantial, beneficial and implementation factors), are set out at **Annex A**. The scoring scale reflects public views that we

received regarding the assessment system.

4. As advised by the consultant, similar evaluation ranking system for the provision of hillside escalator links and elevator systems is not found established in other cities/countries. Owing to the lack of similar references, the system established is entirely based on local experiences only. However, having reviewed the proposed assessment system in terms of assessment methodology, data collection processes involved and scoring mechanism after conducting test runs, the consultant has confirmed that the system is sufficiently robust and at the same time sufficiently general for long-term application. We hence finalised the assessment system on this basis.

5. Based on the rankings from the assessment system, we will prioritize the proposed hillside escalator links and elevator systems for conducting feasibility studies to ascertain the actual technical feasibility and detailed cost estimates for the proposals. The actual works progamme for implementing the proposals will take into account different factors such as structural and geotechnical complexity of the proposals, land resumption requirements, temporary traffic arrangements requirements, duration of construction, etc.

THE ASSESSMENT RESULT

6. Based on the ranking system[1], we have assessed a total of 20 proposed hillside escalator and elevator systems, including 4 in Hong Kong Island, 5 in Kowloon, and 11 in the New Territories. The final scores of the proposals range from 29.1 to 51.5. A list of the 20 proposals is given in **Annex B** and plans showing their locations are at **Annex C**. The final scores and resultant rankings of the proposals are tabulated in **Annex D**.

[1] As pointed out in para. 5 of Annex A, the assessment system is not applicable to proposals which cross a single road; entirely fall within the boundary of public housing estates; or form an integral part of major projects. The proposals will be separately considered / evaluated under other arrangements.

WAY FORWARD

7. Although the technical / environmental constraints have already been assessed under "Implementation Factors" of the scoring system during the evaluation of the proposals, the assessment has been done using a desk-top approach (e.g. review of plans for the identification of major underground utilities, and assessment of anticipated traffic and environmental impacts due to the construction and operation of the proposed facility). To enable us to better determine when and how we are to take forward the projects, we will conduct feasibility studies on the proposals, starting with those ranked top ten in the assessment, to ascertain their actual technical feasibility and detailed cost estimates. In particular, as most of the proposals are likely to be complex in engineering terms given the steep gradient, detailed studies into the structural and geotechnical aspects of a proposal will be necessary. The feasibility of a proposal would also be subject to detailed examination of issues such as land resumption requirements, environmental impacts, temporary traffic arrangements during construction, etc. We will look into all these issues as well as work out detailed cost estimates for construction in the technical feasibility studies.

8. If the outcome of the technical feasibility studies reveals that there are insurmountable construction difficulties in respect of certain proposals, we would need to reconsider whether they should be taken forward. As for the proposals that are considered technically feasible, we will work out the actual works programme for implementation having regard to such factors as technical findings in the feasibility studies, their relative priorities in the initial assessment, the duration of their construction, and the availability of resources, etc.. The actual number of proposals that would be taken forward would depend on the availability of resources, and we will apply for funds in accordance with established procedures.

9. We will conduct assessment exercises periodically to assess new proposals received as well as to re-assess those received in previous exercises which have not been committed for implementation due to their relatively lower priority.

LOCAL CONSULTATION

10. Having regard to the natural interest of districts concerned in the finalized assessment system and assessment results in respect of hillside escalators and elevator systems proposed, Transport Department will in due course meet with the District Councils concerned to explain the assessment system, as well as how the Administration will take forward the proposals in question. The views of the District Councils will also be sought on the proposals within their districts so that they could be taken into account as we take forward the technical feasibility studies.

ADVICE SOUGHT

11. Members are invited to note and comment on this paper.

Transport and Housing Bureau
February 2010

Annex A

Details of the Assessment System for Provision of Hillside Escalator Links and Elevator Systems

The assessment system on provision of hillside escalator links and elevator systems comprises initial screening and scoring stages.

Initial Screening

2. The initial screening helps screen out proposals which are obviously infeasible or unjustifiable for implementation. A proposal will not be taken forward if it has any of the following characteristics –

(a) land unavailability – inadequate land and / or infeasible land resumption to possibly accommodate the proposed facility;

(b) redundancy – similar facility / facilities is / are already provided or committed in close proximity[1] to the proposed facility;

(c) insurmountable construction or operational difficulties; or

(d) small level difference – level difference to be overcome is less than six metres (m).

