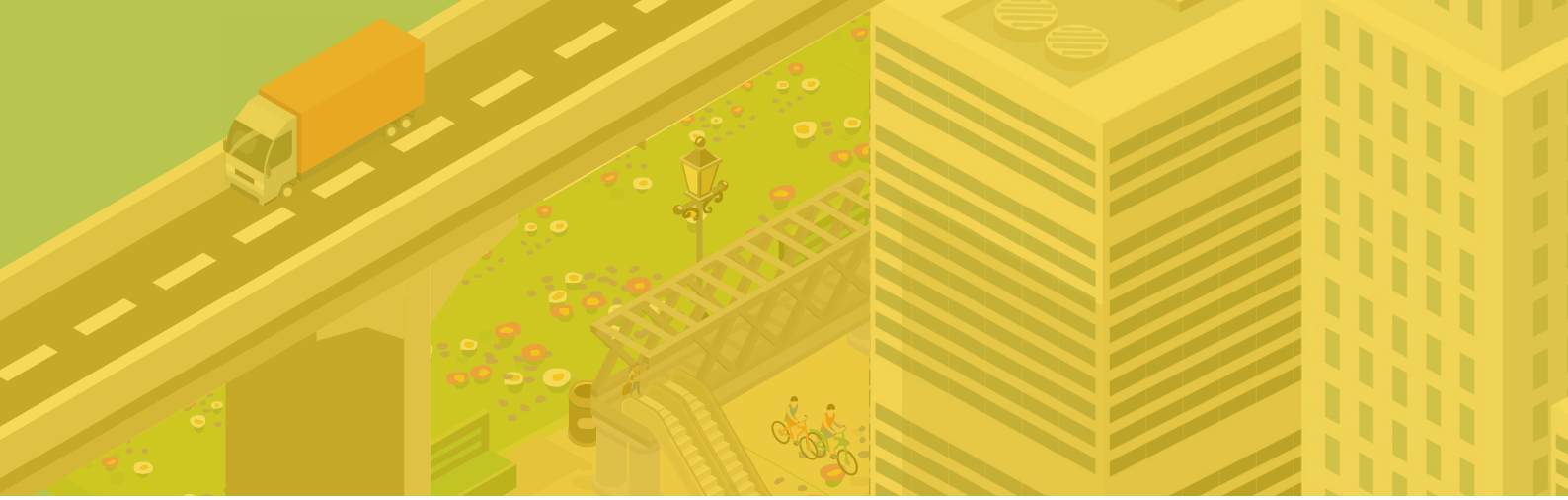


Hong Kong Planning Standards and Guidelines

Chapter 8

Internal Transport Facilities

Planning Department
The Government of the Hong Kong Special Administrative Region

CHAPTER 8 INTERNAL TRANSPORT FACILITIES

CONTENTS

(December 2025 Edition)

To update Section 5 on Planning for Pedestrians so as to reflect the overall walkability strategy for Hong Kong and the comprehensive pedestrian planning framework to guide pedestrian plans and pedestrian improvements at the district/ local level.

To update Section 7 with the requirement of minimum headroom of parking spaces for coaches/buses in new developments to align with the latest statutory maximum overall height for single-decked buses.

Tables

Figures

Appendices

INTERNAL TRANSPORT FACILITIES

1. Introduction

1.1 Policy Objective

1.1.1 The New Transport Strategy entitled "Hong Kong Moving Ahead – A Transport Strategy for the Future" underpins the policy objective of providing and maintaining a safe, efficient and reliable transport system in an environmentally acceptable manner for the development of Hong Kong. The objectives of this strategy can be summarised as follows :

- Better integration of transport and land use planning;
- Better use of railways;
- Better public transport services and facilities;
- Better use of technology in traffic management; and
- Better environmental protection measures in relation to transport infrastructure and activities.

1.1.2 All the objectives and initiatives of the Transport Strategy that are related to land use planning have been incorporated into the relevant sections of the HKPSG to ensure that due consideration will be given in the planning process. Details of these objectives and initiatives are in Appendix 1.

1.2 Relationship with other Chapters of the HKPSG and Transport Planning and Design Manual (TPDM)

1.2.1 In general, internal transport facilities such as roads, railways, terminals, depots, petrol filling stations etc. have the potential to cause damage to the environment. The transport/environment interaction forms one of the considerations in the evaluation of transport projects at the planning stage. Environmental Protection Department should be consulted on the environmental aspects of these projects. The environmental guidelines pertaining to internal transport facilities provided in Chapter 9 - "Environment", should be followed, as far as possible. For designated projects specified in the Environmental Impact Assessment (EIA) Ordinance, the statutory EIA process should be followed.

1.2.2 Technical details are excluded in this Chapter but may, if necessary, be referred to in the TPDM prepared by Transport Department. A tabulated list of reference to appropriate sections in the Manual is provided in Appendix 2 for that purpose.

2. Rail Facilities

2.1 General Objective

2.1.1 Rail will form the backbone of the passenger public transport network. There has been increasing development pressure for population and employment growth along existing and planned rail corridors. The Railway Development Strategy 2000 sets out the railway expansion plan for Hong Kong up to 2016.

2.1.2 As a matter of principle, in planning for new development areas and major population and employment centres, due consideration shall be given to maximise use of existing and proposed railway lines and stations. In planning for the provision of road access, care should be taken for such to complement the rail system and that there should be proper integration of road-based and rail-based transport.

2.2 Types of Rail Systems

2.2.1 At present, there are four different rail systems, serving different parts of the Territory:

- The Peak Tramway
- Hong Kong Tramways
- The Mass Transit Railway
- The North-west Railway (Tuen Mun - Yuen Long Light Rail System)

2.2.2 The above rail systems can be broadly classified into light rail and heavy rail, although the distinction is sometimes difficult to make when considering inter-urban railways. In general, the Mass Transit Railway may be termed heavy rail system, whereas the North-west Railway and the Hong Kong Tramways are light rail systems. Light rail systems consisting of short trains but with frequent stops are suitable for a lower passenger carrying capacity. On the other hand, heavy rail systems have much higher passenger carrying capacity in the transport system.

2.3 Standards for Rail Systems

2.3.1 The technical requirements for the various rail systems are not the same and are dependent on their operational characteristics.

2.3.2 The width, curvature and gradients of the rail tracks, size and design of stations/stops and depots, etc. should all be subjected to special feasibility studies to be approved by Transport Department, Highways Department and relevant Committees.

2.4 Locational Factors

2.4.1 In the process of planning either a new rail or a rail reserve, consideration should be given to integrating the rail project with the land use planning. A rail project can enhance development opportunities and vice-versa. It should take into account key planning parameters such as the distribution of population and employment centres to ensure that they would be best served by the rail. To enhance viability of the rail services, the development opportunities around rail stations, depots and public transport interchanges should be capitalised wherever practicable without compromising planning considerations such as infrastructure and environment.

2.4.2 Stations/public transport interchanges should preferably be located within a walking distance of 500m from major housing, employment, shopping, commercial, cultural and other population intensive activity centres with properly planned pedestrian walkway systems to improve connectivity. Within the longer range of this walking distance, and for distance up to 1 000m, consideration should be given as early as possible in the planning process to including facilities, such as travellator or moving walkway, to assist pedestrian movement between the stations/public transport interchanges and the other developments. This will help to promote usage of public transport services and to ease road congestion by alleviating the reliance on private vehicles.

2.4.3 Consideration should also be given to minimising the potential impact of the rail on noise sensitive receivers. Typical considerations would include optimum distance separation between rail alignments and noise sensitive receivers, provision of screening and absorbing elements and decking of depots. The planning considerations for underground and above ground railway lines and stations are also quite different. An underground railway would have less noise and visual concerns than an above ground railway. On the other hand, there could be certain ventilation shafts or fire access requirements for underground railway which should be taken into account in land use planning. Such differences in environmental impacts and associated planning implications should be take into account when planning railways and developments associated or near them. For details on specific environmental considerations, readers may refer to Chapter 9 and seek advice from Environmental Protection Department as appropriate.

2.5 Railway Protection

2.5.1 Railway Development Office (RDO) of Highways Department will issue from time to time administrative route protection plans before gazetting the railway schemes. Planning and development matters that may affect the railway protection zones should be referred to RDO for consideration.

2.5.2 The intention of administrative route protection is not to create planning blight, nor freeze development unnecessarily but to ensure that these proposed railway projects will not be frustrated by other developments. By adopting administrative route protection procedures, departments will have an early understanding of the interfacing issues arising from the railway proposals. Where there are likely conflicts, necessary and appropriate actions in line with Government's objective and policy could be taken timely to resolve them.

3. Road

3.1 Hierarchy of Roads

3.1.1 An exact hierarchy of roads is difficult to define given the historical development of the road network within the Territory. However, roads may be classified broadly according to the particular functions they are intended to serve.

3.1.2 Expressways are roads connecting the main centres of population and activities and are designated under the Road Traffic Ordinance. Although they would perform similar functions to trunk roads and perhaps some primary distributor roads, they would be designed to a higher standard. Expressways are not confined to an urban or rural area but could traverse through both areas. Not all trunk or primary distributor roads will necessarily be expressways.

3.1.3 In urban areas (including Hong Kong, Kowloon and New Towns) the hierarchy comprises :

(a) trunk roads: for longer-distance traffic movements between main centres of population and activities;

(b) primary distributor roads: for traffic between centres within the main urban areas forming a primary road network;

(c) district distributor roads: for traffic between the primary road network and districts within the main urban areas; and

(d) local distributor roads: giving direct access from district distributor roads to buildings and land within districts.

3.1.4 In rural areas roads may be classified as :

(a) trunk roads: defined as in para. 3.1.3;

(b) rural roads A: for the movement of traffic from the smaller centres of population or popular recreation areas to the major road network;

(c) rural roads B: for traffic from villages to rural roads A;

(d) feeder roads: for traffic from more remote settlements to rural roads B; and

(e) single track access roads: for traffic from isolated developments to rural roads B.

3.1.5 As shown in Figures 1 - 5, the total width of any road is derived from a number of components which may include, depending on the type and function of the road, the following :

(a) a carriageway or carriageways;

(b) footways;

(c) hard shoulders;

(d) verges, with or without planting reserves and marginal strips;

(e) central reserve and traffic island;

(f) service roads;

(g) noise barriers; and

(h) cycle tracks.

Although guidance as to the appropriate widths of these components are given in later paragraphs, it is important that the design criteria actually adopted, particularly in terms of geometric features, traffic signing and road marking, are appropriate for the likely speed of traffic expected on the road. Many of the standards, therefore, should not be considered absolute maxima or minima but may need to be adjusted to suit particular circumstances including economic, environmental and road safety considerations. Reference should also be made to the Transport Planning and Design Manual Volume 2 Chapter 3 for the typical cross sections.

3.2 Standards for Urban Roads

3.2.1 The general design characteristics for the different road types may be described as follows :

(a) *Expressways*

Dual carriageway roads with access only at widely spaced grade-separated junctions. A nearside hard shoulder should be provided on all sections and stopping restrictions apply at all times. Junctions should preferably be spaced at about 5 km intervals but closer spacing desirably not less than 2 km may be adopted depending on particular circumstances. Any pedestrian facilities provided should be completely segregated from vehicular traffic.

(b) *Trunk Roads*

Dual carriageway roads with no direct frontage access and stopping restrictions applying at all times. Grade-separated junctions are preferred. When provided, junction centres should not be less than 1 km apart. In case at-grade junctions are required because of physical or other constraints, they should be at least 300m apart. Any pedestrian facilities provided should be completely segregated from vehicular traffic.

(c) *Primary Distributor Roads*

Dual carriageway roads similar in character to trunk roads.

(d) *District Distributor Roads*

May be dual carriageway or single carriageway roads, with high capacity junctions, and peak hour stopping restrictions. On-street parking should not generally be provided. Direct frontage access may be permitted where necessary.

(e) *Local Distributor Roads*

Generally single carriageway roads with direct frontage access. Stopping restrictions may be required, but normally only in the vicinity of junctions. On-street parking provision may be permitted.

3.2.2 Recommended carriageway widths in accordance with the TPDM are shown in Table 1.

Table 1 : Minimum Carriageway Widths in Urban Areas (TPDM)

Road Type	Single Carriageway	Dual Carriageway
Expressway and Trunk Road	-	7.3 m (2-lane) 11.0 m (3-lane) 14.6 m (4-lane)
Primary Distributor Road+	-	6.75 m (2-lane) 10.0 m (3-lane) 13.5 m (4-lane)
District Distributor Road+	7.3 m (2-lane) 10.3 m (2-lane)* 13.5 m (4-lane)	6.75 m (2-lane) 10.0 m (3-lane)
Local Distributor Road+	7.3 m (2-lane) 10.3 m (2-lane)* 13.5 m (4-lane)	6.75 m (2-lane)

\+ Where there are tram tracks, a 5.5m wide tram reserve must be allowed for a double track system.

* When the peak hour traffic volume (two-way) exceeds 1 600 vehicles but is less than 2 400 vehicles, a wider 2-lane single carriageway should be used. The use of a 3-lane single carriageway is not recommended for safety reasons.

3.2.3 An additional 3m width on either or both sides of the carriageway should be provided on district and local distributor roads to accommodate parking and/or loading/unloading if either of these activities, when permitted, are likely to interfere with through traffic flow.

3.2.4 Private streets and access roads within private developments would normally be designed to criteria prescribed in the Buildings Ordinance, Cap 123 and the Building (Private Streets and Access Roads) Regulations. However, when it is intended that such roads should be open to public use and form part of the overall public road system, or where public transport is to be provided, the roads should instead be designed and constructed to standards in the TPDM and the requirements of Highways Department.

3.2.5 Minimum carriageway widths stipulated in the Building (Private Streets and Access Roads) Regulations are shown in Table 2. For private streets and access roads less than 6m wide which are required for Emergency Vehicle Access (EVA) purpose, a minimum clear width of 6m, which may include adjacent footways or verges, is required to allow fire service appliances to operate.

Table 2 : Minimum Carriageway Widths for Private Streets and Access Roads (Buildings Ordinance)

Road Type	Residential	Industrial/Mixed Usage
Major Private Street	7.3 m	10.5m
Minor Private Street	5.5 m	7.3m
Cul-de-sac	5.0 m	7.3m
Access Road	5.0 m	Not Applicable
Access Road with passing bay	2.75m	Not Applicable

3.2.6 The minimum standard for industrial access roads is illustrated in Figure 6. The minimum width of carriageway for the roads giving principal access to industrial premises is 13.5m. The minimum width of footpath on either side is 3.5m. Hence, the overall width of the standard road is 20.5m.

3.2.7 The minimum width of carriageway for roads giving secondary access to industrial premises is 7.3m for 1-way traffic and 10.3m for 2-way traffic. The minimum width of footpath on either side is 3.5m. Hence, the overall road widths of secondary access roads are 14.3m for 1-way traffic and 17.3m for 2-way traffic.

3.2.8 Fire escape and rear service roads in industrial areas should be at least 9m wide.

3.2.9 Central reserve widths on urban roads will vary according to particular circumstances and will be influenced by street furniture requirements. Table 3 provides guidance as to the minimum widths for central reserves for urban roads with barrier fences or similar.

Table 3 : Minimum Widths of Central Reserves for Urban Roads

Road Type	Reserve Width
Expressway	2.3 m
Trunk Road	2.3 m
Primary Distributor Road	2.3 m
District/Local Distributor Road	1.8 m

3.2.10 Where planting is to be incorporated along central reserves, widths shown in Table 3 will need to be increased. Requirements for planting adjacent to carriageways are given in the TPDM Volume 2 Chapter 5.

3.2.11 On trunk roads and primary distributor roads a 2m verge in addition to a 1m marginal strip should normally be provided. However on elevated primary distributor roads the verge may be omitted, but the 1m marginal strip must always be provided.

3.2.12 The desirable gradient on expressways, trunk roads, primary distributors and bus routes should not exceed 4%. On other roads, the desirable gradient should not exceed 5%. Where topographical difficulties can influence considerably the economics of a road scheme, steeper gradients may be used, but should not exceed an absolute maximum of 8% for the former and 10% for the latter. This standard is applicable to both urban and rural roads.

3.3 Standards for Rural Roads

3.3.1 General design characteristics for the different road types may be described as follows :

(a) *Expressways*

Dual carriageway roads with access only at widely spaced grade-separated junctions preferably at about 5 km intervals. Closer spacing not less than 2 km may be adopted depending on particular circumstances. A nearside hard shoulder should be provided throughout and stopping restrictions apply at all times. Pedestrian facilities should be completely segregated from vehicular traffic.

(b) *Trunk Roads*

Dual carriageway roads with no direct frontage access and stopping restrictions applying at all times. At-grade junctions should normally be spaced at least 550m apart. Grade-separated junctions are preferred. When provided, junction centres should not be less than 1 km apart. Pedestrian facilities should not be provided adjacent to the carriageway and any crossing points must be grade-separated.

(c) *Rural Roads A*

Dual or single carriageway roads with high capacity grade separated or at-grade junctions. Direct frontage access should be avoided where possible. Whether stopping restrictions need to be imposed will depend upon the particular site conditions,

taking into account frontage development, traffic flow characteristics etc. Provision for on-street parking should not be made.

(d) *Rural Roads B*

Dual or single carriageway roads, with at-grade junctions. Direct frontage access may be provided. The imposition of stopping restrictions will depend upon particular circumstances. It will not normally be appropriate to make provision for on-street parking.

(e) *Feeder Roads*

Single carriageway roads with the design commensurate with the traffic flow likely to use it. Because of the generally narrow width of the road, local widening in the form of parking lay-bys (3m wide) will be necessary if on-street parking is required.

(f) *Single Track Access Roads*

Single carriageway roads with suitably located passing bays, preferably at least 12m long plus nominal tapers of 1:3, where 2-way traffic volumes do not exceed 500 vehicles per day and there is little or no kerbside activity and no parking is provided.

3.3.2 Table 4 shows recommended widths for roads in rural areas.

Table 4 : Minimum Carriageway Widths in Rural Areas

Road Type	Single Carriageway	Dual Carriageway
Expressway and Trunk Road	-	7.3 m (2-lane) 11.0 m (3-lane) 14.6 m (4-lane)
Rural Road A	7.3 m (2-lane) 10.3 m (2-lane)*	7.3 m (2-lane) -
Rural Road B	6.75 m (2-lane) 10.3 m (2-lane)*	7.3 m (2-lane) -
Feeder Road	6.0 m (2-lane)	-
Single Track Access Road	3.5 m (1-lane) Widened to 6 m at passing bays 6.0m (2-lane)	- -

* When the peak hour traffic volume (2-way) exceeds 1 600 vehicles but is less than 2 400 vehicles, a wider 2-lane single carriageway should be used. The use of a 3-lane single carriageway is not recommended for safety reasons.

3.3.3 Central reserve widths will be influenced by junction design and street furniture requirements but minimum reserve widths should be in accordance with Table 5.

Table 5 : Minimum Central Reserve Widths for Rural Roads

Road Type	Minimum Central Reserve Width
Expressway	3.2m
Trunk Road	3.2m
Rural Road A	1.8m
Rural Road B	1.8m

3.3.4 Planting in the central reserve would provide environmental benefits but should be viewed with caution because the high traffic speeds could introduce maintenance problems and create safety hazards. However, if planting is considered appropriate a central reserve width of at least 4m should be provided.

3.3.5 For trunk roads a verge of 2m in width should be provided in addition to a 1m marginal strip on the left hand side of the road. On rural A and B roads a verge width of 3m is desirable but this may be reduced to 2m and 1.6m respectively where necessary.

3.4 Standards for Service Roads

3.4.1 On roads where no direct frontage access is permitted, and the alternative of providing a rear access road system connecting adjacent buildings or properties to the principal road through a proper junction is found to be impracticable, a service road is provided. It usually runs adjacent to the principal road and is connected to it at selected points for providing access to the adjacent buildings or properties.

3.4.2 The verge between the main carriageway and the service road should generally be 2m or more in width and never less than 1.5m.

3.4.3 Table 6 indicates appropriate widths for service roads.

Table 6 : Carriageway Width of Service Roads

Carriageway Type	Cars/Light Goods Only	All Vehicles
One-Way	4.5m	5.5m
Two-Way	5.5m	6.75m
Industrial Fire Escape and Service Road	-	9.0m

3.4.4 For service roads less than 6m in width, an overall clear width of at least 6m, which may include adjacent footways or verges, must be provided to allow fire service appliances to operate in the event of an emergency.

3.5 Locational Factors

3.5.1 The alignment of a road is usually dictated by certain geometric design features such as horizontal and vertical curvature, sight-distance, gradients, super-elevation etc. which are correlated by design speed, which itself is related to the road hierarchy, extent of access control and type of junctions.

3.5.2 Considering the compactness of the Territory, the high density development in the urban areas and the severe terrain in most of the rural areas, some acceptable deviation from the standards may be necessary for practical and economic reasons. However, such deviation should be the exception rather than the rule.

3.5.3 Apart from the geometric design features, there are several other factors that need consideration in determining a suitable alignment. A transport facility could be elevated, at-grade or below grade in entirety or along sections of its alignment. Each of these positions would impose varying environmental, visual, physical and economic considerations that must be investigated, quantified when practicable and evaluated in the planning process.

3.5.4 The alignment of a transport facility should present the least obtrusive visual impact of the engineering features associated with the facility on areas of sensitive land use. Engineering features would include bulk cuts and fill that could scar a wooded hillside. Wherever possible, suitable landscaping should be incorporated to minimise obtrusive visual impact, in which case its cost should be a consideration. Visual impact is somewhat difficult to quantify. Hence, a suitably scaled qualitative assessment may be necessary.

3.5.5 All roads have potential to cause damage to the environment. Their location and alignment should be suitably selected so as to avoid potential environmental problems. Adequate protective measures should be provided, in particular for expressways, trunk roads and distributors, to satisfy the environmental guidelines to minimise pollution. In planning new strategic roads, consideration should be given to adopt measures (which may possibly include decking over the road or putting it underground) to reduce the potential environmental and visual impacts, subject to their technically feasibility and implications on capital costs, maintenance/operation cost, visual impact, traffic safety and other relevant factors. The built form of the

road should also be subject to assessment of its visual impact to identify practical means, including landscaping, to protect or enhance visual amenity.

3.5.6 Consideration also needs to be given at the design stage to the traffic aids and street furniture requirements. It is necessary to ensure that there is adequate space to erect traffic signs, lighting columns, noise shielding elements and barrier fences in their proper positions without causing danger or obstruction by being too close to vehicular or pedestrian paths. It is also important to ensure a continuity and conformity of design in terms of the location, and type of street furniture used throughout a route. It may therefore be necessary to arrange consultation among interested parties to ensure this when the construction of a particular route is divided into several adjacent schemes.

3.5.7 Where a cul-de-sac is constructed adequate turning area must be provided at the end to enable vehicles to manoeuvre without causing damage to adjacent footways, street furniture, buildings or other structures.

