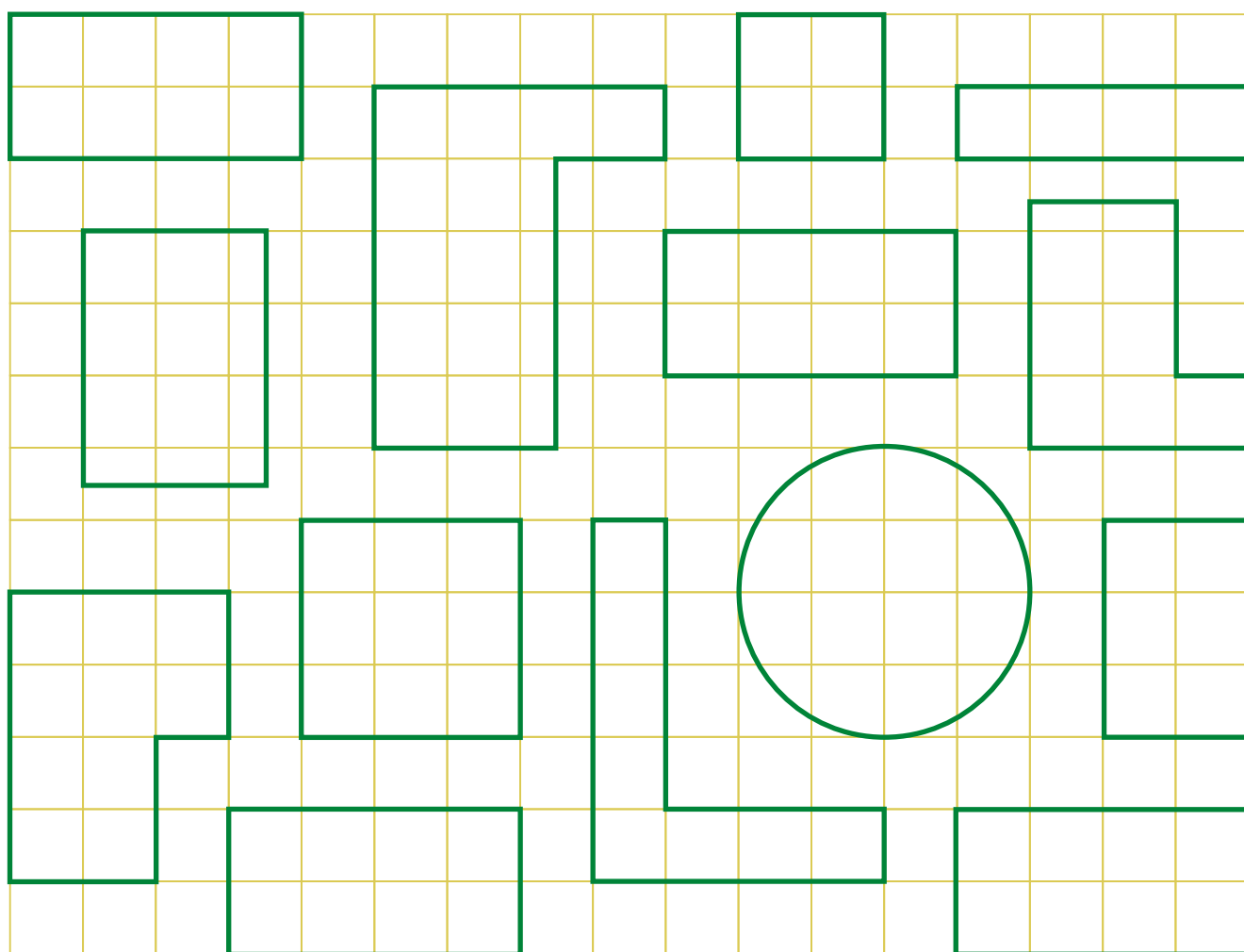


HONG KONG PLANNING
STANDARDS AND GUIDELINES

Chapter

11

Urban Design
Guidelines



PLANNING DEPARTMENT
THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

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URBAN DESIGN GUIDELINES

1. Introduction

- 1.1 To promote Hong Kong's image as a world-class city and to enhance the quality of our built environment, the Planning Department completed a study on the "Urban Design Guidelines for Hong Kong" (the UDG Study) in 2003 and the "Feasibility Study for Establishment of Air Ventilation Assessment System" (the AVA Study) in 2005.
- 1.2 Formulated on the basis of the findings and recommendations of the above two Studies, the urban design guidelines in this chapter cover both the major general urban design issues and air ventilation to shape a better physical environment in aesthetic and functional terms and at macro and micro levels.

URBAN DESIGN

2. Background

- 2.1 Urban design in short is an art of designing places for people and is one of the important elements in urban planning, especially for a compact and dynamic city like Hong Kong. It concerns about the total visual effect of building masses, connections with people and places, creation of spaces for movements, urban amenities and public realm, and the process for improving the overall townscape. Urban design sets the framework for the physical and spatial arrangement and composition of built-forms and their three-dimensional relationship with the spaces around them and the surrounding settings for achievement of aesthetic and socio-cultural qualities.
- 2.2 To create a high quality, sustainable built environment in Hong Kong, due considerations should be given to urban design concepts and principles in the planning and development process.
- 2.3 The Planning Department completed a study on the "Urban Design Guidelines for Hong Kong" (the UDG Study) in 2003. The UDG Study's overall objective is to prepare a set of urban design guidelines to promote public awareness on design considerations and provide a broad framework for urban design assessment. The urban design guidelines in the following sections are advisory and formulated on the basis of the findings and recommendations of the UDG Study.

3. Physical Design Context

3.1 Hong Kong comprises very mountainous terrain, many coastlines and a good natural harbour. This physical context has some significant implications on the urban form:

- (a) it has given rise to the elevation of our city around both sides of Victoria Harbour against a dramatic mountain backdrop;
- (b) the steep topography has channelled other urbanisation in various parts of Hong Kong onto flat and reclaimed land with the mountain ranges providing the natural landscape background to the urban settlements; and
- (c) the mountain ranges give Hong Kong a number of distinct viewsheds. Each viewshed develops in different form or density without necessarily affecting visual environment in the adjacent viewsheds.

4. Basics and Attributes of Urban Design

4.1 Urban design should focus on the basics of urban design which recognise the positive attributes of Hong Kong. The direction and concepts would be to preserve and enhance the positive attributes while improving aspects of the built environment that are less than satisfactory.

4.2 Urban design attributes of Hong Kong include:

Macro Level: Image of the City

- Natural setting
- Harbour
- Ridgelines
- Infrastructure
- Conservation
- District character and amenities
- Axial planning
- Urban pattern and form
- Gateways
- Functional districts
- Land use and activities

Intermediate Level: Buildings and Space

- Composition
- Design and architecture
- Urban place and city squares
- Streets and street pattern
- View corridors
- Connectivity and integration
- Massing and heights
- Landmarks
- Open space and parks
- Sidewalks and pedestrian linkages

Micro Level: User Environment

- Human scale
- Harmony
- Street furnishing
- Materials, colour, and textures
- Transition
- Streetscape
- Advertisements and signage

5. Scope and Application

- 5.1 Hong Kong has its own development needs and it is essential that any urban design concept has to be specifically tailored for Hong Kong. The urban design guidelines should hence not be over-restrictive and prescriptive but encourage innovative design. Urban design should be actively pursued where opportunity is available in order to achieve the following objectives:

Ensure high quality: To raise the quality of life by providing a high quality built environment commensurating with the natural setting.

Embrace robustness: To give a set of robust guidelines on urban design enduring over time.

Encourage dynamism: To encourage Hong Kong's spirit on pluralism and dynamism.

Accommodate flexibility: To give flexibility for innovative ideas and possibilities.

- 5.2 As urban design is a multi-disciplinary subject and may involve values judgment, readers should also refer to other relevant chapters in the HKPSG where appropriate in applying the urban design guidelines and striking a balance among different objectives.

6. Urban Design Guidelines

6.1 Checklist for General Urban Design Considerations

- 6.1.1 The following checklist could be used in assessing the urban design implications of planning and development proposals:

Macro Level

Natural

- Key attributes / components of the natural setting
- Direct and indirect impacts on physical and visual quality of natural landscape, cultural or socio-economic assets
- Compatibility with natural and landscaping setting

Man-made

- Urban context
- Contribution to the cityscape in terms of adding legibility and creating high-quality city environment
- Visual impact and suitability of landmark feature
- Suitability and visibility of visual features
- Compatibility with landscape and development pattern
- Compatibility with overall height profile and massing
- Contribution to the local character
- Compatibility with heritage setting

Intermediate Level

Natural

- Direct and indirect impacts on physical and visual qualities of natural landscape

Man-made

- Location suitability
- Relationship with the visual corridors
- Impact on penetration of light and air
- Compatibility with street pattern
- Visual impact and suitability of landmark feature
- Compatibility with overall height profile and massing
- Compatibility with local heritage
- Impact on the surroundings

Micro Level

Natural

- Functional appropriateness in relation to natural environment
- Response to natural landscape in local context

Man-made

- Contextual and functional appropriateness at street level
- Contribution to pedestrian-friendly environment
- Human scale and quality enhancement
- Creation of spatial feeling

6.2 Guidelines on Specific Major Urban Design Issues

6.2.1 Urban design guidelines are presented in the subsequent sub-sections for the following specific urban design issues.

(1) Massing and Intensity in Urban Fringe Areas and Rural Areas

Urban Fringe Areas

6.2.2 An urban fringe is defined as the interface between developed urban areas and undeveloped rural areas. The general principle for development in a fringe area is to respect the natural environment, create an appropriate edge (Figure 1) and to provide visual and physical linkages between urban and rural areas. The linkages should be strong in order to promote the psychological well being of the residents and thereby contribute to the quality of life. Visual linkages should include major visual corridors to the surrounding natural landscape assets and should extend well into the heart of the urban area where possible.

Rural Areas

6.2.3 For rural areas, building height, massing and built form should be harmonised with the rural setting and existing developments such as traditional villages. To avoid stereotype or monotonous development, diversity in architectural style should be encouraged. Out-of-context “sore thumb” developments should be avoided.

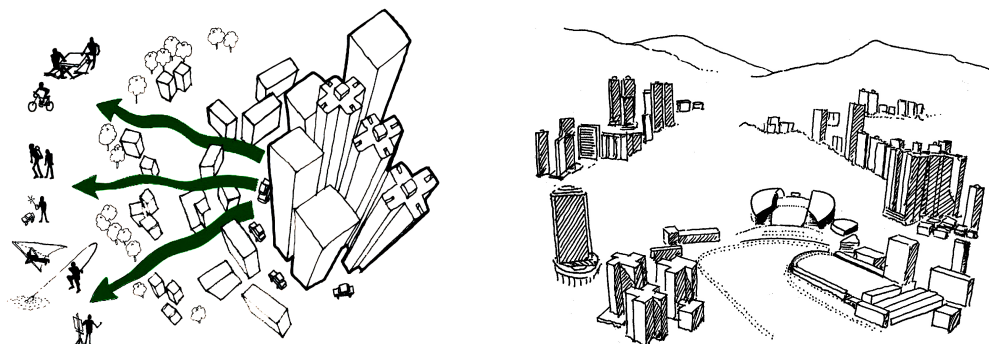


Figure 1 Urban Fringe Context: A Careful Transition with Links between the Urban and Rural

(2) Development Height Profile

6.2.4 The predominant urban forms in Hong Kong is characterised by high-rise developments off narrow streets as a result of past incremental developments, small plots and maximised intensity. The ridgelines at Victoria Peak and Lion Rock are famous features which have provided panoramic views and natural backdrop of the metropolitan part of the city but now very much dominated or obscured by increasing high-rise buildings. Elsewhere, ridgelines and mountains in Lantau Island and the New Territories define the edges of new towns as well as vista points of the city and the country parks beyond.

6.2.5 It has been generally supported by the community that ridgelines / peaks are valuable assets and their preservation should be given special consideration as far as possible in the process of development. The main goal of a height profile in the Hong Kong context should be to protect and enhance the relationship of the city and its natural landscape context, particularly to its ridgelines / peaks. In order to preserve views to ridgelines / peaks and mountain backdrop with recognised importance around Victoria Harbour, a building free zone below the ridgelines would need to be maintained when viewing from key and popular vantage points. The Metroplan (1991) guidelines which recommended 20% to 30% building free zone below selected sections of ridgelines (Figure 2) could be used as a starting point, but allowing flexibility for relaxation on individual merits and for special landmark buildings to give punctuation effects at suitable locations.