Scoring System

3. Proposals which pass the initial screening will be evaluated by the scoring system based on the following set of evaluation criteria (figures in brackets denote their respective maximum score) –

(a) Circumstantial factors (total score : 40)

(i) existing population / employment within catchment[2] (6);

[1] A facility located within 300 m of the proposed facility is generally regarded as one within close proximity.

[2] Catchment is defined as the area within the radius of 300 m from every entrance/access point of the proposed facility.

(ii) existing population of 65 year-old or above within catchment (5);

(iii) topographical conditions, i.e. steep gradient / level difference (11);

(iv) connectivity with other existing / committed pedestrian facilities (4);

(v) connectivity with existing / committed mass public transport facilities within catchment (4);

(vi) connectivity with existing / committed centres of activity within catchment (4);

(vii) steadiness of existing pedestrian flow (6);

(b) Beneficial factors (total score : 35)

(viii) revitalization of / benefits to local community (6);

(ix) journey time / cost saving (8);

(x) improvement to existing traffic conditions (6);

(xi) improvement to existing pedestrian conditions (6);

(xii) road safety (6);

(xiii) tourism promotion (3);

(c) Implementation factors (total score : 25)

(xiv) land requirement (6);

(xv) technical / environmental constraints (6); and

(xvi) cost-effectiveness (13).

4. The respective weightings for the circumstantial, beneficial and implementation factors, as well as the individual items thereunder, reflect their relative importance, forming a total score of 100. Based on the scores obtained, the relative rankings among various proposals on hillside escalator links and elevator systems will be determined in an objective manner. Those proposals with higher rankings will obviously have priority to proceed to the next stage of planning and investigation.

5. However, the proposed assessment system will not be applicable to the following proposals –

(a) proposals which cross a single road – they will be evaluated under the criteria for footbridge construction;

(b) proposals which entirely fall within the boundary of public housing estates – the Housing Department will consider the feasibility of the escalator and elevator systems within the boundary of public housing estates separately; or

(c) proposals which form an integral part of major projects – justifications for them will be considered as part of the respective major projects.

Annex B

List of Proposals for Provision of Hillside Escalator Links and Elevator Systems

Requested System		District
Hong Kong Island		
Escalator Link System at Ladder Street		Central & Western
Additional Escalator Link System between Central and Mid-levels		Central & Western
Escalator Link System at Ap Lei Chau		Southern
Pedestrian Link at Braemar Hill[1]	Option A - From MTR Fortress Hill Station to Wai Tsui Cresent and Braemar Hill Road	Eastern
	Option B - From MTR Fortress Hill Station to Cloud View Road	Eastern
	Option C - From MTR North Point Station to Braemar Hill Road	Eastern
Kowloon		
Lift and Pedestrian Walkway System at Waterloo Hill		Kowloon City
Escalator Link System at Yuet Wah Street		Kwun Tong
Lift and Pedestrian Walkway System at Luen On Street		Kwun Tong
Pedestrian Link at Chuk Yuen North Estate		Wong Tai Sin
Pedestrian Link at Tsz Wan Shan		Wong Tai Sin
New Territories		
Escalator Link System between Sha Tin Sui Wo Court and MTR Fo Tan Station		Sha Tin
Lift and Pedestrian Walkway System between Saddle Ridge Garden and Sai Sha Road		Sha Tin
Escalator Link System between Hong Sing Garden and Po Hong Road		Sai Kung
Lift and Pedestrian Walkway System between Castle Peak Road and Kung Yip Street		Kwai Tsing
Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road		Kwai Tsing
Lift and Pedestrian Walkway System between Wo Tong Tsui Street and Kwai Hing Road		Kwai Tsing
Lift and Pedestrian Walkway System between Tsing Yi Road West and Tsing Yu Street		Kwai Tsing
Lift and Pedestrian Walkway System between Hing Shing Road and Tai Wo Hau Road		Kwai Tsing
Lift and Pedestrian Walkway System between Lai King Hill Road and Lai Cho Road		Kwai Tsing
Lift and Pedestrian Walkway System between Lai Cho Road and Wah Yiu Road		Kwai Tsing
Lift and Pedestrian Walkway System between Lai King Hill Road and Princess Margaret Hospital		Kwai Tsing

Note 1 : For Pedestrian Link at Breamer Hill, three options were considered and assessed using the ranking system.