3.5.8 Other locational factors that may require consideration in the planning process are marine clearances and tidal levels, wind exposure, physical constraints such as antiquated buildings, sites of scientific interest, reservoirs and water catchment areas, aerial and subterranean structures, and "fung shui". The last consideration is of significance because inadequate assessment at the planning stage could result in inordinate and costly delays during implementation.

3.6 Total Land Requirement for Roads

3.6.1 According to the zoning, a guide to the allowance which should be made for the provision of carriageways, footways, on-street parking and bus bays in urban areas is shown in Table 7.

Table 7 : Guide to the Percentage of Total Land Area Required for Access Purposes

Zone	Average %
Residential Zone 1	35%
Residential Zone 2	20%
Residential Zone 3	18%
Industrial	30%

3.6.2 The Planning Department, Lands Department, Highways Department, Civil Engineering and Development Department and other concerned departments should be consulted on the proposed alignments and land requirements of new roads to ensure that any conflict with other proposed land uses is avoided.

4. Public Transport Terminals

4.1 Franchised Bus Facilities

General

4.1.1 In terms of capacity per passenger car unit, franchised buses are the most efficient mode of road transport. Franchised bus services will continue to be a major passenger carrier and will play an important role in providing passengers with choices, particularly in feeding passengers to the railways and providing service to areas not accessible by railways.

4.1.2 In general, every bus route requires two terminal points which fall into three basic categories, namely :

(a) A service terminal point which is a simple turning only facility that gives access to a stacking area that may be in the form of an off-street lay-by for operation of 1 or 2 routes;

(b) A bus terminus which includes bus turning, stacking and passenger waiting facilities and accommodates a number of bus routes; and

(c) A public transport interchange which includes provision for buses, minibuses, taxis, kiss-and-ride and possibly park-and-ride facilities and a rail station.

4.1.3 For operational efficiency and passenger convenience and safety, all bus termini and public transport interchanges should be located off-street as far as possible. However, in some circumstances a service terminal point may be temporarily located on-street, provided it does not obstruct vehicular and pedestrian circulation and other essential kerbside activities.

4.1.4 The land requirement for a bus terminus or public transport interchange is determined by several factors which include the number of routes served and their peak frequency, volume of waiting passengers, spaces for bus stacking during off-peak/meal break periods, the mix of terminating and passing services, overtaking and internal vehicle and passenger circulation.

Standards for Service Terminal Points

4.1.5 Service terminal points are usually provided where 1 or 2 bus routes are terminated and where the number of departure bays is unlikely to exceed four. A regulator's kiosk, a staff restroom and toilet facilities will be required at such terminal point.

Standards for Bus Termini

4.1.6 Bus termini are usually provided in large residential developments and in localised commercial or industrial areas. Normally, a minimum of 4 departure bays are provided for operation of services and stacking of buses during off-peak/meal break periods. One of these bays should be sufficiently wide to permit overtaking a stationary vehicle. A regulator's kiosk, a staff restroom and toilet facilities will be required at such bus terminus.

4.1.7 If bus-bus interchange is to be pursued at the bus termini, additional bays would be needed.

Locational Factors

4.1.8 Bus terminal facilities should be centrally located so as to be conveniently accessible on foot to residential, commercial and industrial activities. Access to the existing and proposed road system should be convenient and the ingress and egress points so located as not to cause conflict with traffic circulation on the adjacent road system and to facilitate satisfactory internal circulation.

4.1.9 Where they form part of a public transport interchange, access would be physically separated but walking distances between modes should be minimal.

4.1.10 Bus terminal facilities may be located in multi-storey developments, preferably on the ground floor. As they have potential to cause air pollution and noise impacts on nearby sensitive uses, they should be so sited or designed as to minimise such impacts.

Standards for Bus Bays

4.1.11 Bus bays are provided to enable buses to stop for boarding/alighting passengers without obstructing other traffic.

4.1.12 The provision of bus bays should be considered on rural roads, feeder roads, primary distributor roads and 2-lane, 2-directional single carriageway district and local distributor roads. Where bus bays are required, the carriageway width in Tables 1 and 4 should be increased by 3.25 m. The length of bay for operation of one bus route would normally be 40 m.

Locational Factors

4.1.13 Bus bays are located at bus stops. The location of bus stops are determined by bus passenger demand and a need to minimise access time and maximise a potential catchment area. They are normally located 400 m apart in urban areas. In rural areas a longer spacing may be acceptable.

4.1.14 Detailed guidance on the location and design of bus stops, bus bays and termini is provided in Chapter 2 of the TPDM Volume 9.

Standards for Bus Depots

4.1.15 Bus depots are provided in accordance with Section 19 of the Public Bus Services Ordinance on a regional basis to facilitate the construction, repair and maintenance of buses and their parking when not in operation. The land requirement would be dependent on the size of fleet to be serviced. Because of the need to provide ramps and circulation areas, and the ramps must not have gradients exceeding 1 in 10, the preferred dimension for a multi-storey depot is that its width should be at least 80m; its length would depend on the number of buses to be serviced. Taking into account the dead space occupied by the ramps and circulation areas, the minimum size for a reasonably efficient multi-storey depot of regular shape is 8 000 m^2 to 10 000 m^2. Guidance on location and planning of bus depots is provided in Chapter 2 of the TPDM Volume 9.

Locational Factors

4.1.16 Bus depots should be on level terrain with suitable vehicular access to the road system and centrally located in relation to bus terminal facilities to enable dead mileage to be minimised.

4.1.17 The siting of bus depots should take into account the environmental intrusion due to 24-hour operation of maintenance and repair activity and noise nuisance caused by buses travelling to and from the bus depot at late night and early morning.

4.2 Public Light Bus Termini

General

4.2.1 A policy of containment of public light bus operations restricts the extension of public light bus activity into new towns, limited access roads and areas where the nature of their operations could present traffic problems. The policy also encourages the gradual conversion of red minibuses into the regulated green minibuses.

4.2.2 Green minibus routes are normally introduced in areas where a public transport demand exists but is insufficient to financially sustain the operation of higher capacity modes of public transport. Also physical accessibility constraints or a demand for more frequent service makes minibus operation more attractive. Green minibuses could also be used to provide feeder services to railway stations.

Standards

4.2.3 Minibus termini should preferably be located off-street in close proximity to existing or future centres of demand. If possible, they should be incorporated into public transport interchanges. On average a 3-bay terminus with each bay accommodating 3 vehicles should be adequate. The minimum land requirement is about 800 m^2.

4.2.4 Where off-street space is not available, on-street termini may be provided but they should preferably be physically segregated from other traffic in lay-bys with specific entry and exit points. The lay-bys should have a minimum length of 21 m and should preferably be 6 m wide to enable a stationary vehicle being overtaken within the lay-by and fire service vehicles to operate within the lay-by in an emergency.

4.2.5 Where on-street lay-bys are proposed, the carriageway widths should be increased as appropriate along the length of roadway where the lay-by is proposed.

Locational Factors

4.2.6 Minibus termini should preferably be provided off-street. When on-street termini are to be provided, they should be located in side streets to avoid causing congestion on the main roads.

4.2.7 When green minibus termini are provided for interchange with other forms of public transport such as rail or ferry, their location should not affect the operation of franchised bus services. Specific provision for red minibuses should not normally be made at such locations. However, where franchised bus, green and red minibus termini are located in close proximity, they must be physically separated.

4.3 Taxi Stands

Standards

4.3.1 Single or dual-bay taxi stands should be provided off-street at centres of heavy demand, preferably within large developments or public transport interchanges. Adequate covered provision should be available for queuing passengers.

4.3.2 About 500 m^2 would be required for a single bay stand holding up to 5 vehicles and inclusive of access and turnaround area. Double bays should be considered wherever feasible to facilitate passing through of taxis as required. The number of bays would depend on the scale and types of developments in the vicinity.

4.3.3 Outside of public or private developments, on-street single-bay taxi stands are acceptable if located on side streets where they would not obstruct traffic circulation. Preferably, they should be located within lay-bys with convenient access to entrances of developments.

4.3.4 Shelters should be provided for queuing passengers where necessary and as far as possible to protect passengers from inclement weather.

4.3.5 Additional openings should be provided at the railings of taxi stands located at popular places to facilitate multiple boarding.

4.3.6 In places where loading of luggage is common and space is not a problem, saw-tooth layout should be considered.

4.3.7 Dropped kerbs at taxi stands should be provided to facilitate wheel-chair users.

Locational Factors

4.3.8 Taxi stands should be provided at ferry terminals, rail stations, major public transport interchanges, the airport, hospital, cultural, entertainment or retail centres, and in large housing developments and locations in proximity to cross harbour tunnels and cross-boundary points.

4.3.9 They should be located at convenient access to entrances of nearby developments, near pedestrianised areas, or at pedestrian desire lines but should avoid queuing vehicles obstructing other traffic.

4.3.10 At locations like the airport where heavy demand is anticipated, adequate area should be provided for stacking of taxis and provision of ancillary facilities such as toilets for taxi drivers.

4.3.11 On-street locations in business and commercial districts should be in close proximity to centres of demand.

4.4 Ferry Terminals

Standards

4.4.1 A ferry terminal is the point of embarkation or disembarkation on a particular ferry route. Its size and design are related to the number of routes served, the type of vessels use, the frequency of service, the nature (passengers/freight or vehicles) and volume of patronage.

4.4.2 Facilities within a passenger ferry terminal should include segregated waiting areas for each deck on the pier and each route where applicable, passenger queuing areas, ticket offices (with storage areas for computers or electronic passenger display equipment, etc.), turnstiles, staff rooms and public toilets. Consideration should also be given for passengers with disabilities, refuse collection point, as well as freight transport. Works and maintenance areas should also be provided, where necessary.

4.4.3 Normally, the waiting area is designed to accommodate 1½ boatloads of passengers (assuming 500-1 500 passengers per boat, depending on vessel types) at a minimum provision of 0.65 m^2 of waiting area per person. Due consideration should also be given to the passenger volume at weekends and public holidays, in particular for the outlying island services.

4.4.4 As interchange with other modes of land transport will normally be provided, terminals should be designed to avoid conflicting pedestrian and vehicular movements.

4.4.5 For vehicular ferry piers adequate vehicle waiting areas segregated from other traffic will need to be provided.

Locational Factors

4.4.6 Ferry terminals should be located in proximity to residential, commercial or industrial developments which generate potential passenger movements.

4.4.7 Adequate interchange facilities with other types of public transport such as franchised buses, green minibuses, and taxis should be available within or adjacent to the ferry terminal. For piers designated for outlying island services, adequate general loading and unloading facilities should also be provided outside the piers. Dropped kerbs should be provided at loading and unloading points for goods vehicles and to cater for the need of passengers with disabilities.

4.4.8 The surrounding road network should have sufficient capacity for the anticipated volume of vehicular traffic generated, particularly in respect of vehicular ferries, and should have adequate footway and crossing facilities for pedestrian movements. With regard to the latter, provision of covered walkways linking adjacent areas to the ferry pier and grade-separated facilities should be provided as far as possible. Provision of travellators should be considered where justified.

4.4.9 Piers should be sited taking into account various factors such as exposure to wind, water currents, wave height and swell, depth of water, presence of any underwater utilities and the draft of vessels using the piers. They should be so sited as to avoid any conflict with sewage or drainage outfall and other marine activity, and to enable the proper disposal of waste and wastewater arising from the operation of the terminals.

4.5 Public Transport Interchanges

General

4.5.1 In pursuing the government's objective of enhancing inter-modal co-ordination and having railway as the backbone of passenger transport, in the planning of new major land-use or transport developments the opportunity should be taken to plan for a network of high standard public transport interchanges. Public transport interchanges should be conveniently located and as far as possible provide a comfortable environment in order to encourage public transport ridership.

4.5.2 Major public transport interchanges should facilitate bus-bus or multi-modal interchange. They should normally be located at or near a mass rail carrier station. Accessibility will be the key to the planning and design of such public transport interchanges.

Standards

4.5.3 The design requirements for public transport interchanges can generally be grouped into four categories:

(a) Layout design: such as number and size of bays and platforms for various modes, stacking space, swept path, space for operators' and other public transport interchange facilities, ingress/egress arrangement, headroom, pedestrian walkway, stair, lift and escalator provision etc. In planning for future public transport interchanges, the saw-tooth layouts which would provide the best environment to passengers and the most efficient use of bus bays and layover facilities should be pursued as far as possible, depending on site configuration or constraints. In general, the following guidelines can be adopted:

Types of Public Transport Interchanges	Application to Sites
Traditional parallel bays	A small site with only a limited number of bays (e.g. 3 – 4)
Peripheral saw-tooth bus bay, central stacking	(i) A site of minimum width of 60m. Otherwise, there will not be enough space for buses to manoeuvre. (ii) Major pedestrian generator would be at the same level. An example is Tsing Yi where both MTR passengers and other passengers would be at podium or footbridge level. Another example is Mei Foo. (iii) Any development above can be supported by large column spacing.
Central island passenger platform	(i) A site of minimum width of 60m. (ii) Major pedestrian generator at a different level. An example is Tsuen Wan where very few passengers access the public interchanges at the same level.

For major interchanges along the railway line, it is preferable to have them integrated into the concourse of the railway stations or otherwise direct and convenient linkages should be provided.

(b) Environment considerations: such as lighting, ventilation, noise protection, etc. To provide better waiting environment, it is recommended that where possible for new public transport interchanges particularly those facilitating multi-modal interchanges, consideration should be given to air-condition the waiting areas depending on need. The illumination, noise level and other environmental effects arising therefrom should meet the requirements stipulated by Highways Department, Electrical and Mechanical Services Department, Environmental Protection Department and other relevant departments. Reference should also be made to EPD's Practice Note for Professional Persons for control of air pollution in semi-confined public transport interchange (ProPECC PN 1/98).

(c) Passenger and operators' facilities and security and safety installations: such as queue railing, toilets, seating facilities, ticket machine, public telephones, fire-fighting equipment, CCTV, regulators' office, etc. Subject to availability of space, it is recommended that these essential facilities should be provided at the public transport interchanges.

(d) Passenger information facilities: such as passenger information centre/kiosk, direction signs, route/destination display, departure time indicator, etc. To enhance passengers to transfer between modes, an efficient message display and directional signs or public announcement system which help channelise passengers to their required destinations should be provided.

4.5.4 Normally, a public transport interchange will comprise not less than 8 departure bays for operation of different public transport services. For public transport interchanges with parallel bays, two of the bays should be sufficiently wide enough to permit overtaking of a stationary vehicle. The actual size of the public transport interchange should be determined by the Transport Department.

4.5.5 Detailed guidelines for provision of public transport interchanges are given in Chapter 8 in the TPDM Volume 9.

Locational Factors

4.5.6 Public transport interchanges are usually provided in town centres or other regional focal points where passengers interchange between services and modes. Preferably interchange between rail and other transport modes should be at the same level. However, if interchange between modes have to be at different levels, escalators and/or lifts should be provided for the convenience and efficiency of interchange passengers.

4.6 Cross-boundary Coach Termini/Stops

General

4.6.1 Cross-boundary coach is one of the most popular cross-boundary transport services in Hong Kong. Termini/stops for cross-boundary coach should be planned at suitable locations to meet the growth of future demand. The proposed cross-boundary coach termini/stops should take into account the existing facilities nearby (e.g. considering possible alternatives such as upgrading the existing facilities) with a view to raising the standards of existing facilities.

4.6.2 As cross-boundary travellers usually carry luggage which could be bulky, attention should be paid in the planning of cross-boundary coach termini/stops to cater for their needs, including easily accessible locations, convenient modal change, and provision of dedicated

loading/unloading bay(s) and essential ancillary facilities.

Standards

4.6.3 Cross-boundary coach termini/stops should preferably be provided off-street and in public transport interchanges. Particular attention shall be paid to the internal design of a cross-boundary coach terminus/stop located in public transport interchange/public transport terminus. Adequate space should be planned for the provision of essential ancillary facilities including dedicated loading/unloading bay(s), segregation of inbound and outbound pedestrian traffic, pedestrian connection facilities, waiting/seating area, ticketing office/booth, coach information facilities, roof cover, toilets, etc. as far as possible with sufficient ventilation and lighting. The scale of these facilities should be subject to site conditions and operational needs whereas the design should be user-friendly.

4.6.4 Where off-street location is not available, on-street termini/stops could be considered provided that the locations (a) are safe; (b) facilitate operation without causing adverse impact on local traffic; and (c) have sufficient sheltered waiting and queuing space for cross-boundary passengers as far as site conditions allow. The other essential ancillary facilities mentioned in para. 4.6.3 above should be provided as far as possible, taking account of space constraint and operational needs.

4.6.5 Due consideration should be given to the design and provision of user-friendly pedestrian facilities which facilitates good connection of the cross-boundary termini/stops with the surrounding developments or other public transport facilities nearby.

4.6.6 TPDM which provides the relevant provision guidelines and requirements should be referred to when designing a cross-boundary coach terminus/stop, including its size and scale.

Locational Factors

4.6.7 The cross-boundary coach termini/stops should preferably be located at places where they are near transportation hub, hotels, retail facilities, commercial developments and tourism spots. If demand warrants and the location is deemed suitable with appropriate design and relevant issues addressed, consideration may also be given to locate cross-boundary coach termini/stops in major residential areas to meet the cross-boundary travelling needs of Hong Kong residents.

4.6.8 Off-street locations for cross-boundary termini/stops in public transport interchange is more preferred to facilitate convenient and efficient interchange with other transport modes. Alternatively, locations of the termini/stops in close vicinity of other public transport

facilities could also be contemplated. For example, locations next to rail stations may create synergy effect and hence could be considered.

5. Planning for Walkability

5.1 Introduction

5.1.1 Planning for walkability aims to promote walking as a mode of sustainable mobility and to accord high priority to pedestrians in land use and transport planning.

5.1.2 The compact high-density urban setting, mixed use, multiple destinations in close proximity, transit-oriented development, multi-level pedestrian connections and easy access from the urban core to green and blue assets are conducive to walking in the city. However, the quality of the walking environment is often adversely affected by limited pedestrian space, high pedestrian flow, competing uses, roadside air pollution and vehicle-centric transport planning in the past. The willingness and propensity to walk is also undermined by the hilly topography in some parts of the city, hot, humid and rainy subtropical climate, extreme weather under climate change and population ageing.

5.1.3 Following the "Walk in HK" initiative under the 2017 Policy Address, the overall walkability strategy for Hong Kong was finalised in 2020 based on the "Study on Enhancing Walkability in Hong Kong" commissioned by the Transport Department (TD).

5.1.4 A comprehensive pedestrian planning strategy and planning framework should be adopted in land use and transport planning to create a pedestrian-friendly environment so as to encourage people to walk more and to walk further.

5.2 Purpose and Scope

5.2.1 This section sets out the overall walkability strategy for Hong Kong, the standards and guidelines on planning for walkability (including the strategy of planning for walkability, and the pedestrian planning framework (PPF) with the formulation of Outline Pedestrian Plans (OPPs) and the minimum width standards for footpaths), and guidelines on planning of various pedestrian improvement measures so as to create a pedestrian-friendly environment.

5.2.2 The standards and guidelines have consolidated past efforts and new pedestrian improvement initiatives/measures adopted by the TD and other relevant Government departments.

5.2.3 Flexibility in the application of the standards and guidelines should be allowed to cater for specific site and planning context, site circumstances and community aspirations of the district and local area.

5.3 Overall Walkability Strategy for Hong Kong

(1) Vision

5.3.1 Walkability in Hong Kong is defined as the extent to which the city places priority on pedestrians and encourages walking, which is enhanced through making it connected, safe, enjoyable and smart, i.e. the four pillars of walkability under the "Walk in HK" initiative.

5.3.2 The diversity of pedestrian ways in Hong Kong comprises public footpaths along carriageways; at-grade, elevated or underground pedestrian links, public passageways in buildings or development sites; walking routes passing through public spaces; pedestrian priority areas/streets, etc. They encompass elements such as footpaths, stairs, ramps, laneways, promenades and trails, and incorporate mechanical aids. These different forms of pedestrian ways make up the pedestrian system.

5.3.3 The vision of the overall walkability strategy for Hong Kong is to develop the city into a walkable city. It embodies the value of placing high priority on pedestrians in land use and transport planning to promote walking as a mode of sustainable mobility with merits from transport, social, economic, environmental and health perspectives as listed below:

(a) Transport perspective: Walking reduces demand for short vehicle trips and road traffic congestion, and provides ease of access between different developments, different modes of transport and different pedestrian networks.

(b) Social perspective: Walking facilitates convenient short distance journeys, affordable mobility and more independent travel for the elderly and other vulnerable pedestrian groups including children and the physically disadvantaged, and promotes social interactions and street vibrancy.

(c) Economic perspective: Walking increases foot traffic for retail, dining, place of entertainment, hotel, services and other commercial uses, and helps alleviate the negative impact of road traffic congestion.

(d) Environmental and climate action plan perspective: Walking, as

a mode of active mobility[1], reduces carbon emission to help achieve carbon neutrality in Hong Kong in face of climate change, reduces air pollution, and improves the urban climate and the street environment.

(e) Health perspective: Walking, as a simple form of physical activity easily incorporated as part of a healthy and active lifestyle, can improve cardiopulmonary function, strengthen muscles and bones, reduce risks of chronic diseases and premature death, relieve symptoms of anxiety and depression and maintain healthy body weight.

(2) Strategic spatial components to materialise a walkable Hong Kong

5.3.4 Hong Kong is a densely populated city and an international financial and business hub with invaluable green and blue assets[2] of particular importance to the compact urban core. There are three strategic spatial components to materialise a walkable Hong Kong, for which walkability should be promoted or enhanced in land use and transport planning:

(a) Walkable Core Business Districts (CBDs): A walkable CBD should be easily accessible by strategic transport infrastructure, well-served by public transport hubs, connected in multiple levels for efficient and multi-destination pedestrian movements, planned with adequate capacity for high pedestrian volume, designed with attractive pedestrian realm, etc.

(b) Walkable urban districts and towns including new development areas[3]. A walkable urban district/town should have convenient access for daily necessities within walking distance, integrated planning of public transport nodes with support of first and last mile travel by walking, planning and design for walking as part of an active and healthy lifestyle, easy access for enjoyable leisure experience with the green and blue assets in and around the district/town, etc.

(c) Walkable green and blue links: Walkable green and blue links comprise connected and accessible pedestrian links to or through the green and blue assets.

[1] Active mobility refers to travel by physically active means or non-motorised transport. The most common modes of active mobility are walking and cycling.

[2] Green assets refer to open space, green space, the urban fringe, the countryside and country parks; green connectors such as landscaped links and walking trails; and other green features. Blue assets refer to the harbourfront, the riverfront, conservation-related water space (such as Wetland Park); blue connectors such as waterfront promenade; and other blue features.

[3] New development areas generally refer to designated New Development Area (NDA), new town extension/growth area in the New Territories, urban extension, etc.