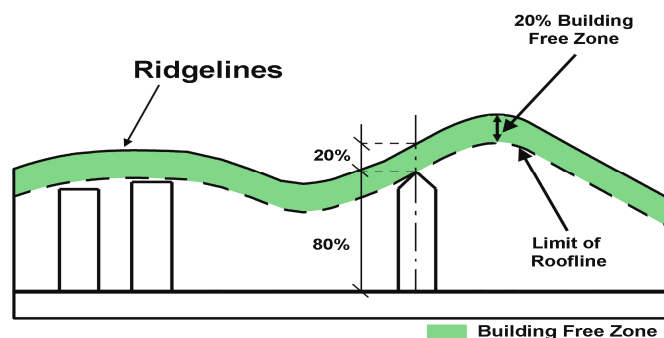


Figure 2 Building Free Zone to Preserve Views to Ridgelines

(a) *Guidelines for Hong Kong Island*

- 6.2.6 The Hong Kong Island has a magnificent natural setting with the spectacular Victoria Peak overlooking Victoria Harbour and Kowloon Peninsula. Developments in the north shore of Hong Kong Island should respect the dominance of Victoria Peak and other ridgelines / peaks when viewing from Kowloon side, in particular from the West Kowloon Cultural District; Cultural Complex at Tsim Sha Tsui; and the waterfront promenade at Kai Tak Development (Figure 3). Uncontrolled building height for developments within the view corridors which may breach the building free zone should be avoided. Other suitable vantage points in a more local context could also be considered on a case-by-case basis.

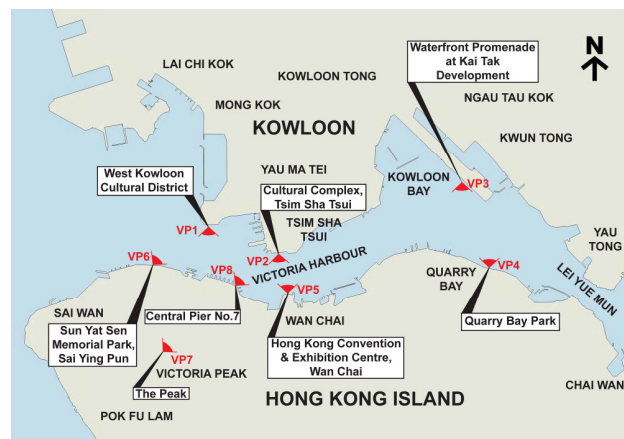


Figure 3 Vantage Points

- 6.2.7 The fascinating juxtaposition of the mountains, sky and sea combines to form ever lasting images. Being one of the five most beautiful harbour cities in the world: Sydney, Vancouver, San Francisco, Rio de Janeiro and Hong Kong, panoramic view from Victoria Peak to Victoria Harbour should be preserved. Protecting views to Victoria Peak and the ridgelines from the waterfronts help protect the opposite view from Victoria Peak and other ridgeline areas towards the harbour and the city.
- 6.2.8 For other parts of Hong Kong Island, development height should enhance the district character of specific localities, retain characteristic mountain backdrop and respect the character of neighbourhood. The sectional profile should echo the natural topographical profile. Gradation of height profile should be created in relation to topography. Relief and diversity in height and massing of developments should

be provided in different localities (Figure 4). Low rise and low density areas should be preserved to enhance diversity in the urban core.



Figure 4 Diversity in Building Height / Massing of Developments in Different Localities

(b) Guidelines for Kowloon

- 6.2.9 In Kowloon side, there is an uninterrupted stretch of ridgelines from Lion Rock to Kowloon Peak. The large mountain face of Kowloon Peak does produce very dramatic backdrop for East and South East Kowloon. Views to Kowloon Peak and major Kowloon ridgelines from the Hong Kong Convention and Exhibition Centre at Wan Chai; Central Pier No.7; Sun Yat Sen Memorial Park at Sai Ying Pun; and Quarry Bay Park should be preserved (Figure 3). Development heights within view corridors of these vantages points should avoid intrusion into the building free zone.
- 6.2.10 For other areas of Kowloon, considerations similar to those for other parts of Hong Kong Island in paragraph 6.2.8 would be applicable.

(c) Guidelines for New Towns

- 6.2.11 Developments should be the highest in the central part of a new town and gradually descend down to medium to low rise development at the edges. Out-of-context “sore thumb” developments should be avoided. New development should respond to the unique topographical and landscape setting (Figures 5) and should integrate with low rise neighbouring developments by stepping down building height. View corridors / breezeways to mountain backdrop or waterbody should be maintained. Where appropriate, landmarks at the civic/commercial centres or focal points should be introduced (Figure 6). Lower buildings such as community hall, schools, etc should be used as interface and as visual and spatial relief in the urban core (Figure 7).

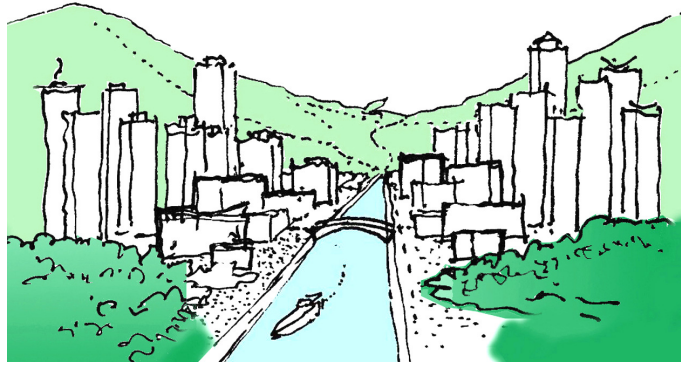


Figure 5 Development Responsive to Unique Topographical and Landscape Setting of New Town

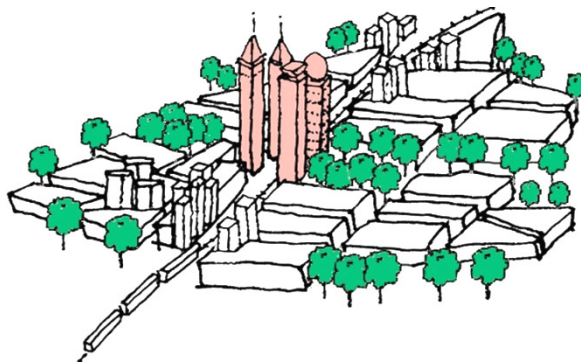


Figure 6 Landmarks at Civic / Commercial Centres

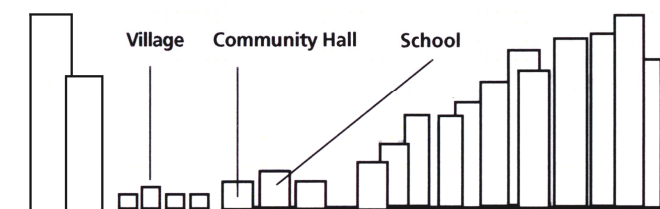


Figure 7 Visual and Spatial Relief in Urban Core

(d) *Guidelines for Rural Areas*

- 6.2.12 Appropriate height profile within individual viewsheds in rural areas should be protected to provide contrast to the urban areas (Figure 8). Where appropriate, diversity in building heights in new low-rise developments should be encouraged to add variety and interest to the suburban built form. Stereotype or monotonous developments should be avoided. Building height and mass should be harmonised with the rural setting (Figure 9). For unspoiled and visually sensitive viewsheds, a maximum building height of three storeys should be adopted.

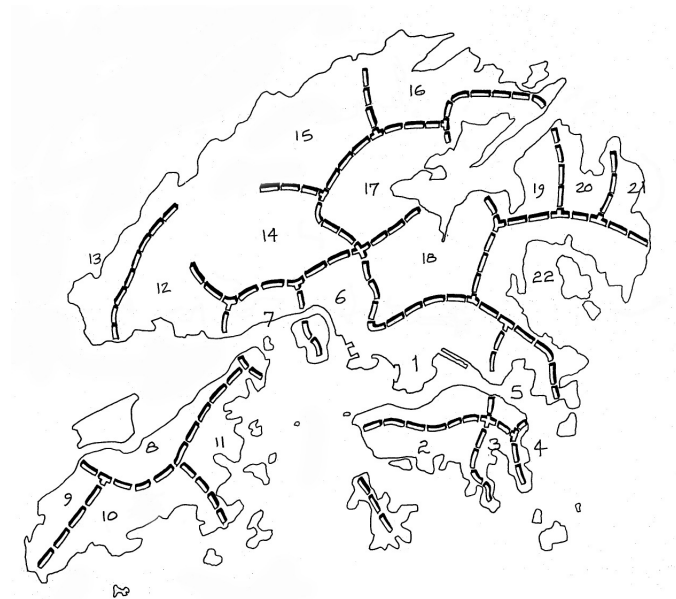


Figure 8 Hong Kong's Viewsheds

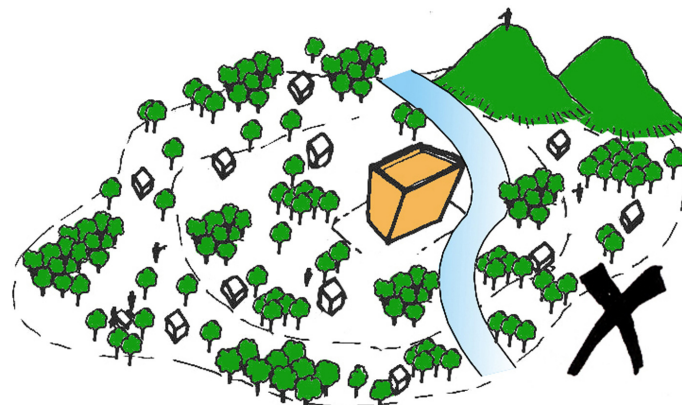


Figure 9 Incompatible Building Height / Massing in Rural Area

(e) Guidelines for Mega Towers

- 6.2.13 The most recognisable cities in the world are often characterised by a number of towers which are generally notably taller than the general building profile. The towers with high quality architectural design and at suitable locations can help define images of the cities.
- 6.2.14 The location of mega towers should be based on two main criteria:
- Physical - The site or the locality should be suitable for a very tall building in terms of legibility and overall city form. Proposal should not conflict with other urban design objectives.
 - Functional - Proposal should relate to an important functional aspect of city-wide significance, such as a transport hub, or should have social or cultural significance.
- 6.2.15 The southern tip of West Kowloon Reclamation and Tsim Sha Tsui area will emerge as a new major high-rise node and the UDG Study has suggested that no additional high-rise nodes should be designated outside this area.

(3) Waterfront Sites

(a) Vision and Goals

- 6.2.16 The Town Planning Board's vision statement for the Victoria Harbour is to make Victoria Harbour attractive, vibrant, accessible and symbolic of Hong Kong, to make it a harbour for the people and of life. The urban design goals would be to:
- bring the people to the Harbour and the Harbour to the people;
 - enhance the scenic views of the Harbour and maintain visual access to the harbour-front;
 - enhance the Harbour as a unique attraction for our people and tourists; and
 - create a quality harbour-front through encouraging innovative building design and a variety of tourist, retail, leisure and recreational activities, and providing an

integrated network of open space and pedestrian links.

- 6.2.17 The Harbour is to be protected and preserved as a special public asset and a natural heritage of the people of Hong Kong. Reclamation in the harbour has to be environmentally acceptable and compatible with the principle of sustainable development and the principle of presumption against reclamation in the Harbour.

(b) *Functional Diversity*

- 6.2.18 Sites along the waterfront should be reserved for cultural, tourism-related, recreational and retail activities. An active waterfront with diversity in activities and functions should be created to introduce a sense of enjoyment (Figure 10). Activities which provide visual interest for the waterfront should be encouraged. Low-key activities such as fishing and kite flying can be facilitated where practical. Incompatible land uses such as cargo handling uses (Figure 11) which would obstruct the continuity of harbour front promenade, and major infrastructure projects such as roads (Figure 12) which create a visual and physical barrier to the open water, should be avoided.