Annex B

List of Proposals for Provision of Hillside Escalator Links and Elevator Systems

附 件 C
Annex C

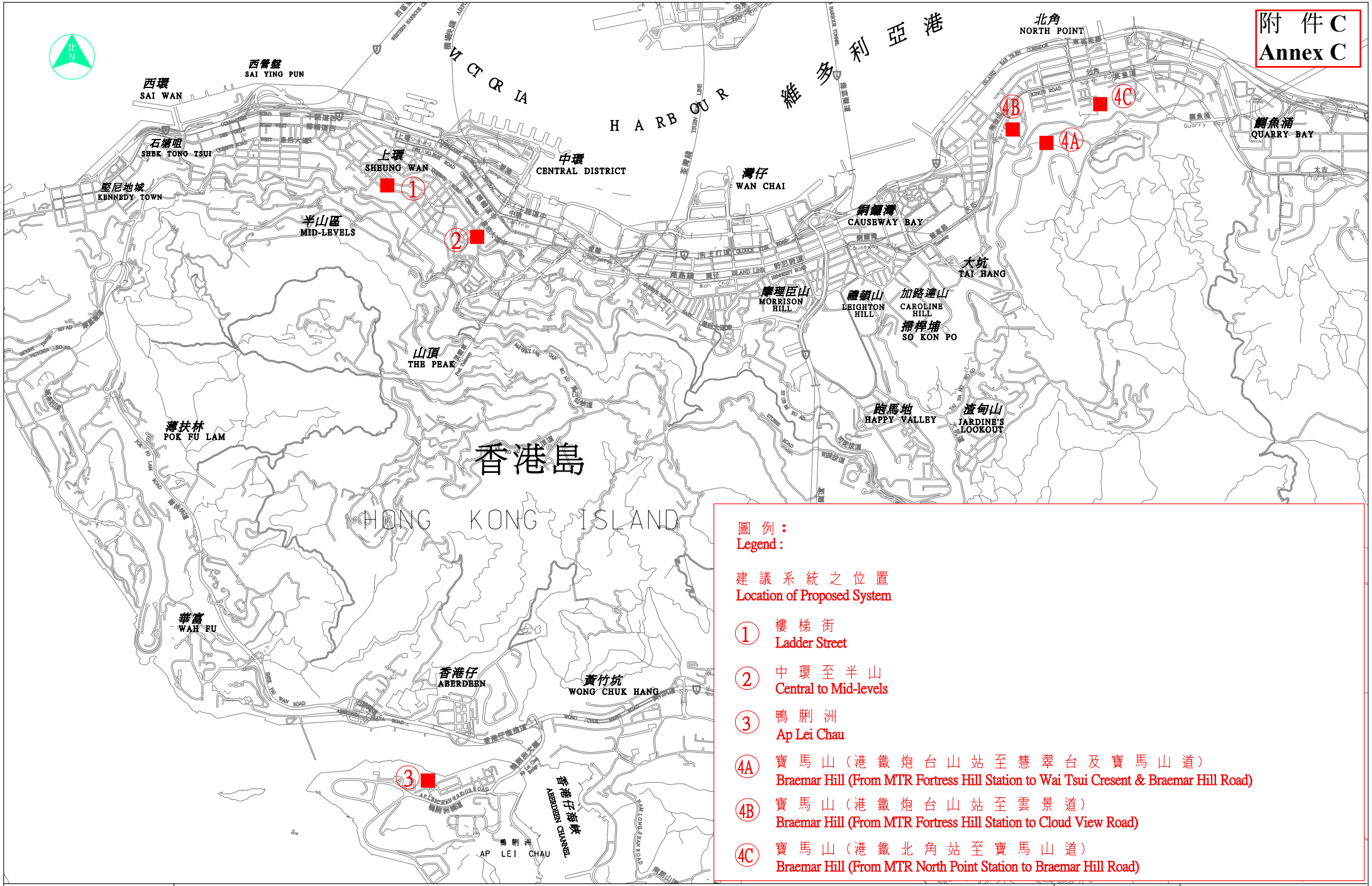


圖 例：
Legend :

建 議 系 統 之 位 置
Location of Proposed System

① 樓 梯 街
Ladder Street

② 中 環 至 半 山
Central to Mid-levels

③ 鴨 脷 洲
Ap Lei Chau

④A 寶 馬 山（港 鐵 炮 台 山 站 至 慧 翠 台 及 寶 馬 山 道）
Braemar Hill (From MTR Fortress Hill Station to Wai Tsui Cresent & Braemar Hill Road)

④B 寶 馬 山（港 鐵 炮 台 山 站 至 雲 景 道）
Braemar Hill (From MTR Fortress Hill Station to Cloud View Road)