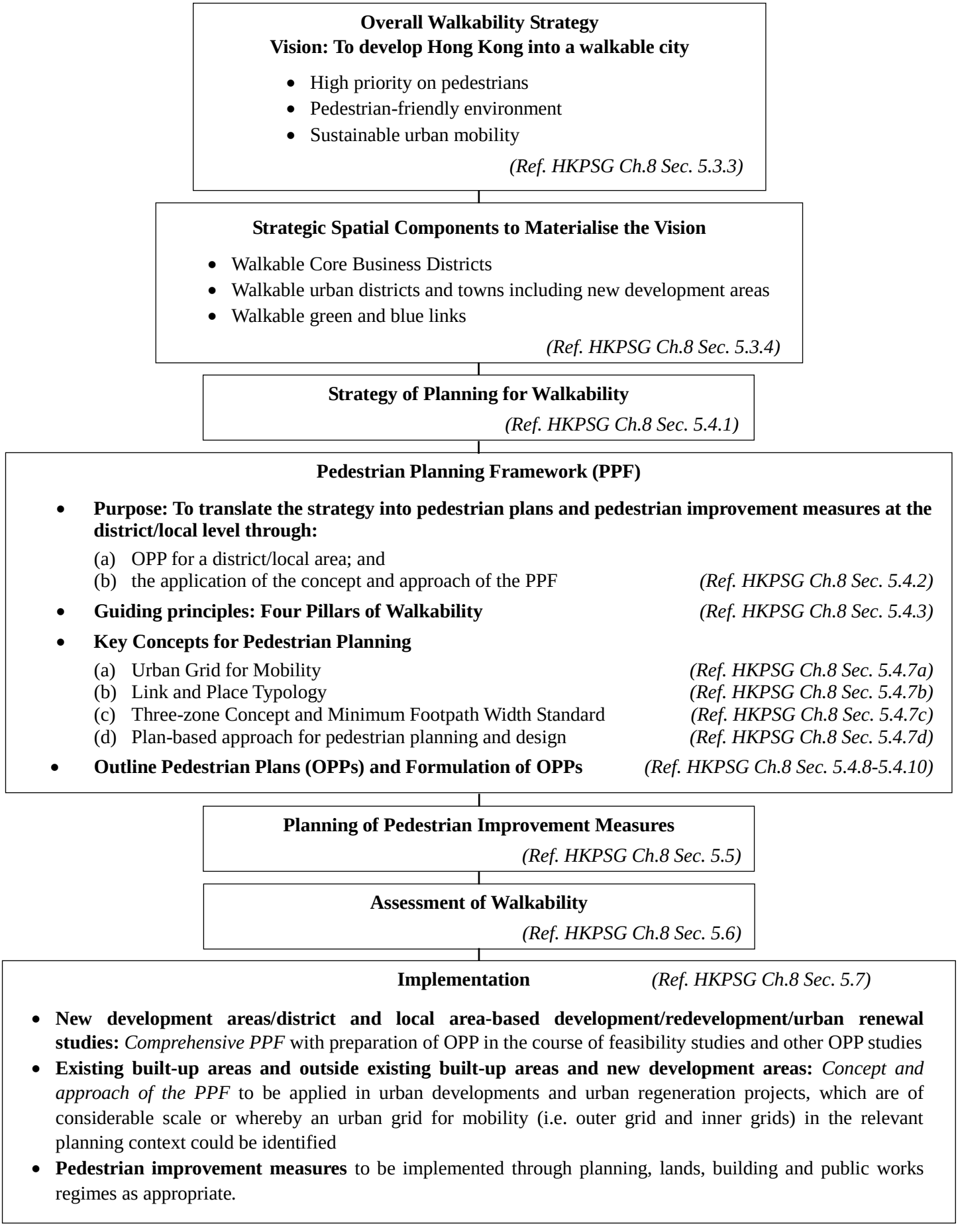
5.3.5 The nature, form and scale of the strategic spatial components vary across different districts. They should be duly reflected with different emphasis in pedestrian planning and pedestrian improvement measures at the district/local level.

(3) Achieving the overall walkability strategy

5.3.6 To achieve the overall walkability strategy at the district/local level, a comprehensive PPF should be adopted. In parallel, new walkability enhancement initiatives/measures will continue to be developed for territory-wide application to foster the four pillars of walkability.

5.3.7 An overview of planning for walkability in Hong Kong is in Figure 7.

Figure 7 – Overview of Planning for Walkability in Hong Kong



5.4 Guidelines on planning for walkability

(1) Strategy of planning for walkability

5.4.1 Planning for walkability should encompass comprehensive considerations including land use, urban design and development, apart from traffic and transport. The strategy of planning for walkability is to achieve sustainable mobility through:

(a) Integration of land use and transport planning: To reduce travel demand, travel distance and reliance on motorised transport, integrated land use and transport planning measures should be adopted, such as concentrating population, employment and other appropriate land uses within walking catchment[4] of 500m of rail stations and other key public transport nodes, easy access to local community facilities, open space, retail and other necessities by walking, and integrated topside development above and around public transport nodes supported by good pedestrian planning. To extend the normal walking distance between rail stations and activity nodes, mechanised pedestrian facilities could be considered.

(b) Integration of walking and public transport nodes: Walking and public transport should continue to be promoted as the preferred mode of transport. Different modes of public transport should be integrated with direct pedestrian connections within walking catchment to facilitate first and last mile travel.

(c) A permeable urban fabric: A physically and visually permeable urban fabric should be planned to encourage walking through a fine urban grain with appropriate street block or sub-block lengths (preferably less than 150m), crossing intervals, intervening public spaces and visual linkages to destinations.

(d) A vehicle-free urban core: A vehicle-free environment in the urban core should be promoted in land use and transport planning to encourage walking by providing pedestrian piazzas/squares/plazas/grade separation systems/underground vehicle parking systems; locating major roads outside the urban core; locating public transport interchanges at the fringe of large residential estates; and applying other segregation measures for pedestrians and vehicles.

[4] According to Section 10.4.2 of the Transport Planning and Design Manual (TPDM) Volume 6 Chapter 10, 300-500m walking distance or 10 to 15-minute walking time is defined as the appropriate walking regime generally for most essential and normal day-to-day travel. Allowance should be made for sloping topography and hot and wet climate which reduce the walking catchment.

(e) Multi-level connection to destinations in the urban core: Adequate capacity of pedestrian ways and pedestrian route choices should be provided in the high-density, mixed-use and multi-destination setting in the urban core. A comprehensively planned, designed and managed pedestrian system integrating different modes of transport, developments and pedestrian networks should be provided.

(f) Pedestrian priority areas and streets: High priority should be accorded to pedestrians on an area or street basis with different extent of traffic restraints depending on the site context and the pedestrian planning intention.

(g) Inclusive mobility: Pedestrian facilities that are safe and convenient to people of different ages and physical abilities should be provided through adequate footpath width and universal design.

(h) A walking environment conducive to an active and healthy lifestyle: Walking should be promoted as part of an active and healthy lifestyle to improve health and well-being. Active design[5] considerations should be incorporated in planning the pedestrian environment and designing active walking journeys.

(i) Integration with blue and green links: The pedestrian experience and well-being should be enhanced by connecting pedestrians to nature by pedestrian connection to or through blue and green assets.

(j) An integrated pedestrian network: Different forms of pedestrian ways as mentioned in paragraph 5.3.2 and other pedestrian realms should be comprehensively planned and designed to form an integrated pedestrian network at a district/local level. Such pedestrian network should also be applicable to large-scale public and private developments and redevelopments.

(k) Pedestrian planning as an integral part of new developments and redevelopments: Walkability should be promoted in the early stage of land use and transport planning of new towns/new development areas, and in comprehensive urban developments, comprehensive redevelopments, urban regeneration projects, and retrofitting of pedestrian facilities and pedestrian improvement schemes in the existing built-up areas.

[5] According to the Study on Active Design for Healthier Lifestyle - Feasibility Study (Planning Department, 2023), active design is a design approach of promoting physical activity and health through design interventions in natural, urban and built environment that encourage walking, exercising, cycling and recreational pursuits. For more details, please refer to the advisory Active Design Guidelines formulated under the Study (https://www.pland.gov.hk/pland_en/planning_studies/comp_s/index.html).

(l) A holistic pedestrian planning approach: A holistic approach to promote or enhance walkability should address district/area-wide pedestrian issues, longer term pedestrian needs, and all four pillars of walkability. It should integrate consideration of pedestrian ways as well as their surroundings and resolve interface with cycle tracks, public transport facilities, kerb side activities and carriageways.

(m) Integration of pedestrian improvement measures into the planning, lands, building and public works regimes: Planning and implementation of walkability enhancements encompass different forms of pedestrian realms and comprehensive consideration of land use, urban design, traffic and transport, and development. To facilitate multi-pronged, coordinated and collaborative efforts to enhance walkability in planning and development, an integrated approach should be adopted involving the planning, lands, building and public works regimes where appropriate.

(2) Pedestrian planning framework (PPF)

Purpose

5.4.2 A comprehensive PPF has been developed under the overall walkability strategy for Hong Kong to translate the strategy into pedestrian plans and pedestrian improvement measures at the district/local level through the preparation and implementation of OPP for a district/local area and the application of the concept and approach of the PPF in devising pedestrian planning and pedestrian improvement proposals in developments and redevelopments of considerable scale.

Guiding principles and pedestrian planning objectives

5.4.3 The four pillars of walkability form the guiding principles for planning for walkability.

5.4.4 Under each guiding principle, specific pedestrian planning objectives serve to guide pedestrian planning and pedestrian improvement measures under the PPF as listed below:

(a) Making walking connected

(i) Continuity – Provision of crossings and pedestrian links to achieve continuous pedestrian routes.

(ii) Accessibility – Easy access (preferably with direct routes) to reach key community facilities and open spaces by walking.

(iii) Integration with public transport – Easy connection to key public transport nodes by walking.

(iv) Permeability – Permeable urban fabric for walking (block length or sub-block length preferably less than 150m).

(v) Multi-level connection – Easy pedestrian connection to destinations through different levels in the urban core.

(vi) Inclusive mobility – Wheelchair access along pedestrian routes, barrier free access at junctions and level changes, and barrier free access to MTR stations, public transport interchange and terminals.

(b) Making walking safe

(i) Eliminating pedestrian fatalities and severe injuries in traffic accidents – Pedestrian and vehicle conflicts should be minimised by separating the pedestrian routes from vehicular traffic or reducing the traffic speed.

(ii) Rebalancing priority for pedestrians – Reduced conflict with vehicular traffic by vehicle free public space, car-moderated zones, pedestrian priority areas/streets, traffic calming, and an inclusive pedestrian environment for vulnerable pedestrian groups.

(iii) Perception of security – Vibrant pedestrian routes to reduce potential for crime.

(iv) Safe sloping/stepped streets – Measures to mitigate hazards of pedestrian ways.

(c) Making walking enjoyable

(i) Capacity – Sufficient space for pedestrians.

(ii) Comfort – Comfortable walking environment.

(iii) Healthy – An improved walking environment to promote better health and well-being with more active walking habit and outdoor lifestyle.

(iv) Attraction – Pedestrian way as a destination by itself.

(v) Coordination – Coordinated space allocation for walking and public transport mode.

(vi) Connection to nature – Pedestrian connection to or through green and blue assets.

(d) Making walking smart

(i) Legibility – Ease of wayfinding through physical signage.

(ii) Interactive planning – Ease of route planning and wayfinding through the use of technology.

(iii) Smart pedestrian infrastructure – Prioritising pedestrian movement through the use of technology.

(iv) Automated collection of pedestrian flow data and pedestrian environment data.

5.4.5 The relevant guidelines on planning for walkability and toolkits for planning of pedestrian improvement measures to achieve the above guiding principles and pedestrian planning objectives are detailed in paragraph 5.5.

Latest approach and key concepts for pedestrian planning

5.4.6 Traditionally, transport planning has been vehicle-centric, placing priority on road traffic in resolving conflict between vehicles and pedestrians. Pedestrian improvement schemes have often been devised in response to traffic problems in a reactive manner, losing sight of a holistic perspective and long-term pedestrian needs. To overcome shortcomings of the traditional approach, a comprehensive PPF which integrates land use, urban design, traffic and transport, and development with a view to enhancing walkability should be adopted.

5.4.7 The approach for pedestrian planning under the comprehensive PPF embraces a paradigm shift in pedestrian planning from a vehicle-centric to pedestrian-centric approach and more holistic considerations. It comprises the following key concepts:

(a) Urban grid for mobility[6]: The concept recognises the relative priorities for motorised transport and pedestrians in the respective parts of the road network as an urban grid, with higher priority for vehicular movement in the outer grids and higher priority for pedestrians in the inner grids, as illustrated in Figure 8. Urban

[6] One of the intents of the concept is to limit vehicular access to the inner grids, which could be the pedestrian priority streets/traffic calming areas subject to technical assessments (including that of traffic and transport impacts assessments (TTIAs)).

grids are delineated with due regard to the land use, road hierarchy and road-based public transport routes and facilities, urban design concept, and the relevant site and planning context and site circumstances;

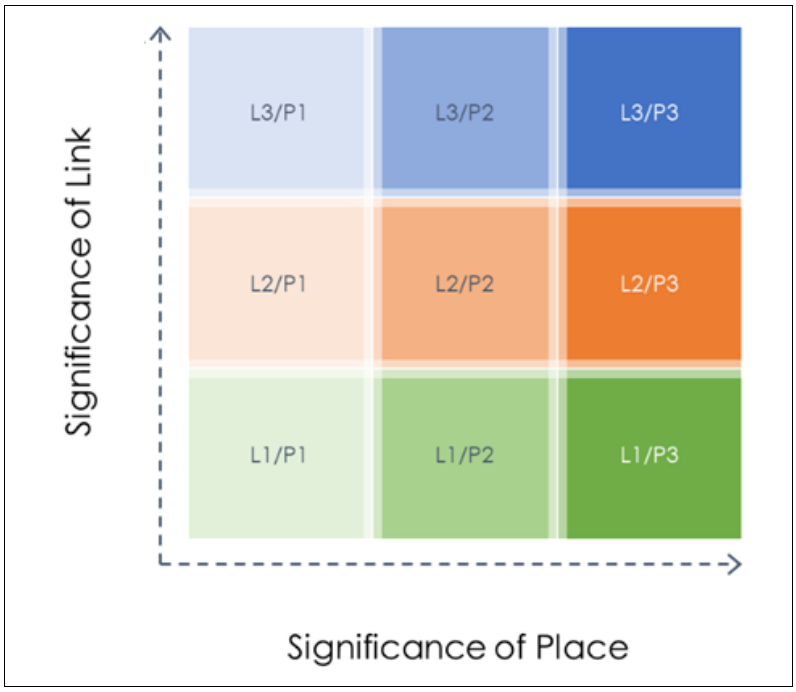
Figure 8 – Illustration of Urban Grid for Mobility

(b) Link and place approach[7] for pedestrian ways: The approach serves both the link and place functions of pedestrian ways and reflect their significance. Pedestrian ways provide for both the through movement of people (i.e. link) and also function as destinations in their own right (i.e. place), which may attract a range of pedestrians due to its pleasant environment and/or adjacent land use. The combined link and place significance of a pedestrian way is categorised according to a Link and Place Typology matrix[8] as illustrated in Figure 9;

[7] A link includes pedestrian connection between nodes and local access to a neighbourhood. The link significance of a pedestrian way is determined by the movement level between nodes and the pedestrian volume. A pedestrian way connecting major nodes normally has a high link significance. A place is a node that generates pedestrian activities along or around the pedestrian way including activity nodes (such as commercial uses, employment nodes, key community facilities, arts and cultural venues, sport hubs, built heritage, etc.), character streets and links, public space, and transport nodes. The place significance of a pedestrian way is determined by the catchment size and clustering of the nodes, and the vibrancy level.

[8] The Link and Place Typology is to provide an overall picture of the combined link and place significance of the pedestrian ways. Each pedestrian way will be assigned a category in accordance with its relative link and place significance in the 3x3 Link and Place Typology matrix. The greater the number on the relevant axis, the higher the link/place significance. The combined link and place significance provides the basis for determining the corresponding pedestrian improvement measures in the next step.

Figure 9 – Link and Place Typology Matrix for Pedestrian Ways



(c) Three-zone concept and new minimum footpath width requirement: The concept and requirement integrate the relative significance of the link and place functions in the three pedestrian zones of the footpath i.e. the Through Zone, Street Furniture and Greening Zone (SF&GZ) and Building Frontage Zone. They are further elaborated in paragraphs 5.4.11 to 5.4.26; and

(d) Plan-based approach for pedestrian planning and design: Developing pedestrian plans and pedestrian improvement measures in a holistic and coordinated manner for the districts/local areas is achieved by way of the formulation and implementation of OPPs.

Outline Pedestrian Plans (OPPs)

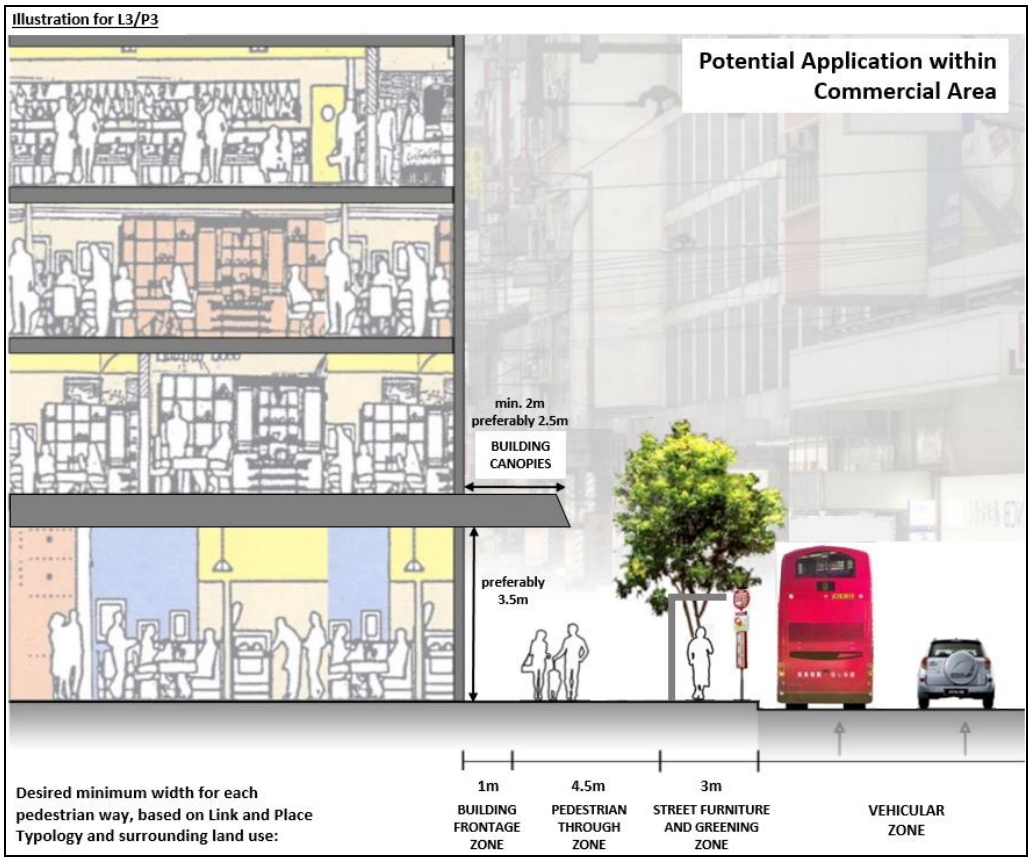
5.4.8 The OPPs consist of a Pedestrian Way Zonal Plan (PWZP) and a Pedestrian Framework Plan (PFP) with guidance on planning for walkability at the district/local level.

(a) Pedestrian Way Zonal Plan (PWZP)

The PWZP provides general guidance for the pedestrian zones. It includes space reservation, site setback/building setback as appropriate, pedestrian facilities (such as building canopy for weather protection, waiting facilities for buses, seating, etc.), other typical pedestrian improvement measures, and design, management and up-keeping guidelines for different categories of

pedestrian ways corresponding to their relative link and place significance under the Link and Place Typology matrix. In general, one typical profile of the pedestrian zones should be prepared for each category of pedestrian way in the typology matrix. Therefore, at least nine profiles should be drawn up with explanatory notes for the PWZP. More profiles may be required if more land use types and a greater variety of pedestrian ways are encountered. An illustrative example of the PWZP is shown in Figure 10.