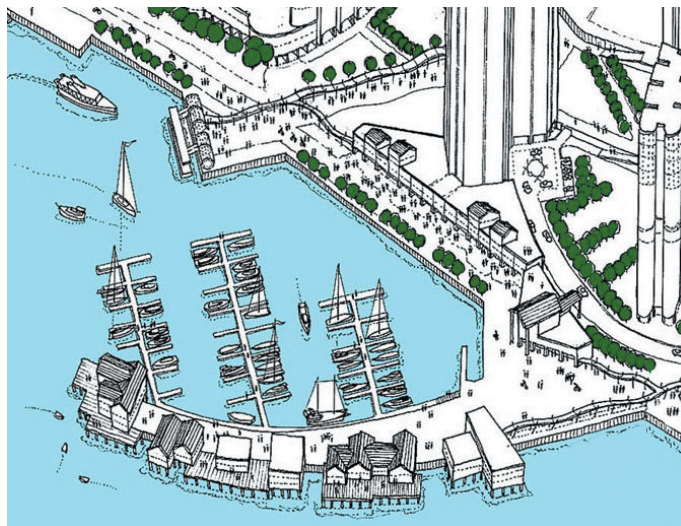


Figure 10 Active and Diverse Waterfront Activities

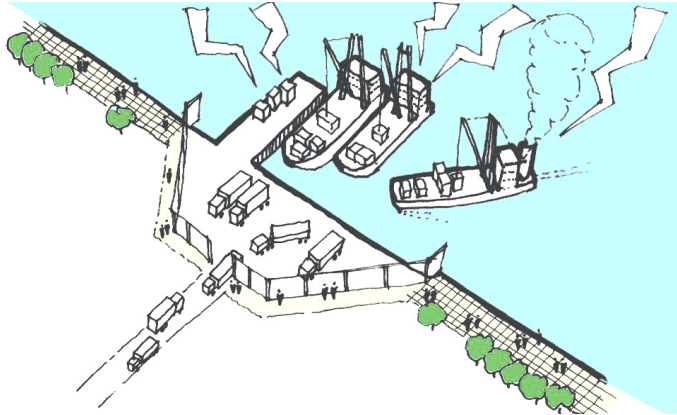


Figure 11 Incompatible Waterfront Land Uses

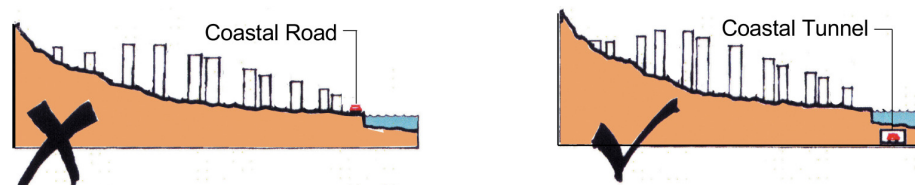


Figure 12 Avoid Major Infrastructure Project at Waterfront

- 6.2.19 Where practicable, continuous waterfront promenade should be provided for public enjoyment such as strolling, jogging, cycling, fishing, sitting where appropriate. Points of interest or nodes such as landscaping areas, sitting out areas, lookout areas, boardwalks, and small piers which strengthen the vitality of the waterfront should be encouraged.

(c) Design

- 6.2.20 Waterfront development should aim to enhance the waterfront in terms of its form and should respond to the waterfront setting. Landmarks at suitable location, for example at the harbour entrance or to mark a district, should be introduced where appropriate. Building bulk has a fundamental visual impact. At prominent waterfront locations, appropriate plot ratio, height and disposition of building blocks should be considered. Special design for waterfront buildings should be highly encouraged (Figure 13).

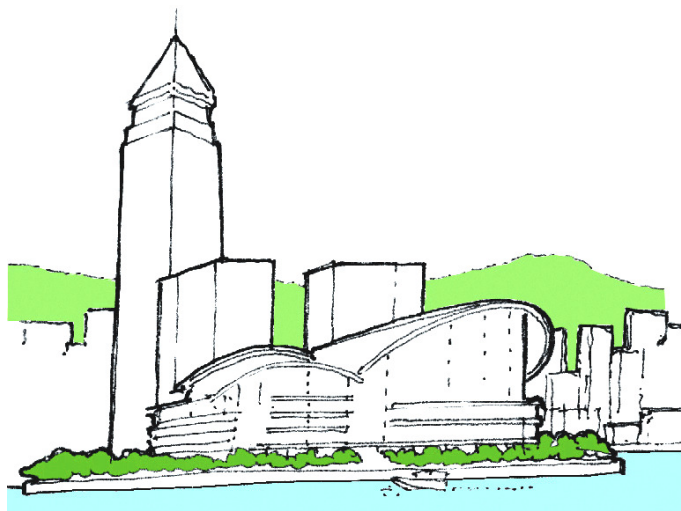


Figure 13 Well-designed Low-rise Waterfront Development

(d) Building Height and Building Form

6.2.21 Building heights and spaces should bear a certain relationship to human proportion and to facilitate easy usage, interaction and perception by the users. Lack of land in Hong Kong makes it difficult to respect human scale but improvements could be made through better transitional space, landscaping and streetscape etc. Better design in public and private residential estates using human dimension as the yardstick will help to ease these tension.

6.2.22 Building mass should aim to create points of interest and nodes, and allow visual permeability from the waterfront into the inner areas (Figure 14). Diversity in building mass should be encouraged to avoid a monotonous harbour image.

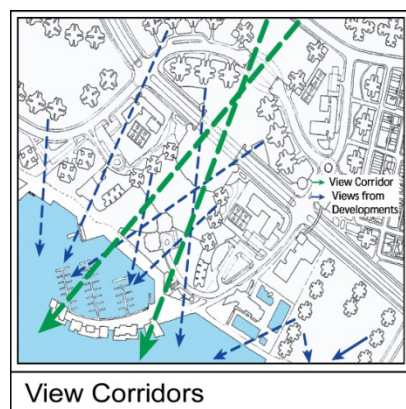


Figure 14 View Corridors between Waterfront and Inland

- 6.2.23 Taller buildings should be located inland, with lower developments on the waterfront, to avoid dominating the harbour and increase permeability to the waterbody. Waterfront buildings should be of appropriate scale and façade treatment to avoid creating an impermeable “wall” along waterfronts. Where appropriate, a varying building height profile should be created (Figure 15). In new developed areas, consideration should be given to designation of coastal sites for low density and low rise development.

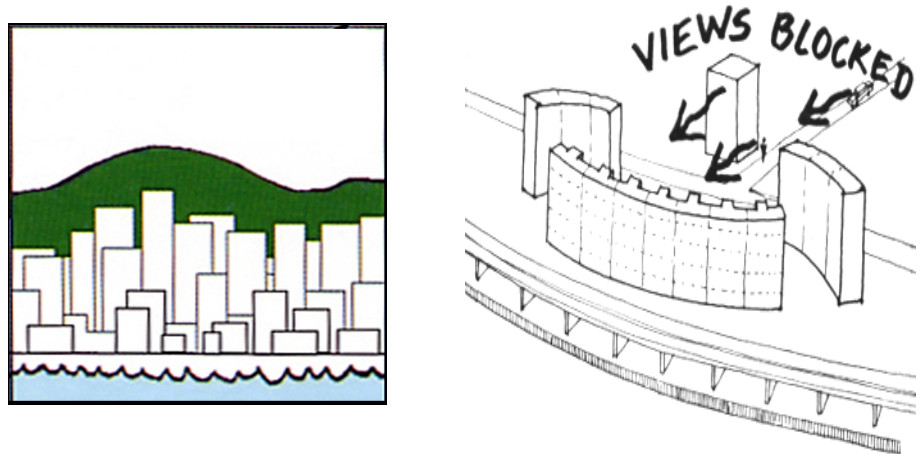


Figure 15 Avoid “Wall” Effect and Create Diverse Height Profile

(e) Vehicular and Pedestrian Circulation

- 6.2.24 Vehicular circulation and car parking access should be confined to the landward side of waterfront developments. A pedestrian friendly environment should be provided so as to ensure that pedestrian can fully enjoy the waterfront experience. Accessibility to the waterfront for pedestrian (including persons with disabilities) should be maximised by providing physical linkages from the urban core areas (Figure 16).

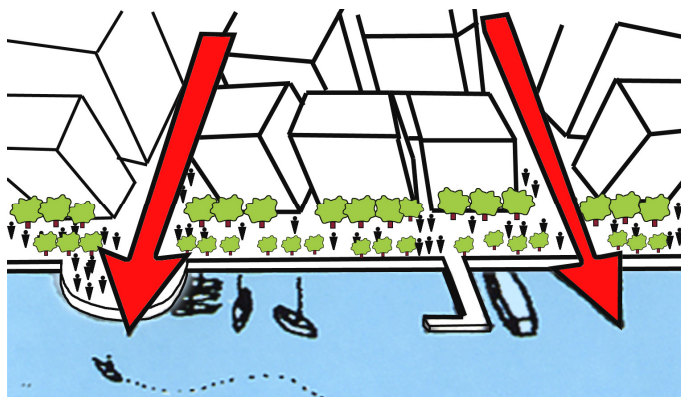


Figure 16 Maximise Accessibility to Waterfront

- 6.2.25 Public permeability to the waterfront should increase with the provision of promenades. Where feasible, pedestrian promenade should extend continuously along the waterfront allowing connections with inland at suitable points.

(f) Landscaping and Open Space Provision

- 6.2.26 There should be open space at the landward side to create a sense of entry. There also should be open space links to the waterfront at periodic intervals to create a good level of visual and physical permeability. Open space should be arranged in a diverse pattern of shapes. Where appropriate, a few larger open spaces could be considered for public gatherings or hosting cultural and social events.

(g) Coastline

- 6.2.27 In the past, Hong Kong had a highly interesting, indented coastline. However, seaward development may tend to smooth off such indentations and bays and create a relatively boring straight waterfront. Any need for new seawall formation should respect the natural heritage of the coastline and create an interesting coastline.

(4) Public Realm

- 6.2.28 All aspects relating to urban design make some kind of contribution to the public realm. The measures outlined below can actually add value to the development, such as by increasing the pedestrian catchment for shops.

(a) Street

- 6.2.29 Responsive and interesting frontage should be provided to make pedestrians' journey interesting and to enhance vitality at street level. Retail frontage should be encouraged in areas with high pedestrian flows. Plant rooms should be kept to side or rear streets. At appropriate corner sites, identifiable features and setback could be introduced to improve street frontage and to create a sense of place.

- 6.2.30 Human scale design elements such as perimeter arcades should be provided in order to create an intermediate scale between human and building. Building façade and podium edge, in terms of architectural design, architectural detailing and in the choice of building materials, should have interest, particularly at ground and first floor level (Figure 17).

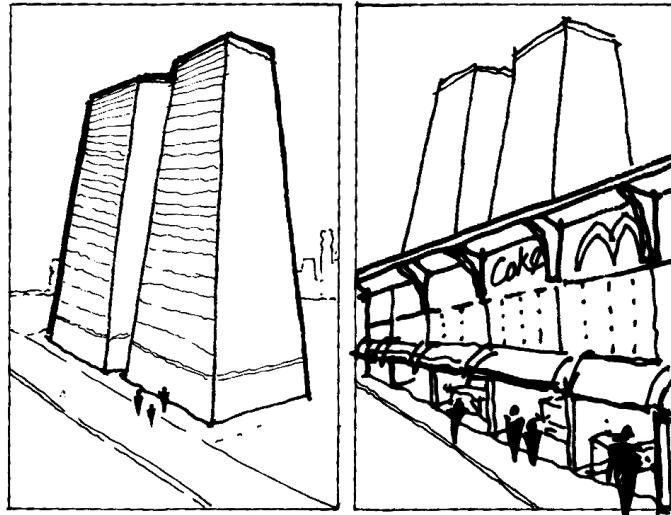


Figure 17 Dwarfed by Tower Podium Reinforces Human Scale

(b) Open Space

- 6.2.31 Well-landscaped open spaces with a balance mix of hard and soft landscape should be encouraged to meet the functional requirements for active and passive recreational uses. Detailed micro-scale landscape design should be site specific to maximise legibility, to create a comfortable environment and to green the city. Focal landmark features should be provided in open spaces to create orientation and a sense of place (Figure 18).

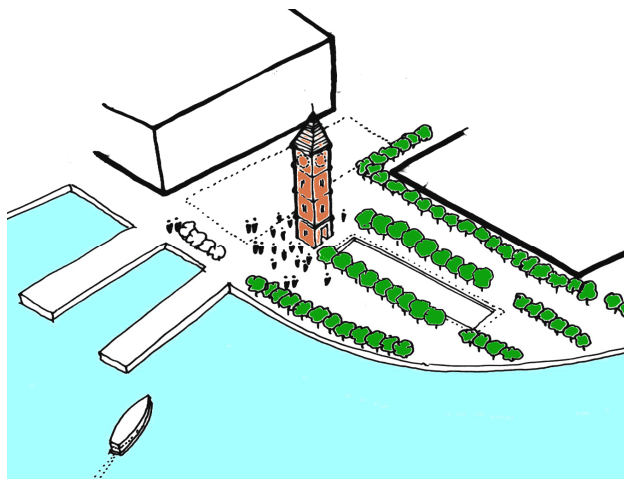


Figure 18 Focal Landmark Feature in Open Space

- 6.2.32 Open spaces should also be encouraged at ground, podium and roof levels (Figure 19) of developments accessible by users. Where practicable, developments should allocate more ground level space for landscaped open spaces.