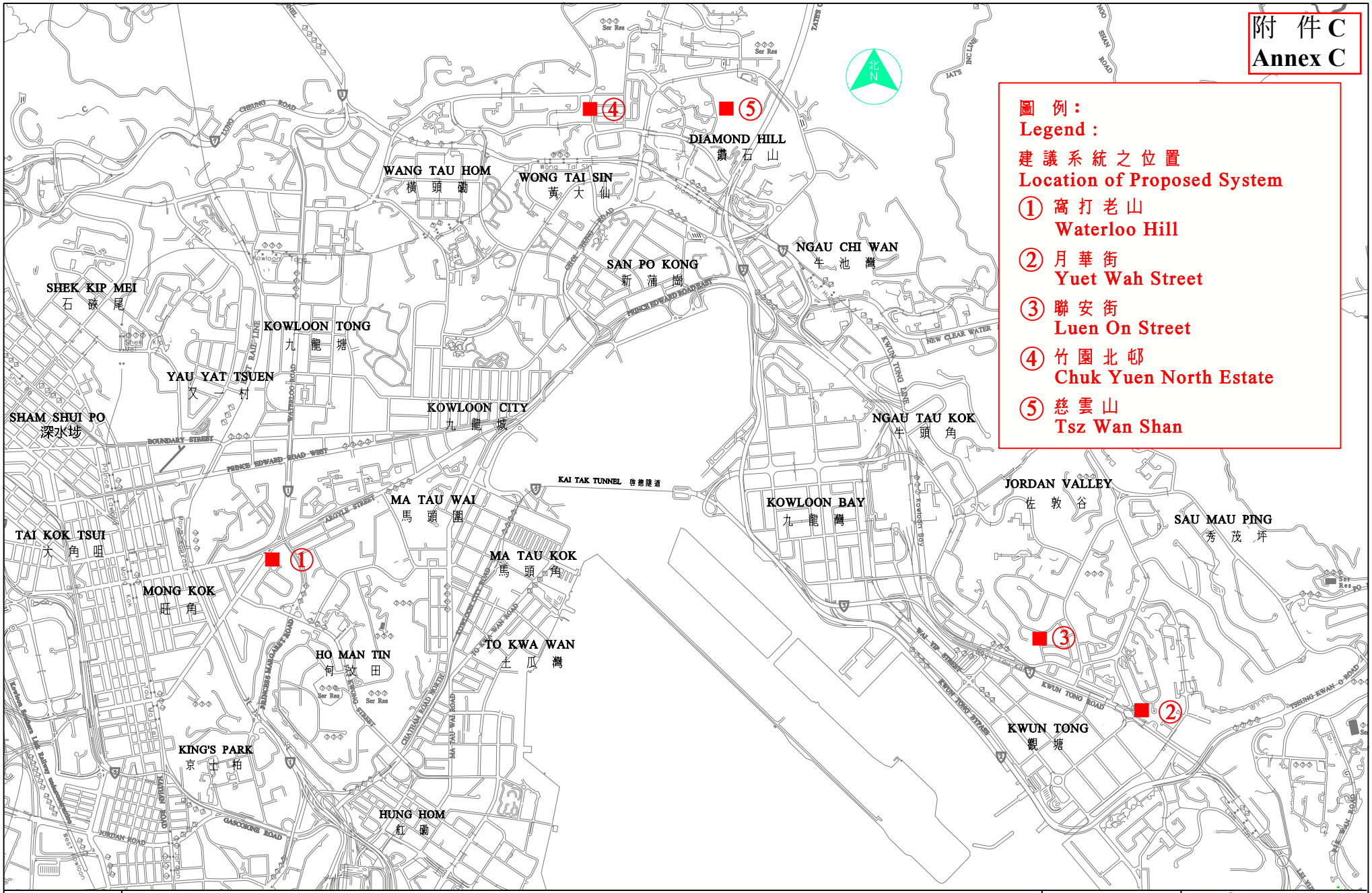
④C 寶 馬 山（港 鐵 北 角 站 至 寶 馬 山 道）
Braemar Hill (From MTR North Point Station to Braemar Hill Road)

第一張，共四張
Sheet 1 of 4

建議上坡地區自動扶梯連接系統和升降機系統地區分佈圖（港島區）
Key Plan of the Proposed Hillside Escalator Links and Elevator Systems (Hong Kong Island)