Figure 10 – An Illustrative Example of the Pedestrian Way Zonal Plan



(b) Pedestrian Framework Plan (PFP)

The PFP outlines the pedestrian planning vision, pedestrian design concepts, planned pedestrian network and pedestrian improvement measures in different locations of the pedestrian network corresponding to their relative link and place significance under the Link and Place Typology, key walkability enhancement areas in the district/local area, implementation and other considerations. In general, the PFP in the form of a plan should include, but not limited to, the following contents, where applicable:

(i) Urban grids:

- Urban grid boundary and urban grid numbers
- Green link and/or blue link

(ii) Existing and proposed pedestrian routes:

- Proposed footpath
- Proposed lane (outdoor, by lot owner/allocatee)
- Proposed public passageway (indoor/outdoor as appropriate, by lot owner/allocatee)

(iii) Pedestrian planning related elements including those stated in town plans:

- Planned land uses (such as commercial, residential and GIC sites, open space, roads)
- Planned pedestrian network
- Planned at-grade and/or grade separated crossings
- Planned railway station and/or public transport interchange
- Planned commercial frontage with building setback and covered pedestrian path (with public access)

(iv) Proposed walkability enhancement measures corresponding to the Link and Place Typology and following the guidelines in paragraph 5.5, such as the following:

- Proposed footpath widening
- Proposed building setback for pedestrian way
- Proposed shelter on pedestrian way (by lot owner/allocatee)
- Proposed non-building area to allow for pedestrian connection
- Proposed low speed limit zone and/or other traffic calming measures
- Other proposed measures to improve existing pedestrian network

The explanatory statement accompanying the PFP is to set out the pedestrian planning and pedestrian improvement proposals in context, taking into account individual characteristics and land uses of the concerned Planning Area. It should comprise but is not limited to the following key components:

(i) Planning Context:

- Introduction and Background
- Pedestrian Planning Vision

- Pedestrian Design Concepts
- Challenges and Opportunities

(ii) Pedestrian Planning Intentions and Objectives:

- Planning Intentions and Objectives for the Planning Area relevant to Walkability

(iii) Application of New Pedestrian Planning Approach and Design Standards

- Application of the PPF
- Pedestrian Routes and Hierarchy
- Determining Place Significance
- Determining Link Significance
- Formulation of Urban Design Plan
- Development of Urban Grids
- Link and Place Typology
- Three-zone Concept and Footpath Widths under the PPF

(iv) Planned Pedestrian Network

(v) Key Walkability Enhancement Areas and Planned Pedestrian Improvement Measures

- Consolidation of Urban Grids into Key Walkability Enhancement Areas
- Planned Pedestrian Improvement Measures for Each Key Walkability Enhancement Area
- Pedestrian Zones
- Planned Footpath Widths and Improvements

(vi) Formulation of OPP

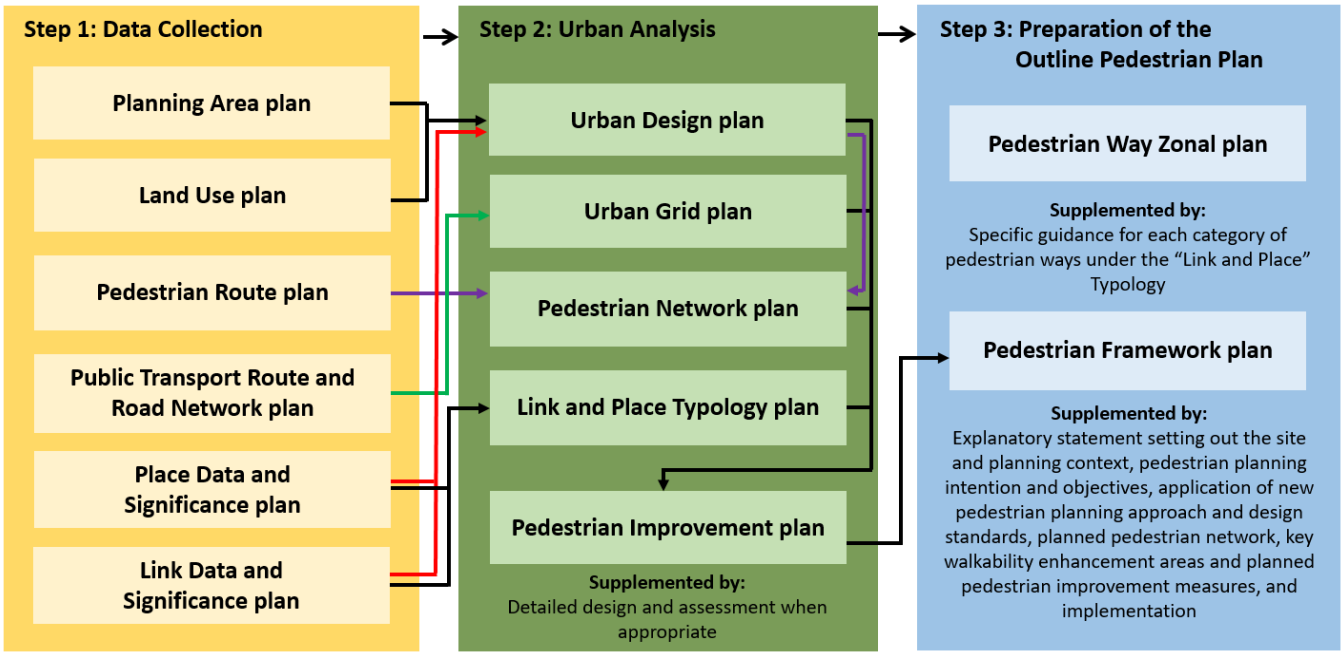
- PFP
- PWZP
- Walkability Assessment

(vii) Implementation

- Action Plan for the Planned Walkability Enhancement Measures including Implementation Agents and Mechanisms under Relevant Regimes, Programme, Priorities, etc.

Formulation of OPPs

Figure 11 – Overview of the Process of Formulation of Outline Pedestrian Plan



5.4.9 The formulation of OPPs is shown in Figure 11. It involves three major steps:

(a) Data Collection: It covers defining the Planning Area, analysing land uses relevant to pedestrian planning, stocktaking pedestrian routes, reviewing the road hierarchy and public transport corridors, and collecting the link and place data and analysing their significance. The process involves the formulation of six different plans as stated in Step 1 of Figure 11.

(b) Urban Analysis: It comprises an assessment on the urban design concept for the Planning Area, the delineation of urban grids for placing high priority for pedestrians in relevant parts of the road network, the formulation of the planned pedestrian network, the analysis of the relative significance for the link and place functions of the pedestrian routes on the pedestrian network, and devising pedestrian improvement measures in accordance with their link and place significance. The process of urban analysis generates five different plans as stated in Step 2 of Figure 11.

(c) Preparation of the OPPs: It involves the preparation of PWZP supplemented by specific guidance for each category of pedestrian ways under the Link and Place Typology and the PFP in a form of a plan and supplemented by an explanatory statement with the key components as described under paragraph 5.4.8(b).

5.4.10 The step-by-step guidelines on the formulation process of OPPs are set out in the TPDM Volume 6 Chapter 10 Appendix A.

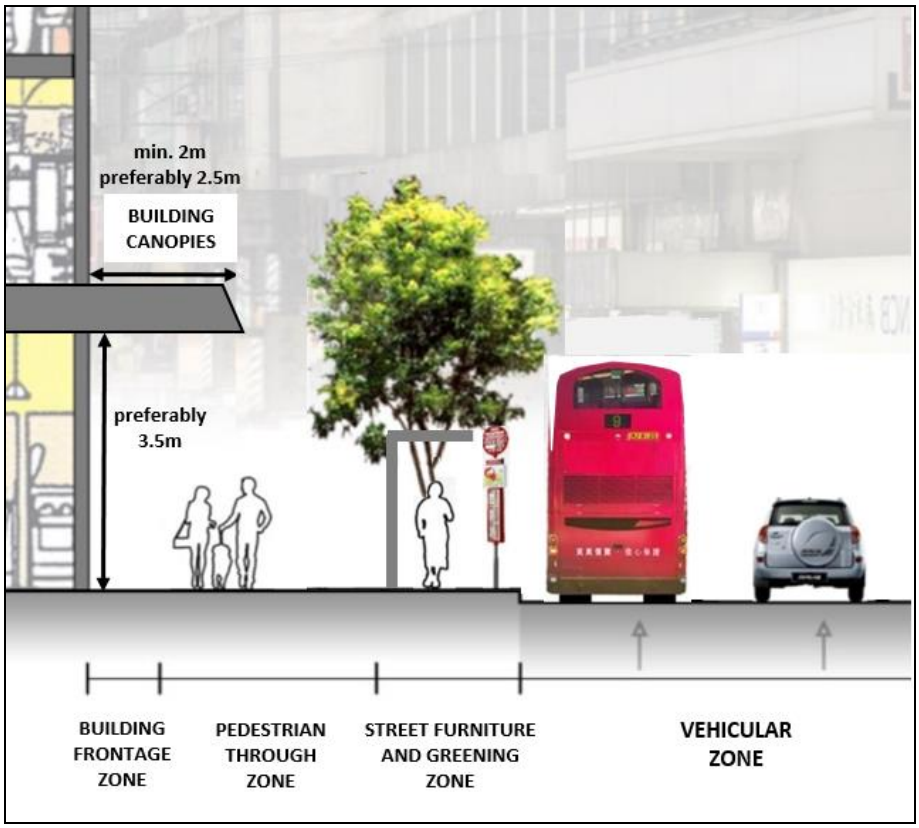
Three-zone concept of footpath design and minimum footpath width standards

(1) Function of footpaths and the three-zone concept

5.4.11 Footpath is the basic component in the pedestrian network. The common form is the pedestrian path adjacent to a carriageway and it provides at-grade separation between pedestrians and vehicular traffic.

5.4.12 Footpath should be of sufficient width and able to cater for both functions as a link (i.e. for pedestrian flow and through movement) and a place (i.e. as a destination in its own right) to satisfy pedestrian needs and street functions. A three-zone concept should be adopted in planning of footpaths. The three zones are the Through Zone, SF&GZ and Building Frontage Zone. The prototype of the three-zone concept of footpaths is indicated in Figure 12. The Through Zone emphasises improving the link function. The Building Frontage Zone and SF&GZ emphasise the place function. The footpath width standards and pedestrian facilities for these zones should correspond to the link and place significance of the footpath, reflecting pedestrian needs in a more comprehensive and balanced manner.

Figure 12 – Prototype of the Three-zone Concept of Footpaths



Through Zone

5.4.13 The Through Zone is the key space for pedestrian flow and through movement. This zone should be free of obstructions and dedicated exclusively to pedestrian movement. It should be of sufficient width to cater for pedestrian flow at a satisfactory Level-of-Service (LOS)[9] so that pedestrians can enjoy a comfortable walking environment without the need to spill-over onto other zones or the carriageway.

5.4.14 In view of the public expectation for a better walking environment, the upper end of LOS C (23 pedestrians/minute/metre) is recommended as the minimum acceptable standard for the required width for the Through Zone where applicable, while the requirement for the Building Frontage Zone and SF&GZ should also be met.

5.4.15 In addition to pedestrian flow, in deciding the width of the Through Zone, other functional requirements including urban design, air ventilation and visual effects should be taken into account. Depending on the nature and intensity of the adjacent land use and outcome of any assessment on urban design, air ventilation and visual impact, a footpath width wider than that required under the stated pedestrian flow level may be necessary.

Street Furniture and Greening Zone

5.4.16 The SF&GZ acts as a buffer between the Through Zone and the Vehicular Zone, which incorporates greening and a variety of street furniture for various street functions and pedestrian amenities. Tree planting and greening works[10] should be provided in support of the greening initiatives along urban streets, to provide natural shading and to improve the urban climate. The allocation of space for pavement tree planting in streets of substandard width should be considered favourably. Sustainable urban drainage facilities such as bioswale may also be incorporated into the SF&GZ.

5.4.17 Street furniture in the SF&GZ includes transport facilities (such as traffic signs and bus stops) and fire services installations (such as fire hydrants). Priority should be given to providing separate zones for street furniture (such as wayfinding signage and shelter) and planting strips (for continuous greening and connected soil volume for sustainable plant growth) as far as possible. If street furniture is not

[9] The TPDM Volume 6 Chapter 10 Section 5.2.2 can be referred to for details on LOS in the Highway Capacity Manual (HCM) 2000. A satisfactory LOS would provide adequate space for pedestrians to select normal walking speeds and free bypassing of other pedestrians in primarily unidirectional streams within a footpath. LOS C is considered an optimal LOS in the HCM and desirable for most design at streets with vibrant pedestrian activities.

[10] Any tree planting and greening works should follow the spatial requirements stipulated in DEVB TC(W) No. 3/2024 and "*Guidelines on Soil Volume for Urban Trees*". The species selection should follow the "Right Plant, Right Place" principle and associated references, guides, etc. available on the Greening, Landscape and Tree Management Section, DEVB's website (https://www.greening.gov.hk).

required for section(s) of a footpath, the GZ should not be less than the recommended standards in Table 8. Only essential street furniture such as traffic signs, street lights and railings may be placed within the planting strip, if necessary. No underground utility services are normally allowed to be laid within the GZ (please refer to paragraph 5.4.24 below), and there should be no overhead objects, protrusions or other constraints above the GZ that can hinder planting works and limit plant growth.

Building Frontage Zone

5.4.18 Building Frontage Zone is the area between the Through Zone and the edge of buildings. This zone accommodates cross movements into adjacent buildings, areas for browsing and shopping frontages, and provides pedestrians with the additional space when walking along building edge/dead areas.

5.4.19 For the above three zones, as the footpath is the most common form of public realm, the broad design principles and guidelines for public realm and streetscape as set out in Chapter 11 on "Urban Design Guidelines" should be referred to in applying the three-zone concept of footpath design.

(2) Guidelines on footpath width provision

5.4.20 The minimum width standards for Through Zone, Building Frontage Zone and SF&GZ of a footpath on public roads for various land uses and related to its link and place functions and significance are shown in Table 8. A wider footpath is desirable to cater for various street functions and it is more appropriate to have a minimum width standard to provide a reasonable compromise between better pedestrian environment and scarce land resources, particularly in the existing built-up areas. The width shown in the table should be flexibly applied to suit individual circumstances or design. In addition, it should be flexibly increased where practical to accommodate bus bays, urban design features, urban greenery initiatives, etc.

5.4.21 To cater for basic pedestrian flow and barrier-free access by persons with a disability including wheelchair users, the minimum Through Zone clear width for urban land use types should be 3m wherever possible. The 3m width is considered sufficient to provide a reasonably good environment for two-way flow by pedestrians and wheelchair users.

5.4.22 The minimum widths of footpaths along private streets and access roads that do not form part of the public road system are as indicated in the Building (Private Streets and Access Roads) Regulations[11].

[11] Regulations 5 and 6 of the Building (Private Streets and Access Roads) Regulations are referred.

5.4.23 The minimum widths of footpaths providing access to buildings generally should be increased to 6m if the access is also required to serve emergency vehicles and service vehicles. The design of footpaths should take into account the loading of these vehicles.

Underground utilities

5.4.24 In addition to catering for various street functions, the footpath (excluding the GZ) should be of adequate width to allow reserves for underground utilities installations and spaces for the ease of maintenance of such underground utilities.

Table 8 : Recommended Minimum Width Standards for Footpaths

Land Use Type	Through Zone Width [1][3]/ Projected Pedestrian Volume [4]	Building Frontage Zone Width [3]	Street Furniture and Greening Zone Width[2][3]
Commercial **Commercial/Residential** **Residential Zone 1 and those other areas near pedestrian generators such as cinemas, rail stations, some GIC facilities (e.g. schools), etc.**	**Link[5]** 4.5 m Very High	**Place[6]** 0.5m (P1)[6] *Allowance for higher place significance:* 1.0m (P2)[6] 1.0m (P3)[6]	**Place[6]** 2.0m (P1)[6] 2.0m (P2)[6] *Allowance for higher place significance:* 3.0m (P3)[6]
Residential Zone 1	3.5 m High		
Residential Zone 2	3 m Medium		
Residential Zone 3	3 m Low to Medium		
Rural	2 m Very Low		
Business	4.5 m Medium		
General Industrial Use	4.5 m Medium		
Special Industrial Use	3.5 m Low to Medium		
Rural-Based Industrial Use	2.5 m Low		

Remarks:

[1] Designed to achieve Level-of-Service (LOS) C or above *(upper end of LOS C = 23 pedestrians/minute/metre)*

[2] Trees and/or shrubs planting at the GZ shall have a minimum width as shown in the table. The zone width should be increased for planting of large trees, installation of bus shelters and large street furniture, etc. The SF&GZ width should be increased to the range of 3m to 4m for planting of large trees or understorey planting along boulevards or main roads. The boulevard or main road should have one or more of the following characteristics:

- as major transport and pedestrian corridors in a district
- clustering with major community and tourist attractions
- with frontages of high-grade offices, retail and hotel developments
- as important district retail street
- a road of wide scale (e.g. dual 2 or 3 lane carriageway).

Tree planting and greening works shall follow the spatial requirements as stipulated in DEVB TC(W) No. 3/2024 and "*Guidelines on Soil Volume for Urban Trees*". Maintenance arrangement for roadside trees on unleased and unallocated Government land shall follow DEVB TC(W) No. 6/2015 and DEVB TC(W) No. 4/2020.

If bus shelter exceeding 1m width is provided along the footpath corridor, additional width of up to 2m should be suitably allowed in the SF&GZ.

When street furniture exceeding normal object width of 1m (such as gateway and artwork) is required, the SF&GZ would need to be widened to cater for its provision.

[3] Minimum footpath clear width of 3m should be provided if the total three-zone width could not be achieved. The minimum footpath width is to tie in with the increase in pedestrian volume due to increase in residential development intensities under the HKPSG in recent years, to cater for needs of the ageing population, the physically disadvantaged and other vulnerable pedestrian groups, and to provide for a more comfortable pedestrian environment under more frequent inclement weather events due to climate change.

[4] Please refer to the TPDM Volume 2 Table 3.4.11.1.

[5] A link includes pedestrian connection between nodes and local access to a neighbourhood. The link significance of a pedestrian way is determined by the movement level between nodes and the pedestrian volume. Please refer to the TPDM Volume 6 Chapter 10 Appendix A Cl. 2.7 for details in deriving the link significance of a footpath.

[6] A place is a node that generates pedestrian activities along or around the pedestrian way including activity nodes (such as commercial uses, employment nodes, key community facilities, arts and cultural venues, sport hubs, built heritage, etc.), character streets and links, public space, and transport nodes. P1, P2 and P3 refer to the level of place significance of footpath, which is determined by the catchment size and clustering of the nodes, and the vibrancy level. Please refer to the TPDM Volume 6 Chapter 10 Appendix A Cl. 2.6 for details in deriving the place significance of a footpath.

5.4.25 To avoid interference with tree and other landscape planting along the footpath, underground utilities should not encroach onto the SF&GZ as stipulated in DEVB TC(W) No. 3/2024. However, utilities serving the following functions would normally be allowed below the SF&GZ by Highways Department (HyD):

(a) utility services, such as lighting cables or power/water supply, which are necessary for the proper functioning of facilities within the SF&GZ; and

(b) utility services that are required to cross or traverse the SF&GZ. Under such circumstances, the utility services should be laid at a minimum depth of 2m below ground where possible and at least 2m away from the centre of the nearest tree. Depending on the size of the tree concerned and its root spread, a wider horizontal clearance may be required as determined on a case by case basis.

Apart from the above functions, utilities would not be permitted under the SF&GZ and approval would only be granted by HyD under exceptional circumstances.

(3) Application of footpath width standards

5.4.26 There are differences in the development opportunities and constraints in new development areas and the existing built-up areas. For new development areas and comprehensive development/redevelopment areas, the optimum width of footpaths should be formulated following the PPF and shown in a plan form (such as Pedestrian Improvement Plan, PFP and PWZP) under the feasibility study. For the existing built-up areas, opportunities should be sought to increase the width of sub-standard footpaths to comply with the footpath standards in Table 8, as far as possible, by suitable footpath widening or building setback for upgrading the pedestrian environment. The setback can be at the ground level or full height of the building. It is considered an effective way to reclaim pedestrian space in the existing built-up areas to improve pedestrian flow and the pedestrian environment.

5.5 Guidelines on planning of pedestrian improvement measures

Overview of toolkits for pedestrian improvement measures under four pillars of walkability

5.5.1 The key concept of urban grid of mobility and link and place approach for pedestrian ways under the PPF should be applied to consider pedestrian improvement measures at the district/local level to achieve the four pillars of walkability. The following paragraphs discuss various pedestrian improvement measures, which could be considered

when proposing suitable schemes for pedestrian improvement measures. The list of pedestrian improvement measures under the four pillars of walkability could be found in Appendix B of the TPDM Volume 6 Chapter 10 for reference and it is not exhaustive.

Planning of pedestrian improvement measures

(1) Vehicle-free public spaces in the urban core

5.5.2 In land use and transport planning, it is desirable to create vehicle-free public spaces in the urban core to accommodate the high pedestrian flow and for people to walk, stay and enjoy.

5.5.3 Vehicle-free public spaces including pedestrian piazza/square/plaza, pedestrian precinct, park, green spine/corridor, landscaped deck, waterfront promenade, etc. could be planned as destinations in their own right, to accommodate heavy pedestrian flow, or to enhance pedestrian connectivity between activity nodes such as MTR stations, office and commercial sites, civic nodes and historical precincts. Vehicle-free public spaces should be integrated with the pedestrian desire lines and the surrounding walking routes to enhance accessibility and connectivity. A connected, safe, enjoyable and legible walking route should be provided within the public spaces to provide for physical permeability. Dedicated footpath for pedestrian circulation could be considered and integrated into the design of the public spaces.

5.5.4 Design of public spaces should be attractive to pedestrians. Hence, the broad design principles and guidelines for public realm as set out in Chapter 11 on *Urban Design Guidelines* should be applied in designing vehicle-free public spaces in the urban core.

(2) Pedestrian priority areas and pedestrian priority streets

5.5.5 Pedestrian priority areas and pedestrian priority streets to prioritise pedestrians over vehicles could be considered where the volume of pedestrian flow is high, vehicular through traffic could be diverted to alternative roads and servicing could be controlled.

Car-moderated zones

5.5.6 The concept of car-moderated zones is to create a pedestrian priority area by restricting car use on an area basis with the planning intention to create a car-free area *for* planning, urban design and environmental planning objectives, and in some cases due to transport infrastructure constraints such as in the outlying islands. The concept of car-moderated zones could be applied in three types:

(a) car-free zones;

(b) car-lite zones; and

(c) urban grids.

5.5.7 Car-free zones limit all car access in an area. Pedestrians have absolute priority over vehicles and vehicular access is not allowed except emergency vehicles and service vehicles. Rail-based or other modes of public transport supported by good pedestrian planning are the key mode of transport for access to the area. Public vehicle parks are provided at the periphery of the area.

5.5.8 Car-lite zones maximise the use of at-grade road space by pedestrians in an area. At-grade vehicular access is restricted or reduced except emergency vehicles and service vehicles. The priority of use of at-grade space by pedestrians is maximised by diverting most vehicular traffic to the periphery of the area or by a grade separation system, and underground vehicle parking is provided. Only essential surface roads are included. Rail-based or other modes of public transport supported by good pedestrian planning are the key mode of transport in the area.

5.5.9 Urban grids give priority to vehicular movements in the outer grid defined primarily by the major roads and road-based public transport corridors. They give priority to pedestrians and limit vehicular access in the inner grids which could be pedestrian priority streets and traffic calming areas, except for emergency vehicles and service vehicles. Through traffic and non-essential traffic are discouraged from access to the inner grids by traffic restraint measures.

Pedestrian priority streets

5.5.10 Pedestrian priority streets could be planned in new development areas or comprehensive development/redevelopment areas through the designation of pedestrian streets. In the existing built-up areas, pedestrian priority streets can be created through pedestrianisation[12], shared surface design and traffic calming measures. In general, pedestrian priority streets include:

(a) full-time pedestrian streets;

(b) part-time pedestrian streets;

(c) shared surface streets; and

(d) traffic calming streets.

[12] Pedestrianisation is the permanent or temporary closure of all or parts of an existing vehicular road for exclusive use by pedestrians. However, if these roads are required for emergency vehicular access, such access must be preserved and provided for access of emergency vehicles.

5.5.11 In full-time pedestrian streets, pedestrians have absolute priority. Vehicular access is restricted except emergency services as well as those complementing the existing pedestrian flow network. Adequate measures should be undertaken to cater for traffic diverted as a result of the closure of the street to vehicular traffic. In some circumstances, service vehicles may be allowed in specified periods.

5.5.12 In part-time pedestrian streets, vehicular access is only allowed in specific periods and there is no on-street parking space. However, laybys are provided for loading/unloading. The road closure periods depend on pedestrian activities on the streets.

5.5.13 In shared surface streets, pedestrians have priority although road closure is not possible because of vehicular access requirements in the street. The footpaths are flushed with the carriageway. Pedestrians share the use of street space with vehicles. Operating speed should be below 25 km/h, using traffic calming measures. This usually applies to dead end streets serving carparks, and streets where the footpaths cannot accommodate the pedestrian activities such as over-spilling pedestrian movement onto carriageways.

5.5.14 In traffic calming streets, footpaths are widened and there are limited parking spaces. Vehicles are slowed down through the use of specific traffic calming/management measures such as narrower traffic lanes, kerb build-outs and raised crossings, etc. to achieve a better balance of use of road space by pedestrians and vehicles. The surface of carriageway is usually colour dressed in reddish brown to alert motorists' attention of the change of street character.