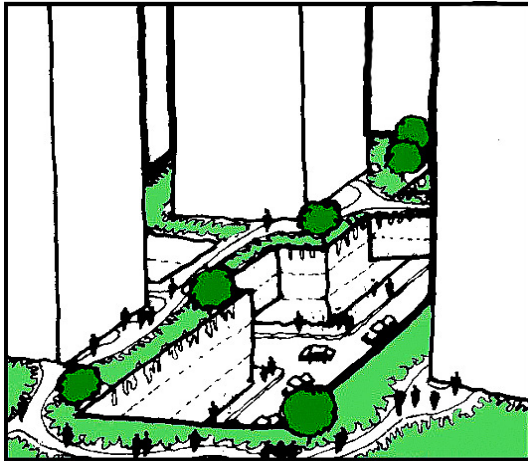


Figure 19 Open Space Provision at Podium Level

6.2.33 Landscaped green areas, tree planting and amenity strips along streets, major transport corridors and walkways should be provided to soften the man-made environment. Open space at fringe location where it would be relatively unused should be avoided. Public accessibility to open spaces should be maximised. Visual linkage can help direct pedestrians to open space facilities and should be enhanced (Figure 20). The flexible use of open space should also be encouraged to maximise the usage and amenities for the public.

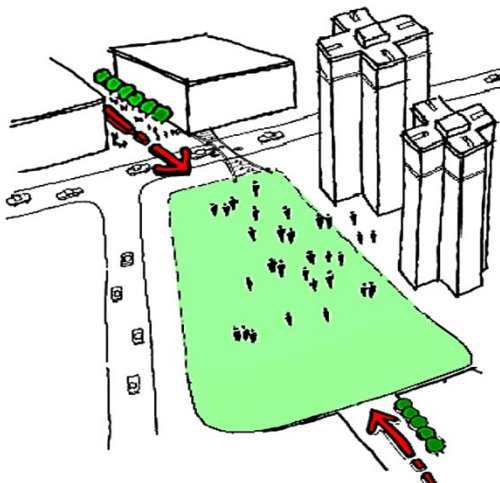


Figure 20 Create Visual Linkage to Direct Pedestrian to Open Space

(5) Streetscape

6.2.34 Streetscape is an inclusive term that refers to an overall form and details of the street-scene. The following main goals for streetscape in urban design are relevant:

- ensure that, wherever possible, all components at street level are of the high quality in terms of design, materials and construction;
- aim for coherence and compatibility;
- try to create as much as possible pedestrian-oriented and pedestrian-interested space in core areas; and
- cater for human scale and the needs of the disabled / elderly.

6.2.35 Streetscape is associated with the totality of place. Everything that can be seen and experienced in street is therefore relevant. Various specific aspects are addressed below.

(a) Pedestrian Environment

6.2.36 In Hong Kong, pedestrian movement in the city is uncomfortable or restricted by the hot and humid periods as well as the wet rainy season. To minimise these negative effects, the designers can provide shade for pedestrians. A safe, clean, accessible and interesting pedestrian environment should be provided with due consideration to micro-climate for pedestrian circulation (Figure 21). Ease of access should be ensured for persons with disabilities (Figure 22). Ground coverage of podium should be reduced to allow more open space at grade and for street activities. To facilitate easy circulation, pedestrian crossings should be located on desire lines (Figure 23). Staggered-crossings at signals which would restrict pedestrian flow and cause inconvenience to pedestrians waiting on the island should be avoided.

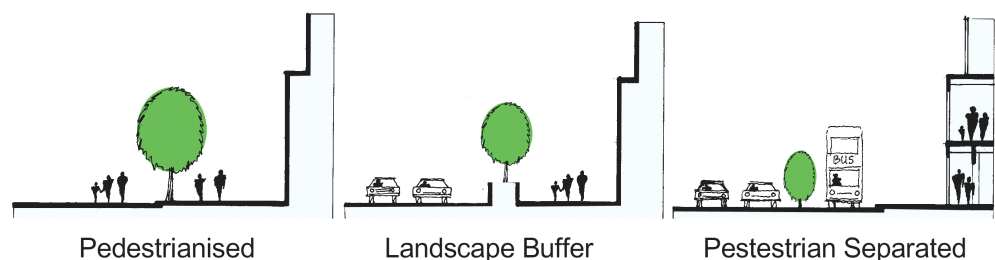


Figure 21 Safe, Clean and Accessible Pedestrian Environment

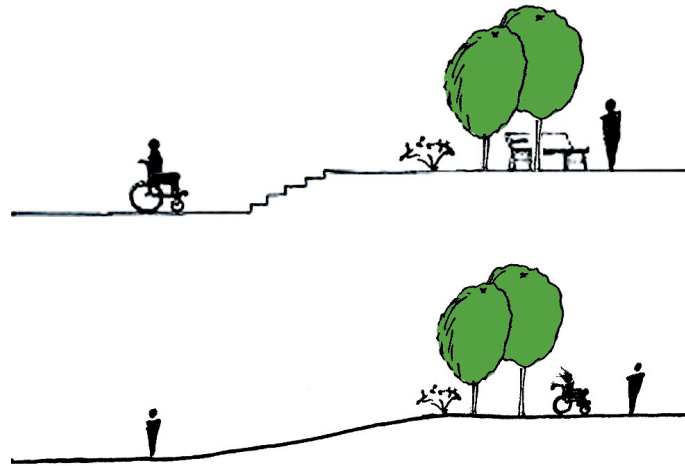


Figure 22 Ease of Access for Persons with Disabilities

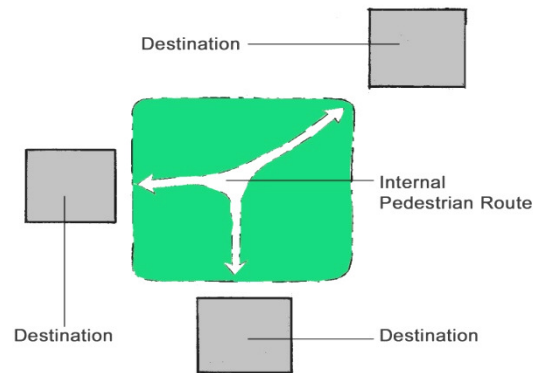


Figure 23 Internal Pedestrian Route Follow “Desire Lines”

(b) Pavement Width and Surface

- 6.2.37 Pavement should be of adequate width to accommodate pedestrian flows, street furniture and additionally to allow reserves for utilities installations and street trees / landscaping. In the older urban areas where pavements are of inadequate width to serve present needs, effort should be made to widen these pavements through building setback or reducing coverage of podia when redevelopment takes place. In new development areas, good design and wider pavement should be provided for the creation of a high quality pedestrian environment. In determining the pavement width, all stakeholders like utility companies and relevant government departments should be consulted so that sufficient width of pavement can be allowed at the planning stage to accommodate all requirements.

- 6.2.38 Pavement surface should be visually attractive and interesting. High-quality pavement surfaces such as patterned blocks, brick paving, or stone finish should be introduced where feasible.

(c) *Land Use*

- 6.2.39 Land use has an important role to play in streetscape. The provision of active street frontage and various street activities such as shop fronts, bars, cafes at street level and human scale should be encouraged in association with streetscape improvements with a view to adding life and vitality to the city (Figure 24). Mechanical plant rooms or “dead elevations” on these frontages should be avoided.

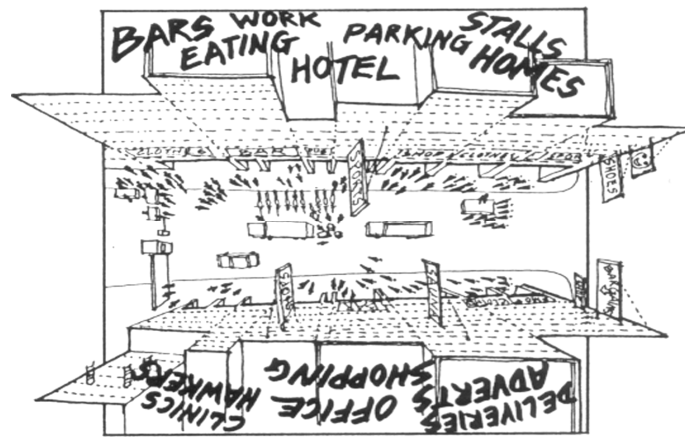


Figure 24 Streetscape Robustness : Many Activities and Uses Co-existing and Changing

(d) *Interest and Human Scale at Street Level*

- 6.2.40 Highly individualistic architectural design treatment or distinctive and interesting frontage in the lower part of the building should be encouraged to enhance interest at street level. Features that can provide an intermediate scale, partial screening of the large scale building beyond or protection from adverse weather conditions should be included to strengthen human scale at street level.

(e) *Landscaping (Soft and Hard)*

- 6.2.41 Roadside planting and high quality hard landscape such as paving, sculpture, etc. should be provided to improve the

quality of the street environment. Tree planting, shrub beds, landscaped areas should be incorporated to soften the hard edges and to reduce heat build-up of street environment (Figure 25). Tree and shrub species should be carefully chosen, especially with regard to their scenic effect and seasonal colour, e.g. colour of flower and foliage, in creating a particular character for a street. In order to ensure the provision of shaded pedestrian routes, where necessary, species may need to be physically robust and resistant to traffic fumes. For new development areas, such as reclamation, where provide far more scope for incorporating landscaping, substantial landscape reserves should be well integrated with open space areas to form coherent open space frameworks. Roots of street trees should avoid interfering underground utilities such as pipes and cables.



Figure 25 Roadside Planting

(f) Street Furniture

- 6.2.42 High quality street furniture should be provided to complement the character of the area or the adjacent developments (Figure 26). Standardised street finishes in business and tourist areas should be avoided. High quality architectural design of seating, pedestrian signs, and flagpoles which can make contribution towards creating a sense of place should be considered and other well designed above ground fixtures such as telephone boxes, fire hydrants, post boxes and bus / tram shelters should be used. Small-scale focal landmarks such as the entrance, sculptures or landscape features should be allowed at street level to act as visual cues for motorists and pedestrians to orientate themselves. Due

considerations should be made for persons with disabilities in the design of street furniture, crossings, tactile paving, braille information boards, etc.

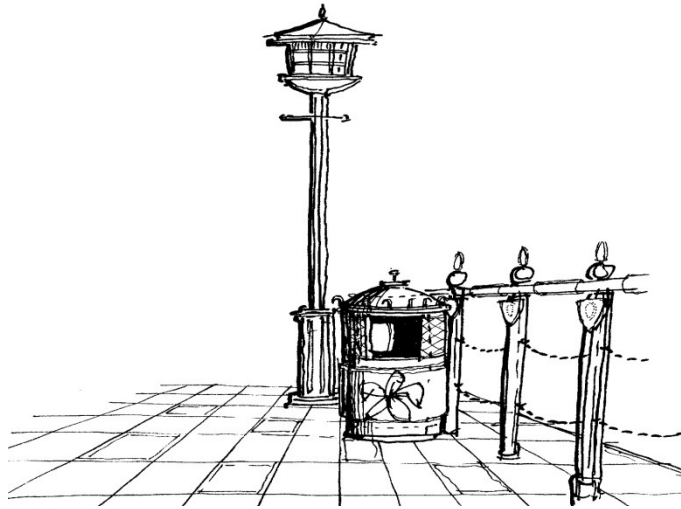


Figure 26 High Quality Street Furniture

- 6.2.43 For street furniture and facilities relating to the road / pavement, such as roadside barriers, road signs, lighting, rubbish bins and acoustic barriers, their locations and designs should be handled with concern over their visual impacts on the overall street-scene. Where roadside barriers are required, the barriers should be of high quality design and construction. Clear road signs should be provided to give sufficient information for drivers and pedestrians to determine their routes. Signage should not clutter the streetscape (Figure 27). Where practicable, rational layouts with shared mounting poles should be adopted. Lighting of distinctive design should be encouraged. Acoustic barriers which could have a negative impact on the streetscape need to be visually unobtrusive. Where appropriate, the barriers could be incorporated in a landscape scheme, or be made of a transparent material (e.g. glass) to minimise their visual impacts. In erecting acoustic barriers, particular attention should be paid to balance all environmental criteria including mitigation of noise impact, avoiding or minimising visual impact and other incidental impacts.