Scale 1:35000

運輸署
Transport Department



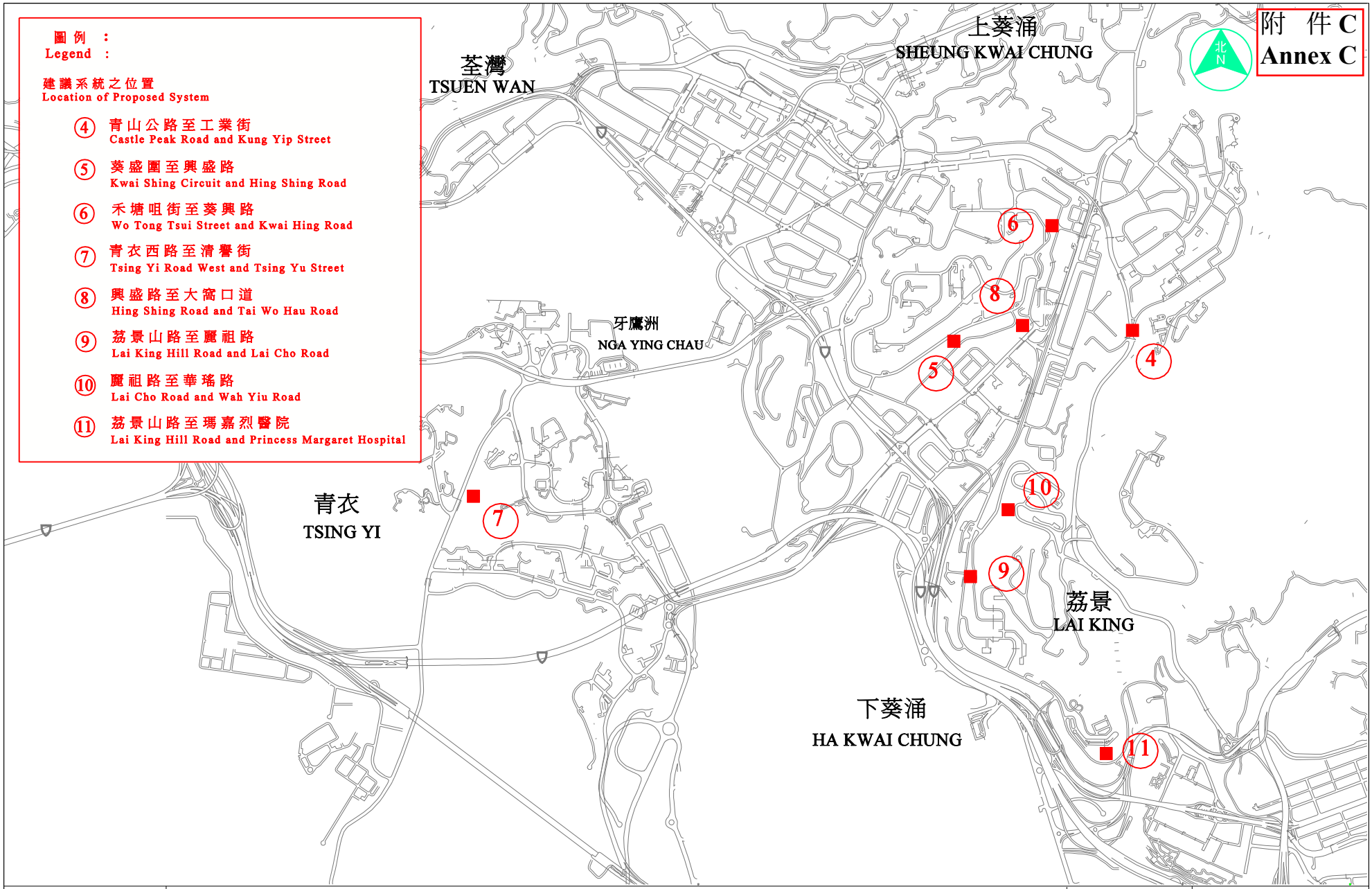
第二張，共四張
Sheet 2 of 4

建 議 上 坡 地 區 自 動 扶 梯 連 接 系 統 和 升 降 機 系 統 地 區 分 佈 圖 (九 龍 區)
Key Plan of the Proposed Hillside Escalator Links and Elevator Systems (Kowloon)

Scale 1:30000

運輸署
Transport Department

第三張，共四張 Sheet 3 of 4	建議上坡地區自動扶梯連接系統和升降機系統地區分佈圖（新界區） Key Plan of the Proposed Hillside Escalator Links and Elevator Systems (New Territories)	Scale 1:75000	運輸署 Transport Department