5.5.15 The objectives and criteria for planning pedestrian priority streets and the selection of existing streets for pedestrianisation are shown in Table 9.

Table 9 : Objectives and Criteria for Planning Pedestrian Priority Streets and the Selection of Existing Streets for Pedestrianisation

	Objectives	Criteria
Full-time/ Part-time Pedestrian Street	(1) To resolve or minimise conflicts between pedestrians and vehicles	(a) Heavy pedestrian flow is anticipated/observed while existing/ planned active commercial frontages attract a heavy pedestrian volume. Conflicts between pedestrians and vehicles cannot be resolved and alternative solutions (like widening of footpaths and grade separation) are uneconomical, inappropriate and/or impracticable.
	(2) To provide a better environment for pedestrians	(a) The planned pedestrian street/the existing street to be pedestrianised is amenable to attractive streetscape and landscape design. (b) The planned pedestrian street/the existing street to be pedestrianised will complement the planned/existing pedestrian network. (c) Priority to pedestrians to be accorded on a full-time or part-time basis reflects the land use activities and patterns of vehicular and pedestrian traffic.
	(3) To improve pedestrian flow without creating nuisance to local community	(a) The planned pedestrian street/the existing street to be pedestrianised connects key nodes including activity nodes, character streets, public spaces and public transport nodes, and the pedestrian flow is heavy. (b) The commercial frontages of the planned pedestrian street/the existing street to be pedestrianised attract heavy pedestrian flow. (c) The planned pedestrian streets/the existing street, when pedestrianised, will not create land use incompatibility and the impact on local community can be resolved.
	(4) To improve pedestrian flow without impeding emergency vehicular access, servicing of buildings or public transport services	(a) Access by emergency vehicles can always be maintained. (b) Off-street servicing/alternative access for loading/unloading can be arranged. (c) The planned pedestrian street/the existing street, when pedestrianised, will not cause insurmountable impact to the traffic and public transport in the area.
Shared Surface Street	(5) To facilitate shared use of street by both pedestrians and vehicles in a slower and more responsive traffic environment which is safe for all users	(a) The traffic volumes and speeds are low to moderate with the presence of active commercial frontages. (b) The footpaths cannot adequately accommodate pedestrian activities and over-spilling of pedestrian movement onto the carriageway is anticipated/observed. (c) Shared surface streets are applied in dead end streets serving carparks. (d) The street furniture and the street surface in terms of colour, texture and materials for clear demarcation between the carriageway and footpaths will not cause hazard to the vulnerable pedestrian groups including the elderly and physically disadvantaged.
Traffic Calming Street	(6) To reduce vehicle speeds (7) To improve pedestrian safety through road design (8) To slow down traffic while not restricting vehicular access	(a) High-density commercial or mixed-use districts, streets with heavy pedestrian volumes, localities with frequent patronage of vulnerable pedestrian groups including the elderly, school children and physically disadvantaged and locations with history of traffic accidents or speeding issues warrant a more pedestrian-centric approach. (b) The traffic speed could be moderated without causing insurmountable impact on the traffic and public transport services in the area.

(3) Low speed limit zone

5.5.16 A low speed limit zone is a designated zone in which lower speed limit of 30 km/h or below is imposed on vehicles to enhance road safety in pedestrian-centric areas with a concentration of vulnerable pedestrian groups, such as areas with schools, elderly facilities and rehabilitation centres, high-density commercial or mixed-use districts, locations with significant pedestrian volumes, etc. By reducing traffic speeds, the likelihood of collisions and casualties is reduced. Key factors for selecting roads for the implementation of low speed limit zone are existing traffic speed, accident records, composition of road users, functions of roads, road design and the road environment.

5.5.17 Where the mean vehicle speed before implementing low speed limit zone is relatively high, say above 35 km/h, in addition to traffic signs and road markings at the entrance of and regular intervals within the zone, traffic calming measures such as raised crossing and kerb build-out should be considered.

(4) Traffic calming measures

5.5.18 Traffic calming measures could slow down vehicles through road design to give pedestrian priority for road use. Choice of traffic calming measures depends on the pedestrian environment to be created as well as the use patterns. Common traffic calming measures are raised crossings, kerb build-outs, sharpened corners, road narrowings, etc. With advancement in information and communication technology, new measures are likely to arise and the TPDM can be referred to for more information on other traffic calming measures.

(5) Crossing provision and improvements

5.5.19 The location of pedestrian crossings should maximise potential usage and align with the pedestrian desire lines. Pedestrian crossings can generally be categorised as at-grade crossings (e.g. signalised crossing, cautionary crossing, zebra crossing) and grade-separated crossing (e.g. pedestrian footbridge, pedestrian deck, pedestrian subway). In general, at-grade crossings are more direct and convenient and thus more preferred by pedestrians. The TPDM is to be referred to in deciding the type of crossing appropriate for a particular location and the planning and design.

(6) Multi-level connections

5.5.20 Limited space, mixed uses and high density of development in a typical urban setting have given rise to destinations spreading across different sites and different levels. A comprehensive pedestrian network with multi-level access and connections should be provided to reduce the

level changes, as demonstrated in some comprehensive podium-level connections, elevated walkway system and underground pedestrian network connecting building developments, public transport nodes, public spaces, etc. Lifts, escalators and ramps should be considered as part of the grade-separated walkway system. Public passageways through buildings or development sites could form part of the multi-level pedestrian network.

5.5.21 At-grade, elevated and underground pedestrian connections, and where necessary, public passageways through buildings or development sites, should be integrated into the comprehensive planning and design of the development and adjacent developments so that multi-level connections could connect different transport modes, developments and pedestrian networks. The multi-level pedestrian network near rail stations and major public transport interchanges should cover a wide catchment area to encourage the use of the rail and other public transport modes.

(7) Footpath widening

5.5.22 Opportunities should be sought to widen sub-standard footpaths to comply with the three-zone concept and the footpath width standards. Footpaths can be widened by narrowing the carriageway without imposing adverse impact on vehicular traffic. The carriageway should meet the width requirements pertinent to the road type to encourage slower vehicle speed while maintaining safe traffic operation.

5.5.23 For the existing built-up areas where road space is constrained or required for heavy traffic flow of public transport mode, reclaiming road space may be impractical. Opportunities should be sought in new development and redevelopment projects to increase the width of substandard footpaths to comply with the footpath standards by site setback/building setback (which could be ground floor building setback or full height building setback) under the planning, lands and building regimes, as appropriate, for upgrading the pedestrian environment.

(8) Active building frontage

5.5.24 Active building frontage is the building frontage which has uses attracting pedestrian activities. Active building frontage with retail, dining, place of entertainment, hotel, services and other commercial uses is encouraged along pedestrian corridors to enhance ground-level transparency, vitality, pedestrians' perception of safety and security and the overall walking experience. Utility installations at building frontage along pedestrian corridors are discouraged.

5.5.25 In shopping streets, mixed uses should be encouraged with active commercial frontage including shops, services and eating places at

ground and first floor levels. At appropriate locations and where space permits, Outdoor Seating Areas i.e. café and outdoor dining along the active commercial frontage could also be accommodated subject to approval by relevant Government departments.

5.5.26 Active building frontage can be provided at the building edge abutting the footpath. It can also be achieved by building setback at the ground and first floor levels incorporating commercial and other active frontages, and a covered pedestrian path.

(9) Weather protection

5.5.27 Building canopies should be provided for weather protection for pedestrians in new developments/redevelopments and by retrofitting in existing developments. Building canopies should have a minimum width of 2m and a preferred width of 2.5m which takes into account driving rain effect under inclement weather, and a vertical clearance of preferably 3.5m, should comply with relevant requirements of the TPDM and other relevant statutory and administrative provisions/requirements, as well as should be subject to detailed design and site circumstances. Building canopies are encouraged along pedestrian corridors to enhance weather protection and create a comfortable walking environment for the pedestrians.

5.5.28 Where the provision of building canopies is not feasible, stand-alone covered walkways can be considered to provide a continuous pedestrian link with weather protection. The length of the covered links should reflect pedestrian flow characteristics and distance to the destinations. The walkway should be a main pedestrian link connecting to major public transport facilities. For all destinations except public hospitals, the pedestrian flows using the walkway should be at least 3 000 pedestrians/hour for not less than an hour on a weekday. For each public hospital, one covered walkway should be provided to connect to major public transport facilities irrespective of pedestrian flows to provide a comfortable walking environment to visitors.

5.5.29 In the existing built-up areas and new development areas, all footbridges, elevated walkways and subways, including approach steps and ramps, should have covers, and any proposal of exemption from providing covers requires approval of relevant Government departments.

5.5.30 Street trees can be used to provide shade for the pedestrians and moderate the urban heat island effects, contributing to a comfortable walking environment.

(10) Lane revitalisation

5.5.31 Many lanes and alleyways have been providing local access to buildings and neighbourhoods in the existing built-up areas. Over time, they could become unattractive and underused. Lanes and alleyways can be better utilised by revitalisation and integration into the pedestrian network on an area or individual street basis, improving vibrancy, connectivity and permeability of the urban fabric as a whole. Lane revitalisation involves improvements on the visibility, aesthetics, safety and functionality of lanes and alleyways, thereby creating public passage and public spaces for a pleasant walking environment.

(11) Overcoming steep gradients and long walking distance

5.5.32 To extend the normal walking distance of 500m to major public transport nodes and activity nodes, mechanised pedestrian facilities could be considered to enhance pedestrian connections and overcome level differences.

5.5.33 Hillside Escalator Links and Elevator Systems (HEL) are encouraged to link up areas at different levels and with steep terrains to enhance accessibility. To bring convenience to pedestrians, HEL should form part of the main walkway system in the area with at least one-way escalator provided in uphill direction for accessing the hillside area. Covers should be provided for the hillside escalator system to enhance pedestrian comfort. Nevertheless, such system is not recommended under the following conditions:

(a) inadequate land;

(b) insurmountable technical difficulties in the construction or operation of the system;

(c) the level difference to overcome is less than 6m; and

(d) the gradient to overcome is less than 1:8.

5.5.34 At sloping or stepped streets in areas with steep terrain in the existing built-up areas, the pavements should adopt durable and slip-resistant material and associated measures to minimise hazards to pedestrians. Pavement marking/paving pattern to caution level change at steps should be considered to enhance pedestrian safety.

(12) Streetscape enhancement

5.5.35 Street is the basic and most important element of the pedestrian environment. Street block including the block and sub-block lengths should be well designed (preferably less than 150m) to allow a permeable and legible pedestrian network. Streetscape enhancement should be given due consideration to enhance walkability. Careful

choice of street furniture, landscaping, paving materials and other street treatments is essential to emphasise various street functions.

Street Furniture

5.5.36 Street furniture provides a basic ingredient for the street to perform various functions. Basic street furniture may include traffic signs, wayfinding signage, street lights, pedestrian railings, seating, bus stops and shelters, fire hydrants, litter bins, etc. Street furniture should preferably be provided within the designated SF&GZ and in a coordinated manner to avoid visual clutter and obstruction to pedestrian movement. Well-designed street furniture can contribute to the character and local identity of a place.

5.5.37 Street furniture, public artwork and different paving materials can be used to delineate different parts of the pedestrian realm and to channel pedestrian flows and sightlines.

5.5.38 Pedestrian railings are provided primarily for controlling and guiding pedestrian movements for road safety and traffic management purposes. Overuse of railings could cause inconvenience and adverse effects on streetscape and footpath capacity. To enhance walkability, prudent use of railings and alternative measures such as footpath improvement, planting or bollards could be considered to reduce effects on footpath width, visual clutter and obstruction to pedestrian movement. However, railings can be considered at locations with high risk of pedestrian and vehicle collision. Examples are:

(a) accident records indicate that it is an accident-prone spot involving pedestrians;

(b) pedestrians tend to walk on carriageway with high traffic speed; or

(c) visibility of pedestrians or drivers is restricted, for instance, due to sharp bends or illegally parked vehicles.

Please refer to the TPDM Volume 2 Chapter 3 for details on pedestrian railings.

Wayfinding Signage and Lighting

5.5.39 Wayfinding signage should be planned and designed with a coordinated approach to avoid visual clutter and confusion and be inclusive to cater for persons with a disability. Wayfinding signage and information boards should be erected at key junctions to provide clear direction and information to pedestrians including places of interest, walking distance and estimated walking time. They should be legible and identifiable.

5.5.40 Wayfinding signage could reinforce the identity of the district/locality. A vibrant mix of lighting and signage may provide special character and tourist highlights. For prime commercial, tourist and other high profile areas, comprehensive signage and pedestrian direction schemes should be provided to facilitate convenient navigation by pedestrians.

5.5.41 Adequate street lighting provides better visibility at night time and is essential for pedestrian safety. However, the provision of street lighting should at the same time avoid light pollution to the locality.

Landscaping and Paving

5.5.42 Trees and landscaping provide a sense of nature and natural shading. They can moderate urban temperature and buffer traffic emissions and noise to sensitive uses. Since greening is an established policy to improve the urban environment, trees and planting should be incorporated into the pedestrian network.

5.5.43 Trees, shrubs and groundcovers in dedicated amenity strip or built-in planters are preferred to potted plants. Open soil planting area should be maximised whenever possible for allowing better water infiltration and air movement into the planting soil. However, for the Through Zone and/or SF&GZ with more constraints, application of load-bearing planting systems (such as gravel based structural soil) should be considered to allow ample area for tree root growth. Planting strips separated completely from underground utilities should be adopted whenever practical. Portable planters may only be considered as a last resort and where there are no other practical alternatives. Moreover, to ensure healthy plant growth when portable planters are used, the design must be sustainable, and provided with adequate volume and depth of soil, effective drainage and proper irrigation.

5.5.44 Different paving patterns and textures should be used to define different pedestrian realms. Special paving patterns and insets can be used to add character, facilitate pedestrian orientation, indicate important routes as well as highlight points of interest.

(13) Universal access for all

5.5.45 The principles of universal design should be adhered to in planning the public space, public transport facilities and street environment so that all people including the elderly and persons with a disability, people with other forms of physical infirmities or specific needs such as pregnant women, families with young children, etc. can have full access to all public facilities. Their needs should be integrated into pedestrian planning at the outset.

5.5.46 For all urban land use types, footpaths should have a minimum Through Zone clear width of 3m for wheelchair users and other pedestrians. They should be well maintained and free from obstacles and surface unevenness. Railings, kerbs or tactile warning strips should be placed at the edge of the footpath where appropriate as a warning for the visually impaired persons. Long, steep grades should have level areas and/or benches at intermittent distances to provide rest areas for the elderly and persons with a disability. Steep ramps and steps should be provided with handrails.

5.5.47 Street furniture should have well defined bases for easy recognition by the visually impaired persons. Spaces beneath footbridge ramps or stairway with low headroom, if not suitable for pedestrians to pass through, should be clearly defined and provided with landscaping features. High visual contrast should be used to maximise visibility for visually impaired persons.

5.5.48 Pedestrian crossings should be designed in accordance with the requirements as stipulated in the Design Manual: Barrier Free Access 2008 (2025 Edition) published by the Buildings Department, and should be clearly marked with tactile warning strips to facilitate the visually impaired persons and persons with a disability. Crossing facilities for persons with a disability including ramps or raised platforms, audible signals at signal-controlled crossings and obstruction-free routes should be provided. Ramps should be incorporated into pedestrian areas and footpaths/walkways where minor level change will occur, e.g. kerbs and piazzas.

5.5.49 Major grade changes in footpaths/walkways should be avoided unless they are part of a comprehensively planned network. Mechanised facilities should be considered as part of grade-separated walkway systems and pedestrian connections to public transport facilities including rail stations and other public transport modes so as to assist the vulnerable pedestrian groups, in particular the elderly and the wheelchair users, in overcoming great level difference.

(14) Use of technology

5.5.50 A consolidated pedestrian information platform[13] would be essential to facilitate pedestrian wayfinding and to help pedestrians better plan their journeys. The platform should allow the public to conveniently search for information including destinations, routes of different modes of transport, journey time, transport fares, etc. and disseminate real-time traffic news to enhance pedestrian experience.

[13] A consolidated pedestrian information platform could be by way of mobile app, website, interactive information panel or other digital means with inclusive design as far as possible.

5.6 Assessment of walkability

5.6.1 As part of the OPP study, walkability assessment should be undertaken by the project proponent to appraise the pedestrian planning and pedestrian improvement proposals, and to monitor and evaluate the implementation of the OPP and other pedestrian planning and pedestrian improvement proposals including the effectiveness of the pedestrian improvement measures with reference to the four pillars of walkability and the respective pedestrian planning objectives set out in paragraphs 5.4.3 and 5.4.4, as part of the OPP formulation and implementation process. The assessment should also take into account any changing planning context and planning circumstances in the district/local area.

5.7 Implementation

5.7.1 Planning for walkability is an essential component of land use and transport planning. The subject of planning for walkability should be incorporated into the planning and development process and in planning, design, implementation, management and maintenance.

5.7.2 In general, the guidelines on planning for walkability should be applied in planning and engineering feasibility studies, urban design studies, town plans, planning briefs, urban renewal schemes, planning applications, land leases, building plans submission, public works, etc. wherever appropriate for guidance to the public and private sectors to achieve a pedestrian-friendly environment.

5.7.3 For new development areas and district and local area-based development/redevelopment/urban renewal studies, the comprehensive PPF should be applied through the preparation of OPP in the course of feasibility studies and other OPP studies (in the TTIAs, if applicable) before the statutory town planning process. The pedestrian planning proposals and pedestrian improvement measures derived from the OPP could be implemented through public works, and the planning, lands and building regimes where appropriate. Facilities involving private development sites may include building canopies, site/building setbacks for the provision of sufficient footpath width, public passageways, at-grade, elevated or underground pedestrian links, streetscape enhancements, etc.

5.7.4 For the existing built-up areas which may be constrained by existing developments, opportunities should also be taken to apply the concept and approach of the comprehensive PPF (i.e. applying the key concepts and steps of the PPF including study on land use and urban design, the urban grid of mobility, the planned pedestrian network, the Link and Place Typology of pedestrian ways and required pedestrian improvement measures and footpath widths) to urban development and

regeneration projects (which may or may not involve formulation or amendment of statutory town plans), which are of considerable scale or whereby an urban grid for mobility (i.e. outer grid and inner grids) in the relevant site context could be identified[14] in devising the pedestrian planning and pedestrian improvement proposals (in the TTIAs). Outside the existing built-up areas and new development areas, the concept and approach of the PPF should also be applied to development projects of similar nature and scale as stated above.

5.7.5 The minimum footpath width standards and the pedestrian improvement measures involving private development sites (as mentioned in paragraph 5.7.3 above) should be incorporated into new developments and redevelopments when opportunities arise and could be implemented mainly through the planning, lands and building regimes where appropriate.

5.7.6 In general, the TD would in collaboration with relevant Government departments advise on submissions from project proponents involving the application and implementation of the PPF.

6. Cycling

6.1 General Objective

6.1.1 In Hong Kong, cycling is essentially a recreational sport. However, in certain new development areas, it is also a supplementary transport mode that facilitates short-distance travel in an environmentally friendly manner. The Government supports the adoption of cycling as a more regular transport mode where the geographical and topographical circumstances and road safety conditions so permit.

6.1.2 In the planning of new towns and new development areas, adequate attention should be given to the provision of cycle tracks and related facilities for the dual purposes of recreation/tourism and for intra-district travel.

6.2 Cycle Tracks

6.2.1 Safety is of paramount importance. The choice of location for cycle tracks, the road surface conditions of such tracks and the traffic management measures in the precinct should be designed to support safe cycling.

6.2.2 Functional cycle tracks meant for short-distance intra-district travel should be connected to major residential developments, major

[14] Such as urban renewal schemes, street block consolidation schemes and land use restructuring schemes.

transport interchanges, rail stations and other activity centres in the vicinity.

6.2.3 Recreational/tourism cycle routes should be provided along scenic spots and promenade areas if possible. These routes should preferably be connected to a "cycle park" along the route or to cycle tracks in the nearby new towns where cycling rental facility is available. The convenience of public transport connection to such cycle parks shall have a bearing on the choice of locations.

6.2.4 Wherever possible, cycle traffic should be segregated from other road users. Physical segregation in the form of kerb and/or railings should be provided to separate cycle traffic from pedestrians. Where it is not possible to segregate cyclists from other road users, appropriate measures shall be introduced to require cyclists to dismount before proceeding on the relevant road section which is shared between cyclists and other users.

6.2.5 Segregation could take the form of cycle tracks parallel to carriageways, or cycle paths totally separated from other vehicle routes. The arrangement would depend upon the overall system being planned, taking into consideration the estimated future demand and land availability and the attractiveness of the routes in terms of cyclists' preferences.

6.2.6 Care should be taken to avoid over-provision, as under-utilised cycle tracks/facilities may lead to undesirable uses.

6.3 Standards for Cycle Track

6.3.1 The width of segregated cycle tracks should be based on a capacity flow of 500 bicycles per metre width per hour for 1-way operation and 400 bicycles per metre width per hour for 2-way operation. The desirable and minimum widths for cycle tracks are shown in Table 10. For cycle track which operates in both directions, appropriate measures (e.g. centre-line marking) should be provided to channelise directional flow to improve traffic safety. Two-way cycle tracks should be at least 3.5 m wide.

Table 10 : Cycle Track Widths

	Desirable	Minimum
One-way	2.8 m	2.0 m
Two-way	4.0 m	3.5 m

6.3.2 Cycle tracks should be separated from adjacent carriageways by verges of at least 1.8 m in width. Where this is impracticable, except for trunk roads, the width may be reduced to not less than 1m to allow

a reasonable clearance. Where a cycle track crosses a carriageway, it should do so at right angles to the kerb.

6.3.3 Where cycle track is provided along a roadway, its gradient is normally dictated by the road alignment. At subways and footbridges, the desirable and normal maximum gradients should be 3% and 5% respectively. In exceptional circumstances, gradients of up to 10% may be accepted for a short distance. Where excessively long gradient is anticipated, consideration should be given to alternative route for the cycle track.

6.3.4 Horizontal radii should preferably be not less than 5 m, but in difficult conditions, radii of 2 m may be acceptable.

6.3.5 Cyclists on cycle tracks should have a clear view ahead for a distance of preferably 25 m but not less than 15 m. Attention should be paid to pedestrian/cycle crossing points to ensure that street furniture, including trees, will not obstruct the sight of pedestrians or cyclists.

6.3.6 Along popular recreational routes, areas should be designated at about 1 km intervals en-route for the cyclists to rest, to visit places of interest or to enjoy scenic views, if required. Bicycle parking spaces should be provided in these areas. These resting areas should preferably be located near tourist and/or scenic vistas and other places of interest to the public.

6.4 Cycle Park

6.4.1 When a scenic cycle route is planned, consideration should be given subject to availability of land to provide in a nearby site a cycle park connectable with the cycle track and cycle rental facility. Such rental facility can also extend to both ends of the route to enable one way rental line. This kind of rental facility will of course be essentially a commercial initiative.