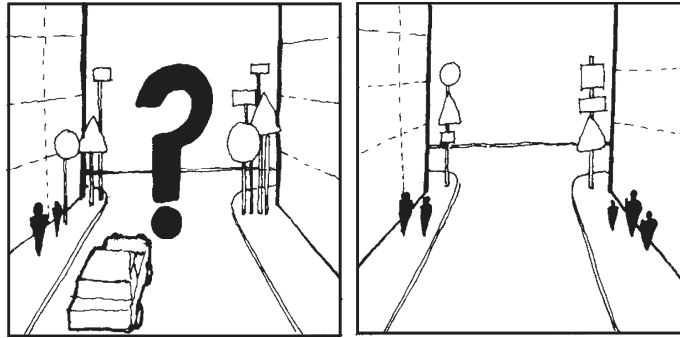


Figure 27 Avoid the Road Signage Clutter

(g) Flyovers and Vehicular Underpasses

- 6.2.44 Flyovers inevitably have major visual impact implications, generally being unattractive and blocking view corridors and views to specific buildings. Where appropriate, mitigation measures such as using climbing plants, or other visual interest should be adopted to minimise adverse visual impact (Figure 28).



Figure 28 Visual Mitigation Measures to Flyover

- 6.2.45 Vehicular underpasses, which have less visual impact and can actually improve the pedestrian's environment by removing traffic from ground level, should be encouraged. The portal and entry area should be properly integrated with the city form in a convincing way. Colour coding and distinct signage could be introduced to identify districts.

(h) Footbridges and Pedestrian Underpasses

- 6.2.46 Hong Kong is a very high density city. Conflicting demands between vehicles and pedestrians can be overcome by grade

separation. Where grade separation is needed, attention should be given to the following:

- The footbridge should be as short as possible, ideally perpendicular to the street. It should aim to reinforce the spatial structure rather than cutting across it.
- The provision of free standing footbridges for crossing roads should be avoided. The origin and destination of footbridges both at upper level should be encouraged to allow direct connection between the two points (Figure 29). Where the origin and destination are required at ground level, lifts and escalators should be provided wherever possible. The aesthetics of footbridge structures should be considered.

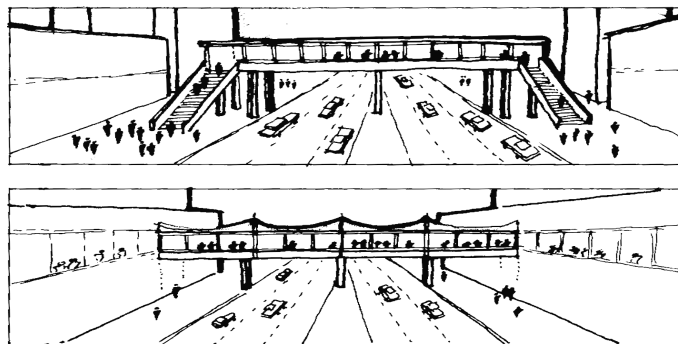


Figure 29 Linkages between Retail Malls Better than Isolated Footbridges

- Provision of footbridges should be properly coordinated to cater for the convenient movement of pedestrians.
- Design of soft landscape should be considered in the provision of footbridges.

6.2.47 For pedestrian underpasses, high quality and well-designed walling and flooring materials, lighting, portals and other design elements should be adopted to achieve visual enhancement and create interesting and safe environment for pedestrians.

(i) Traffic Calming

6.2.48 Pedestrianisation offers an excellent opportunity to minimise the conflict between vehicles and pedestrians, to provide

vehicle-free environment, to avoid undesirable impacts arising from traffic noise and fumes, and to create a focus for pedestrian movement. Streets that have no overall highways significance but are of high pedestrian / built form significance could be considered for pedestrianisation. Where appropriate, pedestrian priority facilities, such as pedestrianised streets and underground / semi-submerged roads, should be provided to encourage segregation of vehicles and pedestrian. At suitable locations, other traffic calming measures such as pinch points, speed bumps, raised crossings and changing the surface of the road to different colour and materials or removing the kerb could be introduced to enhance pedestrian-friendly environment. “Bus-mall”, (Figure 30) “tram-mall”, “Park-n-Walk” or “Park-n-Ride” schemes could be considered to reduce traffic in dense urban area.

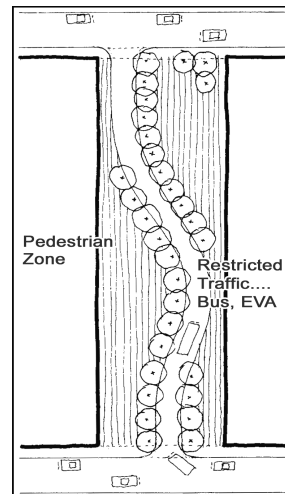


Figure 30 Transport Mall Concept

(6) Heritage

- 6.2.49 Hong Kong has heritage features including buildings in European and / or traditional Chinese style architectural design; items such as forts, rock carvings, tomb, memorial tablets, kilns; and trees. These heritage features provide important landmarks in the city and affect the overall urban design in local and intermediate scale. Attention should be given to protect the surviving features. Effort should be made to create a suitable setting to make a design response to those heritage features.

(a) *Re-use*

- 6.2.50 Conservation of heritage, architectural, and culturally significant features should be encouraged to enhance cultural and historical continuity. The refurbishment and re-use should be compatible with the surroundings. Suitable new uses should be found for heritage features.

(b) *Protecting the Setting of Heritage Features*

- 6.2.51 Individual or clusters of heritage features should be recognised as important contextual elements. Context or setting of these heritage features should be responded. Suitable settings for heritage features should be preserved or created (Figure 31). Wherever possible, views to the heritage features should be preserved and opened up (Figure 32). Building heights of new neighbouring developments should generally respect and if necessary be lowered towards the heritage features.

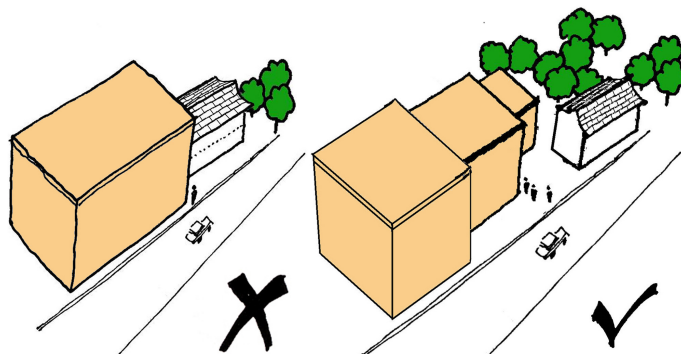


Figure 31 Provide Suitable Settings for Heritage Feature

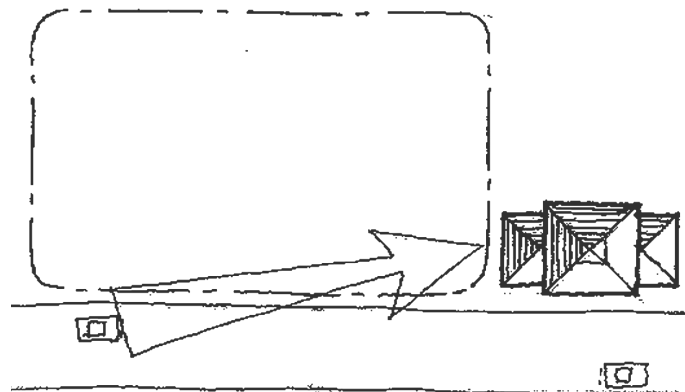


Figure 32 Preserve or Open Up Views to Heritage Feature

(c) *Compatibility*

- 6.2.52 To minimise negative impact of a new development on a neighbouring heritage feature, massing of the new development should be arranged in such a way that larger elements should be located furthest from the heritage feature with smaller elements to be located closest. Terraced and landscaped podium could be adopted to integrate more coherently with scale and possibly the character of the heritage feature. Scale, proportions, colour, materials or architectural design of the new development, especially in the lower floors, should be compatible with the heritage feature as far as possible (Figure 33).



Figure 33 Reflecting Proportions on Old and New Buildings

(d) *Preservation of Local Character*

- 6.2.53 Local districts have their own unique cultural activities, and physical and historical characters. In redevelopment, these activities and characters should be retained and enhanced as much as possible.

(e) *Recreated Heritage*

- 6.2.54 Where appropriate, new developments could consider to create a sense of history through their architectural forms and materials with a view to providing interest and contrast with the general urban area.

(7) View Corridors

6.2.55 View corridors allow views to distant object such as landmarks, ridgelines, water body, countryside, other natural features, etc. Views corridors should be integrated in the design of development layouts and can be combined with breezeways to be formed by roads, open space, amenity area and low-lying buildings. Views to special landmarks and features should be functionally protected to avoid finger or broken views. Additional view access should also be maximised to strengthen visual permeability in the dense city form. Visual access to Victoria Harbour, Victoria Peak / Lion Rock, major ridgelines / peaks should be enhanced to avoid losing these features which form “the image of Hong Kong”. Where practicable, view corridors should be landscaped.

(8) Stilted Structures

6.2.56 An urban fringe often includes steeply sloping sites which require to include raised structures or cutting (or both) to create a reasonably sized raised platform for development. Suitable landscaping with tall trees, hanging plants, infill walls or panels (e.g. brick or ornate metal screens) should be introduced (Figure 34) to minimise negative visual impact, if any, of the supporting structures. Colour and materials of infill walls should aim to generate positive visual impact. Where possible, a relatively small development footprint that can easily be accommodated on sloping sites should be encouraged in fringe areas.

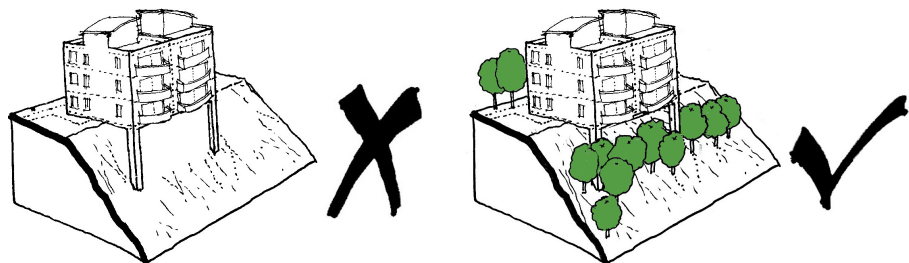


Figure 34 Minimise Negative Visual Impact of Stilted Structures

7. Guidelines for Specific Major Land Uses

- 7.1 Urban design guidelines for specific major land uses such as commercial, residential and industrial are presented in Tables 1, 2 and 3 respectively.

8. Implementation

- 8.1 Urban design guidelines can be incorporated through the existing statutory and administrative mechanisms.
- 8.2 The statutory means include: (1) regulation of building heights, site coverage, plot ratios, etc through stipulation in Notes of Outline Zoning Plans prepared under the Town Planning Ordinance; (2) control building layouts through submission of master layout plans in areas zoned “Comprehensive Development Area” on Outline Zoning Plans; (3) control on individual building designs under the Buildings Ordinance; and (4) control on heritage features under Antiquities and Monuments Ordinance.
- 8.3 The administrative mechanisms include (1) incorporation and consideration of urban design elements in the preparation of the lease conditions for development sites, e.g. the “Design, Disposition and Height” clause. Lease conditions could include restrictions on design and disposition of buildings, building heights, types of dwelling, landscaping works and requirements for master layout plans etc.; and (2) undertake urban design studies at district or local levels for new large scale development or redevelopment to set out more detailed guidance.

Air Ventilation

9. Background

- 9.1 Being one of the most densely populated cities in the world, Hong Kong simultaneously has the subtropical climate with hot and humid summer. Our city therefore fundamentally needs more winds for thermal relief and comfort in the built environment. For enhanced and long-term improvement of the wind environment in our city, it is important to optimise urban design for more wind penetration, especially to the public realm.
- 9.2 Pursuant to the Team Clean’s recommendation in August 2003, Planning Department was requested to promote better layout of

building blocks in the city through examination of stipulation of air ventilation assessment as one of the considerations for all major development or redevelopment proposals and in future planning. Accordingly, the “Feasibility Study for Establishment of Air Ventilation Assessment System” (the AVA Study) was conducted and completed in 2005. A set of qualitative guidelines and a framework for carrying out air ventilation assessment have been formulated on the basis of the AVA Study recommendations. The guidelines incorporated in the following sections are to strengthen the urban design guidelines for better air ventilation.