第四張, 共四張 Sheet 4 of 4	建議上坡地區自動扶梯連接系統和升降機系統地區分佈圖(新界區) Key Plan of the Proposed Hillside Escalator Links and Elevator Systems (New Territories)	Scale 1:30000	運輸署 Transport Department

Annex D

Scores and Resultant Rankings of Proposals for Provision of Hillside Escalator Links and Elevator Systems

Rank	District	Requested System		Circumstantial Sub-total Score (Max 40)	Beneficial Sub-total Score (Max 35)	Implementation Sub-total Score (Max 25)	Final Score (Max 100)	
1	Wong Tai Sin	Pedestrian Link at Tsz Wan Shan		28.5	13.4	9.6	51.5	
2	Eastern	Pedestrian Link at Braemar Hill[1]	Option A[2] - From MTR Fortress Hill Station to Wai Tsui Cresent and Braemar Hill Road	20.4	16.1	10.7	47.2	47.2
			Option B - From MTR Fortress Hill Station to Cloud View Road	20.4	12.9	13.3	46.6	
			Option C - From MTR North Point Station to Braemar Hill Road	20.1	15.7	6.3	42.1	
3	Kwai Tsing	Lift and Pedestrian Walkway System between Tsing Yi Road West and Tsing Yu Street		13.9	17	15.6	46.5	
4	Central & Western	Escalator Link System at Ladder Street		17.1	12.0	16.2	45.3	
5	Kwai Tsing	Lift and Pedestrian Walkway System between Kwai Shing Circuit and Hing Shing Road		7.8	19.7	14.8	42.3	
6	Kwai Tsing	Lift and Pedestrian Walkway System between Castle Peak Road and Kung Yip Street		15.1	13.7	12.9	41.7	
7	Kwai Tsing	Lift and Pedestrian Walkway System between Lai Cho Road and Wah Yiu Road		9.8	16.6	12.1	38.5	

Rank	District	Requested System	Circumstantial Sub-total Score (Max 40)	Beneficial Sub-total Score (Max 35)	Implementation Sub-total Score (Max 25)	Final Score (Max 100)
8	Wong Tai Sin	Pedestrian Link at Chuk Yuen North Estate	10.7	17.4	8.7	36.8
9	Kowloon City	Lift and Pedestrian Walkway System at Waterloo Hill	7.8	12.6	15.9	36.3
10	Kwai Tsing	Lift and Pedestrian Walkway System between Lai King Hill Road and Lai Cho Road	10.7	10.5	14.7	35.9
11	Kwai Tsing	Lift and Pedestrian Walkway System between Wo Tong Tsui Street and Kwai Hing Road	10.8	8.6	16.1	35.5
12	Kwun Tong	Lift and Pedestrian Walkway System at Luen On Street	8.7	13.0	13.5	35.2
13	Kwun Tong	Escalator Link System at Yuet Wah Street	11.4	8.2	15.5	35.1
14	Sai Kung	Escalator Link System between Hong Sing Garden and Po Hong Road	12.4	14.5	7.9	34.8
14	Kwai Tsing	Lift and Pedestrian Walkway System between Lai King Hill Road and Princess Margaret Hospital	5.4	12.1	17.3	34.8
16	Sha Tin	Lift and Pedestrian Walkway System between Saddle Ridge Garden and Sai Sha Road	7.8	11.0	14.7	33.5

Rank	District	Requested System	Circumstantial Sub-total Score (Max 40)	Beneficial Sub-total Score (Max 35)	Implementation Sub-total Score (Max 25)	Final Score (Max 100)
17	Kwai Tsing	Lift and Pedestrian Walkway System between Hing Shing Road and Tai Wo Hau Road	9.8	8.6	13.5	31.9
18	Sha Tin	Escalator Link System between Sha Tin Sui Wo Court and MTR Fo Tan Station	10.7	14.1	4.3	29.1
NA	Central & Western	Additional Escalator Link System between Central and Mid-levels[3]	Screened out in initial screening stage			
NA	Southern	Escalator Link System at Ap Lei Chau[4]	Screened out in initial screening stage			

Note 1: For Pedestrian Link at Braemer Hill, three options were considered and assessed using the ranking system.

Note 2: Option A which scores the highest point, is selected to represent the Pedestrian Link at Braemer Hill.

Note 3: The proposal was screened out in initial screening stage of the ranking system as similar facility, i.e. the existing Escalator Link System between Central and Mid-levels, has already been provided in close proximity.

Note 4: The proposal was screened out in initial screening stage of the ranking system as its level difference did not exceed 6m.