6.5 Cycle Parking Areas

6.5.1 In areas where cycle tracks meant for short-distance intra-district travel are provided, cycle parking facilities should be provided to avoid illegal parking which may cause obstruction to other road users. In general, cycle parking shall be provided in major residential developments, activity centres, markets, public transport interchanges, rail stations and relevant GIC facilities. The requirement for cycle parking may vary depending on a number of factors including the type and location of development, the availability of cycle tracks in the area as well as the popularity of cycling in the area, etc. While a comprehensive guideline may not be necessary, advice on the level of parking provision should be sought from the Transport Department.

6.5.2 Bicycle parking spaces shall be provided in the residential developments where proper cycle tracks with direct connection to rail stations are accessible. The following guidelines on the level of bicycle parking provision for these residential developments are recommended:

(a) within a 0.5-2km radius of a rail station, 1 bicycle parking space for every 15 flats with flat size smaller than $70m^2$.

(b) outside a 2km radius of a rail station, 1 bicycle parking space for every 30 flats with flat size smaller than $70m^2$.

6.5.3 A designated cycle parking area shall be provided at the rail stations where cycle tracks are provided at a rate of 30 bicycle parking spaces per 10 000 population within the 2-km radius of the station.

6.6 Standards for Cycle Parking Areas

6.6.1 Cycle parking areas shall be provided off road/cycle track to avoid obstruction to vehicular, pedestrian and cycle traffic. They shall be provided at open locations with full public view in order to deter theft. To encourage use of the designated parking areas and to discourage illegal parking, cycle parking areas shall be conveniently located close to the general destinations. For short and long term parking, these areas shall not be located more than 30 m and 70 m respectively away from these destinations.

6.6.2 Suitable fixed stands or cycle racks shall be provided in the parking area to support the cycle and to enable the cycle to be securely chained to these fixtures to deter theft. The layout of these stands or racks shall be designed to maximise the parking capacity available at the site. Further information on cycle parking is available in Volume 3 Chapter 6 of the TPDM.

6.6.3 Direction signs shall be provided where appropriate to inform cyclists of the direction to the nearby parking areas.

6.6.4 At the designated bicycle parking area at railway stations, signs shall be erected to inform cyclists of the terms and conditions of use of the bicycle parking area.

7. Parking

7.1 General

7.1.1 Provision of parking spaces should be compatible with Government's overall transport policy as set out in the Introduction of this Chapter.

As a general principle, parking should be provided at a level which will not unduly attract potential passengers to use private vehicles in preference to public transport. In particular, for developments which are close to railway stations and large public transport interchanges, lower parking standards should be adopted.

7.1.2 Optimum use should be made of existing parking facilities and the demand for such facilities should be carefully managed. In those situations where demand for facilities still exceeds supply, consideration should be given to providing additional facilities provided that such provision would not be contrary to the Transport Strategy and that it would not overload the road system.

7.1.3 Other practical considerations which should be taken into account when determining the appropriate level of provision of parking facilities include:

(a) Availability of public transport services in the vicinity;

(b) Availability of public car parks in the vicinity;

(c) Proximity to and quality of pedestrian access linking railway stations and other major public transport interchanges;

(d) Traffic conditions of local road networks; and

(e) Parking demand and supply condition in the vicinity.

7.1.4 For any particular on-street location or off-street development, consideration of all of the above factors and deciding on the appropriate level of provision of parking facilities will be the responsibility of the Transport Department (TD). Flexibility may be allowed, within and beyond/below the standard ranges, to meet special circumstances such as redevelopment in the built-up urban areas with severe site constraints. If any project proponent wishes to appeal against the decision of TD, it may provide justifications to TD for further consideration. In consultation with relevant bureaux/departments, TD may determine an appropriate parking provision for such site.

7.1.5 Volume 7 of the TPDM offers detailed advice on parking including relevant legislation and design considerations. Volume 6 Chapter 8 of the TPDM provides technical details and design on parking for drivers with disabilities.

7.2 Off-street Parking

7.2.1 Parking for all types of vehicles should preferably be provided off-street so as to minimise the need for on-street parking, thereby reducing the risk of obstruction to vehicular circulation.

7.2.2 Off-street parking can be subdivided into "private parking", which services the particular requirements of the development in which it is located and is restricted to owners and authorised users; and "public parking", which is available to the general public and services the area around which the car park is located.

Private Parking

7.2.3 The standards for private parking are set out in detail in Table 11 at the end of this Chapter. They include the parking standards for residential developments, community facilities, commercial facilities and industrial and business developments. The standards in Table 11 also include requirements for loading and unloading facilities for each type of development. In residential developments, provision should be sufficient to match existing and forecast car ownership of residents, subject to road capacity considerations. For GIC, commercial and industrial and business developments, provision should be adequate to fully meet the operational requirements with visitor parking as deemed reasonable, thereby avoiding the necessity for on-street parking and loading/unloading. While the standards should be followed as far as possible, flexibility may need to be exercised, taking account of the particular factors relevant to individual developments. To assist in the application of this flexible approach, more detailed guidelines are set out in the Statement of Intent in Table 11.

7.2.4 In determining the standards for private parking, it should be remembered that these parking spaces will need to serve the building throughout its whole life. Catering just for existing peaks or troughs in demand would be short-sighted and must be avoided. The forecast demand for parking spaces throughout the life of the building should form the basis for the assessment of provision.

Public Parking

7.2.5 New public car parks should normally be built by the private sector, although they may also be developed through the public works programme if there is a significant shortfall and private sector participation is not forthcoming. For better land utilisation and in line with the principle of “single site, multiple uses”, public car parks may be provided in suitable GIC and public open space developments with due consideration of the planned uses.

7.2.6 It is Government policy to encourage the development of “park-and-ride” and “kiss-and-ride” facilities at suitably located rail stations and public transport interchanges with a view to encouraging public transport ridership. Such locations would normally be outside the busy urban areas and close to major transport routes providing good access to the intended catchment areas.

Electric Vehicle Charging Facilities

7.2.7 The Government has been actively promoting the wider use of electric vehicles (EVs) in Hong Kong, with a view to improving road side air quality, reducing greenhouse gas emissions and creating green business opportunities. To set out the long-term policy objectives and plans to promote the adoption of EVs and their associated supporting facilities in Hong Kong, the Government announced the first "Hong Kong Roadmap on Popularisation of Electric Vehicles" ("the EV Roadmap") in 2021. As one of the key measures to promote EVs under the EV Roadmap, a comprehensive and proper EV charging network comprising public and private charging facilities will be developed. The setting up of EV charging facilities at vehicle parks basically involves installation of EV chargers with associated fixed electrical installations (FEI).

7.2.8 To cater for charging of EVs, all parking spaces, including those for private cars, motorcycles, goods vehicles, light buses and coaches, of new developments are encouraged to be EV charging-enabling with reservation of adequate space for installation of EV chargers and associated FEI. The detailed technical requirements are specified in the "Technical Guidelines for EV Charging-enabling for Car Parks of New Building Developments" ("Technical Guidelines") issued by the Environment and Ecology Bureau[15].

7.2.9 The guideline and technical requirements in para. 7.2.8 do not apply to on-street parking spaces or temporary outdoor vehicle parks (with or without shelter).

7.2.10 The design and installation of EV chargers and associated FEI should be done in compliance with relevant legislation (i.e. the Electricity Ordinance (Cap. 406) and regulations made thereunder), relevant guidelines and circulars issued by Government Bureaux/Departments (such as the Environment and Ecology Bureau, the Electrical and Mechanical Services Department and the Fire Services Department) from time to time.

Park-and-ride

7.2.11 To achieve a better co-ordinated public transport system and to promote the use of public transport, park-and-ride (PnR) facilities should be provided at suitable rail stations and major public transport interchanges in the New Territories and/or fringe of urban areas as far

[15] The Government encourages the installation of EV charging-enabling facilities in the parking spaces of new developments to cater for the anticipated growing demand of EV charging. Those car parks of new developments where the parking spaces therein have satisfied the requirements of Technical Guidelines and other requirements as stipulated in Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP APP-2) issued by Buildings Department are qualified for gross floor area concessions.

as practicable. This is to encourage motorists to switch to mass transport, thus alleviating traffic congestion problems along strategic route corridors and reducing parking demand in the inner urban areas. When assessing the choice of PnR site, it is important to make sure:

- The facility is located close to the public transport node in order to enhance interchangeability.

- The facility is not located at a congested area since the facility may attract a large amount of traffic at peak hours.

- The facility is convenient to drivers who live in the less accessible areas and need to use their car as a feeder to the rail system.

7.2.12 Park-and-ride facilities are usually provided and run by commercial operators or as part of the lease conditions.

Cycle Parking Areas

7.2.13 It is Government policy to encourage, through the planning process, non-polluting travel. Where appropriate, cycling as a supplementary transport mode should be promoted in areas where proper cycle tracks are available. More information on the provision of cycle parking is provided in Section 6 of this Chapter.

Coach Parking

7.2.14 Coach picking-up/setting-down bays should be provided at the airport, cruise terminals, transport interchanges, hotels and at or near major tourist attractions.

7.2.15 On-street/off-street picking-up/setting down bays should be provided where direct pleasant pedestrian linkages with nearby tourist attractions are available. Designation of such on-street coach facilities should be subject to local traffic condition and availability of public parking in the vicinity.

7.2.16 Adequate signage shall be provided where appropriate to guide tourists to nearby destinations.

7.2.17 At or near major tourist attractions, dedicated coach parking facilities should be provided for serving as holding facilities for coaches waiting to pick up tour groups.

LPG-powered Vehicle Parking

7.2.18 LPG-powered vehicles should best be parked in open areas or above ground multi-storey car parks served by natural ventilation.

7.2.19 LPG-powered vehicles can be parked also in underground car parks installed with effective and reliable forced ventilation systems.

7.2.20 Maintenance of LPG-powered vehicles in car parks should be prohibited. While parking in the underground car parks, the LPG supply main valves on the fuel tanks of the vehicles should be kept closed as in accordance with their user manual.

7.2.21 LPG-powered vehicle should not be parked in small enclosed garages.

7.3 On-Street Parking

7.3.1 On-street parking should normally only be considered on local distributors and roads lower in the hierarchy. On such roads, on-street parking spaces may be provided where off-street facilities are inadequate to meet demand and where provision would not adversely affect the flow of traffic. On-street parking spaces should generally cater for short term parking needs and parking meters should be installed to encourage turnover of vehicles parked there.

7.3.2 Both parking and loading/unloading should be provided off-street as far as possible unless circumstances dictate that on-street facilities must be provided on local roads to suit the needs of developments or certain special users such as disabled drivers. An early decision is required on whether on-street parking and loading/unloading will be provided in order to determine the required width of road.

7.3.3 Where on-street parking spaces for buses, containers and heavy goods vehicles are required, they should be so sited as to avoid causing noise nuisance to residential areas.

7.4 Parking for Persons with Disabilities

7.4.1 Where opportunity arises, on-street parking spaces for persons with disabilities should be provided near the facilities that the persons with disabilities often visit and where off-street provision is proven inadequate in the vicinity. These facilities may include clinics, hospitals, banks, retail markets, post offices, community halls, etc.

7.4.2 Off-street parking requirements to facilitate use by persons with disabilities are given in the General Note (h) of Statement of Intent of Table 11.

Table 11 : Parking Standards

Statement of Intent

1. (a) Parking standards for residential developments (Section 1)

The overall intention of the standards is to ensure that subject to road capacity considerations, future residential developments should have sufficient parking provision to match the car ownership of residents.

(b) Parking standards for community facilities (Section 2)

The provision of parking for community facilities should generally be limited to operational requirements. Users of community facilities will generally be expected to use public transport or public car parks. However, for certain major GIC facilities such as cultural/recreational complexes which are of territorial significance, there may be a need to provide sufficient parking spaces commensurate with the nature of such facilities.

(c) Parking standards for commercial facilities (Section 3)

The overall intention of the standards is to ensure that, except in special circumstances, future commercial developments should have sufficient on-site parking to match manifest operational requirements.

(d) Parking standards for industrial and business developments (Section 4)

The overall intention of the standards is to ensure that sufficient parking and loading/unloading spaces are provided to satisfy requirements.

In all cases, the level of provision in a development is to be decided by the Authority. The standards serve to provide guidelines on which the Authority will base the decision.

2. The parking standards have been formulated for new development and redevelopment projects. However, the Authority will need to have flexibility, within and beyond/below the standard ranges, to meet special circumstances, such as redevelopment in the built-up urban areas. The Authority will consider, inter alia, the following aspects of land use/transport interactions:

(a) proximity to and quality of pedestrian access linking railway stations and other major public transport interchanges;

(b) availability of public transport services in the vicinity;

(c) availability of public car parks in the locality;

(d) projected road capacity and traffic volumes in both the immediate vicinity and the wider district;

(e) feasibility of providing safe entry/exit points;

(f) existence of closed road permit policies (e.g. South Lantau Island);

(g) area and shape of specific site; and

(h) parking demand and supply condition in the vicinity.

3. General Notes

(a) The Authority shall be the Commissioner for Transport in respect of parking standards and provisions, the Director of Lands in respect of leases, the Building Authority in respect of building plans, and the respective District Planning Conferences in respect of planning briefs, taking advice from other relevant departments.

(b) The minimum provision of parking agreed by the Authority shall not normally count for the gross floor area of a proposed development; any higher provision may be counted for gross floor area. The agreed standard shall, where appropriate, be incorporated in lease conditions.

(c) For all unspecified commercial and community facilities, provision shall be determined by the Authority in line with the Statement of Intent. Wherever feasible, provision shall be within the site.

(d) All traffic access dimensions shall be in accordance with specifications in the Buildings Ordinance and appropriate standard drawings of the Highways Department and details of design in TD's Transport Planning and Design Manual.

(e) Where different types of development (e.g. residential development, community facilities) are included on the same site, the appropriate standards should be applied cumulatively; some reduction may be permitted, however, when it is evident that demand will occur substantially at different times.

(f) In all non-residential developments, additional parking spaces for motorcycles at the rate of 5 to 10% of the total provision for private cars with respect to each type of development should be provided. In the case of subsidised housing, the calculation shall be based on 1 motorcycle parking space per 110-250 flats excluding one person/two persons flats as well as non-residential elements. In the case of private housing, the calculation shall be based on 1 motorcycle parking space per 100-150 flats excluding

non-residential elements. As a general guideline, parking spaces for motorcycles, whether on-street or off-street, should be 1m (width) x 2.4m (length). However, in cases of site constraint, a minimum standard of 1m (width) x 2m (length) could be considered acceptable.

(g) Dimensions for standard parking spaces and loading/unloading bays are as follows:

Type of Parking Space and Loading/Unloading Bay	**Length (m)**	**Width (m)**	**Minimum Headroom (m)**
Private Cars, Van-type Light Goods Vehicles and Taxis	5	2.5	2.4
Light Goods Vehicles (LGV)	7	3.5	3.6
Medium / Heavy Goods Vehicles (M/HGV)	11	3.5	4.7
Container Vehicles	16	3.5	4.7
Coaches/buses	12	3.5	4.3
Light buses	8	3.0	3.3
"Shared-use" for LGV and Light buses	8	3.5	3.6
"Shared-use" for Coaches/buses and M/HGV	12	3.5	4.7

Notes:

i) Coaches/buses mean a motor vehicle constructed or adapted for the carriage of more than 19 passengers and their personal effects.

ii) Light buses mean a motor vehicle which is constructed or adapted for use solely for the carriage of not more than 19 passengers and their personal effects, but does not include an invalid carriage, motorcycle, motor tricycle, private car and taxi.

iii) Minimum headroom means the clearance between the floor and the lowest projection from the ceiling, including any lighting units, ventilation duct, conduits or similar installations

iv) The design of lay-bys would be subject to the satisfaction of TD.

v) In general, the dimension of spaces should follow the types stipulated in Table 11 (Details of Standards). Request for adoption of "shared-use" dimensions will be considered by TD on a case-by-case basis.

(h) Parking for persons with disabilities:

i) Sufficient number of off-street car parking spaces shall be designated as parking for persons with disabilities as below.

ii) The minimum requirements of parking for persons with disabilities in residential developments, commercial facilities, industrial and business developments, community facilities and other developments with reference to Regulation 72 of the Building (Planning) Regulations are as follows:

Total Number of Parking Spaces	**Minimum Number of Accessible Parking Spaces**
1-50	1
51-150	2
151-250	3
251-350	4
351-450	5
Above 450	6

iii) In addition to the above requirements, where (a) the residential development is required to provide visitor parking spaces, at least one visitor car parking space shall be provided in accordance with the requirements for accessible parking space which will enable persons with disabilities to use without undue difficulties, and (b) for medical facilities, at least one of the visitor parking spaces for persons with disabilities shall be located in close proximity to Accident and Emergency (A & E) departments.

iv) Where the number of accessible parking spaces to be provided are more than the required minimum provision as stated in para. (h)(ii) above, the additional accessible parking spaces may be used by persons without disabilities when there is no demand.

v) Accessible parking spaces shall be located on horizontal and level ground and closer to accessible entrances. For a multi-storey car park, these parking spaces shall be provided on each level in order to achieve greater access in terms of accessible entrance and convenience. If a communal car park serves different buildings, accessible parking spaces shall be dispersed so that convenient access to each building is provided.

vi) The minimum width for an accessible parking space shall be 3.5m. Where there is more than one accessible parking space to be provided, the effect of the additional width can be lessened by having a shared common loading/unloading area with a width of 1.2m and the width of such parking spaces shall be not less than 2.5m. The parking spaces should be provided in covered areas as far as possible. The technical details and design on parking for drivers with disabilities are provided in Volume 6 Chapter 8 of TPDM and the Third Schedule to the Building (Planning) Regulations (Cap 123F).

vii) Signage clearly indicating the exact locations of the designated parking spaces for persons with disabilities shall be erected in a conspicuous place at the entrance of the car park and where appropriate in the development. The signage is required to be placed so as not to be obscured and can be seen from the driver's seat.

Details of Standards

Section 1 : Parking Standards for Residential Developments

<table>
<tr><th rowspan="2">Type of Development</th><th colspan="2">Parking Requirements</th><th colspan="2">Loading/Unloading Requirements</th></tr>
<tr><th colspan="2">Standards</th><th>Remarks</th><th>Standards</th><th>Remarks</th></tr>
<tr><td>1. Subsidised Housing #</td><td colspan="2">- Private Car:

<table><tr><td colspan="2">Global Parking Standard (GPS)</td><td>1 car space per 4-7 flats</td></tr><tr><td>Demand Adjustment Ratio (R1)</td><td>All Subsidised Housing</td><td>0.52</td></tr><tr><td rowspan="2">Accessibility Adjustment Ratio (R2)</td><td>Within a 500m-radius of rail station [see Note (3)]</td><td>0.85</td></tr><tr><td>Outside a 500m-radius of rail station [see Note (3)]</td><td>1</td></tr><tr><td colspan="3">Parking Requirement = GPS x R1 x R2</td></tr></table>
- Light Goods Vehicle and Light Bus:

1 ”shared-use” LGV and Light Bus space per 260 flats

- Medium/Heavy Goods Vehicle, Coach/Bus:

To utilise loading/unloading bays at estate commercial centres and around residential blocks for overnight parking in estates.</td><td>See Notes (1) – (5).</td><td>Provision of 2 “shared-use” coaches/buses and M/HGV loading / unloading bays around each residential block for service vehicles and overnight parking.</td><td></td></tr>
</table>

(Refer to Statement of Intent for further guidance)

The parking standards for subsidised housing in Section 1 of Table 11 are applicable to both public rental housing and subsidised sale flats developments. For public rental housing developments with large site area and subsidised sale flats developments, GPS towards the upper end (i.e. 1 car space per 4 flats) should be considered, while the lower end (i.e. 1 car space per 7 flats) of the GPS should be considered for small sites or sites with severe constraints. A mid-range standard should be adopted for sites with housing type yet to be determined. The L/UL standard including the overnight parking requirement should be applied with due consideration of the site constraint and local situation.

Table 11 Section 1 (cont'd)

<table>
<tr><th rowspan="2">Type of Development</th><th colspan="3">Parking Requirements</th><th colspan="2">Loading/Unloading Requirements</th></tr>
<tr><th colspan="3">Standards</th><th>Remarks</th><th>Standards</th><th>Remarks</th></tr>
<tr><td>2. Private Housing</td><td colspan="3">- Private Car:
<table><tr><td colspan="3">Global Parking Standard (GPS)</td><td>1 car space per 4-7 flats</td></tr><tr><td rowspan="5">Demand Adjustment Ratio (R1)</td><td rowspan="5">Flat Size (FS) (m^2) (GFA)</td><td>FS ≤ 40</td><td>0.5</td></tr><tr><td>40 <FS ≤ 70</td><td>1.2</td></tr><tr><td>70 < FS ≤ 100</td><td>2.4</td></tr><tr><td>100 < FS ≤ 130</td><td>4.1</td></tr><tr><td>130 < FS ≤ 160</td><td>5.5</td></tr><tr><td>Accessibility Adjustment Ratio (R2)</td><td colspan="2">Within a 500m-radius of rail station [see Note (6)]</td><td>0.75</td></tr><tr><td></td><td colspan="2">Outside a 500m-radius of rail station [see Note (6)]</td><td>1.00</td></tr><tr><td rowspan="5">Development Intensity Adjustment Ratio (R3)</td><td rowspan="5">Domestic Plot Ratio (PR)</td><td>0.00< PR ≤ 1.00</td><td>1.30</td></tr><tr><td>1.00< PR ≤ 2.00</td><td>1.10</td></tr><tr><td>2.00< PR ≤ 5.00</td><td>1.00</td></tr><tr><td>5.00< PR ≤ 8.00</td><td>0.90</td></tr><tr><td>PR > 8.00</td><td>0.75</td></tr><tr><td colspan="4">Parking Requirement = GPS x R1 x R2 x R3</td></tr></table></td><td>See Notes (1) – (2) & (6) – (8).</td><td>– Minimum of 1 loading / unloading bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority.

– Space should also be provided around each block for service vehicles.</td><td></td></tr>
<tr><td>3. Village Housing</td><td colspan="3">– Up to 1 car parking space for each standard NTEH ($65m^2$), with 10-15% of provision for overnight goods vehicles.</td><td>– Provision generally in communal parking area(s) within the village environ.</td><td>-</td><td>-</td></tr>
</table>

(Refer to Statement of Intent for further guidance)

Notes:

All Residential Developments

(1) Within the limits of the Global Parking Standards, TD will determine the parking provision for each individual development according to the prevailing demand/supply conditions in the vicinity, traffic conditions, proximity and convenience for access to public transport services (excluding rail), etc.

(2) Request for provision lower than the parking standards may be considered by TD for small sites, sites with severe constraints, or those carrying unique circumstances, on a case-by-case basis. In handling these requests, TD may consider factors including but not limited to, area and shape of the site, technical constraints attached to the site, insurmountable difficulties of construction of excessively deep levels of basement car parks, significant impact on delivery of flat yield, etc.