- 9.3 The Government’s First Sustainable Development Strategy promulgated in May 2005 has identified, among other things, the target to maintain and review guidelines governing sustainable urban planning and design, with special regard to issues such as buildings affecting view corridors or restricting air flow. The following guidelines on air ventilation are a direct response to move towards such a target.

10 General Objectives, Scope and Application

- 10.1 The following section provides qualitative guidelines in land use planning, urban design, and planning and design of large scale developments in the early stages before any actual undertaking of air ventilation assessment. At this stage these guidelines are applicable to major Government projects and will assist the planning process in plan preparation at the macro level. Whilst proponents of private projects are encouraged to have regard to these guidelines in formulating planning and design proposals, this is on a voluntary basis.
- 10.2 The qualitative guidelines focus on pedestrian wind environment in the public realm at the macro-level. Reference may also be made to sections 6 and 7 of this chapter covering generic urban design guidelines and Chapter 4 on greening, which are relevant to achieving better air ventilation objectives. Guidelines to meet air quality objectives are detailed in Chapter 9. Guidelines pertaining to building design for good ventilation are covered in the Practice Notes for Authorised Persons and Registered Structural Engineers issued by Buildings Department and Joint Practice Note No. 1 on Green and Innovative Buildings, issued jointly by Buildings Department, Lands Department and Planning Department.
- 10.3 Whilst air ventilation should be given due regard, it is but one amongst many considerations, just as other urban design factors, in the planning

and design process. Consideration of other factors where appropriate in applying the qualitative guidelines is necessary to strike a balance among various objectives to meet the needs of the community.

- 10.4 The qualitative guidelines would not be implemented all at once, nor uniformly throughout the city. Areas of new development should be planned to follow the guidelines, whereas old, built-up areas should be planned to pursue incremental improvements based on the guidelines particularly when opportunities arise from urban renewal.

11 Qualitative Guidelines on Air Ventilation

11.1 Key Principles

- 11.1.1 The qualitative guidelines on air ventilation are grouped in the following sub-sections under district level for district land use planning and urban design and site level for initial site planning and design of large-scale development proposals respectively.

District Level

- Site Disposition
- Breezeways/Air Paths
- Street Orientation, Pattern and Widening
- Waterfront Sites
- Height Profile
- Greening and Disposition of Open Space and Pedestrian Area

Site Level

- Podium Structure
- Building Disposition
- Building Permeability
- Building Height and Form
- Landscaping
- Projecting Obstructions
- Cool Materials

- 11.1.2 The key principles are to create and/or preserve a permeable and rough-textured urban fabric for improving the wind environment of our city.

11.2 District Level

(1) Site Disposition

- 11.2.1 Sites should be divided into parcels to avoid long and linear site geometry which could likely result in single-aspect and wall development not conducive to wind movements.

(2) Breezeways/Air Paths

11.2.2 For better urban air ventilation in a dense, hot-humid city, breezeways along major prevailing wind directions and air paths intersecting the breezeways should be provided in order to allow effective air movements into the urban area to remove heat, gases and particulates and to improve the micro-climate of urban environment.

11.2.3 Breezeways should be created in forms of major open ways, such as principal roads, inter-linked open spaces, amenity areas, non-building areas, building setbacks and low-rise building corridors, through the high-density/high-rise urban form. They should be aligned primarily along the prevailing wind direction routes, and as far as possible, to also preserve and funnel other natural air flows including sea and land breezes and valley winds, to the developed area (Figures 35 and 36).

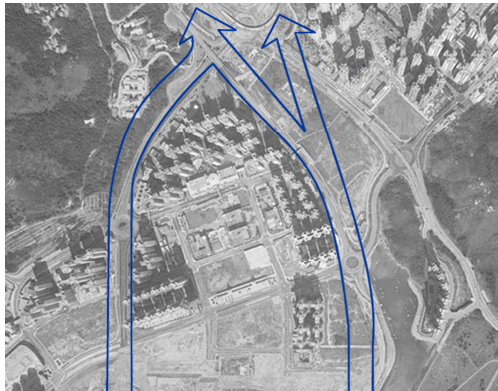


Figure 35 Major Breezeways

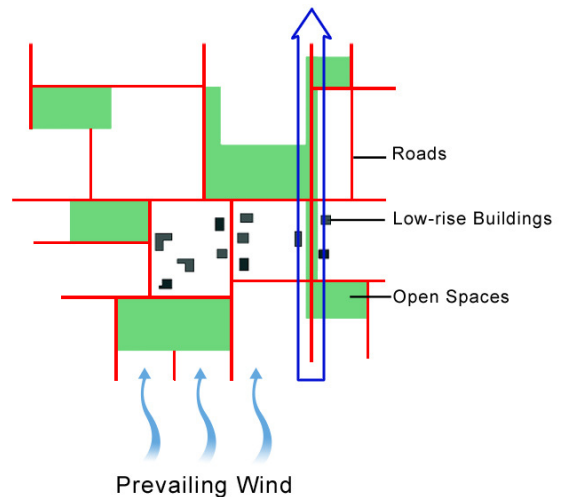


Figure 36 Linkage of Roads, Open Spaces and Low-rise Buildings to Form Breezeways

11.2.4 The disposition of amenity areas, building setbacks and non-building areas should be linked, and widening of the minor roads connecting to major roads should be planned in such a way to form ventilation corridors/air paths to further enhance wind penetration into inner parts of urbanised areas (Figures 37 and 38). For effective air dispersal, breezeways and air paths should be perpendicular or at an angle to each

other and extend over a sufficiently long distance for continuity.

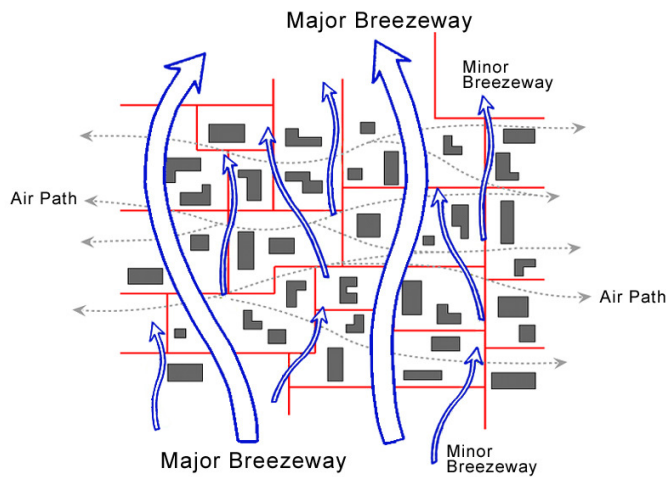


Figure 37 Air Paths

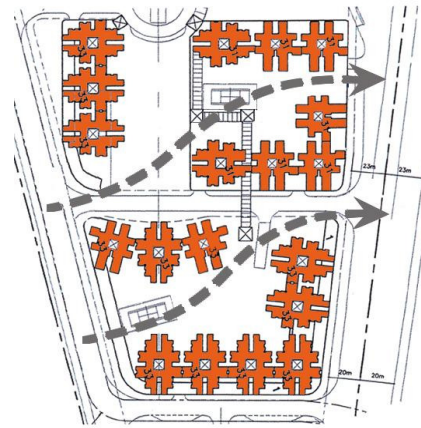


Figure 38 Disposition of Non-Building Areas to Provide Air Paths

(3) Street Orientation, Pattern and Widening

- 11.2.5 An array of main streets/wide main avenues should be aligned in parallel, or up to 30 degrees to the prevailing wind direction, in order to maximise the penetration of prevailing wind through the district (Figure 39).

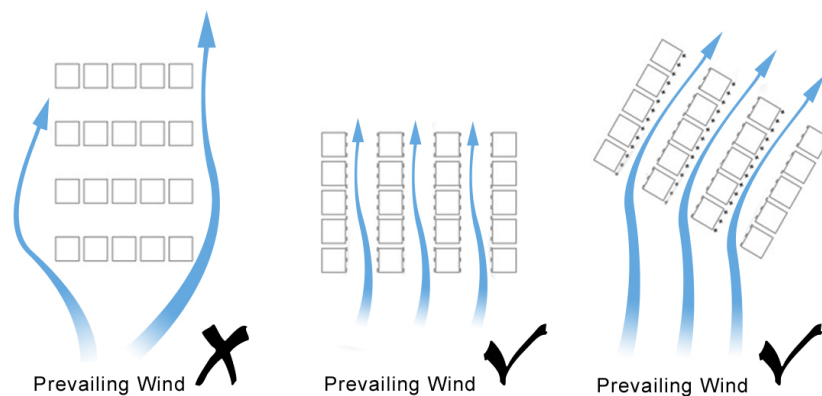


Figure 39 Orientation of Street Grids

- 11.2.6 The length of street grid perpendicular to the prevailing wind direction should be as short as possible with a view to minimizing stagnant zones while maximizing breezeways across the urban area (Figure 40).

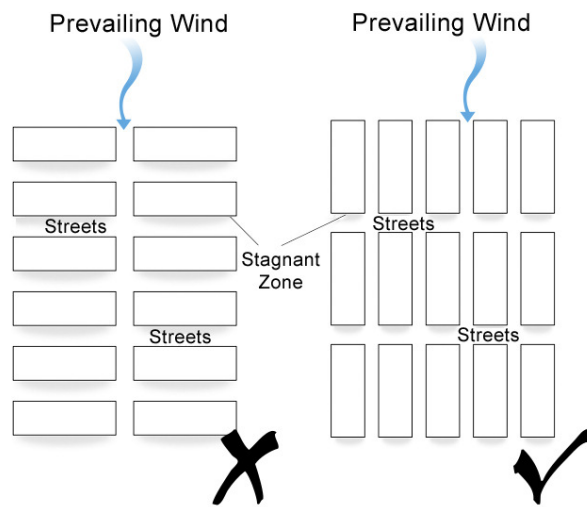


Figure 40 Pattern of Street Grids

- 11.2.7 To improve the air ventilation in the urban areas, the widening of streets along the prevailing wind direction is considered of high effectiveness. Especially for large sites facing narrow urban canyon as typically found in old urban district like Mong Kok, the building setback on each side of the street should be provided upon redevelopment or urban renewal (Figure 41).

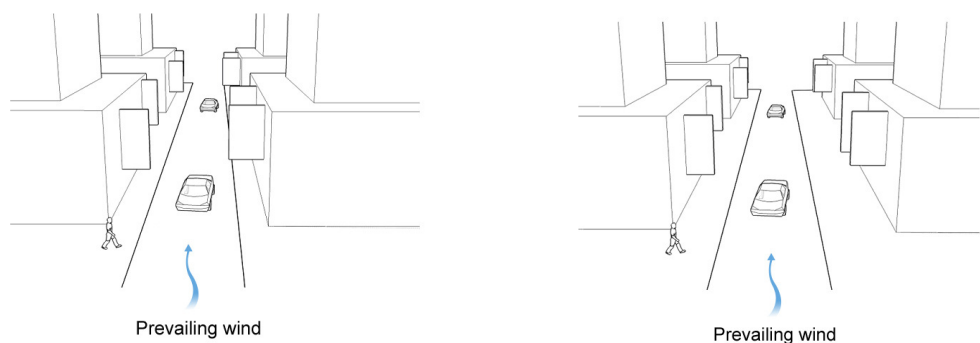


Figure 41 Street Widening/Building Setback

- 11.2.8 Development plots should be laid out and orientated to maximise air penetration by aligning the longer frontage in

parallel to the wind direction and by introducing non-building areas and setbacks where appropriate.

(4) Waterfront Sites

- 11.2.9 Waterfront sites are the gateways of sea breezes and land breezes due to the sea cooling and sun warming effects. Special considerations should be given to the appropriate scale, height and disposition of building blocks along the waterfront to avoid blockage of sea/land breezes and prevailing winds (Figure 42).