Subsidised Housing

(3) A 15% discount should be applied to the provision of residential car parking spaces where over 50% of the site area of the development fall within a 500m radius of rail stations. The 500m-radius catchment area of a rail station should be drawn from the centre of the station irrespective of the configuration and layout of the station.

(4) "One person/two persons" flats shall be excluded from the calculation of the overall parking provision of private car, motorcycle parking spaces and shared-use spaces for LGV and light bus.

(5) Visitor car parking for subsidised housing should be up to 5 visitor spaces per residential block subject to individual site and design constraints.

Private Housing

(6) A 25% discount should be applied to the provision of residential car parking spaces where over 50% of the site area of the development fall within a 500m radius of rail stations. The 500m-radius catchment area of a rail station should be drawn from the centre of the station irrespective of the configuration and layout of the station.

(7) The standard for the developments of flat size greater than 160m^2 is a minimum requirement. Request for provision beyond the standard will be considered by TD on a case-by-case basis.

(8) Visitor car parking for private residential developments with more than 75 units per block should be provided at 5 visitor spaces per block in addition to the requirements, or as determined by the Authority. For private residential developments with 75 units or less per block, the visitor car parking provision will be determined by TD on a case-by-case basis.

(Refer to Statement of Intent for further guidance)

Section 2 : Parking Standards for Community Facilities

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
1. Education (a) Primary Schools	– 1 car parking space for every 4 to 6 classrooms.	- Provision covers school principal, senior teachers, itinerant specialist teachers, inspectors and visitors. - Punctual arrival at work is especially important for principals and senior teachers for assemblies / supervision.	– 1 lay-by for taxis and private cars for every: (i) 2 to 3 classrooms in primary schools; (ii) 3 to 5 classrooms in secondary schools and technical institutes. – For school buses, there should be a minimum of 3 lay-bys within the school boundary for primary schools and up to 3 lay-bys for secondary schools. However, for all schools within public housing estates, the requirement for bus lay-bys should be examined on an individual basis taking account of the catchment area and the expected traffic conditions on the roads with the estate.	
(b) Secondary Schools and Technical Institutes	– 1 car parking space for every 3 to 4 classrooms.			

(Refer to Statement of Intent for further guidance)

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
(c) Special Schools	– 1 car parking space for every 4 to 8 classrooms.	– Usually combined for both primary and secondary pupils.	– 1 lay-by for taxis and private cars for every 2 to 3 classrooms. – A minimum of 3 lay-bys for school buses (within the site).	– Provision is mainly to meet normal and emergency requirements of mentally and/or physically handicapped pupils.
(d) Kindergartens	– 0 to 1 car parking space per 4 to 6 classrooms.	– Nil provision may be permitted for those kindergartens within general purpose buildings.	– 1 lay-by for taxis and private cars for every 5 to 8 classrooms. – A minimum of 2 lay-bys for school buses. (Note: The requirement may be substituted by 5 lay-bys of size 3m x 7m for mini-bus / nanny van which can provide a total number of seats equivalent to that provided by 2 large school buses.)	– Nil provision may be permitted for those kindergartens within general purpose buildings.
(e) Tertiary Institutions	In general, no standards should apply. To be determined by the Authority.			

(Refer to Statement of Intent for further guidance)

Note:

1. For schools and kindergartens within public housing estates, the carparking provisions, taxi and private car lay-bys and loading/unloading provisions should be subject to the requirements of Housing Authority.

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
2. Medical (a) Clinics and Polyclinics	– 1 to 1.5 car parking spaces for each consulting room. – Additionally, for polyclinics, 3 parking spaces (9m x 3m) for ambulances.	– Spaces are intended for operational needs and not for out-patients' parking. However, 1 to 2 spaces should be reserved for disabled persons driving their own cars.	– 1 to 2 lay-bys (9m x 3m) for ambulances to be provided under cover. – 0 to 1 taxi/private car lay-by per consulting room to be provided under cover. – 1 to 2 lay-bys for M/HGVs.	– Provision should be adequate to serve the special requirements of handicapped persons.
(b) Hospitals	– 1 car parking space per 3 to 12 beds. – In addition, 2 to 5 spaces should be allocated for disabled visitor parking. – Additionally, for hospitals with Accident and Emergency (A+E) departments, 8 parking spaces (9m x 3m) for ambulances and for hospitals	– In determining the number of car parking spaces to be provided within the range permitted, it should be noted that hospitals with A+E departments require more parking spaces than other hospitals. Spaces are normally intended for operational needs, but some spaces are recommended for visitors, especially at hospitals which provide emergency services. Adequacy of public transport facilities, the availability of public parking in the vicinity, and the location of the hospitals should be taken into account in assessing the overall parking requirement and the need for visitor parking.	– 1 lay-by for taxis and private cars to be provided under cover for every: (i) 80 beds, or part thereof, in hospitals with A+E departments. (ii) 160 beds, or part thereof, in hospitals without A+E departments. – 1 lay-by (8m x 3m) for PLBs or maxicabs for every:	– Provision should be adequate to serve the special requirements of handicapped persons.

(Refer to Statement of Intent for further guidance)

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
	without A+E departments, 3 parking spaces (9m x 3m) for ambulances.	– If visitor parking is provided, a number of the most conveniently located spaces should be reserved for emergency cases. – Disabled visitor parking spaces should be located at the most convenient places for disabled drivers visiting the out-patients departments and A+E departments.	(i) 200 beds, or part thereof, in hospitals with A+E departments. (ii) 400 beds, or part thereof, in hospitals without A+E departments. – ambulance lay-bys: (i) 2 for hospitals with A+E departments. (ii) 1 to 2 for hospitals without A+E departments. (iii) all lay-bys to be under cover. – 1-3 lay-bys for M/HGVs.	

(Refer to Statement of Intent for further guidance)

Note:

1. For private clinics/polyclinics within public housing estates, the car parking provisions, taxi and private car lay-bys and loading/unloading provisions should be subject to the requirements of Housing Authority.

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
3. Churches	– Up to 1 car parking space for every 16 seats or equivalent.	– The term "church" includes other places of worship such as temples and mosques. – In determining parking requirements within the range of standards given, account should be taken of such factors as location, size of church and proximity to public transport.	– One to two bays (9m x 3m) for small coaches.	
4. Electric Substations	– 66kV and above substation, one space for private car.	– To be provided in the open yard within each substation site.	– One M/HGV space.	– To be provided in the access corridor or open yard within each substation site.
	– 33kV substation, one space for private car.		– One LGV space.	– To be provided in the open yard within each substation site.
5. Arts Venues	In general, no standards should apply. To be determined by the Authority.			

(Refer to Statement of Intent for further guidance)

Section 3 : Parking Standards for Commercial Facilities

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
1. Retail	– 1 car space per 150 - 300m² GFA.	– Generally nil provision is permitted for small road-side retail shops which are mainly serving local residents. – Retail is taken to include restaurants and allied services commonly found in shopping complexes, but not retail markets apart from those integrated in location and design with the centre.	– 1 loading/ unloading bay for goods vehicles for every 800 to 1 200m², or part thereof, GFA.	– Large comprehensive developments may be allowed to adopt the low side of the provision due to economy of scale. – Points of access should not interrupt the main shopping frontage. – The manoeuvring of goods vehicles should be within the curtilages of the site; generally no reversing movement into/ from a public road will be permitted.

(Refer to Statement of Intent and General Notes for Section 3 for further guidance)

General Notes for Section 3:

1. Request for provision lower than the parking standards may be considered by TD for small sites, sites with severe constraints, or those carrying unique circumstances, on a case-by-case basis. In handling these requests, TD may consider factors including but not limited to, area and shape of the site, technical constraints attached to the site, insurmountable difficulties of construction of excessively deep levels of basement car parks, significant impact on delivery of floor space, etc.
2. Parking and loading/unloading provision calculated should be rounded up to the next whole number.
3. Goods vehicle provision is divided into 65% LGV and 35% HGV but does not apply to Housing Authority development.
4. Having regard to the site constraints, sufficient vehicle queuing area inside the car parks of retail developments, or any other mitigation measures shall be provided to the satisfaction of TD.

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
2. Office	– For the first 15 000m² GFA: 1 car space per 150 - 200m² GFA. – Above 15 000m² GFA: 1 car space per 200 - 300m² GFA.	– For office blocks with car lifts, adequate queuing spaces should be provided to avoid tailing back onto public roads. – Flexibility should be applied to permit a reduction of standards or nil provision for office blocks located very close to high capacity public transport systems, or for cases with severe site constraints.	– 1 loading/unloading bay for goods vehicles for every 2 000 to 3 000m² or part thereof, GFA. – For sites of at least 5 000m² net site area, 1 picking up/ setting down lay-by for taxis and private cars for every 20 000m², or part thereof, GFA.	– Point of access should not interrupt any main shopping frontage. – The manoeuvring of goods vehicles should be within the curtilages of the site; generally no reversing movement into/ from a public road will be permitted.
3. Retail Markets	– Generally nil.	– Marketing is still mainly by pedestrians from the locality, making frequent trips for small purchases. However, parking provision in specific locations is not precluded.	– 1 medium/heavy goods vehicle bay per 20 - 30 large stalls, 1 medium/heavy goods vehicle bay per 40 - 60 small stalls. (Subject to a minimum provision of 2 medium / heavy goods vehicle bays.)	– The definitions of stall sizes will be according to relevant Tables in Chapter 6 of HKPSG. – The manoeuvring of goods vehicles should be within the curtilages of the site; generally no reversing movement into/ from a public road will be permitted.

(Refer to Statement of Intent and General Notes for Section 3 for further guidance)

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
			– 1 loading/ unloading bay, same dimensions as those for a medium/heavy goods vehicle, for each refuse collection point. – In preparation of development plans, some lay-bys for taxis and private cars should be incorporated in the vicinity of markets.	– Dry goods are generally still delivered at irregular intervals by bicycles or small vans. – To facilitate loading/unloading in the bulk purchasing of retail goods.

(Refer to Statement of Intent and General Notes for Section 3 for further guidance)

Notes:

1. The provisions relating to retail markets apply to free standing retail markets and not those built as part of retail centres. Parking and loading/unloading bay provision for markets which are integrated in location and design with the retail centres should still be determined as part of the general retail requirement (see Type 1 of this Section) and be calculated according to the overall floor space of the retail centre, including any market area.
2. Flexibility in application of the standards is allowed in case of severe site constraints.

<table>
<tr><th rowspan="2">Type of Development</th><th colspan="2">Parking Requirements</th><th colspan="2">Loading/Unloading Requirements</th></tr>
<tr><th>Standards</th><th>Remarks</th><th>Standards</th><th>Remarks</th></tr>
<tr>
<td>4. Hotels
(a) Main Urban Areas & New Towns</td>
<td>– 1 car space per 100 rooms.
– In addition, for hotels with conference and banquet facilities:
0.5-1 car space per 200m^2 GFA of conference and banquet facilities.</td>
<td>– Car parking spaces are for the use of hotel limousines and the operational needs of staff.</td>
<td>– Loading/unloading bays for goods vehicles: 0.5-1 goods vehicle bay per 100 rooms.
– Lay-by for taxi and private cars :
<table>
<tr><th>Hotel Type</th><th>Min. No.</th></tr>
<tr><td>≤299 rooms</td><td>2</td></tr>
<tr><td>300-599 rooms</td><td>3</td></tr>
<tr><td>≥600 rooms</td><td>4</td></tr>
</table>
– Lay-by for single-deck tour buses:
<table>
<tr><th>Hotel Type</th><th>Min. No.</th></tr>
<tr><td>≤299 rooms</td><td>1</td></tr>
<tr><td>300-899 rooms</td><td>2-3</td></tr>
<tr><td>≥900 rooms</td><td>3</td></tr>
</table>
– Additional provision for convention centres and banquet facilities to be determined by the Authority.</td>
<td>– Bays to be located close to the service entrance. Manoeuvring of goods vehicles should be within the curtilage of the site; generally no reversing movement into/from a public road will be permitted.
– Layout should be such that vehicles ingress, pick-up/set down, egress with no reversing movement nor tailback into a public road. Adequate passenger waiting area to be provided adjacent to lay-by.
– Lay-by should be such that bus ingress, egress with no tailback into a public road. Adequate passenger waiting area to be provided adjacent to lay-by.</td>
</tr>
</table>

(Refer to Statement of Intent and General Notes for Section 3 for further guidance)

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
(b) Other areas	– Not less than 1 single-deck tour bus parking space for every 200 guest rooms or part thereof. – Not less than 1 car parking space for every 10 guest rooms. – Additional provision for hotels with conference and banquet facilities: 2-5 car spaces per 200m^2 GFA of conference and banquet facilities.	– Access to and egress from parking areas should be from a minor road within the confines of the sites. – Provision is subject to any Closed Road Permit policies et al.	– Not less than 1 bay for goods vehicles for every 100 guest rooms or part thereof. – Additional provision for convention centres and banquet facilities to be determined by the Authority.	

(Refer to Statement of Intent and General Notes for Section 3 for further guidance)

Type of Development	Parking Requirements		Loading/Unloading Requirements	
	Standards	**Remarks**	**Standards**	**Remarks**
5. Commercial Entertainment Facilities (e.g. cinemas, theatres.)	– Range of 0 to 1 car parking space for every 20 seats or part thereof.	– Generally no provision for cinemas in the Metropolitan Area as these are mostly in areas well served by public transport.	– Except for cinemas, 1 loading/ unloading bay for goods vehicles where practicable. – Not less than 1 picking up/setting down lay-by for taxis and private cars for every 400 seats or part thereof. – In preparation of development plans, some additional lay-bys for taxis and private cars should be incorporated in the vicinity of known cinemas, theatres and the like.	

(Refer to Statement of Intent and General Notes for Section 3 for further guidance)

Section 4 : Parking Standards for Industrial and Business Developments

Section 4.1: General Industrial Use (GIU) and Business Use ["OU(B)"]

Type of Development		Parking Requirements		Loading/unloading Requirements	
		Standards	**Remarks**	**Standards**	**Remarks**
General Industrial Use (GIU)	Industrial Use (I)	– Private car: 1 per 1 000-1 200m² GFA.	See Notes (3) – (4)	– 1 goods vehicle bay per 700-900m² GFA, 50% of which should be for parking of goods vehicles. – One container vehicle loading/unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45m x 40m.	See Notes (5) – (8) & (12)
	Industrial/ Office Uses (I/O)	– Private car: 1 per 600-750m² GFA.		– 1 goods vehicle bay per 1 000-1 200m² of 50% of the I/O GFA; and 1 per 2 000-3 000m² of the remaining 50% of the I/O GFA. – 50% of all the above required goods vehicle bays shall be for parking of goods vehicles. – 1 goods vehicle bay per 800-1 200m² for commercial GFA solely for loading/unloading. – One container vehicle loading/unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45m x 40m.	See Notes (5) – (12)

(Refer to Statement of Intent and General Notes for Section 4.1 for further guidance)

Type of Development		Parking Requirements		Loading/unloading Requirements	
		Standards	**Remarks**	**Standards**	**Remarks**
Business Use ["OU(B)"]	Industrial Buildings (I)	– Private car: 1 per 600-750m² GFA.		– 1 goods vehicle bay per 1 000-1 200m² of 50% of the GFA; and 1 per 2 000-3 000m² of the remaining 50% of the GFA. – 50% of all the above required goods vehicle bays shall be for parking of goods vehicles. – One container vehicle loading/ unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45m x 40m.	See Notes (5) – (8) & (12).
	Industrial/ Office (I/O) Buildings	– Private car: 1 per 600-750m² GFA.		– 1 goods vehicle bay per 1 000-1 200m² of 50% of the I/O GFA; and 1 per 2 000-3 000m² of the remaining 50% of the I/O GFA. – 50% of all the above required goods vehicle bays shall be for parking of goods vehicles. – 1 goods vehicle bay per 800-1 200m² for commercial GFA solely for loading/unloading. – One container vehicle loading/ unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45m x 40m.	See Notes (5) – (12). .

(Refer to Statement of Intent and General Notes for Section 4.1 for further guidance)

Type of Development		Parking Requirements		Loading/unloading Requirements	
		Standards	**Remarks**	**Standards**	**Remarks**
	Office Buildings	– Private car: 1 per 150-200m^2 GFA for the first 15 000m^2 GFA; 1 per 200-300m^2 GFA for the remaining GFA.		– 1 goods vehicle bay per 2 000-3 000m^2 GFA. – For sites of at least 5 000m^2 net site area, 1 picking up/setting down lay-by for taxis and private cars for every 20 000m^2, or part thereof, GFA.	Nil
	Business Buildings	– Private car: 1 per 200-300m^2 GFA		– 1 goods vehicle bay per 800-1 200m^2 GFA, 50% of which should be for parking of goods vehicles. – A minimum of 1 picking up/setting down lay-by for taxis and private cars shall be provided for sites of at least 5 000m^2 net site area. – One container vehicle loading/unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45 m x 40 m.	See Notes (5) – (12).

(Refer to Statement of Intent and General Notes for Section 4.1 for further guidance)

General Notes for Section 4.1:

1. Request for provision lower than the parking standards may be considered by TD for small sites, sites with severe constraints, or those carrying unique circumstances, on a case-by-case basis. In handling these requests, TD may consider factors including but not limited to, area and shape of the site, technical constraints attached to the site, insurmountable difficulties of construction of excessively deep levels of basement car parks, significant impact on delivery of floor space, etc.
2. Parking and loading/unloading provision calculated should be rounded up to the next whole number.
3. In preparation of planning layouts for industrial areas, provision should be made for public parking areas to cater for transit vehicles which cannot be accommodated within individual lots.
4. The following design standards apply:
   (i) For private cars: Turning circle - 7.5m outer radius.
   (ii) For goods vehicles: turning circle - 11.5m outer radius.
5. Goods vehicle provision is divided into 65 % LGV and 35 % HGV.

6. The space provided for loading/unloading is required to abut a goods handling platform or area which must be provided and so laid out that the goods loading/unloading from/to such platform or area may be transported within the lot to all parts of the building both horizontally and vertically. It does not apply to those goods vehicle bays being used for parking of goods vehicles.
7. The goods handling platform or area must give access to the building in accordance with the Code of Practice for Provision of Means of Escape in Case of Fire and allied requirements made under the Buildings Ordinance.
8. All parking and loading/unloading bays shall be laid out in such a way to avoid the need for vehicles to reverse onto roads abutting the lot.
9. The handling of all goods must be through designated goods entrances, goods lifts lobbies and goods lifts that are segregated from those for passengers.
10. Points of access should not interrupt the main shopping frontage.
11. The manoeuvring of goods vehicles should be within the curtilages of the site; generally no reversing movement into/from a public road will be permitted.
12. The provision of container vehicle loading/unloading bay on sites with dimensions less than 45m x 40m should be considered on a case-by-case basis and in consultation with TD.

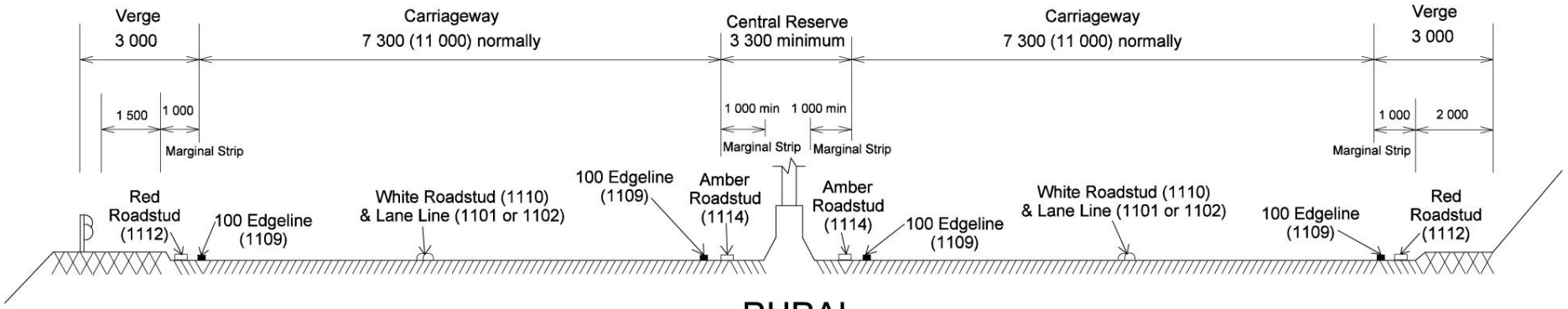
Section 4.2: Special Industrial Use (SIU)

Type of Development	**Parking Requirements**		
	Private Car	**Lorry**	**Container Vehicle**
1. Industrial Estate (IE)	1 per 900m^2 GFA or 1 per 450m^2 site area, whichever is the greater. Of the spaces provided, 50% shall be for parking of private cars and light vans and 50% shall be for parking and loading/unloading of lorries.		One container bay should be provided for a site with dimensions not less than 45m x 40m.
2. Science Park (SP)[5]	1 per 75m^2 GFA (75% for cars; 25% for vans).	1 per 5 000m^2 GFA.	Nil
3. Rural Based Industrial Use (RI)	1 parking space per establishment or 1 parking space for every 900m^2 GFA of the establishment, whichever is the greater, for lorry/visitor parking.		
4. Other Industrial Uses with Special Requirements (SI)	As per functional needs.		

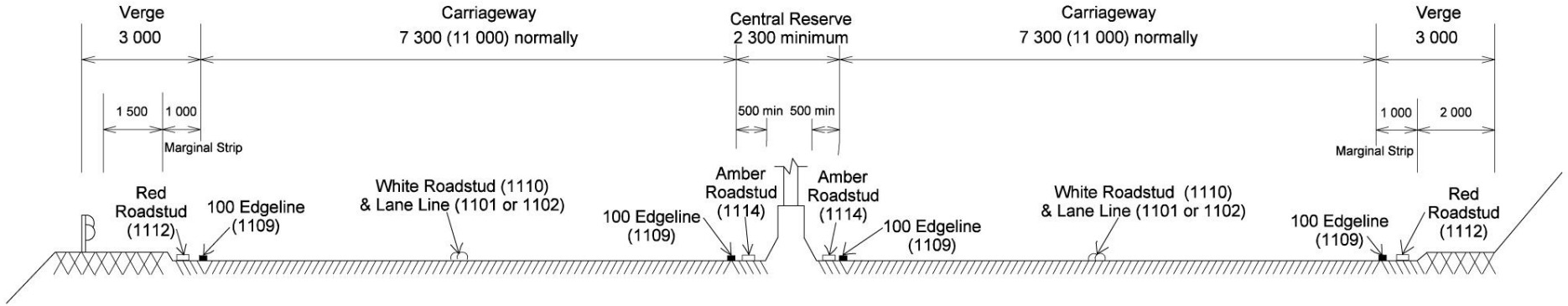
(Refer to Statement of Intent for further guidance)

Notes:

1. 50% of all the above required goods vehicle bays shall be for parking of goods vehicles.
2. Goods vehicle provision is divided into 65 % LGV and 35 % HGV.
3. Provision referring to gross floor area (GFA) includes part thereof the specified m^2 GFA.
4. For Industrial Estates, the parking requirement is the minimum provision. The Hong Kong Science and Technology Parks Corporation will assess the actual parking provision on an individual site basis.
5. For Science Park, parking requirement for Heavy Goods Vehicle will not apply.



RURAL



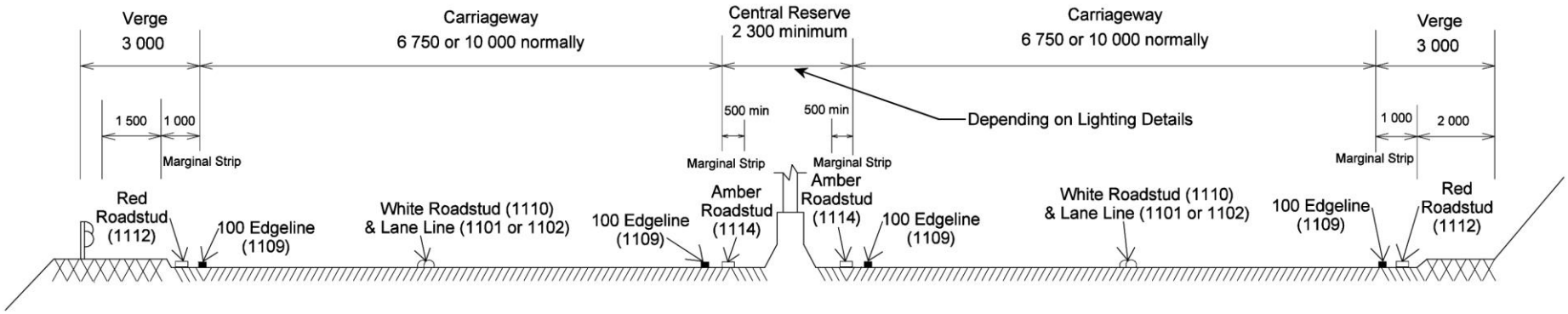
URBAN

Note:

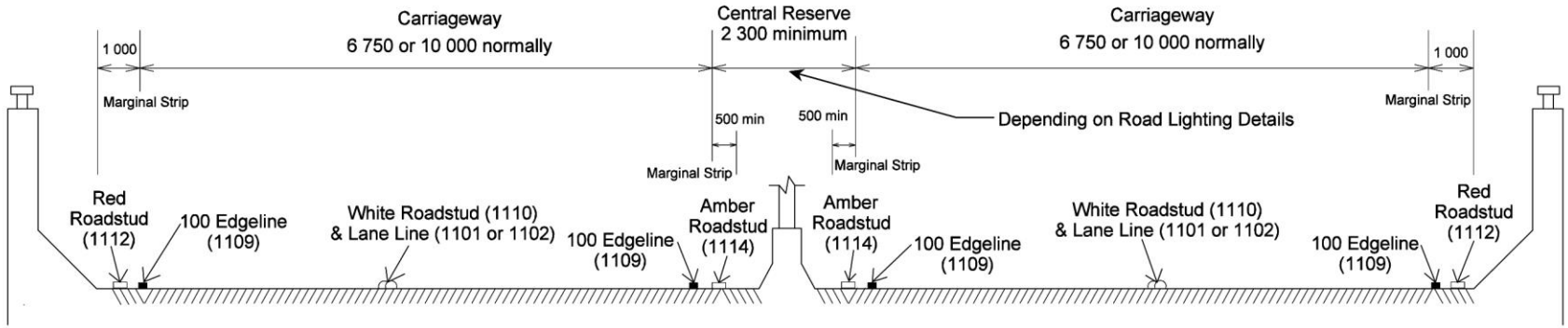
1. For details of road studs and markings see volume 3 of TPDM.
2. Verge/Marginal strip edge detail will be dependent on drainage requirements.
3. Actual verge and reserve width will be dependent on street furniture requirements.

NOT TO SCALE

SOURCE	TYPICAL CROSS SECTIONS OF TRUNK ROADS	PLANNING DEPARTMENT		
TRANSPORT DEPARTMENT		PLAN REF. No. PSS/00/275	DATE	FIG.No.
		FILE REF. No. TS C / PSSC / 802 I	OCT 00	1



PRIMARY DISTRIBUTOR ROAD



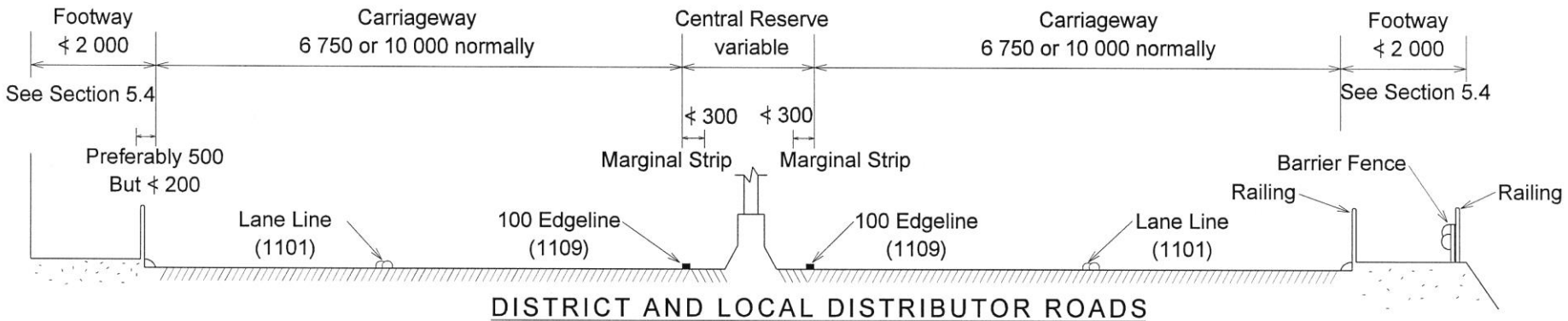
ELEVATED ROAD

Note:

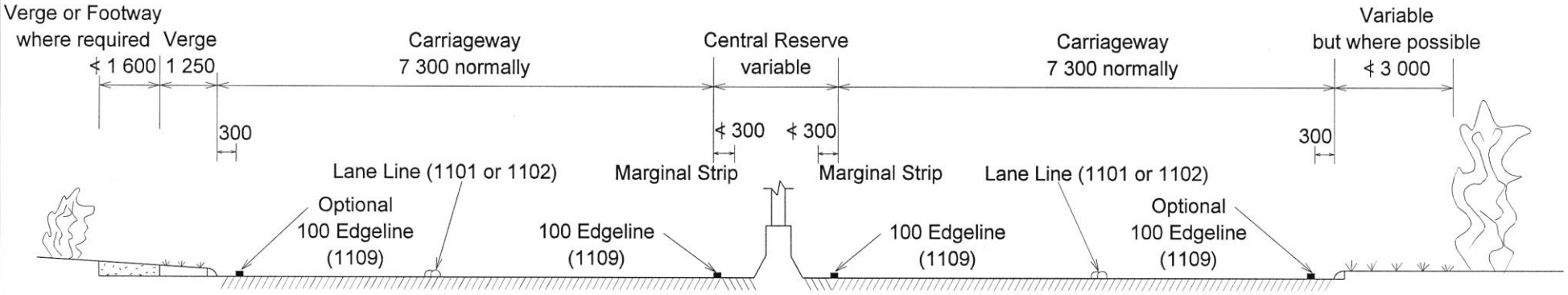
1. For details of road studs and markings see volume 3 of TPDM.
2. Actual verge and reserve width will be dependent on street furniture requirements.

NOT TO SCALE

SOURCE	TYPICAL CROSS SECTIONS OF PRIMARY DISTRIBUTOR ROADS	PLANNING DEPARTMENT		
TRANSPORT DEPARTMENT		PLAN REF. No. PSS / 00 / 276	DATE	FIG.No.
		FILE REF. No. TS C / PSSC / 802 I	OCT 00	2



DISTRICT AND LOCAL DISTRIBUTOR ROADS



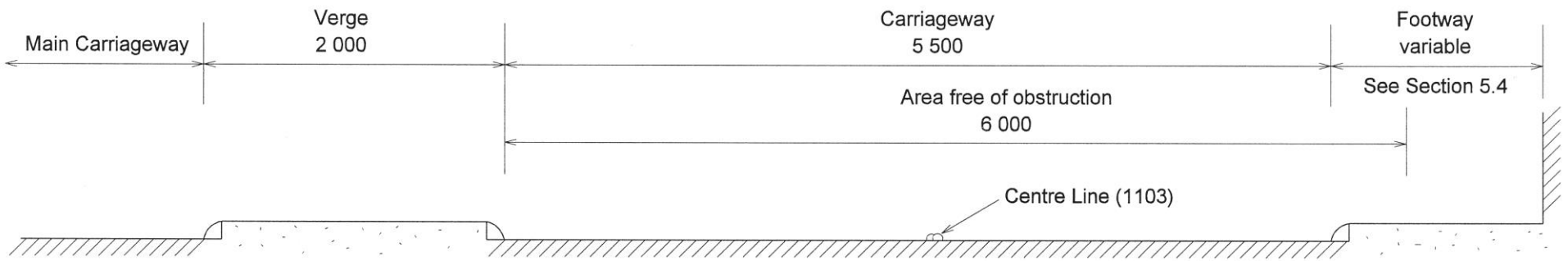
RURAL ROADS A & B

Note :

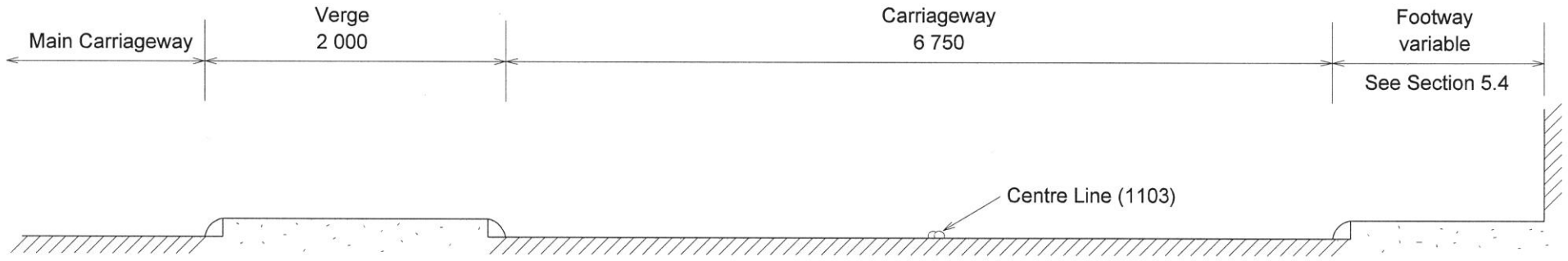
1. The central reserve concrete profile barrier may be replaced by a suitable dwarf wall and kerb but the marginal strip should be retained.
2. On local distributor roads an additional 3 000 mm parking width may be provided on one or both sides.
3. Actual central reserve width will be dependent on street furniture requirements.

NOT TO SCALE

SOURCE	TYPICAL CROSS SECTIONS OF DUAL CARRIAGEWAY ROADS	PLANNING DEPARTMENT		
TRANSPORT DEPARTMENT		PLAN REF. No. PSS / 00 / 277	DATE	FIG.No.
		FILE REF. No. TS C / PSSC / 802	OCT 00	3



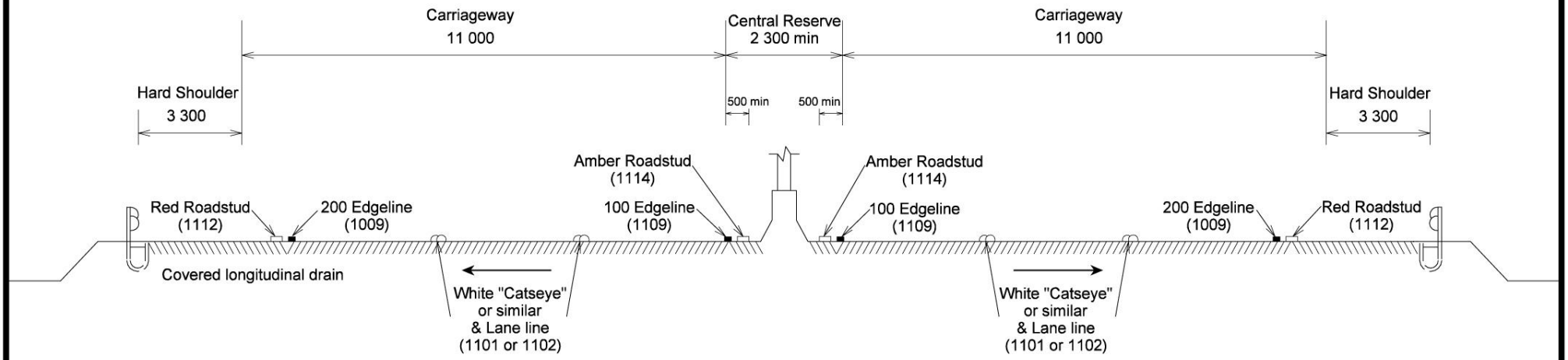
ALL VEHICLES (ONE WAY)



ALL VEHICLES (TWO WAY)

NOT TO SCALE

SOURCE	TYPICAL CROSS SECTIONS OF SERVICE ROADS	PLANNING DEPARTMENT		
TRANSPORT DEPARTMENT		PLAN REF. No. PSS / 00 / 278	DATE	FIG.No.
		FILE REF. No. TS C / PSSC / 802 I	OCT 00	4



URBAN EXPRESSWAY

Note:

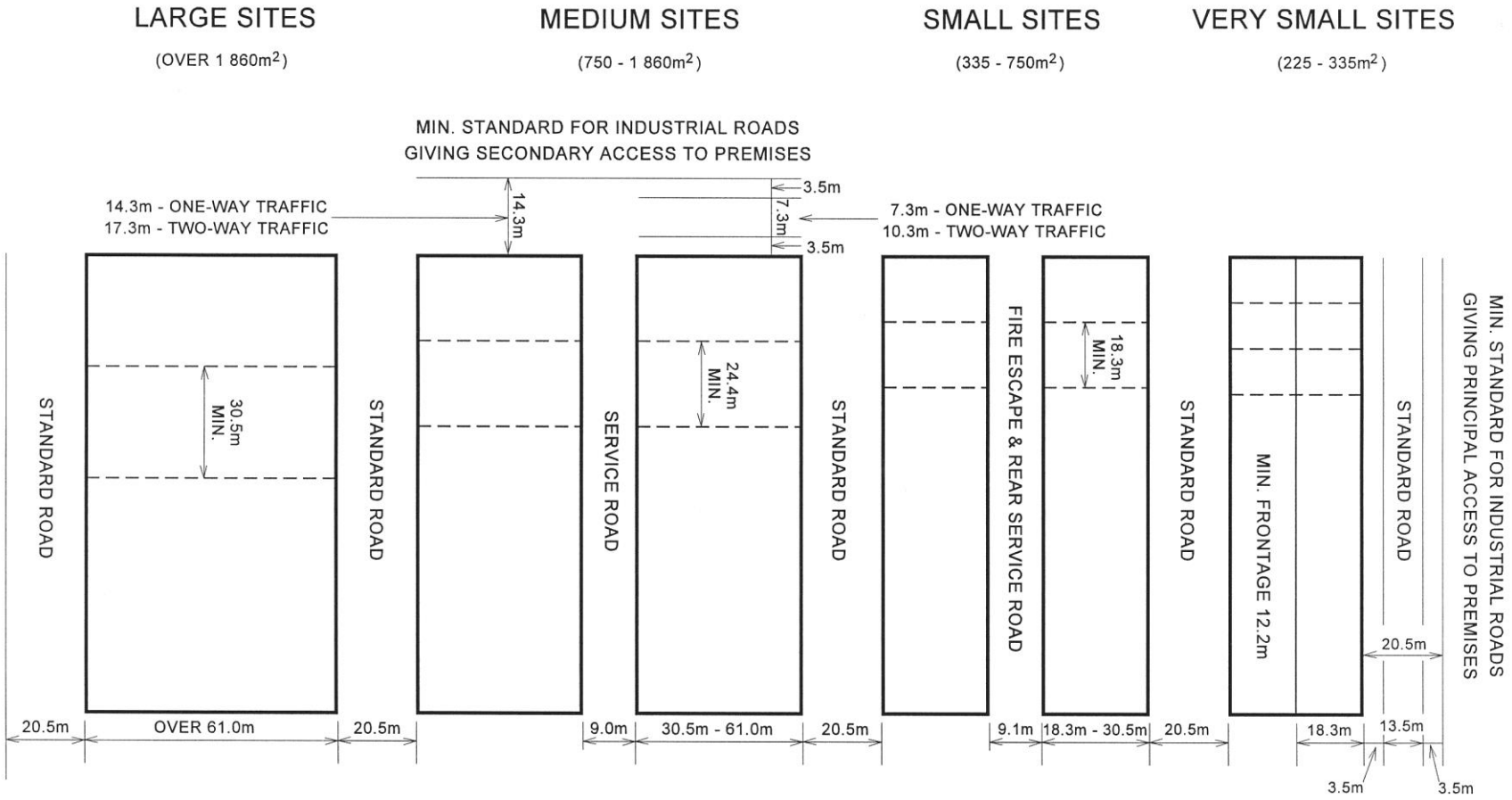
1. For details of road studs and markings see T.P.D.M. volume 3.

2. Additional verge width will be necessary to accommodate road signs and street furniture, and may be necessary to achieve visibility requirements and if flat ground is required for landscaping works.

3. All dimensions in millimetres.

NOT TO SCALE

SOURCE		PLANNING DEPARTMENT		
TRANSPORT DEPARTMENT	TYPICAL CROSS SECTION OF URBAN EXPRESSWAY	PLAN REF. No. 1. 91. 14	DATE	FIG.No.
		FILE REF. No. TS C / PSSC / 802 I	DEC 91	5



NOTE : LOT DEPTHS IN RELATION TO ROAD STANDARDS SHOULD TAKE INTO ACCOUNT FIRE SAFETY REQUIREMENTS AND SHOULD NOT BE EXCEEDED EXCEPT IN CONSULTATION WITH THE FIRE SERVICES DEPARTMENT

NOT TO SCALE

SOURCE	MINIMUM STANDARD INDUSTRIAL ACCESS ROADS	PLANNING DEPARTMENT		
PLANNING DEPARTMENT		PLAN REF. No. 2. 75. 40 D	DATE	FIG.No.
		FILE REF. No. 602 / COP	JAN 90	6

Appendix 1

Transport Strategy

The following paragraphs summarise those objectives and initiatives of the Transport Strategy, announced by the Government in October 1999, that have a bearing on land use planning.

Better integration of transport and land use planning

1.1 The interactive relation between land use and transport planning is well recognised. Better integration of land use and transport planning can reduce travel demands, thus alleviating the pressures placed on the transport system and the adverse impact on the environment. It can also avoid the conflict between some types of land use and transport activities. Initiatives under this objective include:

- Siting more intensive developments and major employment centres within easy pedestrian reach of rail stations and major public transport interchanges.

- Making provision for comprehensive grade-separated walkways at the early stage of the land use planning and wherever possible including the requirement in planning briefs/development parameters and land leases for such provision. This is to promote walking, to reduce the number of short motorised trips and to enhance road safety.

- Pedestrianising selected roads to facilitate pedestrian movement.

Better use of railways

1.2 Railways, being an environmentally friendly and efficient mass carrier, will form the backbone of the passenger public transport network. This will be supplemented by other public transport modes. Special attention will be given at the land use planning stage to providing better pedestrian connection to developments, adequate feeder routes and transport interchange facilities to enable the railways to perform as the trunk carrier.

1.3 Future strategic developments (including major residential, commercial and retail centres) should be located around rail stations as far as possible. This will reduce the reliance on road-based transport and enhance the efficiency of the rail network.

Better public transport services and facilities

1.4 To enhance the capacity and efficiency of existing road space, the public are encouraged to make use of public transport services rather than private vehicles. It is essential to co-ordinate and integrate railways as the backbone of the system with other public transport services in order to minimise wasteful competition. Franchised buses and other public transport modes will play a prominent role in providing services to areas where the demand cannot be met by the railways. Initiatives under this objective include:

- Convenient and comfortable interchange facilities at strategic locations, especially rail stations, should be provided.
- Park-and-ride facilities should be planned at rail stations and major transport interchanges on the fringe of urban areas.
- Parking provision at developments, especially residential developments, around rail stations should be minimised where appropriate.
- Kiss-and-ride facilities should be planned at rail stations and major transport interchanges to encourage the use of public transport services.

Better environmental protection

1.5 Traditional road-based transport modes represent a constant source of noise and air pollution. With development in technological know-how and good transport planning, the Government aims to reduce their impact on the environment as far as possible. Initiatives under this objective include:

- According priority to rail.
- Exploring new environmentally friendly transport modes e.g. trolley bus, travellators, people movers, etc.
- Promoting walking and cycling as a mode of transport. To plan around the pedestrians in new towns and redevelopments by providing suitable pedestrian and cycling facilities and in built-up areas by enhancing the facilities as far as practicable.
- Improve the environmental performance of existing modes of transport by adopting modern design and equipment as much as possible.
- Introducing more park-and-ride schemes, kiss-and-ride facilities and pedestrianisation areas, etc.

Appendix 2

Summary of References for Technical Details

SUBJECT	TRANSPORT PLANNING AND DESIGN MANUAL REFERENCE		
	VOLUME	CHAPTER	SECTION/PARAGRAPH
Bus Terminal and Station	9	2	2.8; 2.9
Central Reserve	2	3, 5 & 6	3.4.7; 5.6.2; 6.3.3.11 & 12
Climbing Lane	2	3	3.3.8; 3.3.9
Cross-boundary Coach Termini/Stops	1	3	3.7.3.3
	2	5	5.5
	9	2 & 6	2.7; 6.3.3.2; 6.3.4.2
	9	8	8.4
Curve Widening	2	3	3.4.4
Cycle Track	2	3	3.8
Facilities for Persons with a Disability	6	8	8.3.2 - 8.4
Ferry Pier	9	7	7.5
Gradient	2	3	3.3.6
Hard Shoulder	2	6	6.3.3.5-10
Horizontal Curvature	2	3	3.3.3
Pedestrian Facilities	2	3	3.4.11; 3.7; 3.9.2; 3.11.8
Pedestrian Planning Framework	1	3	3.7.4.1
	6	10	10.1-10.6
Petrol Filling Station	2	5	5.3
Planting	2	5	5.6.2
Public Light Bus Stand and Terminus	9	3	3.5
Sight Distance	2	3	3.3.5
Traffic Sign Location	2	3 & 6	3.5.2; 6.4;
	3	2	2.2.2; 2.2.3
Turning Facility	2	2 & 3	2.2.3; 3.4.5.6; 3.11.11.1
Verge	2	3 & 5	3.4.9; 5.6.2.8
Vertical Curvature	2	3	3.3.7

Remarks: The above table is for reference only and the latest edition of the TPDM should be referred to.

Internal Transport Facilities