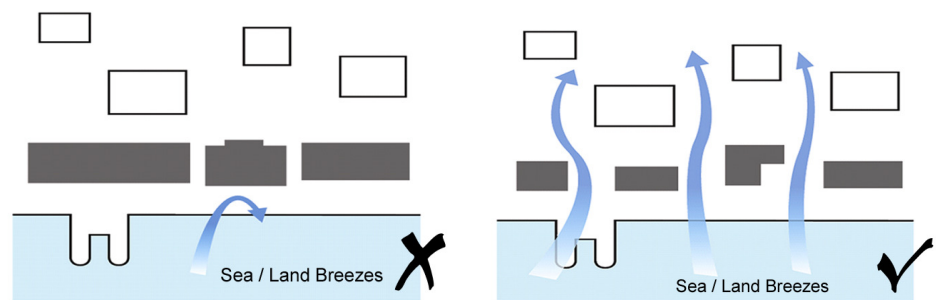


Figure 42 Waterfront buildings should avoid Wind Blockage

(5) Height Profile

- 11.2.10 A varying height profile with strategic disposition of low-rise and tall buildings in the dense urban context can help instigate wind flowing throughout the district. Certainly, this has to be balanced with visual considerations.
- 11.2.11 In general, gradation of building heights would help wind deflection and avoid air stagnation. Where appropriate, height variation across the district with decreasing heights towards the direction where the prevailing wind comes from should be adopted to promote air movements (Figure 43).

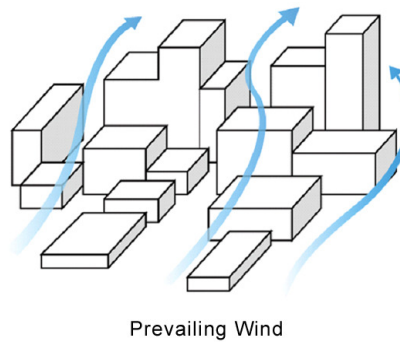


Figure 43 Varying Height Profile to Promote Air Movements

11.2.12 Low-rise buildings and open spaces should be located in the windward direction and the waterfront area, and decentralised within high-density neighbourhoods to create breathing spaces and induce building height variation (Figure 44). Those in the breezeways/air paths should be maintained.

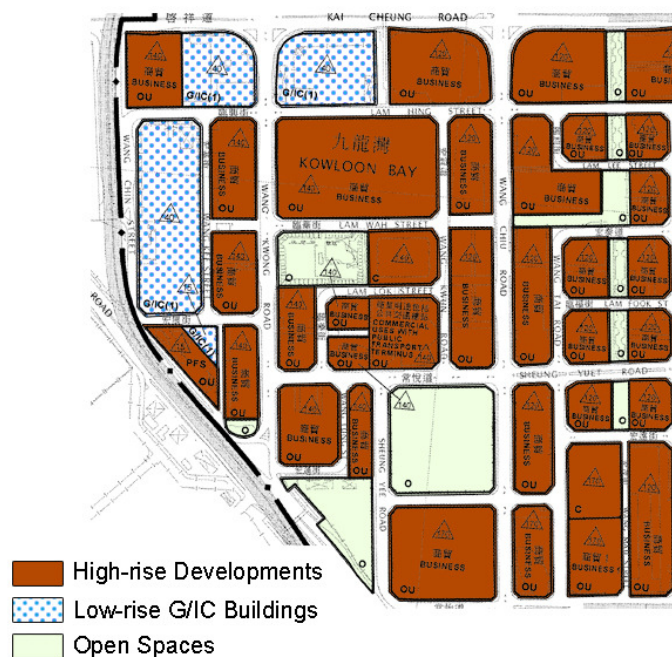


Figure 44 Breathing Spaces in the High-density/High-rise Neighbourhood

11.2.13 Congestion of tall buildings forming a high wall-like structure to the front of the prevailing wind or along the waterfront should be avoided.

11.2.14 Tall buildings in a neighbourhood should be distributed in such a way as not to adversely block the wind.

(6) Greening and Disposition of Open Space and Pedestrian Area

- 11.2.15 Green open space and vegetation help moderate the city climate and ameliorate the effect of air stagnation. Planting in open space should therefore be maximised in urban area (Figure 45).

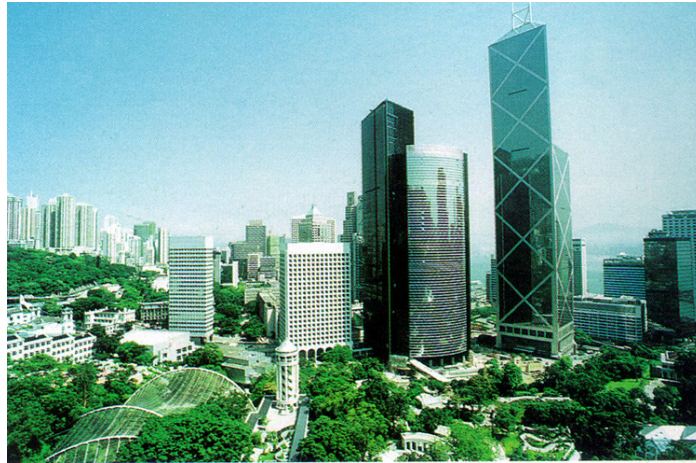


Figure 45 Maximise Planting in Open Space

- 11.2.16 For topographically enclosed or valley areas, open space should be provided at suitable location to promote moderation of the climate, and ventilation and dissipation of ambient pollution. Where feasible, vegetation and scrub planting on hillside should be extended to create cooler slopes and enhance cooler slope breezes.
- 11.2.17 To maximise pedestrian comfort, tall trees with wide and dense canopy should be planted in pedestrian area for solar shading, cooling and pollutant filtering, while causing minimal wind blockage to the pedestrian level (Figure 46).



Figure 46 Tall Trees with Wide and Dense Canopy in Pedestrian Area

- 11.2.18 The major pedestrian areas should be segregated from the exhaust of major roads, public transport interchanges, refuse collection points, etc.

11.3 Site Level

(1) Podium Structure

- 11.3.1 To enhance air circulation for dispersing heat and pollutants, thus improving comfort and air quality of the pedestrian environment, it is critical to increase the permeability of the urban fabric at the street levels.

- 11.3.2 Compact integrated developments and podium structures with full or large ground coverage on extensive sites typically found in Hong Kong are particularly impeding air movement and should be avoided where practicable. The following measures should be applied at the street level for large development/redevelopment sites particularly in the existing urban areas:

- providing setback parallel to the prevailing wind;
- designating non-building areas for sub-division of large land parcels;
- creating voids in façades facing wind direction; and/or
- reducing site coverage of the podia to allow more open space at grade (Figure 47).

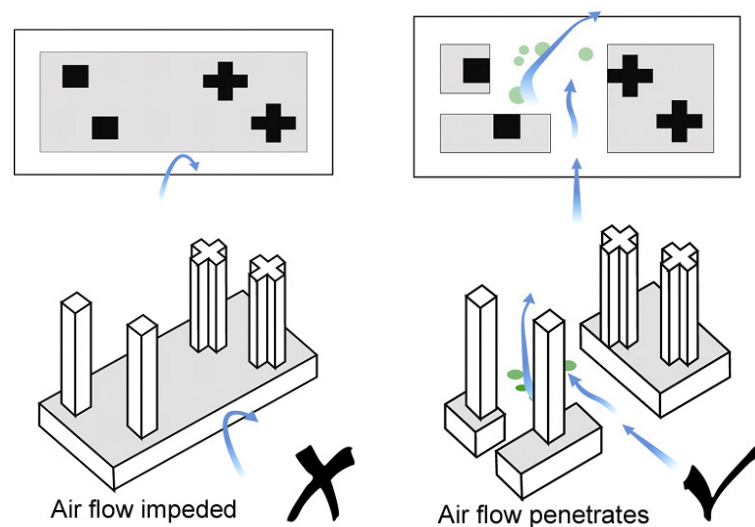


Figure 47 Reducing Site Coverage of the Podia to Allow More Open Space at Grade

- 11.3.3 Where appropriate, a terraced podium design should be adopted to direct downward airflow to the pedestrian level (Figure 48).

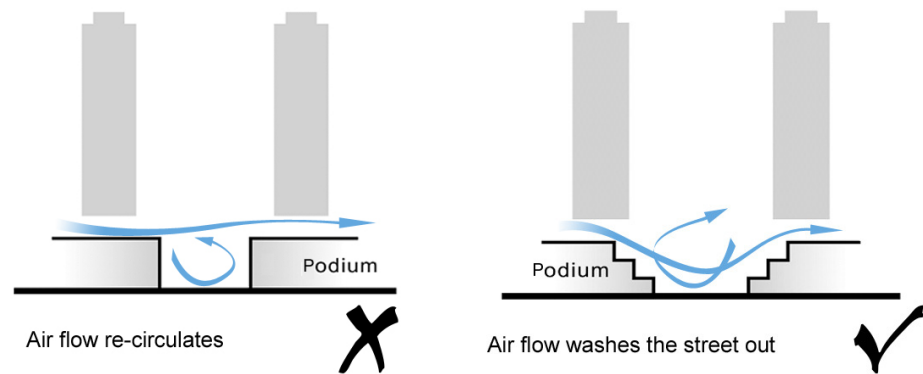


Figure 48 Terraced Podium Design

(2) Building Disposition

- 11.3.4 Suitable disposition of building blocks could help effective air flows around buildings in desirable directions.
- 11.3.5 Where practicable, adequately wide gaps should be provided between building blocks to maximise the air permeability of the development and minimise its impact on wind capturing potential of adjacent developments. The gaps for enhancing air permeability should be at a face perpendicular to the prevailing wind (Figure 49).

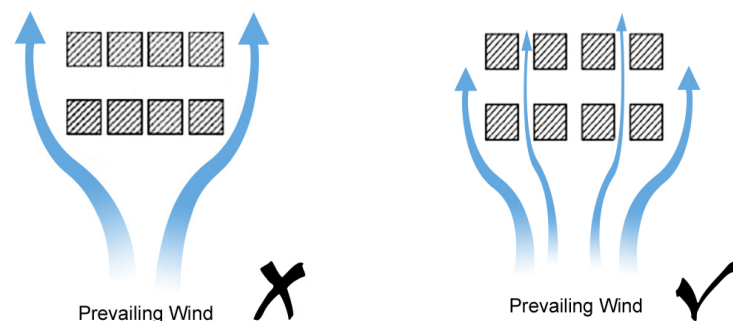


Figure 49 Gaps between Building Blocks to Enhance Air Permeability

- 11.3.6 To minimise obstruction of airflow, the axis of the building blocks should be parallel to the prevailing wind. To allow individual building blocks to capture more wind for better indoor natural ventilation, the angle between the axis of the building blocks and the prevailing wind direction should be within 30 degrees.
- 11.3.7 The arrangement of the building blocks should be staggered to enable the blocks behind to receive the wind penetrating through the gaps between the blocks in the front row.
- 11.3.8 Where appropriate, towers should abut the podium edge that faces the main pedestrian area/street perpendicular to the wind direction so as to enable most of the downwash wind to reach the street level (Figure 50).

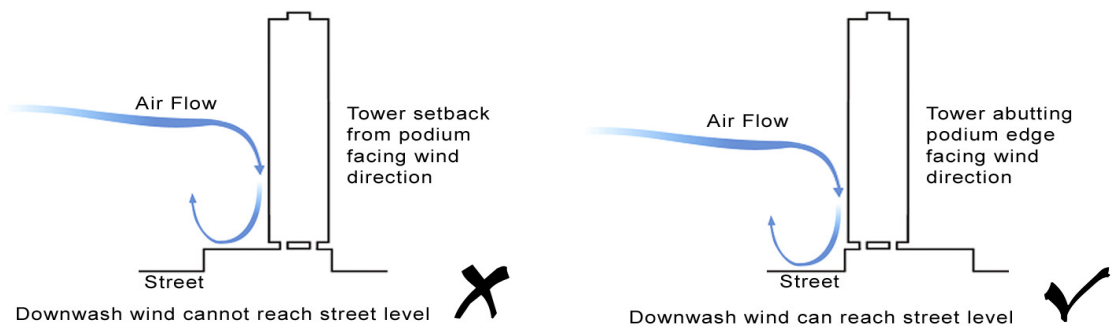


Figure 50 Towers placed to Enable Downwash Wind to Reach Street Level

(3) Building Permeability

- 11.3.9 The provision for higher permeability of building masses can be achieved by creating gaps between building blocks, between the podium and the building blocks built atop (i.e. a void podium deck) and within building blocks at various levels (Figure 51).

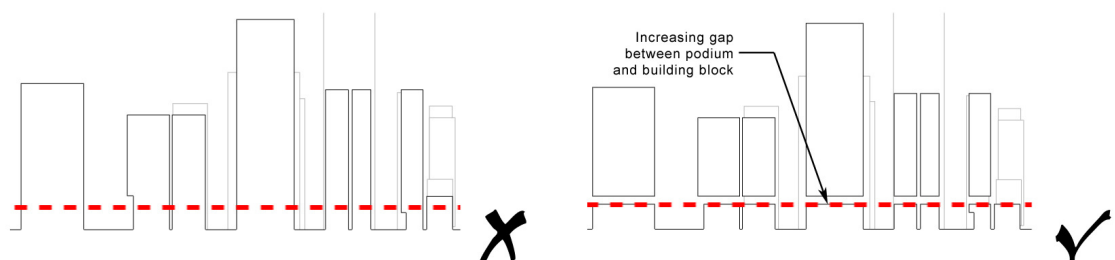


Figure 51 Gaps between the Podium and Building Blocks to Enhance Air Permeability

(4) Building Height and Form

11.3.10 Stepping building height concept can help optimise the wind capturing potential of development itself (Figure 52).

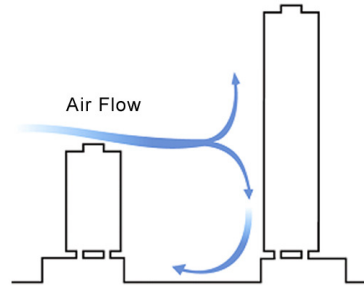


Figure 52 Stepping Height Profile to Divert Winds to Lower Levels

11.3.11 Built forms that would generate a small eddy area to allow a maximum of cooling air to flow around and through building structures should be considered.

(5) Landscaping

11.3.12 For individual development, the amount and variety of effective green open spaces should be maximised to reduce radiation gain of buildings and associated structures, or to serve as a “filter” for polluted air, if any.

11.3.13 To maximise pedestrian comfort, tall trees with wide and dense canopy should be planted in entrance plazas and setback areas, while causing minimal wind blockage to the pedestrian level (Figure 53).



Figure 53 Tall Tree with Wide and Dense Canopy in Plaza

(6) Projecting Obstructions

11.3.14 Projecting obstructions over breezeways/air paths should be avoided to minimise wind blockage. For urban canyons, massive elevated road structures aligned by tall buildings which could create air stagnant spaces below should be avoided. Projecting signboards should be vertical type instead of horizontal type, especially in areas with high pedestrian activities (Figure 54).



Figure 54 Projecting Signboards should be Vertical Type instead of Horizontal Type

(7) Cool Materials

11.3.15 Cool materials, which are characterised by high solar reflectivity and/or high emissivity, should be used in the pavements, streets and building façades to decrease absorption of solar radiation. For streets, the use of asphalt with a high percentage of white aggregates should be considered. Cool sinks like trees and water body should also be provided, where appropriate.

12 Air Ventilation Assessment

12.1 To aid planning and design for better air ventilation through the city fabric, an advisory framework for the methodology to undertake air ventilation assessment has been recommended in the AVA Study and outlined in a Technical Guide for Air Ventilation Assessment for Developments in Hong Kong. This Technical Guide is downloadable from Planning Department's homepage <http://www.pland.gov.hk>. Air ventilation assessment could help comparison of air ventilation impacts of design options and to identify potential problem areas for design improvement. Wind tunnel is recommended as the tool for carrying out air ventilation assessment. For details of the methodology, reference could be made to the Technical Guide.

13 Conclusion

- 13.1 The urban design guidelines established in this chapter promote urban design and air ventilation in the planning and design process among other considerations. To improve the quality of our life, the community should be encouraged to appreciate the benefits of urban design as well as the broader environmental, economic and social implications so as to lend their support. In effect, the success in making Hong Kong an international city of world prominence not only requires Government's initiatives in public projects, but also relies on support from the industry stakeholders and community throughout the development process.

Table 1 Design Guidelines for Commercial Zone

Issue	Objective	Design Guidelines
Image	Project a positive, recognisable image for district and city	<u>Main Business District:</u> • Enhance Hong Kong's image • Restrict mega-towers for few landmark locations • Consider a stepped building height profile with lower buildings along the waterfront and taller buildings inland • Identify suitable criteria for mega-tower locations • Reinforce the waterfront buildings as the city's "Front Elevation" • Consider the visual impact of rooftop structures • Consider the visual impact of rooftop advertising signs • Consider zoning such as "Comprehensive Development Area" for control of layout where appropriate • Avoid incompatible waterfront uses • Maximise accessibility to waterfront <u>Commercial Image in Residential Areas:</u> • Locate commercial centre as heart of development • Use commercial centre to create identity for residential area and district character • Create human scale with podium edge of commercial centre • Link enclosed mall to open space <u>Commercial Image in Industrial Areas:</u> • Locate commercial uses as industrial estate focus • Consider the optimum location of facilities for maximising accessibility and use
Pedestrian Movement	Create safe, interesting and comfortable circulation route for pedestrians	<u>Ground Level:</u> • Provide safe and linked system through the commercial area • Consider pedestrianisation of appropriate areas • Allow setbacks to create a focus • Allow alternative routes <u>Retail Podium:</u> • The linkages should follow "desire lines" <u>Podium Top Circulation:</u> • Pedestrian linkage should preferably go through open landscaped decks

Issue	Objective	Design Guidelines
		<u>Underground Shopping Mall Link:</u> • Create interesting and safe pedestrian linkages underneath the shopping mall
Traffic Circulation	Create an efficient vehicular circulation system to minimise negative impact of vehicles on pedestrians	• Minimise traffic impact on districts by keeping vehicular routes to the periphery • Restrict access to commercial districts by provision of parking and interchange facilities at the periphery • Restrict access for delivery vehicles • Integrate measures to slow traffic speed at small location
Parking	Provide adequate and conveniently accessible parking facilities	• Provide adequate parking for vehicles • Provide direct access to parking facilities at periphery of Central Business District • Consider provision of transport interchanges to encourage reduction of traffic
Air Quality	Provide maximum air circulation to improve air quality in commercial core area and achieve acceptable air quality	• Create breezeways where possible • Consider effects on micro-climate at street level • Create pedestrianised zone for cleaner air • Encourage tree planting
Streetscape	Maintain the vibrant streetscape character	• Strengthen activities and vitality along the waterfront • Ensure legibility of the street environment • Create interesting frontages

Table 2 Design Guidelines for Residential Zone and Village

Issue	Objective	Guidelines
Scale	Create appropriate size of the development	• Encourage comprehensive development to allow more flexibility in layout and design • Promote co-operation between adjacent lot owners to help upgrade overall cityscape
Building Height	Minimise adverse visual impact of development height on surrounding areas	• Consider the relationship between building height and mountain backdrop so as to avoid breaching viewsheds • Create diversity and variety in building height profile for visual interest • Consider plot ratio control for lowering building height • Minimise adverse visual impact on the surroundings by stepping building height or setting back • Descend the building height to the waterfront, open space and countryside • Avoid “pencil” towers or out-of-context “sore thumb” development
Built Form and Mass	Create interesting built form and mass	• Adopt innovative built form to establish a unique identity and character for a development • Create diversity and variety in building mass to enhance visual interest
Disposition of Blocks / Houses	Choose a suitable location for blocks / houses to enhance privacy of residents and to minimise the negative visual, noise and air quality impacts	• Arrange disposition of building blocks / houses to avoid negative environmental impacts • Orientate building blocks / houses to maximise privacy to residents • Avoid “island sites” surrounded by roads • Maximise residents’ views without adversely affect public views • Position building blocks / houses away from nuisance and bad neighbouring uses • Consider micro-climatic effects
Pedestrian Circulation	Create an efficient, comfortable, safe, and convenient pedestrian circulation system throughout the neighbourhood	• Design with pedestrian priority • Provide separated pedestrian routes • Encourage at-grade pedestrian movement • Provide “movement corridors” through development, e.g. pedestrian movement at podium level • Improve micro-climate for pedestrian comfort • Ensure easy and direct access to public transport node • Enhance street and neighbourhood surveillance

Issue	Objective	Guidelines
		for safe environment • Provide landscaped pavements • Provide suitable street furniture • Incorporate provisions for disabled persons circulation • Promote pedestrian linkages to urban fringe / rural areas
Vehicular Circulation	Create an efficient vehicular circulation system with minimal negative impact on pedestrian circulation	• Keep private vehicles to the periphery of the development • Provide public transport facilities to minimise vehicles movement within the development • Ensure the provision of emergency vehicular access • Provide buffer against road noise • Avoid through traffic • Avoid deep penetration of roads • Ensure legibility for motorists • Reduce vehicle speeds within development by provision of speed bump, traffic calming measures, etc. • Consider pedestrian safety
Parking Provision	Provide adequate and easily accessible parking facilities for residents' vehicles	• Provide adequate parking • Discourage on-street parking • Create active edge for the façade of parking structure and disguise monotonous elevation • Provide parking for disabled persons
Open Space / G/IC facilities	Provide open space and G/IC facilities which are usable, accessible and valuable to residents	• Meet the necessary open space and G/IC facilities requirements • Maximise accessibility and usability of open space • Fully utilise podium for open space uses • Encourage linkages to urban fringe and rural areas
Negative Impact	Minimise negative impacts on surrounding natural environment	<u>Impact on mountains:</u> • Avoid adverse visual impact on hillsides with provision of more greening within developments • Use subtle colour on elevations to avoid sharp contrast with natural backdrops • Screen with landscaping • Minimise adverse visual impact of stilted structures <u>Impact on waterfront:</u> • Avoid negative visual impact on waterfront by variation in height and massing

Issue	Objective	Guidelines
		• Provide public access to waterfront • Respect sensitive waterfront amenity <u>Impact on natural setting:</u> • Connect landscape features to natural surroundings • Consider more flexibility in architectural designs • Provide tree planting to minimise building impact <u>Environmentally sensitive neighbourhood:</u> • Provide buffers between the development and sites of special scientific interest <u>Impact on adjacent rural areas:</u> • Protect character of adjacent village • Protect farmland and fish ponds • Leave adequate buffer between the development and adjacent developments • Respect local history and culture • Avoiding large scale development mass • Respect site context such as minimising slope cutting and clearance of natural vegetation
Identity	Create a recognisable identity	• Create a focal point of the development • Adopt innovative building design or architectural imagery to establish a distinctive image for the development • Develop activity node
Neighbourhood Community	Establish self-contained neighbourhoods and communities to encourage residents' civic pride and sense of belonging	• Create a distinct neighbourhood identity • Define entrance and focal point • Create a sense of belonging in the layout planning for residents

Issue	Objective	Guidelines
<u>Village</u>		
Pattern	Respect topographical / landscape setting and the harmony of the village layout	• Respond to existing layout patterns • Respect the massing, style, colour and form of historic village in redevelopment. • Avoid infill development with incompatible architectural style in indigenous village core.
Neighbourhood Focus	Create a focus for village and enhance its individual identity	• Define entrance to village • Accentuate focus to village • Encourage historical and cultural awareness • Consider landscape and visual issues • Screen refuse collection point with landscape
Pedestrian and Vehicular Circulation	Provide efficient pedestrian and vehicular circulation systems suitable for the village setting	• Keep provision of road infrastructure to minimum and preserve village character and context as far as possible • Locate carpark at entrance which can be designed as a village focus
Village Character	Preserve historical and cultural characteristics of indigenous villages	• Perceive village as an entity and maintain the cohesive quality for the village • Preserve unique character and features • Maintain richness of design details of traditional houses

Note: As villages vary with location, context, age, history, etc., each design solution should look at the specific context and individual problems.

Table 3 Design Guidelines for Industrial Zone

Issue	Objective	Guidelines
Environmental Impact	Locate industry to ensure minimal negative impacts on surroundings	• Minimise negative visual impact by provision of landscape buffer • Maintain breezeways • Respect land uses in neighbouring zones by provision of buffers
Vehicular Circulation	Create an efficient layout for internal circulation and project a positive image of the industrial area	• Provide good connection to road infrastructure • Create a grand entrance for projecting a positive image • Provide separate access for delivery and management • Avoid through traffic in planning road alignments • Provide landscape fingers to surrounding roads • Provide an efficient layout for emergency vehicle access • Provide easily accessible public transport • Provide adequate parking • Discourage on-street parking • Incorporate a central car park as focal point of an industrial area • Use screen planting to hide the parking area
Pedestrian Circulation	Provide safe and efficient pedestrian networks to and through the industrial development	• Separate vehicle and pedestrian movements • Provide convenient public transport facilities and supporting facilities at the most accessible location • Incorporate traffic calming measures • Provide access for the disabled • Provide adequate pavement width • Consider incorporating podium circulation routes for pedestrians • Create vitality in the streetscape • Provide adequate open space • Provide open space as development focus • Create secondary landscape landmarks
Open Space	Maximise available and usable open space for workforce	• Provide accessible and attractive open space • Provided linkages between open space • Incorporate open space with pedestrian network